



Proposal to Provide
**IV&V for the Integrated Eligibility and Benefit
Management (IEBM) Solution**

Prepared For
The Arkansas Department of Human Services

RFP# 710-19-1021R
October 1, 2019

Technical Proposal
Redacted

MAXIMUS®

PROPOSAL SIGNATURE PAGE

Type or Print the following information.

PROSPECTIVE CONTRACTOR'S INFORMATION					
Company:	MAXIMUS Human Services, Inc.				
Address:	1891 Metro Center Drive				
City:	Reston	State:	VA	Zip Code:	20190
Business Designation:	<input type="checkbox"/> Individual <input type="checkbox"/> Sole Proprietorship <input type="checkbox"/> Public Service Corp <input type="checkbox"/> Partnership <input checked="" type="checkbox"/> Corporation <input type="checkbox"/> Nonprofit				
Minority and Women-Owned Designation*:	<input checked="" type="checkbox"/> Not Applicable <input type="checkbox"/> American Indian <input type="checkbox"/> Asian American <input type="checkbox"/> Service Disabled Veteran <input type="checkbox"/> African American <input type="checkbox"/> Hispanic American <input type="checkbox"/> Pacific Islander American <input type="checkbox"/> Women-Owned				
	AR Certification #: _____ * See Minority and Women-Owned Business Policy				
PROSPECTIVE CONTRACTOR CONTACT INFORMATION					
<i>Provide contact information to be used for bid solicitation related matters.</i>					
Contact Person:	Ellen Thompson	Title:	Vice President		
Phone:	804.510.1325	Alternate Phone:	804.323.3535, ext. 619		
Email:	EllenThompson@maximus.com				
CONFIRMATION OF REDACTED COPY					
<p><input checked="" type="checkbox"/> YES, a redacted copy of submission documents is enclosed.</p> <p>NO, a redacted copy of submission documents is <u>not</u> enclosed. I understand a full copy of non-redacted submission documents will be released if requested.</p> <p><i>Note: If a redacted copy of the submission documents is not provided with Prospective Contractor's response packet, and neither box is checked, a copy of the non-redacted documents, with the exception of financial data (other than pricing), will be released in response to any request made under the Arkansas Freedom of Information Act (FOIA). See Bid Solicitation for additional information.</i></p>					
ILLEGAL IMMIGRANT CONFIRMATION					
<p>By signing and submitting a response to this <i>Bid Solicitation</i>, a Prospective Contractor agrees and certifies that they do not employ or contract with illegal immigrants. If selected, the Prospective Contractor certifies that they will not employ or contract with illegal immigrants during the aggregate term of a contract.</p>					
ISRAEL BOYCOTT RESTRICTION CONFIRMATION					
<p>By checking the box below, a Prospective Contractor agrees and certifies that they do not boycott Israel, and if selected, will not boycott Israel during the aggregate term of the contract.</p> <p><input checked="" type="checkbox"/> Prospective Contractor does not and will not boycott Israel.</p>					

An official authorized to bind the Prospective Contractor to a resultant contract shall sign below.

The signature below signifies agreement that any exception that conflicts with a Requirement of this *Bid Solicitation* will cause the Prospective Contractor's proposal to be disqualified.

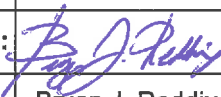
Authorized Signature:  Title: Manager - Contracts
Use Ink Only.

Printed/Typed Name: Bryan J. Reddix Date: September 27, 2019

SECTION 1 - VENDOR AGREEMENT AND COMPLIANCE

- Any requested exceptions to items in this section which are NON-mandatory must be declared below or as an attachment to this page. Vendor **must** clearly explain the requested exception, and should label the request to reference the specific solicitation item number to which the exception applies.
- Exceptions to Requirements **shall** cause the vendor's proposal to be disqualified.

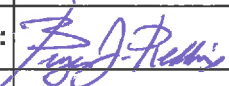
By signature below, vendor agrees to and **shall** fully comply with all Requirements as shown in this section of the bid solicitation.

Vendor Name:	MAXIMUS Human Services, Inc.	Date:	September 27, 2019
Authorized Signature:		Title:	Manager - Contracts
Print/Type Name:	Bryan J. Reddix		

SECTION 2 - VENDOR AGREEMENT AND COMPLIANCE

- Any requested exceptions to items in this section which are NON-mandatory **must** be declared below or as an attachment to this page. Vendor **must** clearly explain the requested exception, and should label the request to reference the specific solicitation item number to which the exception applies.
- Exceptions to Requirements **shall** cause the vendor's proposal to be disqualified.

By signature below, vendor agrees to and **shall** fully comply with all Requirements as shown in this section of the bid solicitation.

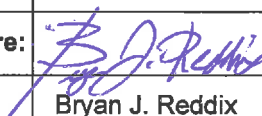
Vendor Name:	MAXIMUS Human Services, Inc.	Date:	September 27, 2019
Authorized Signature:		Title:	Manager - Contracts
Print/Type Name:	Bryan J. Reddix		

SECTIONS 3, 4, 5 - VENDOR AGREEMENT AND COMPLIANCE

- *Exceptions to Requirements shall cause the vendor's proposal to be disqualified.*

MAXIMUS is not taking exception to any of the mandatory terms and conditions and our proposal is not contingent on the Client's agreement to the following requested language. In the event MAXIMUS is requested by Client in connection with a third-party legal proceeding to produce MAXIMUS deliverables, documents, records, working papers, or personnel for testimony or interviews, such work shall be considered to be in the scope of the parties' agreement and eligible for payment.

By signature below, vendor agrees to and shall fully comply with all Requirements as shown in this section(s) of the bid solicitation.

Vendor Name:	MAXIMUS Human Services, Inc.	Date:	September 27, 2019
Authorized Signature:		Title:	Manager - Contracts
Print/Type Name:	Bryan J. Reddix		

PROPOSED SUBCONTRACTORS FORM

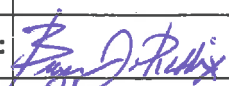
- Do not include additional information relating to subcontractors on this form or as an attachment to this form.

PROSPECTIVE CONTRACTOR PROPOSES TO USE THE FOLLOWING SUBCONTRACTOR(S) TO PROVIDE SERVICES.

Type or Print the following information

Subcontractor's Company Name	Street Address	City, State, ZIP

PROSPECTIVE CONTRACTOR DOES NOT PROPOSE TO USE SUBCONTRACTORS TO PERFORM SERVICES.

Vendor Name:	MAXIMUS Human Services, Inc.	Date:	September 27, 2019
Authorized Signature:		Title:	Manager - Contracts
Print/Type Name:	Bryan J. Reddix		

State of Arkansas
 DEPARTMENT OF HUMAN SERVICES
 700 South Main Street
 P.O. Box 1437 / Slot W345
 Little Rock, AR 72203

ADDENDUM 1

TO: All Addressed Vendors
FROM: Chorsie Burns, Buyer
DATE: August 12, 2019
SUBJECT: 710-19-1021R Independent Verification and Validation Services for the Integrated Eligibility and Benefit Management Solution (IV&V for IEBM)

The following change(s) to the above referenced RFP have been made as designated below:

- Change of specification(s)
- Additional specification(s)
- Change of bid opening date and time
- Cancellation of bid
- Other

CHANGE OF SPECIFICATIONS

- Replace 1.7 Response Documents item C 1a with the following:
 - a. Five (5) completed hard copies (marked "COPY") of the Technical Proposal Packet.

ADDITIONAL SPECIFICATIONS

- Please add the below to Section 1 of the RFP:

1.33 INTEGOVERMENTAL/COOPERATIVE USE OF PROPOSAL AND CONTRACT

In accordance with Arkansas Code §19-11-249, this proposal and resulting contract is available to any State Agency or Institution of Higher Education that wishes to utilize the services of the selected proposer, and the proposer agrees, they may enter into an agreement as provided in this solicitation.

- Please add the below chart at the end of the following section: 4.5 PERFORMANCE BONDING

Service Criteria	Acceptable Performance	Damages
<p>PERFORMANCE BONDING</p> <p>A. The Contractor shall be required to obtain performance bonds to protect the State's interest as follows:</p> <p>1. The amount of the performance bonds shall be one hundred percent (100%) of the original contract price, unless the State determines that a lesser amount would be adequate for</p>	<p>Acceptable performance is defined as one hundred percent (100%) compliance with Service Criteria at all times throughout the contract term as determined by DHS.</p>	<p>The Vendor will be fined five hundred dollars (\$500) per day for each day Vendor fails to meet the Performance Bonding Requirements specified in Service Criteria.</p> <p>In addition, Vendor's continued failure to meet Service Criteria, may result in a below standard Vendor Performance Report (VPR) maintained in the vendor file and contract termination.</p>

<p>the protection of the State.</p> <ol style="list-style-type: none"> 2. The State shall require additional performance bond protection when a contract price is increased or modified. 3. The performance bond must be delivered to the Arkansas Department of Human Services Chief Procurement Officer within fourteen (14) days of contract execution. 4. The contractor shall notify the State of any changes, modification, or renewals for the performance bond during the term of the contract. The performance bond documentation must be provided to the State with each required notice. 5. Failure to provide is a breach of contract and may result in immediate contract termination <p>B. The Contractor shall submit documentation to the satisfaction of the State that a performance bond has been obtained. The contractor shall notify the State of any changes, modification, or renewals for the performance bond during the term of the contract.</p>		
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The specifications by virtue of this addendum become a permanent addition to the above referenced RFP. Failure to return this signed addendum may result in rejection of your proposal.

If you have any questions, please contact Chorsie Burns at chorsie.burns@dhs.arkansas.gov or (501) 682-6327.



Vendor Signature

September 27, 2019

Date

MAXIMUS Human Services, Inc.

Company

State of Arkansas
DEPARTMENT OF HUMAN SERVICES
700 South Main Street
P.O. Box 1437 / Slot W345
Little Rock, AR 72203

ADDENDUM 2

TO: All Addressed Vendors
FROM: Chorsie Burns, Buyer
DATE: September 6, 2019
SUBJECT: 710-19-1021R Independent Verification and Validation Services for the Integrated Eligibility and Benefit Management Solution (IV&V for IEBM)

The following change(s) to the above referenced RFP have been made as designated below:

- Change of specification(s)
- Additional specification(s)
- Change of bid opening date and time
- Cancellation of bid
- Other

CHANGE OF BID OPENING

Bid Opening Date and Time: October 1, 2019 at 2:00pm CST

OTHER

Response to Written Questions: September 11, 2019 by close of business.

The specifications by virtue of this addendum become a permanent addition to the above referenced RFP. Failure to return this signed addendum may result in rejection of your proposal.

If you have any questions, please contact Chorsie Burns at chorsie.burns@dhs.arkansas.gov or (501) 682-6327.


Vendor Signature

September 27, 2019
Date

MAXIMUS Human Services, Inc.
Company

Contract Number 710-19-1021R

Attachment Number

Action Number

CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM

Failure to complete all of the following information may result in a delay in obtaining a contract, lease, purchase agreement, or grant award with any Arkansas State Agency.

SUBCONTRACTOR: SUBCONTRACTOR NAME:

Yes No

IS THIS FOR:

TAXPAYER ID NAME: MAXIMUS Human Services, Inc.

Goods? Services? Both?

YOUR LAST NAME: Reddix

FIRST NAME Bryan

M.I.: J

ADDRESS: 1891 Metro Center Drive

CITY: Reston

STATE: VA

ZIP CODE: 20190

COUNTRY: USA

AS A CONDITION OF OBTAINING, EXTENDING, AMENDING, OR RENEWING A CONTRACT, LEASE, PURCHASE AGREEMENT, OR GRANT AWARD WITH ANY ARKANSAS STATE AGENCY, THE FOLLOWING INFORMATION MUST BE DISCLOSED:

FOR INDIVIDUALS *

Indicate below if: you, your spouse or the brother, sister, parent, or child of you or your spouse is a current or former: member of the General Assembly, Constitutional Officer, State Board or Commission Member, or State Employee:

Position Held	Mark (√)		Name of Position of Job Held [senator, representative, name of board/ commission, data entry, etc.]	For How Long?		What is the person(s) name and how are they related to you? [i.e., Jane Q. Public, spouse, John Q. Public, Jr., child, etc.]	
	Current	Former		From MM/YY	To MM/YY	Person's Name(s)	Relation
General Assembly							
Constitutional Officer							
State Board or Commission Member							
State Employee							

None of the above applies

FOR AN ENTITY (BUSINESS) *

Indicate below if any of the following persons, current or former, hold any position of control or hold any ownership interest of 10% or greater in the entity: member of the General Assembly, Constitutional Officer, State Board or Commission Member, State Employee, or the spouse, brother, sister, parent, or child of a member of the General Assembly, Constitutional Officer, State Board or Commission Member, or State Employee. Position of control means the power to direct the purchasing policies or influence the management of the entity.

Position Held	Mark (√)		Name of Position of Job Held [senator, representative, name of board/commission, data entry, etc.]	For How Long?		What is the person(s) name and what is his/her % of ownership interest and/or what is his/her position of control?		
	Current	Former		From MM/YY	To MM/YY	Person's Name(s)	Ownership interest (%)	Position of Control
General Assembly								
Constitutional Officer								
State Board or Commission Member								
State Employee								

None of the above applies

Contract Number 710-19-1021R
Attachment Number _____
Action Number _____

Contract and Grant Disclosure and Certification Form


Failure to make any disclosure required by Governor's Executive Order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that Order, shall be a material breach of the terms of this contract. Any contractor, whether an individual or entity, who fails to make the required disclosure or who violates any rule, regulation, or policy shall be subject to all legal remedies available to the agency.

As an additional condition of obtaining, extending, amending, or renewing a contract with a state agency I agree as follows:

1. Prior to entering into any agreement with any subcontractor, prior or subsequent to the contract date, I will require the subcontractor to complete a **CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM**. Subcontractor shall mean any person or entity with whom I enter an agreement whereby I assign or otherwise delegate to the person or entity, for consideration, all, or any part, of the performance required of me under the terms of my contract with the state agency.
2. I will include the following language as a part of any agreement with a subcontractor:

Failure to make any disclosure required by Governor's Executive Order 98-04, or any violation of any rule, regulation, or policy adopted pursuant to that Order, shall be a material breach of the terms of this subcontract. The party who fails to make the required disclosure or who violates any rule, regulation, or policy shall be subject to all legal remedies available to the contractor.
3. No later than ten (10) days after entering into any agreement with a subcontractor, whether prior or subsequent to the contract date, I will mail a copy of the **CONTRACT AND GRANT DISCLOSURE AND CERTIFICATION FORM** completed by the subcontractor and a statement containing the dollar amount of the subcontract to the state agency.

I certify under penalty of perjury, to the best of my knowledge and belief, all of the above information is true and correct and that I agree to the subcontractor disclosure conditions stated herein.

Signature  Title Manager - Contracts Date 9/27/2019
Vendor Contact Person Ellen Thompson Title Vice President Phone No. (804) 510-1325

Agency use only

Agency Number 0710 Agency Name Department of Human Services Agency Contact Person _____ Contact Phone No. _____ Contract or Grant No. _____

6. Equal Opportunity Policy

RFP Section 1.7

MAXIMUS Equal Employment Opportunity (EEO) policy is provided below.

REDACTED

REDACTED

7. Other Documents

In this section, we provide the following:

- 7.1 Letter of Bondability
- 7.2 Financial Stability
- 7.3 Independence
- 7.4 Staff Continuity Plan
- 7.5 Acceptance of General Terms and Conditions

7.1 Letter of Bondability

The Letter of Bondability immediately follows this page.



September 20, 2019

State of Arkansas
Department of Human Services Office of Procurement
700 Main Street
Little Rock, AR 72201

RE: MAXIMUS, Inc.
Bid Number: 710-19-1021R - Independent Verification and Validation Services for the Integrated Eligibility and Benefit Management Solution (IV&V for IEBM)

To Whom It May Concern:

It has been the privilege of Travelers Casualty and Surety Company of America ("Travelers")¹ to provide surety bonds for MAXIMUS, Inc. for over 20 years. During that time they have completed and we have bonded projects for a wide variety of owners.

It is our opinion that MAXIMUS, Inc. is qualified to perform the above captioned project. If awarded, at their request we are prepared to provide the required performance bond in the amount of 100% of the annual contract price, subject to our standard underwriting at the time of the final bond request.

If you have any questions or need any additional information, please do not hesitate to contact me.

Sincerely,

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA


Lori S. Shelton, Attorney-in-Fact

¹ Travelers is an A++ (Superior) A.M. Best rated insurance company (Financial Size Category XV (\$2 billion or more)).



**Travelers Casualty and Surety Company of America
Travelers Casualty and Surety Company
St. Paul Fire and Marine Insurance Company**

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS: That Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company are corporations duly organized under the laws of the State of Connecticut (herein collectively called the "Companies"), and that the Companies do hereby make, constitute and appoint **Lori S. Shelton** of **PHILADELPHIA Pennsylvania**, their true and lawful Attorney-in-Fact to sign, execute, seal and acknowledge any and all bonds, recognizances, conditional undertakings and other writings obligatory in the nature thereof on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.
IN WITNESS WHEREOF, the Companies have caused this instrument to be signed, and their corporate seals to be hereto affixed, this **3rd** day of **February**, 2017.



State of Connecticut

City of Hartford ss.

By: 
Robert L. Raney, Senior Vice President

On this the **3rd** day of **February**, 2017, before me personally appeared **Robert L. Raney**, who acknowledged himself to be the Senior Vice President of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, and that he, as such, being authorized so to do, executed the foregoing instrument for the purposes therein contained by signing on behalf of the corporations by himself as a duly authorized officer.

In Witness Whereof, I hereunto set my hand and official seal.

My Commission expires the **30th** day of **June**, 2021




Marie C. Tetreault, Notary Public

This Power of Attorney is granted under and by the authority of the following resolutions adopted by the Boards of Directors of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, which resolutions are now in full force and effect, reading as follows:

RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President, any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary may appoint Attorneys-in-Fact and Agents to act for and on behalf of the Company and may give such appointee such authority as his or her certificate of authority may prescribe to sign with the Company's name and seal with the Company's seal bonds, recognizances, contracts of indemnity, and other writings obligatory in the nature of a bond, recognizance, or conditional undertaking, and any of said officers or the Board of Directors at any time may remove any such appointee and revoke the power given him or her; and it is

FURTHER RESOLVED, that the Chairman, the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President may delegate all or any part of the foregoing authority to one or more officers or employees of this Company, provided that each such delegation is in writing and a copy thereof is filed in the office of the Secretary; and it is

FURTHER RESOLVED, that any bond, recognizance, contract of indemnity, or writing obligatory in the nature of a bond, recognizance, or conditional undertaking shall be valid and binding upon the Company when (a) signed by the President, any Vice Chairman, any Executive Vice President, any Senior Vice President or any Vice President, any Second Vice President, the Treasurer, any Assistant Treasurer, the Corporate Secretary or any Assistant Secretary and duly attested and sealed with the Company's seal by a Secretary or Assistant Secretary; or (b) duly executed (under seal, if required) by one or more Attorneys-in-Fact and Agents pursuant to the power prescribed in his or her certificate or their certificates of authority or by one or more Company officers pursuant to a written delegation of authority; and it is

FURTHER RESOLVED, that the signature of each of the following officers: President, any Executive Vice President, any Senior Vice President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary, and the seal of the Company may be affixed by facsimile to any Power of Attorney or to any certificate relating thereto appointing Resident Vice Presidents, Resident Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such Power of Attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding on the Company in the future with respect to any bond or understanding to which it is attached.

I, **Kevin E. Hughes**, the undersigned, Assistant Secretary of Travelers Casualty and Surety Company of America, Travelers Casualty and Surety Company, and St. Paul Fire and Marine Insurance Company, do hereby certify that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which remains in full force and effect.

Dated this **20th** day of **September**, 2019




Kevin E. Hughes, Assistant Secretary

**To verify the authenticity of this Power of Attorney, please call us at 1-800-421-3880.
Please refer to the above-named Attorney-in-Fact and the details of the bond to which the power is attached.**

TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA
HARTFORD, CONNECTICUT 06183
FINANCIAL STATEMENT AS OF DECEMBER 31, 2018
CAPITAL STOCK \$ 6,480,000

ASSETS	LIABILITIES & SURPLUS
CASH AND INVESTED CASH	UNEARNED PREMIUMS
\$ 36,728,596	\$ 979,007,378
BONDS	LOSSES
3,507,432,239	760,995,504
STOCKS	LOSS ADJUSTMENT EXPENSES
294,199,598	166,673,871
INVESTMENT INCOME DUE AND ACCRUED	COMMISSIONS
38,287,129	45,868,584
OTHER INVESTED ASSETS	TAXES, LICENSES AND FEES
3,507,839	14,584,969
PREMIUM BALANCES	OTHER EXPENSES
250,470,792	43,868,534
NET DEFERRED TAX ASSET	CURRENT FEDERAL AND FOREIGN INCOME TAXES
48,781,239	10,143,037
REINSURANCE RECOVERABLE	REMITTANCES AND ITEMS NOT ALLOCATED
29,270,755	21,277,153
SECURITIES LENDING REINVESTED COLLATERAL ASSETS	AMOUNTS WITHHELD / RETAINED BY COMPANY FOR OTHERS
14,277,262	30,289,553
RECEIVABLES FROM PARENT, SUBSIDIARIES AND AFFILIATES	RETROACTIVE REINSURANCE RESERVE ASSUMED
27,813,266	810,360
ASSUMED REINSURANCE RECEIVABLE AND PAYABLE	POLICYHOLDER DIVIDENDS
626,488	10,410,755
OTHER ASSETS	PROVISION FOR REINSURANCE
4,338,229	7,641,358
	ADVANCE PREMIUM
	1,608,777
	REINSURANCE PAYABLE ON PAID LOSSES & LOSS ADJ. EXPENSES
	868,002
	PAYABLE FOR SECURITIES LENDING
	14,277,262
	CEDED REINSURANCE NET PREMIUMS PAYABLE
	48,468,976
	OTHER ACCRUED EXPENSES AND LIABILITIES
	335,489
	<u>\$ 2,145,120,254</u>
	CAPITAL STOCK
	\$ 6,480,000
	PAID IN SURPLUS
	433,803,760
	OTHER SURPLUS
	1,870,843,418
	<u>\$ 2,111,227,176</u>
TOTAL ASSETS	TOTAL LIABILITIES & SURPLUS
<u>\$ 4,256,347,432</u>	<u>\$ 4,256,347,432</u>

STATE OF CONNECTICUT)
COUNTY OF HARTFORD) ss.
CITY OF HARTFORD)

MICHAEL J. DOODY, BEING DULY SWORN, SAYS THAT HE IS SECOND VICE PRESIDENT, OF TRAVELERS CASUALTY AND SURETY COMPANY OF AMERICA, AND THAT TO THE BEST OF HIS KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT STATEMENT OF THE FINANCIAL CONDITION OF SAID COMPANY AS OF THE 31ST DAY OF DECEMBER, 2018.

Michael J. Doody

VICE PRESIDENT, FINANCE

Susan M. Weissleder

NOTARY PUBLIC

SUBSCRIBED AND SWORN TO BEFORE ME THIS
28TH DAY OF MARCH, 2019

SUSAN M. WEISSELEDER
Notary Public
My Commission Expires November 30, 2022



7.2 Financial Stability

The importance of choosing a stable and trusted partner with demonstrated financial stability cannot be overstated. Given our proven fiscal integrity and transparency, the State can have confidence that MAXIMUS possesses the financial resources and capacity needed to meet the requirements for the entire contract. Our financial stability is reflected in our revenue growth, top national industry rankings, comprehensive Annual Report, and high credit ratings.

The Vendor (Prime) **must** have annual revenue of at least fifty million dollars (\$50M). As proof of meeting this requirement the Vendor **must** include a copy of their most recent, last three (3) fiscal years' Independent Auditor's Report and audited financial statements, including any management letters associated with the Auditor's Report with the applicable notes, OMB A-133 Audit (if conducted), balance sheet, statement of income and expense, statement of changes in financial position, cash flows and capital expenditures.

MAXIMUS, Inc., our parent company, has revenues of more than \$2.4 billion (as of September 30, 2018), representing approximately 3,500 contracts. During our 44-year history, we have experienced steady growth and workforce expansion as demonstrated in *Exhibit 7.2-1: MAXIMUS Revenue 2011-2018*. MAXIMUS Human Services, Inc. has had revenues of \$508 million in 2018, \$525 million in 2017, and \$513 million in 2016. Our financial strength provides our government clients with the confidence that we can fulfill contractual responsibilities and provide high-quality, uninterrupted services to their citizens.

As a publicly-traded company, our financial stability is independently verifiable. An

essential component of contract management is maintaining strict financial controls. Our financial structure and practices meet Committee on Sponsoring Organizations (COSO) and Generally Accepted Accounting Principles (GAAP) requirements. We have never filed (or had filed against us) any bankruptcy or insolvency proceeding or undergone the appointment of a receiver, trustee, or assignee for the benefit of creditors. Presently, MAXIMUS commands a high financial rating from Dun & Bradstreet, reflecting its assessment of both our financial statements and our credit worthiness.

On the USB, we provide the MAXIMUS, Inc. 2018 Annual Report (10-K), which contains audited financial statements for the past three years, in addition to MAXIMUS Human Services, Inc.'s audited financial statements for 2018, 2017, and 2016. In accordance with the Security and Exchange Commission's (SEC) requirements, MAXIMUS Inc. reports quarterly and annual earnings information on the 10-K. We include the Annual Report because it also includes MAXIMUS Human Services, Inc.'s financial statements.

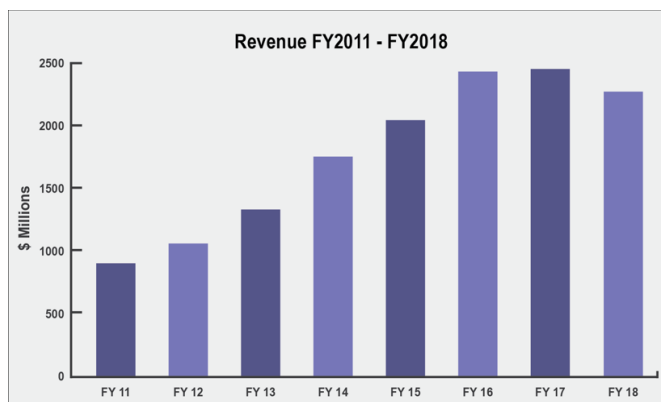


Exhibit 7.2-1: MAXIMUS Revenue FY2011–FY2018.
MAXIMUS, Inc. has been profitable for more than 44 years and enjoys a very strong balance sheet.

MAXIMUS[®]

MAXIMUS Human Services, Inc. Consolidating Financial Statements

Year Ended September 30, 2018



Building a better
working world

Ernst & Young LLP
1775 Tysons Boulevard
Tysons, VA 22102

Tel: +1 703 747 1000
Fax: +1 703 747 0100
ey.com

Report of Independent Registered Accounting Firm on Supplemental Information

The Board of Directors and Shareholders of MAXIMUS, Inc.

We have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements of MAXIMUS, Inc. and subsidiaries as of and for the year ended September 30, 2018 (not presented herein), and have issued an unqualified opinion thereon dated November 20, 2018. The consolidating balance sheets and income statements are not intended to present the financial position, results of operations, and cash flows of the individual companies, as would complete financial statements including necessary disclosures, and should be read in conjunction with the consolidated financial statements included in the Company's Form 10-K filed with the SEC on November 20, 2018. The scope of our audit procedures was not designed to provide a basis for expressing opinions on the presentations of the accounts of the individual companies on a stand-alone basis and, accordingly, we do not express such opinions. However, the information has been subjected to audit procedures performed in conjunction with the audit of the consolidated financial statements. Such information is the responsibility of the Company's management.

Our audit procedures included determining whether the information reconciles to the financial statements or the underlying accounting and other records, as applicable, and performing procedures to test the completeness and accuracy of the information. In our opinion, the information is fairly stated, in all material respects, in relation to the financial statements as a whole.

Ernst + Young LLP

February 28, 2019

MAXIMUS, Inc. and Subsidiaries
Consolidating Balance Sheets
September 30, 2018
(Amounts in thousands)

	MAXIMUS Human Services, Inc.*	Other MAXIMUS, Inc. subsidiaries	Eliminations	MAXIMUS, Inc.
ASSETS				
Current assets:				
Cash and cash equivalents	\$ -	\$ 349,245	\$ -	\$ 349,245
Short-term investments	-	20,264	-	20,264
Accounts receivable - billed and billable, net	25,536	332,077	-	357,613
Accounts receivable - unbilled	1,199	30,337	-	31,536
Income tax receivable	-	5,979	-	5,979
Prepaid expenses and other current assets	1,314	42,681	-	43,995
Amounts receivable from other MAXIMUS entities	16,969	-	(16,969)	-
Total current assets	45,018	780,583	(16,969)	808,632
Property and equipment, net	473	77,071	-	77,544
Capitalized software, net	254	22,175	-	22,429
Goodwill	-	399,882	-	399,882
Intangible assets, net	-	88,035	-	88,035
Deferred contract costs, net	918	13,462	-	14,380
Deferred income taxes	409	6,425	-	6,834
Deferred compensation plan assets	-	34,305	-	34,305
Other assets	52	9,907	-	9,959
Total assets	<u>\$ 47,124</u>	<u>\$ 1,431,845</u>	<u>\$ (16,969)</u>	<u>\$ 1,462,000</u>
LIABILITIES AND SHAREHOLDERS' EQUITY				
Current liabilities				
Account payable and accrued liabilities	\$ 5,697	\$ 108,681	\$ -	\$ 114,378
Accrued compensation and benefits	2,359	93,196	-	95,555
Deferred revenue	3,075	48,107	-	51,182
Income taxes payable	-	4,438	-	4,438
Amounts payable to other MAXIMUS entities	-	16,969	(16,969)	-
Other liabilities	-	11,896	-	11,896
Total current liabilities	11,131	283,287	(16,969)	277,449
Deferred revenue, less current portion	618	19,776	-	20,394
Deferred income taxes	-	26,377	-	26,377
Deferred compensation plan liabilities, less current portion	-	33,497	-	33,497
Other liabilities	104	17,760	-	17,864
Total liabilities	<u>11,853</u>	<u>380,697</u>	<u>(16,969)</u>	<u>375,581</u>
Shareholders' equity				
Common Stock	-	487,539	-	487,539
Accumulated other comprehensive income	-	(36,953)	-	(36,953)
Retained earnings	35,271	598,010	-	633,281
Total MAXIMUS shareholders' equity	35,271	1,048,596	-	1,083,867
Noncontrolling interests	-	2,552	-	2,552
Total equity	<u>35,271</u>	<u>1,051,148</u>	<u>-</u>	<u>1,086,419</u>
Total liabilities and equity	<u>\$ 47,124</u>	<u>\$ 1,431,845</u>	<u>\$ (16,969)</u>	<u>\$ 1,462,000</u>

* The consolidating information is not intended to present the financial position, results of operations, and cash flows of the individual companies, as would complete financial statements including necessary disclosures, and should be read in conjunction with the financial statements included in the Company's Form 10-K filed with SEC on November 20, 2018.

MAXIMUS, Inc. and Subsidiaries
Consolidating Income Statements
Year ended September 30, 2018
(Amounts in thousands)

	MAXIMUS Human Services, Inc.*	Other MAXIMUS, Inc. subsidiaries	Eliminations	MAXIMUS, Inc.
Revenue	\$ 112,127	\$ 2,280,109	\$ -	\$ 2,392,236
Cost of revenue	86,056	1,711,795	-	1,797,851
Gross profit	26,071	568,314	-	594,385
Selling, general and administrative expenses	20,744	264,497	-	285,241
Amortization of intangible assets	0	10,308	-	10,308
Restructuring Costs	-	3,353	-	3,353
Operating income	5,327	290,156	-	295,483
Interest expense	-	1,000	-	1,000
Other income, net	(11)	4,737	-	4,726
Income before income taxes	5,316	293,893	-	299,209
Provision for income taxes	1,621	76,772	-	78,393
Net income	3,695	217,121	-	220,816
Income attributable to noncontrolling interest	-	65	-	65
Net income attributable to MAXIMUS	<u>\$ 3,695</u>	<u>\$ 217,056</u>	<u>\$ -</u>	<u>\$ 220,751</u>

* The consolidating information is not intended to present the financial position, results of operations, and cash flows of the individual companies, as would complete financial statements including necessary disclosures, and should be read in conjunction with the financial statements included in the Company's Form 10-K filed with SEC on November 20, 2018.



**MAXIMUS Human Services, Inc.
Consolidating Financial Statements**

Year Ended September 30, 2017

Report of Independent Registered Accounting Firm on Supplemental Information

The Board of Directors and Shareholders of MAXIMUS, Inc.

We have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements of MAXIMUS, Inc. and subsidiaries as of and for the year ended September 30, 2017 (not presented herein), and have issued an unqualified opinion thereon dated November 20, 2017. The consolidating balance sheets and income statements are not intended to present the financial position, results of operations, and cash flows of the individual companies, as would complete financial statements including necessary disclosures, and should be read in conjunction with the consolidated financial statements included in the Company's Form 10-K filed with the SEC on November 20, 2017. The scope of our audit procedures was not designed to provide a basis for expressing opinions on the presentations of the accounts of the individual companies on a stand-alone basis and, accordingly, we do not express such opinions. However, the information has been subjected to audit procedures performed in conjunction with the audit of the consolidated financial statements. Such information is the responsibility of the Company's management.

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The image shows the handwritten signature of Ernst + Young LLP in black ink. The signature is written in a cursive, flowing style. The text "Ernst + Young LLP" is clearly legible.

Tysons, Virginia
March 1, 2018

MAXIMUS, Inc. and Subsidiaries
Consolidating Balance Sheets
September 30, 2017
(Amounts in thousands)

	MAXIMUS Human Services, Inc.*	Other MAXIMUS, Inc. subsidiaries	Eliminations	MAXIMUS, Inc.
ASSETS				
Current assets:				
Cash and cash equivalents	\$ -	\$ 166,252	\$ -	\$ 166,252
Accounts receivable - billed and billable, net	22,435	371,903	-	394,338
Accounts receivable - unbilled	1,990	34,485	-	36,475
Income tax receivable	-	4,528	-	4,528
Prepaid expenses and other current assets	465	55,184	-	55,649
Amounts receivable from other MAXIMUS entities	14,721	-	(14,721)	-
Total current assets	39,611	632,352	(14,721)	657,242
Property and equipment, net	653	100,998	-	101,651
Capitalized software, net	548	26,200	-	26,748
Goodwill	-	402,976	-	402,976
Intangible assets, net	-	98,769	-	98,769
Deferred contract costs, net	1,083	15,215	-	16,298
Deferred income taxes	14	7,677	-	7,691
Deferred compensation plan assets	-	28,548	-	28,548
Other assets	59	10,680	-	10,739
Total assets	<u>\$ 41,968</u>	<u>\$ 1,323,415</u>	<u>\$ (14,721)</u>	<u>\$ 1,350,662</u>
LIABILITIES AND SHAREHOLDERS' EQUITY				
Current liabilities				
Account payable and accrued liabilities	\$ 2,359	\$ 119,724	\$ -	\$ 122,083
Accrued compensation and benefits	5,281	100,386	-	105,667
Deferred revenue	2,396	69,326	-	71,722
Income taxes payable	-	4,703	-	4,703
Long-term debt, current portion	-	141	-	141
Amounts payable to other MAXIMUS entities	-	14,721	(14,721)	-
Other liabilities	-	11,950	-	11,950
Total current liabilities	10,036	320,951	(14,721)	316,266
Deferred revenue, less current portion	356	27,826	-	28,182
Deferred income taxes	-	20,106	-	20,106
Long term debt	-	527	-	527
Deferred compensation plan liabilities, less current portion	-	30,707	-	30,707
Other liabilities	-	9,106	-	9,106
Total liabilities	10,392	409,223	(14,721)	404,894
Shareholders' equity				
Common Stock	-	475,592	-	475,592
Accumulated other comprehensive income	-	(27,619)	-	(27,619)
Retained earnings	31,576	460,536	-	492,112
Total MAXIMUS shareholders' equity	31,576	908,509	-	940,085
Noncontrolling interests	-	5,683	-	5,683
Total equity	31,576	914,192	-	945,768
Total liabilities and equity	<u>\$ 41,968</u>	<u>\$ 1,323,415</u>	<u>\$ (14,721)</u>	<u>\$ 1,350,662</u>

* The consolidating information is not intended to present the financial position, results of operations, and cash flows of the individual companies, as would complete financial statements including necessary disclosures, and should be read in conjunction with the financial statements included in the Company's Form 10-K filed with SEC on November 20, 2017.

MAXIMUS, Inc. and Subsidiaries
Consolidating Income Statements
Year ended September 30, 2017
(Amounts in thousands)

	MAXIMUS Human Services, Inc.*	Other MAXIMUS, Inc. subsidiaries	Eliminations	MAXIMUS, Inc.
Revenue	\$ 111,294	\$ 2,339,667	\$ -	\$ 2,450,961
Cost of revenue	79,292	1,759,764	-	1,839,056
Gross profit	32,002	579,903	-	611,905
Selling, general and administrative expenses	19,638	264,872	-	284,510
Amortization of intangible assets	-	12,208	-	12,208
Acquisition-related expenses	-	83	-	83
Restructuring Costs	-	2,242	-	2,242
Gain on sale of business	-	(650)	-	(650)
Operating income	12,364	301,148	-	313,512
Interest expense	-	2,162	-	2,162
Other income, net	103	2,782	-	2,885
Income before income taxes	12,467	301,768	-	314,235
Provision for income taxes	5,198	96,855	-	102,053
Net income	7,269	204,913	-	212,182
Income attributable to noncontrolling interest	-	2,756	-	2,756
Net income attributable to MAXIMUS	<u>\$ 7,269</u>	<u>\$ 202,157</u>	<u>\$ -</u>	<u>\$ 209,426</u>

* The consolidating information is not intended to present the financial position, results of operations, and cash flows of the individual companies, as would complete financial statements including necessary disclosures, and should be read in conjunction with the financial statements included in the Company's Form 10-K filed with SEC on November 20, 2017.



MAXIMUS Human Services, Inc.
Consolidating Financial Statements

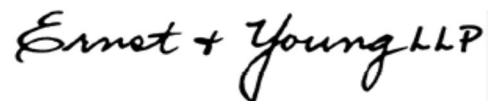
Year ended September 30, 2016

Report of Independent Registered Accounting Firm on Supplemental Information

The Board of Directors and Shareholders of MAXIMUS, Inc.

We have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States), the consolidated financial statements of MAXIMUS, Inc. and subsidiaries as of and for the year ended September 30, 2016 (not presented herein), and have issued an unqualified opinion thereon dated November 21, 2016. The consolidating balance sheets and income statements are not intended to present the financial position, results of operations, and cash flows of the individual companies, as would complete financial statements including necessary disclosures, and should be read in conjunction with the financial statements and our report thereon. The scope of our audit procedures was not designed to provide a basis for expressing opinions on the presentations of the accounts of the individual companies on a stand-alone basis and, accordingly, we do not express such opinions. However, the information has been subjected to audit procedures performed in conjunction with the audit of the consolidated financial statements. Such information is the responsibility of the Company's management.

Our audit procedures included determining whether the information reconciles to the financial statements or the underlying accounting and other records, as applicable, and performing procedures to test the completeness and accuracy of the information. In our opinion, the information is fairly stated, in all material respects, in relation to the financial statements as a whole.

The image shows the handwritten signature of Ernst & Young LLP in black ink. The signature is written in a cursive style and is enclosed within a thin black rectangular border.

McLean, Virginia
March 7, 2017

MAXIMUS, Inc. and Subsidiaries
Consolidating Income Statements
Year ended September 30, 2016
(Amounts in thousands)

	MAXIMUS Human Services, Inc.*	Other MAXIMUS, Inc. subsidiaries	Eliminations	MAXIMUS, Inc.
Revenue	105,420	2,297,940	-	2,403,360
Cost of revenue	75,309	1,765,860	-	1,841,169
Gross profit	30,111	532,080	-	562,191
Selling, general and administrative expenses	17,399	250,860	-	268,259
Amortization of intangible assets	-	13,377	-	13,377
Acquisition-related expenses	-	832	-	832
Gain on sale of business	-	6,880	-	6,880
Operating income	12,712	273,891	-	286,603
Interest expense	-	4,134	-	4,134
Other income, net	-	3,499	-	3,499
Income before income taxes	12,712	273,256	-	285,968
Provision for income taxes	4,757	101,051	-	105,808
Net income	7,955	172,205	-	180,160
Income attributable to noncontrolling interest	-	1,798	-	1,798
Net income attributable to MAXIMUS	7,955	170,407	-	178,362

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MAXIMUS, Inc. and Subsidiaries
Consolidating Balance Sheets
September 30, 2016
(Amounts in thousands)

	MAXIMUS Human Services, Inc.*	Other MAXIMUS, Inc. subsidiaries	Eliminations	MAXIMUS, Inc.
ASSETS				
Current assets:				
Cash and cash equivalents	-	66,199	-	66,199
Accounts receivable - billed and billable, net	19,509	424,848	-	444,357
Accounts receivable - unbilled	1,746	34,687	-	36,433
Income tax receivable	-	17,273	-	17,273
Prepaid expenses and other current assets	410	56,308	-	56,718
Amounts receivable from other MAXIMUS entities	8,890	-	(8,890)	-
Total current assets	30,555	599,315	(8,890)	620,980
Property and equipment, net	1,924	129,645	-	131,569
Capitalized software, net	892	29,247	-	30,139
Investments in subsidiaries	-	-	-	-
Goodwill	-	397,558	-	397,558
Intangible assets, net	-	109,027	-	109,027
Deferred contract costs, net	976	17,206	-	18,182
Deferred income taxes	362	8,282	-	8,644
Deferred compensation plan assets	-	23,307	-	23,307
Other assets	54	9,359	-	9,413
Total assets	34,763	1,322,946	(8,890)	1,348,819
LIABILITIES AND SHAREHOLDERS' EQUITY				
Current liabilities				
Account payable and accrued liabilities	3,168	147,543	-	150,711
Accrued compensation and benefits	3,992	92,488	-	96,480
Deferred revenue	2,021	71,671	-	73,692
Income taxes payable	-	7,979	-	7,979
Long-term debt, current portion	-	277	-	277
Amounts payable to other MAXIMUS entities	-	8,890	(8,890)	-
Other liabilities	-	11,617	-	11,617
Total current liabilities	9,181	340,465	(8,890)	340,756
Deferred revenue, less current portion	1,275	38,732	-	40,007
Deferred income taxes	-	16,813	-	16,813
Long term debt	-	165,338	-	165,338
Deferred compensation plan liabilities, less current portion	-	24,012	-	24,012
Other liabilities	-	8,753	-	8,753
Total liabilities	10,456	594,113	(8,890)	595,679
Shareholders' equity				
Common Stock	-	461,679	-	461,679
Accumulated other comprehensive income	-	(36,169)	-	(36,169)
Retained earnings	24,307	299,264	-	323,571
Total MAXIMUS shareholders' equity	24,307	724,774	-	749,081
Noncontrolling interests	-	4,059	-	4,059
Total equity	24,307	728,833	-	753,140
Total liabilities and equity	34,763	1,322,946	(8,890)	1,348,819

* The consolidating information is not intended to present the financial position, results of operations, and cash flows of the individual companies, as would complete financial statements including necessary disclosures, and should be read in conjunction with the financial statements included in the Company's Form 10-K filed with SEC on November 21, 2016.

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FORM 10-K

MAXIMUS INC - MMS

Filed: November 20, 2018 (period: September 30, 2018)

Annual report with a comprehensive overview of the company

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF
THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended September 30, 2018

Commission file number: 1-12997

MAXIMUS, INC.

(Exact name of registrant as specified in its charter)

Virginia

(State or other jurisdiction of
incorporation or organization)

54-1000588

(I.R.S. Employer
Identification No.)

1891 Metro Center Drive, Reston, Virginia
(Address of principal executive offices)

20190
(Zip Code)

Registrant's telephone number, including area code: **(703) 251-8500**

Securities registered pursuant to Section 12(b) of the Act:

Title of each class

Common Stock, no par value

Name of each exchange on which registered

New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: **None**

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes No

The aggregate market value of outstanding voting stock held by non-affiliates of the registrant as of March 31, 2018 was \$4,291,433,990 based on the last reported sale price of the registrant's Common Stock on The New York Stock Exchange as of the close of business on that day.

There were 64,133,318 shares of the registrant's Common Stock outstanding as of November 14, 2018.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the registrant's definitive Proxy Statement for its 2019 Annual Meeting of Shareholders to be held on March 20, 2019, which definitive Proxy Statement will be filed with the Securities and Exchange Commission not later than 120 days after the end of the registrant's fiscal year, are incorporated by reference into Part III of this Form 10-K.

MAXIMUS, Inc.
Form 10-K
September 30, 2018
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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Included in this Annual Report on Form 10-K are forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements are based on current expectations, estimates, forecasts and projections about our Company, the industry in which we operate and other matters, as well as management's beliefs and assumptions and other statements that are not historical facts. Words such as "anticipate," "believe," "could," "expect," "estimate," "intend," "may," "opportunity," "plan," "potential," "project," "should," "will" and similar expressions are intended to identify forward-looking statements and convey uncertainty of future events or outcomes. These statements are not guarantees and involve risks, uncertainties and assumptions that are difficult to predict. Actual outcomes and results may differ materially from such forward-looking statements due to a number of factors, including without limitation:

- a failure to meet performance requirements in our contracts, which might lead to contract termination and actual or liquidated damages;
- the effects of future legislative or government budgetary and spending changes;
- our failure to successfully bid for and accurately price contracts to generate our desired profit;
- our ability to maintain technology systems and otherwise protect confidential or protected information;
- our ability to attract and retain executive officers, senior managers and other qualified personnel to execute our business;
- our ability to manage capital investments and startup costs incurred before receiving related contract payments;
- our ability to manage our growth, including acquired businesses;
- the ability of government customers to terminate contracts on short notice, with or without cause;
- our ability to maintain relationships with key government entities from whom a substantial portion of our revenue is derived;
- the outcome of reviews or audits, which might result in financial penalties and impair our ability to respond to invitations for new work;
- a failure to comply with laws governing our business, which might result in the Company being subject to fines, penalties, suspension, debarment and other sanctions;
- the costs and outcome of litigation;
- difficulties in integrating or achieving projected revenues, earnings and other benefits associated with acquired businesses;
- the effects of changes in laws and regulations governing our business, including tax laws, and applicable interpretations and guidance thereunder, or changes in accounting policies, rules, methodologies and practices, and our ability to estimate the impact of such changes;
- matters related to business we have disposed of or divested; and
- other factors set forth in Exhibit 99.1 of this Annual Report on Form 10-K under the caption "Special Considerations and Risk Factors."

As a result of these and other factors, our past financial performance should not be relied on as an indication of future performance. Additionally, we caution investors not to place undue reliance on any forward-looking statements as these statements speak only as of the date when made. Except as otherwise required by law, we undertake no obligation to publicly update or revise any forward-looking statements, whether resulting from new information, future events or otherwise.

PART I

ITEM 1. *Business.*

Throughout this annual report, the terms "MAXIMUS," "Company," "we," "our" and "us" refer to MAXIMUS, Inc. and its subsidiaries.

General

We are a leading operator of government health and human services programs worldwide. We act as a partner to governments under our mission of *Helping Government Serve the People*[®]. We use our experience, business process management expertise, innovation and technology solutions to help government agencies run effective, efficient and accountable programs.

Our company was founded in 1975 and grew both organically and through acquisitions during the early 2000s. Beginning in 2006, we narrowed our service offerings to focus in the area of business process services (BPS) primarily in the health services and human services markets. In parallel, we divested or exited a number of non-core businesses that fell outside these two areas. Our subsequent growth was driven by the expansion of our health services business around the globe, new welfare-to-work contracts outside the United States and the growth of our business with the United States Federal Government. This growth has been both organic and through acquisitions.

Beginning in fiscal year 2017, we experienced what we believed was a slowdown due to an industry pause tied to the transition of a new presidential administration in the United States. Although the transition occurred at the federal level, we experienced the effects on some of our U.S.-based health business as many states depend upon federal funds to finance the services they provide. As a result, our short-term growth expectations were impacted by longer procurement cycles, increased delays and contract award protests. Some of this was due to policy and budget uncertainty. Further, agency staffing shortfalls tied to the slow presidential nomination process hindered the decision-making process at both the federal and the state level.

Longer-term, we believe the ongoing demand for our services driven by demographic, economic and legislative trends, coupled with our strong position within our industry, will continue to foster future growth. Our long-term growth thesis is based on the following factors:

- Demographic trends, including increased longevity and more complex health needs, place an increased burden on government social benefit and safety-net programs. At the same time, programs that address societal needs must be a good use of taxpayer dollars and achieve their intended outcomes. We believe the macro-economic trends of demographics and government needs, coupled with the need to achieve value for money, will continue to drive demand for our services.
- Our contract portfolio offers us good revenue visibility. Our contracts are typically multi-year arrangements and we have customer relationships which have lasted decades. Because of this longevity, our contract portfolio at any point in time can typically be used to identify approximately 90% of our anticipated revenue for the next twelve months.
- We maintain a strong reputation within the government health and human services industry. Our deep client relationships and reputation for delivering outcomes and efficiencies creates a strong barrier to entry in a risk-averse environment. Entering our markets typically requires expertise in complex procurement processes, operation of multi-faceted government programs and an ability to serve and engage with diverse populations.
- We have a portfolio target operating profit margin that ranges between 10% and 15% with high cash conversion, a healthy balance sheet and access to a \$400 million credit facility. Our financial flexibility allows us to fund investments in the business, complete strategic acquisitions to further supplement our core capabilities and seek new adjacent platforms.
- We have an active program to identify potential strategic acquisitions. Our acquisitions have successfully enabled us to expand our business processes, knowledge and client relationships into adjacent markets and new geographies. Our recent acquisitions are summarized below.

Date	Acquisition	Related Segment	Background	Purchase Price (in millions of dollars)
November 2018	General Dynamics Information Technology's Citizen Engagement Centers (the citizen engagement center acquisition)	U.S. Federal Services	Citizen engagement services on large contracts for the U.S. Federal Government	\$ 400.0 [Note 1]
July 2017	Revitalised Limited	Health Services	Digital solutions for health, fitness and wellbeing.	4.1
February 2016	Ascend Management Innovations, LLC	Health Services	Independent health assessments and data management tools to U.S. state government agencies.	44.1
December 2015	Three companies doing business as "Assessments Australia"	Human Services	Health and functional assessment services in Australia.	3.1 [Note 2]
April 2015	Acentia, LLC	U.S. Federal Services	System modernization, software development, program management and other information technology services to the U.S. Federal Government.	293.5
April 2015	Remploy (70% acquired in 2015, a further 10% in 2018)	Human Services	Provision of disability employment services in the United Kingdom.	3.0
January 2014	Welfare-to-work contracts owned by Centacare, Australia	Human Services	Provision of welfare-to-work services in Australia.	2.7
July 2013	Health Management Limited	Health Services	Provision of occupational health services and independent medical assessments in the United Kingdom.	77.9

Note 1 - The purchase price for this business is based upon an estimate. The final price will be based upon the acquired working capital balance.

Note 2 - This purchase price includes an estimate of contingent consideration which has not yet been paid.

Our business segments

The Company is organized and managed based on the services we provide: Health Services, U.S. Federal Services and Human Services.

We operate in the United States, Australia, United Kingdom, Canada, Saudi Arabia and Singapore.

For more information on our segment presentation and geographic distribution of our business, including comparative revenue, gross profit, operating income, identifiable assets and related financial information for the 2018, 2017 and 2016 fiscal years, see "Note 2. Business segments" within Item 8 of this Annual Report on Form 10-K, which we incorporate by reference herein.

Health Services Segment

Our Health Services Segment generated 59% of our total revenue in fiscal year 2018.

The Health Services Segment provides a variety of business process services and appeals and assessments for state, provincial and national government programs. These services support a variety of government health benefit programs including Medicaid, the Children's Health Insurance Program (CHIP) and the Affordable Care Act (ACA) in the U.S., Health Insurance British Columbia (BC) in Canada, and the Health Assessment Advisory Service (HAAS) contract in the U.K.

Approximately 77% of our revenue for this segment comes from our comprehensive program administration services for government health benefit programs. These services help people access, navigate and use health benefits and other government programs. They include:

- Support for Medicaid, CHIP and ACA in the U.S. and Health Insurance BC in Canada.

- Program eligibility support and enrollment services to help beneficiaries make the best choice for their health insurance coverage and improve their access to health care.
- Application assistance and independent health plan enrollment counseling to beneficiaries.
- Beneficiary outreach, education, eligibility, enrollment and renewal services.
- Centralized multilingual customer contact centers and multichannel self-service options for easy enrollment.
- Document and record management.
- Premium payment processing and administration, such as invoicing and reconciliation.
- Digital eHealth and wellbeing solutions.

We are a leading player in many of the health program administration markets that we serve. For example, we are the largest provider of Medicaid enrollment and CHIP services in the U.S. and a leading operator of customer contact centers for state-based health insurance exchanges in the U.S.

Approximately 22% of the Segment's revenue is from our independent appeals and assessments services. These services help governments engage with program recipients, while at the same time helping them improve the efficiency, cost effectiveness, quality and accountability of their health and disability benefits programs. They include:

- Support for HAAS in the U.K.
- Independent disability, long-term sick and other health assessments, including those related to long-term services and supports such as Preadmission Screening and Resident Reviews (PASRR).
- Occupational health clinical assessments.

We are a leading player in many of the health appeals and assessments markets that we serve. For example, we are:

- A leading provider of government-sponsored health benefit assessments and appeals in the U.S. and the U.K.
- One of the largest providers of disability and long-term sick support services and occupational health services in the U.K.

The rest of the Segment's revenue is from specialized consulting services.

Our contracts may be reimbursed on a performance-based, cost-plus, fixed rate fee or a combination of all the above. The Segment may experience seasonality due to transaction-based work, such as program open enrollment periods. Other fluctuations may arise from changes in programs directed by our clients and activity related to contract life cycles.

Health Services Market Environment

According to the Organization for Economic Cooperation and Development, health care spending in the U.S. still far exceeds that of other high-income countries. The Kaiser Family Foundation noted an acceleration of U.S. health care spending in 2014 (4.3% per capita growth) and 2015 (5.0% per capita growth), particularly due to more people having health coverage from the ACA. Projections suggest that health-spending growth will continue at a moderate pace (averaging 4.6% per year on a per capita basis) but is unlikely to reach the double-digit growth of previous decades. We believe that effectively managing these costs, as well as improving quality and access to health care, is a major policy priority for governments. Governments seek efficient and cost-effective solutions to manage their public health benefit programs. This includes programs meant to support individuals with disabilities and long-term medical conditions, as well as individuals with shorter-term health conditions.

In the U.S., as a result of Medicaid expansion and the ACA, more individuals are now eligible for health insurance coverage and there have been historic decreases in uninsured rates under the ACA. Over the last decade, many state Medicaid programs have also expanded managed care to new populations and new geographies that were historically served through fee-for-service Medicaid. More recently, some states are also seeking increased flexibility in the operations of their Medicaid programs via waivers requested through the Centers

for Medicare & Medicaid Services. Some of these waivers include individual responsibility components such as beneficiary work requirements and co-pays for benefits. These waivers may create a more palatable path for additional states to contemplate new ways to operate their health benefit programs over the coming years. The issuance of waivers is contingent upon federal approval.

Many governments are also looking for innovative solutions to support disabled and elderly populations who require long-term services and supports (LTSS). A general trend in the LTSS market has been to ensure that individuals are in the right setting and receiving the right level of support and care. In many cases, this means allowing individuals to receive care at home or in a community-based setting, rather than institutional facilities. With no financial ties to health insurance plans or providers, our conflict-free assessment services assist governments in determining the most appropriate placement and health care services for program beneficiaries.

Outside of the U.S., many governments are seeking partners to help them manage, administer or operate their social benefit programs. Countries like the U.K. are examining how public health relates to productivity, cost reduction and economic growth. The U.K. Government provides a range of social welfare benefits for people who are unable to work as a result of a disability, long-term illness or other health condition. For individuals with long-term sickness or disabilities who are claiming the Employment Support Allowance benefit (a government-provided disability or long term sick benefit), the government requires an independent health assessment provided by a vendor through the Health Assessment Advisory Service (HAAS). The assessment report is then used by the government to determine an individual's level of benefits.

We believe the current health market environment positions us to benefit from continued demand across all of our geographies from service areas such as operations program management and independent health and benefit assessments. Overall, we expect the underlying demand for our services to increase over the next several years.

U.S. Federal Services Segment

Our U.S. Federal Services Segment generated 20% of our total revenue in fiscal year 2018.

The U.S. Federal Services Segment provides business process solutions, program management, as well as system and software development and maintenance services for various U.S. federal civilian programs. The Segment also contains certain state-based assessments and appeals work that is part of the Segment's heritage within the Medicare Appeals portfolio and continues to be managed within this Segment. We served 19 federal agencies in fiscal 2018.

Approximately 30% of the Segment's revenue is from our comprehensive program administration services for federal government benefit programs. These include:

- Centralized citizen engagement centers and support services
- Document and record management
- Case management, citizen engagement and consumer education

Approximately 34% of the Segment's revenue is from our independent assessments and appeals services. These include:

- Independent medical reviews and worker's compensation benefit appeals
- Medicare and Medicaid appeals
- Program eligibility appeals

Approximately 36% of the Segment's revenue is from our technology solutions. These include:

- Modernization of systems and information technology (IT) infrastructure
- Infrastructure operations and support
- Software development, operations and management
- Data analytics

Many contracts in this Segment earn revenue on a cost-plus or time-and-materials basis, which typically carry the lowest levels of risk and lower levels of profit margin. The Segment also contains performance-based contracts where revenue is earned based upon participant numbers or other transaction-based measures, such as the number and type of assessments or appeals processed. The Segment may experience fluctuations as a result of volume variations or program maturity, with contracts recording lower revenue and profitability during program startup.

In November 2018, we acquired General Dynamics Information Technology's citizen engagement centers to add to our existing portfolio of work with the U.S. Federal Government. This will provide us with additional cost-plus contracts, including an expansion of our role with the Centers for Medicare and Medicaid Services and the United States Census Bureau.

U.S. Federal Services Market Environment

Following the 2016 Presidential election, the U.S. federal services market was impacted by the transition to the new U.S. administration. Political struggles and uncertainty around agency budgets, as well as agency staffing shortfalls, hindered the federal procurement and decision-making process causing an overall slowdown of work in some of our core areas.

While federal agency budgets still face fiscal pressures and the administration is looking for improved efficiencies, we continue to see opportunities to apply our cost-effective and efficient solutions in the federal market. Federal agencies are tasked with cost-effectively managing programs at a time when changing demographics are leading to rising caseloads in many federal programs.

Many federal agencies must also address the maintenance of legacy IT systems and the pressing need for IT infrastructure modernization continues to grow. Legacy processes and systems are fundamental to government operations, yet they are expensive to operate in an environment that requires online agility and rapid response to new demands, requirements and global challenges. We are well positioned to help agencies modernize and operate their mission-critical systems.

Other key factors that will likely impact the U.S. federal market include a variety of political, economic, social and technological issues:

- A focus on the citizen experience and citizen services, as well as digital services
- Agencies moving from transformation initiatives to operations and maintenance
- Agencies seeking consolidation and shared services to achieve cost efficiencies
- Changes in the acquisition and contracting environment, including consolidation of General Services Administration schedules, such as Alliant 2

Human Services Segment

Our Human Services Segment generated 21% of our total revenue in fiscal year 2018.

The Human Services Segment provides national, state, provincial and local human services agencies with a variety of business process services and related consulting services for welfare-to-work, child support, higher education institutions and other human services programs. Approximately 70% of our revenue in this segment was earned in foreign jurisdictions, notably Australia and the United Kingdom.

Approximately 76% of the Segment's revenue is from comprehensive workforce services that help disadvantaged individuals transition from government assistance programs to sustainable employment and economic independence. These services support a variety of programs including:

- The Work Programme and Work Choice in the U.K.;
- jobactive and Disability Employment Services in Australia;
- Temporary Assistance to Needy Families (TANF) in the U.S.;
- the Employment Program of British Columbia, Canada;
- the Taqat and Taqat Plus programs in Saudi Arabia; and

- Workforce Singapore as a Career Matching Provider.

These services cover a number of attributes including eligibility determination, case management, job-readiness preparation, job search and employer outreach, job retention and career advancement, and selected educational and training services.

A further 15% of the Segment's revenue is generated from children's services, which includes full and specialized child support case management services, customer contact center operations, and program and systems consulting services.

The balance of the Segment's revenue comes from other specialized services. These include program consulting services, including independent verification and validation, cost allocation plans and other specialized consulting offerings; management tools and professional consulting services for higher education institutions; and tax credit and employer services.

Our payment terms vary between contracts. Within this segment, we have seen a trend towards payments based upon outcomes, such as achieving sustained employment targets or child support payments. There is no significant effect from seasonality within this segment.

Human Services Market Environment

We believe our established presence, strong brand recognition, and ability to achieve the requisite performance requirements and outcomes makes us well-positioned to compete for human services opportunities.

We offer clients demonstrated results and decades of proven experience in administering welfare-to-work programs in the U.S., the U.K., Australia, Canada, Saudi Arabia and Singapore. In Australia, we are one of the largest welfare-to-work providers. We also have an established presence in the U.K.'s welfare-to-work market and presently provide employment and job training services under the Work Choice and Work Programmes, which are ending as a result of a robust economy, low unemployment and a shift away from mainstream welfare-to-work programs.

Many governments are shifting their focus to employment programs that serve individuals with disabilities or health conditions. Through our acquisition of Remploy, we have increased our presence in the U.K. disability employment services market where we help people with disabilities and health conditions obtain employment. We do similar work in Australia under the Disability Employment Services program that aims to provide individuals with disabilities a supported path towards long-term employment. We are a recognized leader in the U.K and Australia for providing disability employment support services, having achieved accreditations in the U.K. as a Disability Confident Leader and in Australia as a Disability Confident Recruiter. We believe these services are transferable to our other geographies and position us well for emerging trends in the disability services market.

We believe ongoing initiatives and measures to reduce costs and improve efficiencies, combined with our outstanding performance, expertise and proven solutions, will continue to drive demand for our core human services offerings across multiple geographies. Our ability to provide value-for-money is important in a market that is very price competitive.

Reorganization of segments

Effective October 1, 2018, our Chief Executive Officer reorganized our reporting segments based on the way management intends to allocate resources, manage performance and evaluate results. This change responds to recent changes in the markets we operate, the increasing integration of health and human services programs worldwide and the evolving needs of our government clients as they aim to deliver services in a more holistic manner to their citizens. Accordingly, we will report operating segments on a geographic basis. Our operating segments will be U.S. Health & Human Services, U.S. Federal Services and Outside the U.S.

Our clients

Our primary clients are government agencies, with the majority at the national, provincial and state level and, to a lesser extent, some at the county and municipal level. In the year ended September 30, 2018, approximately 51% of our total revenue was derived from U.S. state government agencies, 27% from foreign government agencies, 16% from agencies of the U.S. Federal Government and 6% from other sources including local municipalities and commercial customers.

In the U.S., even when our direct clients are state governments, a significant amount of our revenue is ultimately funded via the U.S. Federal Government in the form of cost-sharing arrangements with the states, such as is the case with Medicaid.

In the event of a shutdown of the U.S. Federal Government, a portion of our U.S. Federal Services Segment may be impacted. Many of our federally funded health and human services programs are typically deemed essential, which means that a short-term shutdown would not be expected to cause significant disruption to these operations. Our contract portfolio also contains some services that may be considered discretionary. As a result, we could incur costs in providing the portion of work that is considered discretionary with no certainty of recovery. In all cases, an extended delay may affect certain government programs that rely upon federal funding and may also have an effect on our cash flows if payments are delayed.

For the year ended September 30, 2018, our most significant clients were the U.S. Federal Government, which provided 16% of our consolidated revenue, the State of New York, which provided 16%, the U.K. Government, which provided 12% and the Australian Government, which provided 10%. Within these governments, we may be serving several distinct agencies. Our share of revenue with the U.S. Federal Government is expected to increase with the citizen engagement center acquisition.

We typically contract with government clients under four primary pricing arrangements: performance-based, cost-plus, fixed-price and time-and-materials. For the year ended September 30, 2018, 43% of our contracts were performance-based, 33% were cost-plus, 18% were fixed-price and 6% were time-and-materials.

Generally, the relationships with our clients are longer-term. Typical contracts, including option periods, tend to be several years long before they are subject to competitive rebid. See the "Backlog" section below for more details.

Backlog

At September 30, 2018, we estimate that we had approximately \$5.1 billion in backlog. Backlog represents an estimate of the remaining future revenue from existing signed base contracts and revenue from contracts that have been formally awarded, but not yet signed. Our backlog estimate includes revenue expected under the current terms of executed contracts and revenue from contracts in which the scope and duration of the services required are not definite but estimable (such as performance-based contracts). Our backlog estimate does not assume any contract renewals or option period exercises.

Increases in backlog result from the award of new contracts, the extension or renewal of existing contracts and the exercise of option periods. Reductions in backlog come from fulfilling contracts or the early termination of contracts. The backlog associated with our performance-based contracts is an estimate based upon management's experience of caseloads and similar transaction volume from which actual results may vary. We may modify our estimates related to performance-based contracts and as a result backlog from these contracts may increase or decrease based upon the information that management has at that time. Additionally, backlog estimates may be affected by foreign currency fluctuations.

Government contracts typically contain provisions permitting government clients to terminate contracts on short notice, with or without cause.

We believe that period-to-period backlog comparisons are difficult and may not necessarily accurately reflect future revenue we may receive. The actual timing of revenue receipts, if any, on projects included in backlog could change for any of the aforementioned reasons. The dollar amount by segment of our backlog as of September 30, 2018 and 2017 was as follows:

	Backlog as of September 30,	
	2018	2017
	(In millions)	
Health Services	\$ 2,682	\$ 4,246
U.S. Federal Services	744	324
Human Services	1,674	1,130
Total	<u>\$ 5,100</u>	<u>\$ 5,700</u>

Our businesses typically involve contracts covering a number of years, including option periods. Contracts may include a period between contract signature and operations beginning for startup and transition activities where we

are precluded from recognizing revenue. At September 30, 2018, the average weighted life of these contracts was approximately six years, including option periods. Although the exercise of options is uncertain, in our experience if the incumbent contractor is performing as expected these options are exercised nearly 100% of the time. The longevity of these contracts assists management in predicting revenue, operating income and cash flows. We expect approximately 40% of the backlog balance to be realized as revenue in fiscal year 2019. We adjust backlog annually for currency fluctuations and for estimated amounts associated with our performance-based contracts based upon the latest information that management has at that time.

As a result of the citizen engagement center acquisition in November 2018, we expect our backlog to increase in fiscal year 2019. Backlog, including the anticipated option period renewals as well as the backlog from the citizen engagement center acquisition, represents approximately 93% of current estimated fiscal year 2019 revenue.

Our growth strategy

Our goal is to enable future growth by remaining a leading provider of BPS, technology solutions and consulting services to government agencies. We will continue to deliver quality BPS to government clients to improve the cost effectiveness, efficiency and scalability of their programs as they deal with greater program complexity, rising demand and increasing caseloads. We also continue to seek efficiencies and optimize operations in order to achieve sustainable, profitable growth.

Our three-pronged approach to long-term growth is as follows.

Grow in our existing markets. With more than 40 years of business expertise in the government market, we continue to be a leader in developing innovative solutions to meet the evolving needs of government agencies in our existing markets. For example, innovations such as digital engagement and analytics provide opportunities for us to serve our clients with greater efficiency and to create a more seamless customer journey for participants in government programs. We continue to seek to enter into long-term relationships with clients to meet their ongoing objectives. As a result, long-term contracts (three to five years with additional option years) are often the preferred contracting method and provide us with predictable, recurring revenue streams. We believe an incumbent has a considerable advantage when contracts are rebid and that client relationships can last for decades.

Move into adjacent markets. As we gain expertise in particular services or geographies, we can use our knowledge and experience in other similar areas. We seek to grow our businesses by leveraging our existing core capabilities, consistently delivering the required outcomes for governments to achieve program goals, and pursuing opportunities with new and current clients in adjacent markets. For example, we continue to seek to grow our footprint in clinical services as well as long-term services and supports.

Incorporate new growth platforms. New growth platforms can be developed organically or through acquisition. We will selectively identify and pursue strategic acquisitions that provide us with a rapid and cost-effective method to enhance our services. This includes obtaining additional skill sets, increasing our access to contract vehicles, expanding our client base, cross-selling additional services, enhancing our technical capabilities and establishing or expanding our geographic presence. Many of our acquisitions allow us to gain new capabilities to use elsewhere within our business. For example, our acquisition of Health Management gave us significant occupational health capability and our acquisition of Revitalised improved our digital wellbeing capabilities. The citizen engagement center acquisition expands our reach in the delivery of citizen services, enables greater economies of scale, and brings enhanced technology and added operational capabilities that we believe will benefit the entire company.

We have centered our core business offerings on delivering BPS to government health and human services agencies in our primary geographies as well as to other civilian agencies within the U.S. Federal Government. Our market focus and established presence positions us to benefit from health care and welfare reform initiatives both in the U.S. and internationally. As such, we continually strive to recruit motivated individuals, including top managers from larger organizations, former government officials, consultants experienced in our service areas and recent college graduates with degrees aligned with our mission, such as degrees in government policy and administration. We believe we can continue to attract and retain experienced and educated personnel by capitalizing on our focused market approach and our reputation as a premier government services provider.

See Exhibit 99.1 of this Annual Report on Form 10-K under the caption "Special Considerations and Risk Factors" for information on risks and uncertainties that could affect our business growth strategy.

Competitive advantages

We offer a private sector alternative for the operation and management of critical government-funded health and human services programs. We believe our reputation and extensive experience give us a competitive advantage as governments value the level of expertise, proven delivery and brand recognition that we bring to our clients. Some of the competitive advantages that allow us to capitalize on various market opportunities are as follows.

Proven track record, ability to deliver outcomes and exceptional brand recognition. We assist governments in delivering cost-effective services to beneficiaries of government programs. We run large-scale, and often complex, program management operations on behalf of government agencies, improving the quality of services provided to their beneficiaries and achieving the necessary outcomes to help the government agencies cost-effectively meet their program goals. This has further enhanced our brand recognition as a proven partner with government agencies.

Subject matter expertise. Our workforce includes many individuals who possess substantial subject matter expertise in areas critical to the successful design, implementation, administration and operation of government health and human services programs. Many of our employees have worked for governments in management positions and can offer insights into how we can best provide valuable, practical and effective services to our clients.

Intellectual property that supports the administration of government programs. We have proprietary solutions to address client requirements in our markets that are configurable or provide a platform that can be utilized with other clients. We leverage commercial off-the-shelf platforms across multiple contracts in which we have considerable expertise to ensure we can deploy repeatable proven solutions. We also leverage software development methodologies to shorten development cycles. Extensive use of shared infrastructure and standard solutions provides considerable price and quality advantages. We believe our extensive industry focus and expertise embedded in our systems and processes provide us with a competitive advantage.

Digital engagement, analytics and automation solutions to enhance government programs. Participants in government programs expect the same types of digital engagement they rely upon when interacting with consumer-oriented businesses. We believe our clients value our ability to infuse digital, such as mobile applications and social media, into our BPS solutions to make it easier for beneficiaries to engage with government programs. Analytics enable us to optimize our operations and provide our clients with improved outcomes through greater insight into the populations we serve. Process automation incorporated into our BPS solutions increases the efficiency and quality of the programs we operate.

Flexibility and scalability. We are experienced in launching large-scale operations under compressed time frames. We offer clients the flexibility and scalability to deliver the people, processes and technology to complete short- and long-term contractual assignments in an efficient and cost-effective manner.

Financial strength. Our business provides us with robust cash flows from operations as a result of our profitability and our management of customer receivables. In the event that we have significant cash outlays at the commencement of projects, to fund acquisitions, or where delays in payments have resulted in short-term cash flow declines, we may borrow up to \$400 million through our credit facility, subject to standard covenants. We have the ability to borrow under our credit facility in all of the principal currencies in which we operate. We believe we have strong, constructive relationships with the lenders on our credit facility. We believe our financial strength provides reassurance to government agencies that we will be able to establish and maintain the services they need to operate high-profile public health and human services programs.

Focused portfolio of services. We are one of the largest publicly traded companies that provides a portfolio of BPS almost exclusively to government customers. Our government program expertise and proven ability to deliver defined, measurable outcomes differentiate us from other firms and nonprofit organizations, including large consulting firms that serve multiple industries and lack the focus necessary to manage the complexities of serving government agencies efficiently.

Established presence outside the United States. Governments outside the U.S. are seeking to improve government-sponsored health and human services programs, manage increasing caseloads, and contain costs. We have an established presence in the U.K., Australia, Canada, Saudi Arabia and Singapore. Our international efforts are focused on delivering cost-effective welfare-to-work and health benefits services to program participants on behalf of governments.

Expertise in competitive bidding. Government agencies typically award contracts through a comprehensive, complex and competitive request for proposals (RFP) and bidding process. Although the bidding criteria vary from contract to contract, typical contracts are awarded based upon a mix of technical solution and price. In some cases, governments award points for past performance tied to program outcomes. With more than 40 years of experience in responding to RFPs, we believe we have the necessary experience and resources to navigate government procurement processes and to assess and allocate the appropriate resources necessary for successful project completion in accordance with contractual terms.

Competition

The market for providing our services to government agencies is competitive and subject to rapid change. However, given the specialized nature of our services and the programs we serve, market entry can be difficult for new or inexperienced firms. The complex nature of competitive bidding, qualifying criteria related to past performance, the required investment in subject-matter expertise, repeatable processes and support infrastructure, and the need to achieve specific program outcomes creates barriers to entry for potential new competitors unfamiliar with the nature of government procurement.

In the U.S., our primary competitors in the Health Services Segment are government in-sourced operations, Conduent, Automated Health Systems, Faneuil and KePro. We consider ourselves to be a significant competitor in the markets in which we operate as we are the largest provider of Medicaid and CHIP administrative programs and operate more state-based health insurance exchanges than any other commercial provider. In the U.S. Federal Services Segment, our primary competitors in the BPS market are Serco, General Dynamics Information Technology, PAE and Conduent. In the U.S. Federal Services Segment, our primary competitors in the technology sector tend to be IBM, Oracle, Leidos, Accenture and other federal contractors. Our primary competitors in the Human Services Segment vary according to specific business line, but are primarily specialized consulting service providers and local nonprofit organizations.

Outside of the U.S., our primary competitors in the Health Services Segment include Atos, Capita, Interserve, Virgin Care and Optum. Our primary competitors in the Human Services Segment include Serco, Staffline, Shaw Trust, Sarina Russo, Advanced Personnel Management and other specialized private companies and nonprofit organizations such as The Salvation Army and Goodwill Industries. Although the basis for competition varies from contract to contract, we believe that typical contracts are awarded based upon a mix of comprehensive solution and price. In some cases, clients award points for past performance tied to program outcomes.

Legislative initiatives

We actively monitor legislative initiatives and respond to opportunities as they develop. Much of our work depends upon us reacting quickly to dynamic changes in the legislative landscape to assist with implementation of new legislation. Over the past several years, legislative initiatives created new growth opportunities and potential markets for us. Legislation passed in all the geographies in which we operate can have significant public policy implications for all levels of government, and presents viable business opportunities in the health and human services arena.

Some legislative initiatives that have created new growth opportunities for MAXIMUS are as follows.

The Affordable Care Act (ACA). Enacted in 2010 and upheld through a Supreme Court decision in 2012, the ACA introduced comprehensive health care reform in the United States. In our Health Services Segment, we have helped states with the operation of their health insurance exchanges and the expansion of their Medicaid programs to include new populations, the integration of state eligibility processing for entitlement programs and new long-term services and supports initiatives that have introduced more flexibility for home- and community-based services. In our U.S. Federal Services Segment, we have also assisted the federal government with the operations of a customer contact center for the Federal Marketplace and independent eligibility appeals services.

We believe we remain well-positioned to assist the federal government and individual states with future modifications to the ACA, including those made through waivers.

Children's Health Insurance Program Reauthorization Act (CHIPRA). CHIPRA was signed into law on February 2, 2009, extending the previous SCHIP program. As part of the Bipartisan Budget Act of 2018, CHIP has been extended and funded through 2027.

Medicaid and CHIP Managed Care Regulations. In 2016, the Centers for Medicare & Medicaid Services issued managed care regulations and federal standards for the Medicaid and CHIP programs. These include enhancing

support for consumers, improving health care delivery and quality of care, providing greater access to health care, and ensuring a modern set of rules that better align with the marketplace and Medicare Advantage plans. They also reinforce ongoing efforts to modernize and streamline the enrollment process and the continued value of independent choice counseling.

Work Innovation and Opportunity Act (WIOA). Signed into law in July 2014, WIOA replaces the Workforce Investment Act of 1998 and took effect on July 1, 2015. The law coordinates several core federal employment, training, education and literacy programs. It also requires states to strategically align their workforce development programs, with the option to include TANF, to help job seekers access the necessary support services and to match employers with skilled workers they need to compete in the global economy. WIOA represents potential new opportunities for us to complement our existing TANF welfare-to-work operations in the U.S.

The Welfare Reform Act of 2007 (United Kingdom). The Welfare Reform Act of 2007 replaced Incapacity Benefit with the Employment and Support Allowance and introduced the Work Capability Assessment (WCA). The WCA was designed to distinguish people who could not work due to health-related problems from people who were "fit for work" or, with additional support, could eventually return to work. In 2010, the U.K. Government decided to reassess the 1.5 million people who had previously been determined to be eligible to receive Incapacity Benefits. The U.K. Government also decided that an independent health assessment provided by a vendor partner is the best method for the government to determine the level of benefits for individuals with long-term sickness or disabilities. MAXIMUS has been providing assessments through the resulting Health Assessment Advisory Service (HAAS) on behalf of the Department for Work and Pensions (DWP) since March 2015.

Employees

As of September 30, 2018, we had approximately 18,600 employees, consisting of 11,700 employees in the Health Services Segment, 2,700 employees in our U.S. Federal Services Segment, 3,700 employees in the Human Services Segment and 500 corporate administrative employees. Our success depends in large part on attracting, retaining and motivating talented, innovative, experienced and educated professionals at all levels. As a result of the citizen engagement center acquisition, we will be adding approximately 13,100 employees to our U.S. Federal Services Segment and approximately 300 corporate administrative employees upon the closing of the acquisition.

As of September 30, 2018, 453 of our employees in Canada were covered under three different collective bargaining agreements, each of which has different components and requirements. There are 441 employees covered by two collective bargaining agreements with the British Columbia Government and Services Employees' Union and 12 employees covered by a collective bargaining agreement with the Professional Employees Association. These collective bargaining agreements expire in 2019 and 2020.

As of September 30, 2018, 1,593 of our employees in Australia were covered under a Collective Agreement, which is similar in form to a collective bargaining agreement. The Collective Agreement is renewed annually.

As of September 30, 2018, 405 of our employees in the U.K. were covered under a collective bargaining agreement with GMB Trade Union and Unite Amicus Trade Union. These collective bargaining agreements do not have expiration dates.

None of our other employees are covered under any such agreement. We consider our relations with our employees to be good.

Other information

MAXIMUS, Inc. is a Virginia corporation.

Our principal executive offices are located at 1891 Metro Center Drive, Reston, Virginia, 20190. Our telephone number is 703-251-8500.

Our website address is *maximus.com*. We make our website available for informational purposes only. It should not be relied upon for investment purposes, nor is it incorporated by reference into this Annual Report on Form 10-K.

We make our Annual Report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and the proxy statement for our annual shareholders' meeting, as well as any amendments to those reports, available free of charge through our website as soon as reasonably practical after we file that material with, or furnish it to, the Securities and Exchange Commission (SEC). Our SEC filings may be accessed through the Investor Relations

page of our website. These materials, as well as similar materials for other SEC registrants, may be obtained directly from the SEC through their website at <http://www.sec.gov>.

ITEM 1A. Risk Factors.

Our operations are subject to many risks that could adversely affect our future financial condition, results of operations and cash flows and, therefore, the market value of our securities. See Exhibit 99.1 of this Annual Report on Form 10-K under the caption "Special Considerations and Risk Factors" for information on risks and uncertainties that could affect our future financial condition and performance. The information in Exhibit 99.1 is incorporated by reference into this Item 1A.

ITEM 1B. Unresolved Staff Comments.

None.

ITEM 2. Properties.

We own a 60,000 square-foot office building in Reston, Virginia. We also lease offices for operations, management and administrative functions in connection with the performance of our services. At September 30, 2018, we leased 113 offices in the U.S. totaling approximately 2.4 million square feet. In five countries outside the U.S., we leased 304 offices totaling approximately 1.0 million square feet. The lease terms vary from month-to-month to ten-year leases and are generally at market rates. In the event that a property is used for our services in the U.S., we typically negotiate clauses to allow termination of the lease if the service contract is terminated by our customer. Such clauses are not standard in foreign leases.

We believe that our properties are maintained in good operating condition and are suitable and adequate for our purposes.

As a result of the citizen engagement center acquisition, we commenced leasing an additional 20 offices in the U.S. totaling approximately 1.3 million square feet in November 2018.

ITEM 3. Legal Proceedings.

We are subject to audits, investigations and reviews relating to compliance with the laws and regulations that govern our role as a contractor to agencies and departments of the U.S. Federal Government, state, local, and foreign governments, and otherwise in connection with performing services in countries outside of the U.S. Adverse findings could lead to criminal, civil or administrative proceedings, and we could be faced with penalties, fines, suspension or disbarment. Adverse findings could also have a material adverse effect on us because of our reliance on government contracts. We are subject to periodic audits by federal, state, local and foreign governments for taxes. We are also involved in various claims, arbitrations, and lawsuits arising in the normal conduct of our business. These include but are not limited to, bid protests, employment matters, contractual disputes and charges before administrative agencies. Although we can give no assurance, based upon our evaluation and taking into account the advice of legal counsel, we do not believe that the outcome of any pending matter would likely have a material adverse effect on our consolidated financial position, results of operations or cash flows.

Shareholder lawsuit

In August 2017, the Company and certain officers were named as defendants in a putative class action lawsuit filed in the U.S. District Court for the Eastern District of Virginia. The plaintiff alleged the defendants made a variety of materially false and misleading statements, or failed to disclose material information, concerning the status of the Company's Health Assessment Advisory Service project for the U.K. Department for Work and Pensions from the period of October 20, 2014 through February 3, 2016. In August 2018, the defendants' motion to dismiss the case was granted, and the case was dismissed. In October 2018, the plaintiffs filed a notice of appeal to the U.S. Circuit Court for the Fourth Circuit. That appeal is pending. At this time, it is not possible to reasonably predict whether this matter will be permitted to proceed as a class or to reasonably estimate the value of the claims asserted, and we are unable to estimate the potential loss or range of loss.

Medicaid claims

A state Medicaid agency has been notified of two proposed disallowances by the Centers for Medicare and Medicaid Services (CMS) totaling approximately \$31 million. From 2004 through 2009, we had a contract with the state agency in support of its school-based Medicaid claims. We entered into separate agreements with the school districts under which we assisted the districts with preparing and submitting claims to the state Medicaid agency

which, in turn, submitted claims for reimbursement to CMS. The state has asserted that its agreement with us requires us to reimburse the state for the amounts owed to CMS. However, our agreements with the school districts require them to reimburse us for such amounts, and therefore we believe the school districts are responsible for any amounts that ultimately must be refunded to CMS. Although it is reasonably possible that a court could conclude we are responsible for the full balance of the disallowances, we believe our exposure in this matter is limited to our fees associated with this work and that the school districts will be responsible for the remainder. We have established a reserve to cover our estimated fees earned from this engagement relating to the disallowances. We exited the federal healthcare-claiming business in 2009 and no longer provide the services at issue in this matter. No legal action has been initiated against us.

ITEM 4. *Mine Safety Disclosures*

Not applicable.

PART II

ITEM 5. *Market for Registrant's Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities.*

Our common stock trades on the New York Stock Exchange (NYSE) under the symbol "MMS."

As of October 5, 2018, there were 43 holders of record of our outstanding common stock. The number of holders of record is not representative of the number of beneficial owners due to the fact that many shares are held by depositories, brokers or nominees. We estimate there are approximately 34,500 beneficial owners of our common stock.

During fiscal years 2018 and 2017, we declared and paid quarterly dividends of \$0.045 per share of MAXIMUS common stock. From the first quarter of fiscal year 2019, we expect that the corresponding payment will be \$0.25 per share of MAXIMUS common stock. We intend to continue paying regular cash dividends, although there is no assurance as to future dividends. Future cash dividends, if any, will be paid at the discretion of our Board of Directors and will depend, among other things, upon our future operations and earnings, capital requirements and surplus, general financial condition, contractual restrictions and other factors our Board of Directors may deem relevant.

The following table sets forth information regarding repurchases of common stock that we made during the three months ended September 30, 2018:

<u>Period</u>	<u>Total Number of Shares Purchased</u>	<u>Average Price Paid per Share</u>	<u>Total Number of Shares Purchased as Part of Publicly Announced Plans(1)</u>	<u>Approximate Dollar Value of Shares that May Yet Be Purchased Under the Plan (in thousands)</u>
July 1, 2018 - July 31, 2018	10,000	\$ 62.48	10,000	\$ 197,145
August 1, 2018 - August 31, 2018	4,925	62.92	4,925	196,836
September 1, 2018 - September 30, 2018 (2)	202,044	64.98	62,000	192,817
Total	<u>216,969</u>		<u>76,925</u>	

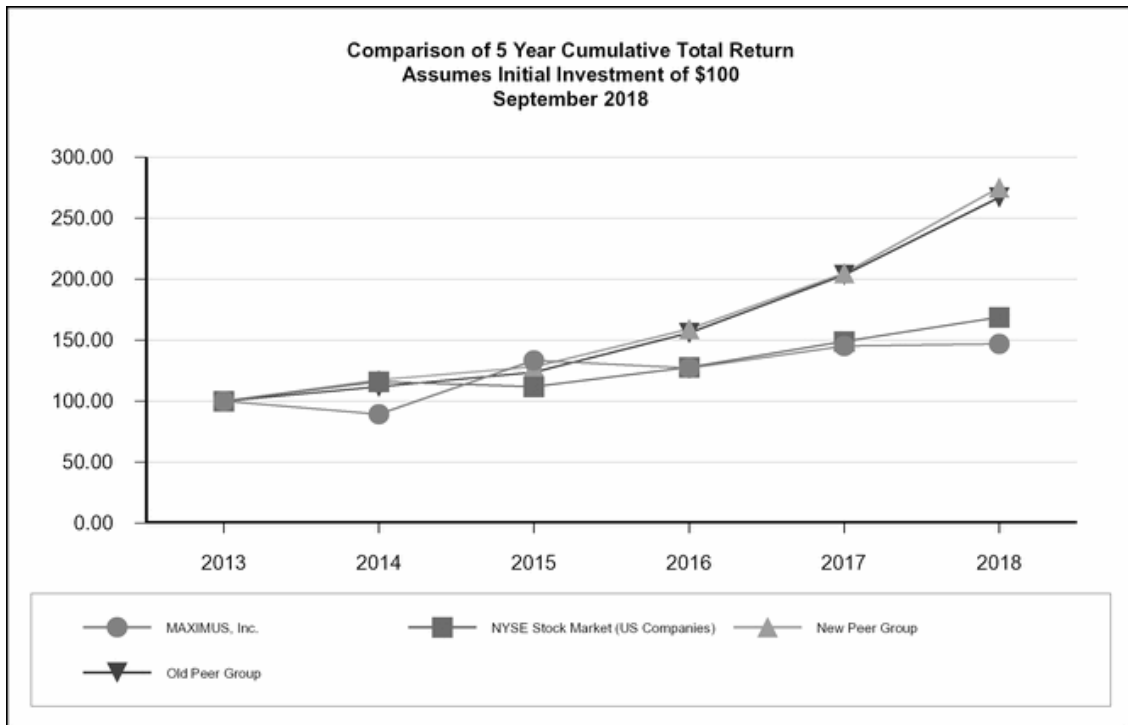
- (1) Under a resolution adopted in June 2018, the Board of Directors authorized the repurchase, at management's discretion, of up to an aggregate of \$200 million of our common stock. The resolution also authorized the use of option exercise proceeds for the repurchase of our common stock.
- (2) The total number of shares purchased in September 2018 includes 140,044 restricted stock units which vested in September 2018 but which were utilized by the recipients to net-settle personal income tax obligations.

Stock Performance Graph

The following graph compares the cumulative total shareholder return on our common stock for the five-year period from September 30, 2013, to September 30, 2018, with the cumulative total return for the NYSE Stock Market (U.S. Companies) Index. In addition, we have compared the results of a peer group to our performance. Our peer group is based upon the companies noted in our annual proxy statement as entities with whom we compete for executive talent.

During fiscal year 2018, we updated our peer group. The updated peer group is comprised of Booz Allen Holding Corp., CACI International, Conduent, DST Systems, Gartner, Harris Corp., ICF International, ManTech International, Science International Applications Corp (SAIC) and Unisys Corp. Our former peer group was comprised of Booz Allen Holding Corp., CACI International, DST Systems, Gartner, Harris Corp., ICF International, Leidos Holdings, ManTech International, SAIC and Unisys Corp.

This graph assumes the investment of \$100 on September 30, 2013, in our common stock, the NYSE Stock Market (U.S. Companies) Index and our peer groups, weighted by market capitalization and assumes dividends are reinvested.



Notes:

- A. The lines represent index levels derived from compounded daily returns that include all dividends.
- B. The indexes are reweighted daily, using the market capitalization on the previous trading day.
- C. If the monthly interval, based on the fiscal year-end, is not a trading day, the preceding trading day is used.
- D. The index level for all series was set to \$100.00 on September 30, 2013.

ITEM 6. Selected Financial Data.

We have derived the selected consolidated financial data presented below from our consolidated financial statements and the related notes. The revenue and operating results related to the acquisition of companies are included from the respective acquisition dates. The selected financial data should be read in conjunction with "Management's Discussion and Analysis of Financial Condition and Results of Operations" included as Item 7 of this Annual Report on Form 10-K and with the Consolidated Financial Statements and related Notes included as Item 8 of this Annual Report on Form 10-K. The historical results set forth in this Item 6 are not necessarily indicative of the results of operations to be expected in the future.

	Year Ended September 30,				
	2018	2017	2016	2015	2014
	(In thousands, except per share data)				
Consolidated statement of operations data:					
Revenue	\$ 2,392,236	\$ 2,450,961	\$ 2,403,360	\$ 2,099,821	\$ 1,700,912
Operating income	295,483	313,512	286,603	259,832	225,308
Net income attributable to MAXIMUS	220,751	209,426	178,362	157,772	145,440
Basic earnings per share attributable to MAXIMUS	\$ 3.37	\$ 3.19	\$ 2.71	\$ 2.37	\$ 2.15
Diluted earnings per share attributable to MAXIMUS	\$ 3.35	\$ 3.17	\$ 2.69	\$ 2.35	\$ 2.11
Weighted average shares outstanding:					
Basic	65,501	65,632	65,822	66,682	67,680
Diluted	65,932	66,065	66,229	67,275	69,087
Cash dividends per share of common stock	\$ 0.18	\$ 0.18	\$ 0.18	\$ 0.18	\$ 0.18

	At September 30,				
	2018	2017	2016	2015	2014
	(In thousands)				
Consolidated balance sheet data:					
Cash and cash equivalents	\$ 349,245	\$ 166,252	\$ 66,199	\$ 74,672	\$ 158,112
Total assets	1,462,000	1,350,662	1,348,819	1,271,558	900,996
Debt	510	668	165,615	210,974	1,217
Total MAXIMUS shareholders' equity	1,083,867	940,085	749,081	612,378	555,962

ITEM 7. Management's Discussion and Analysis of Financial Condition and Results of Operations.

The following discussion and analysis of financial condition and results of operations is provided to enhance the understanding of, and should be read in conjunction with, our Consolidated Financial Statements and the related Notes.

For an overview of our business, including our business segments and a discussion of the services we provide, see Item 1 - Business.

Recent acquisitions and disposals

The following acquisitions have occurred since October 2015:

Date	Acquisition	Related Segment	Background	Purchase Price (in millions)
November 2018	General Dynamics Information Technology's Citizen Engagement Centers (the citizen engagement center acquisition)	U.S. Federal Services	Citizen engagement services on large contracts for the U.S. Federal Government.	\$ 400.0 [Note 1]
July 2017	Revitalised Limited	Health Services	Digital solutions for health, fitness and wellbeing.	4.1
February 2016	Ascend Management Innovations, LLC	Health Services	Independent health assessments and data management tools to U.S. state government agencies.	44.1
December 2015	Three companies doing business as "Assessments Australia"	Human Services	Health and functional assessment services in Australia.	3.1 [Note 2]

Note 1 - The purchase price for this business is based upon an estimate. The final price will be based upon the acquired working capital balance.
Note 2 - This purchase price includes an estimate of contingent consideration which has not yet been paid.

We believe that these acquisitions will provide us with the ability to complement and expand our existing services.

In May 2016, we sold our K-12 Education business, which had been part of our Human Services Segment. We recorded gains of \$6.9 million and \$0.7 million in fiscal years 2016 and 2017, respectively.

Financial overview

We operate a portfolio of clients in a number of U.S. and foreign jurisdictions. Our results for the three years ended September 30, 2018, have been influenced by a number of factors.

- Our Health Services Segment has reported organic growth through contract expansion and improved contract performance.
- Our U.S. Federal Services Segment has seen a decline in revenues and profit from the loss of a subcontract with the Department of Veterans Affairs, the natural and expected conclusion of a number of smaller contracts as well as contracts that were re-procured under small business set-asides.
- Our Human Services Segment has experienced changes in its contract portfolio as new contracts in Australia have been offset by the end of Work Programme and Work Choice Programme contracts in the United Kingdom. Many of these international contracts are pay-for-performance contracts that earn revenue as the contract progresses.
- Our Health and Human Services Segments operate in foreign locations and are exposed to fluctuations in foreign currencies. These fluctuations have resulted in overall declines in income since fiscal year 2016.
- Our tax rate received benefits from the United States Tax Cuts and Jobs Act in 2018, the recording of tax benefits from the vesting of RSUs and the exercise of stock options in fiscal years 2018 and 2017 and research and development tax credits in fiscal year 2017.

- We utilized our cash flows from operations in fiscal years 2016 and 2017 to reduce our debt, much of which had been incurred with the acquisitions of Acentia, LLC in 2015 and Ascend Management Innovations, LLC in 2016. By reducing our debt balance, we reduced our interest expenses year-over-year.
- The sale of our K-12 Education business in 2016 resulted in a gain of \$6.9 million on the date of sale and an additional \$0.7 million in 2017 following the resolution of outstanding contingencies.
- We repurchased common shares at a cost of \$67.6 million, \$28.9 million and \$31.3 million for the fiscal years ended September 30, 2018, 2017 and 2016, respectively, resulting in corresponding benefits to earnings per share.
- We have maintained our quarterly dividend program. During fiscal year 2019, we increased our annual payment from \$0.18 to \$1.00 per year.

International businesses

We operate in international locations. Accordingly, we transact business in currencies other than the U.S. Dollar, principally the Australian Dollar, the Canadian Dollar, the Saudi Arabian Riyal, the Singapore Dollar and the British Pound. During the year ended September 30, 2018, we earned approximately 29% and 11% of revenue and operating income, respectively, from our foreign subsidiaries. International business exposes us to certain risks.

- Tax regulations may penalize us if we transfer funds or debt across international borders; accordingly, we may not be able to use our cash in the locations where it is needed. The passage of the Tax Cuts and Jobs Act in the United States in December 2017 eliminated many of these incremental penalties. As a result, we remitted a significant portion of our cash to the United States. Although this has been a significant benefit, some international transaction limitations still exist and there is no guarantee that the current U.S. tax regime will remain in place. To mitigate our risks with respect to transferring funds, we maintain sufficient working capital, or have sufficient capital available to us under our credit facility, both within and outside the U.S., to support the short-term and long-term capital requirements of the businesses in each region. We establish our legal entities to make efficient use of tax laws and holding companies to minimize this exposure.
- We are subject to exposure from foreign currency fluctuations. Our foreign subsidiaries typically incur costs in the same currency as they earn revenue, thus limiting our exposure to unexpected currency fluctuations. Further, the operations of the U.S. business do not depend upon cash flows from foreign subsidiaries. However, declines in the relevant strength of foreign currencies against the U.S. Dollar will affect our revenue mix, profit margin and tax rate.

Summary of consolidated results

The following table sets forth, for the fiscal years indicated, information derived from our statements of operations.

<i>(dollars in thousands, except per share data)</i>	Year ended September 30,		
	2018	2017	2016
Revenue	\$ 2,392,236	\$ 2,450,961	\$ 2,403,360
Cost of revenue	1,797,851	1,839,056	1,841,169
Gross profit	594,385	611,905	562,191
Gross profit margin	24.8%	25.0%	23.4%
Selling, general and administrative expense	285,241	284,593	269,091
Selling, general and administrative expense as a percentage of revenue	11.9%	11.6%	11.2%
Amortization of intangible assets	10,308	12,208	13,377
Restructuring costs	3,353	2,242	—
Gain on sale of a business	—	650	6,880
Operating income	295,483	313,512	286,603
Operating income margin	12.4%	12.8%	11.9%
Interest expense	1,000	2,162	4,134
Other income, net	4,726	2,885	3,499
Income before income taxes	299,209	314,235	285,968
Provision for income taxes	78,393	102,053	105,808
Effective tax rate	26.2%	32.5%	37.0%
Net income	220,816	212,182	180,160
Income attributable to noncontrolling interests	65	2,756	1,798
Net income attributable to MAXIMUS	\$ 220,751	\$ 209,426	\$ 178,362
Basic earnings per share attributable to MAXIMUS	\$ 3.37	\$ 3.19	\$ 2.71
Diluted earnings per share attributable to MAXIMUS	\$ 3.35	\$ 3.17	\$ 2.69

The following tables provide an overview of the significant elements of our consolidated statements of operations. As our business segments have different factors driving revenue growth and profitability, the sections that follow cover these segments in greater detail.

Revenue, cost of revenue and gross profit

Our revenue reflects fees earned for services provided. Cost of revenue consists of direct costs related to labor and related overhead, subcontractor labor, outside vendors, rent and other direct costs. The largest component of cost of revenue, approximately two-thirds, is labor (both our labor and subcontracted labor). Changes in revenue, cost of revenue and gross profit for between fiscal years 2016 and 2018 are summarized below.

	Revenue		Cost of Revenue		Gross Profit	
	Dollars in thousands	Percentage change from prior year	Dollars in thousands	Percentage change from prior year	Dollars in thousands	Percentage change from prior year
Balance for fiscal year 2016	\$ 2,403,360		\$ 1,841,169		\$ 562,191	
Organic growth	72,820	3.0 %	19,190	1.0 %	53,630	9.5 %
Net acquired growth	8,928	0.4 %	7,500	0.4 %	1,428	0.3 %
Currency effect compared to the prior period	(34,147)	(1.4)%	(28,803)	(1.6)%	(5,344)	(1.0)%
Balance for fiscal year 2017	\$ 2,450,961	2.0 %	\$ 1,839,056	(0.1)%	\$ 611,905	8.8 %
Organic growth	(83,409)	(3.4)%	(60,873)	(3.3)%	(22,536)	(3.7)%
Acquired growth	1,096	— %	799	— %	297	— %
Currency effect compared to the prior period	23,588	1.0 %	18,869	1.0 %	4,719	0.8 %
Balance for fiscal year 2018	\$ 2,392,236	(2.4)%	\$ 1,797,851	(2.2)%	\$ 594,385	(2.9)%

We have shown movements in revenue, cost of revenue and gross profit in three categories: organic movement, acquired growth and currency effects.

- Our organic revenue growth reflects changes in our contract portfolio from our existing business, supplemented with new work. Most of our contracts are multi-year arrangements, built upon long-term relationships which allow us to maintain a strong backlog of work to sustain our revenues. In any year, we would anticipate approximately 7% to 10% attrition of work as contracts end or are lost; contracts are rebid with reduced volumes, scope, rates or a combination of all three; contracted work is taken in house or we elect not to rebid for work. We also maintain a small portfolio of short-term projects, which do not provide year-on-year cash flows. To achieve organic growth, we must obtain more work than is lost.
- Our acquisitions provide additional growth to our contract portfolio, offset by divestitures. We show acquired revenue for one year after the date of the acquisition to allow for a like-for-like comparative.
- Our business is affected by fluctuations in foreign currencies in the jurisdictions where we operate. Although revenue and related costs are typically earned and incurred in the same currency, a significant change in foreign exchange rates may adjust our overall profit margins. In addition, each segment has a different exposure to foreign currencies and, accordingly, significant fluctuations may affect the mix of revenues and costs across our segments. We show the effect of currency fluctuations by reporting the difference between our results using current year exchange rates and those results which would have been reported if the average rates utilized in the prior year had prevailed.

Across fiscal years 2017 and 2018, we continued to report organic revenue growth in our Health Services Segment. This was offset by declines in our U.S. Federal Services Segment, in both years, and in our Human Services Segment in 2018. In fiscal years 2017 and 2018, we improved our profit margin in the Health and U.S. Federal Services Segments through improved contract performance and cost efficiencies. This was offset by declining profit margins in our Human Services Segment due to dilutive pass-through revenues in a new contract.

Acquired growth in revenue and costs stems from the acquisition of Revitalised and the full year benefit of Ascend and Assessments Australia, partially offset by the sale, in May 2016, of our K-12 Education business.

After the U.S. Dollar, our most significant earnings are denominated in British Pounds. The British Pound recorded a sharp drop in the second half of fiscal year 2016, resulting in reduced revenue and costs in fiscal year 2017. It has recovered some value in fiscal year 2018 and, accordingly, resulted in revenue and cost growth in fiscal

year 2018. On a constant currency basis, we would have recorded growth of 3.4% in 2017 and a decline of 3.4% in 2018. The corresponding changes in cost of revenue growth would have been growth of 1.4% and a decline of 3.3%, respectively.

Additional details with respect to revenue, cost of revenue and gross profit are covered in our review of our individual segments below.

Other operating expenses and benefits

Selling, general and administrative expense (SG&A) consists of costs related to general management, marketing and administration. These costs include salaries, benefits, bid and proposal efforts, travel, recruiting, continuing education, employee training, non-chargeable labor costs, facilities costs, printing, reproduction, communications, equipment depreciation, bad debt expense, legal expenses and the costs of business combinations. Our SG&A is primarily composed of labor costs. These costs may be incurred at a segment level, for dedicated resources which are not client-facing, or at a corporate level. Corporate costs are allocated to segments on a consistent, rational basis. Unlike cost of revenue, SG&A is not directly driven by fluctuations in our revenue.

Our SG&A has remained steady between 2018 and 2017. Increases between 2017 and 2016 were driven by significant investments in infrastructure which increased our depreciation expense and maintenance charges.

As noted above, we have made a number of acquisitions in recent years. These acquisitions have affected and will affect our statements of operations beyond the addition of revenues and costs.

- We incurred costs related to the acquisition of these entities; typically legal fees, third-party due diligence and costs related to the valuation of intangible assets. In fiscal year 2018, we recorded costs of \$0.5 million related to the citizen engagement center acquisition, which closed in November 2018. In fiscal years 2017 and 2016, we incurred expenses of \$0.1 million and \$0.8 million, related to the acquisitions of Revitalised and Ascend, respectively.
- We utilized our credit facility to fund our acquisitions. We borrowed funds in April 2015 to acquire Acentia, LLC, along with a further balance in February 2016 to acquire Ascend. These borrowings resulted in an increase in our interest expense. As of September 30, 2018 and 2017, we had no borrowings under the credit facility. We generated interest income in fiscal year 2018.
- Our intangible asset amortization has been declining year over year, notwithstanding the acquisitions of Revitalised, Ascend and Assessments Australia. All of our assets acquired with our 2015 acquisition of Remploy as well as many of the assets acquired with our 2012 acquisition of Policy Studies, Inc. reached the end of their lives in middle of fiscal year 2017.

During fiscal years 2018 and 2017, we undertook a restructuring of our United Kingdom Human Services operations as part of the integration of Remploy. We recorded restructuring costs of \$3.4 million and \$2.2 million, respectively, principally severance expenses. This restructuring is expected to result in cost savings in future periods. Remploy is partially owned by its employees and, accordingly, some of this charge is offset through a reduction in income attributable to noncontrolling interests.

On May 9, 2016, we sold our K-12 Education business, which was previously part of the Company's Human Services Segment. At that time, we recorded a gain of \$6.9 million. In fiscal year 2017, we resolved certain contingencies related to the sale and recorded a further gain of \$0.7 million.

Other income

Although we may earn interest on some of our cash and investment balances, we would not anticipate significant other income, particularly in fiscal year 2019 as we anticipate having net borrowings for several quarters as we cover our borrowings related to the citizen engagement center acquisition. Our other income has received some additional benefits which we would not anticipate occurring with regularity or pattern.

- In fiscal year 2018, we received insurance recoveries related to property damage and generated interest income on our cash balances through short-term investments.
- In fiscal year 2017, we received interest income on research and development tax credits which pertained to prior years.

- In fiscal year 2016, we received a benefit from a foreign exchange fluctuation. We typically mitigate the risk of such income or expense by matching the currencies of revenues and respective costs and by settling inter-company transactions on a timely basis.

Income taxes

Our effective tax rate for fiscal years 2018, 2017 and 2016 was 26.2%, 32.5% and 37.0%, respectively.

Our income tax expense in fiscal year 2018 received a significant benefit from the Tax Cuts and Jobs Act (the Act). The Act reduced the statutory U.S. federal income tax rate from 35% to 21%. This resulted in a one-time benefit from the reduction of net deferred tax liabilities, as well as reducing our current year rate to 24.5% for fiscal year 2018 and future years to 21%. This benefit was offset by a one-time charge for undistributed and previously untaxed earnings in foreign locations, as well as the removal of certain tax credits and exemptions. Without the effects of the Act, we estimate that our diluted earnings per share for fiscal year 2018 would have been lower by approximately \$0.40. We are monitoring guidance from the United States Treasury Department as to the application of certain aspects of the Act and we are waiting for some U.S. states to announce how they will organize their tax codes prospectively. We anticipate that our effective tax rate for fiscal year 2019, excluding discrete items, will be between 25% and 26%. This will vary depending upon the effect of the guidance noted above as well as any changes in our profit mix.

Our income tax expense in fiscal years 2018 and 2017 received benefits of \$2.8 million and \$6.6 million from the vesting of restricted stock units (RSUs) and the exercise of stock options. Prior to fiscal year 2017, this benefit had been recorded through our Consolidated Statements of Changes in Shareholders' Equity. Our annual benefit or charge related to the vesting of RSUs will be dependent upon the timing, amount and share price on the date that the awards become available to owners of RSUs. Although most of our RSUs vest in the fourth quarter, we have a significant population of RSUs whose issuance has been deferred which might result in unpredictable movements in our tax provision. As of September 30, 2018, we have no outstanding stock options.

Health Services Segment

The Health Services Segment provides a variety of business process services and appeals and assessments for state, provincial and national government programs. These services support a variety of government health benefit programs including Medicaid, the Children's Health Insurance Program (CHIP) and the Affordable Care Act (ACA) in the U.S., Health Insurance BC (British Columbia) in Canada, and the Health Assessment Advisory Service (HAAS) contract in the U.K.

<i>(dollars in thousands)</i>	Year ended September 30,		
	2018	2017	2016
Revenue	\$ 1,404,959	\$ 1,380,151	\$ 1,298,304
Cost of revenue	1,032,331	1,032,826	1,006,123
Gross profit	372,628	347,325	292,181
Selling, general and administrative expense	136,250	132,081	107,155
Operating income	236,378	215,244	185,026
Gross profit percentage	26.5%	25.2%	22.5%
Operating margin percentage	16.8%	15.6%	14.3%

Changes in revenue, cost of revenue and gross profit for the 2017 and 2018 fiscal years are summarized below.

<i>(dollars in thousands)</i>	Revenue		Cost of Revenue		Gross Profit	
	Dollars	Percentage change from prior year	Dollars	Percentage change from prior year	Dollars	Percentage change from prior year
Balance for fiscal year 2016	\$ 1,298,304		\$ 1,006,123		\$ 292,181	
Organic growth	104,224	8.0 %	47,033	4.7 %	57,191	19.6 %
Acquired growth	9,790	0.8 %	7,626	0.8 %	2,164	0.7 %
Currency effect compared to the prior period	(32,167)	(2.5)%	(27,956)	(2.8)%	(4,211)	(1.4)%
Balance for fiscal year 2017	\$ 1,380,151	6.3 %	\$ 1,032,826	2.7 %	\$ 347,325	18.9 %
Organic growth	4,917	0.4 %	(16,411)	(1.6)%	21,328	6.1 %
Acquired growth	1,096	0.1 %	799	0.1 %	297	0.1 %
Currency effect compared to the prior period	18,795	1.4 %	15,117	1.5 %	3,678	1.1 %
Balance for fiscal year 2018	\$ 1,404,959	1.8 %	\$ 1,032,331	— %	\$ 372,628	7.3 %

Our Health Services Segment has recorded organic revenue growth across both fiscal years. This growth has been caused by contract expansion across our existing customer base, as well as performance improvements on other contracts. Our profit margin has improved as a consequence of our business growth, our improved performance and the end of two contracts which were detrimental to our results.

- Much of our contract expansion has been driven by our work in the United States, notably with the State of New York. Revenue in the fourth quarter of fiscal 2018 was tempered by delayed contract amendments. This revenue will be recognized in fiscal year 2019.
- We have continued to improve our performance in the United Kingdom HAAS contract. This contract includes a combination of incentives and penalties and we have consistently improved our performance in these over fiscal years 2017 and 2018. This contract has been extended through February 2020.
- In fiscal year 2016, a contract with annual revenues of approximately \$23 million ended and was rebid. We elected to pass on our opportunity to compete for this work resulting in lower annual revenues but improved overall margins. In fiscal year 2018, we agreed to terminate a loss-making contract with the U.K. Government. This resulted in a gain from the acceleration of deferred revenue and costs, as well as a long-term improvement to overall margins.

We acquired Ascend and Revitalised in fiscal years 2016 and 2017, respectively. Our acquired growth from fiscal year 2016 to 2017 includes five months of Ascend and two months of Revitalised, respectively. Our acquired growth from 2017 to 2018 includes the remaining ten months of Revitalised.

Much of this segment's international revenues are denominated in the British Pound, which declined sharply against the U.S. Dollar in the fourth quarter of fiscal year 2016. Although the value of the British Pound has improved in fiscal year 2018, it is still significantly lower than before June 2016.

U.S. Federal Services Segment

The U.S. Federal Services Segment provides business process solutions, program management, as well as system and software development and maintenance services for various U.S. federal civilian programs. The Segment also contains certain state-based assessments and appeals work that is part of the Segment's heritage within the Medicare Appeals portfolio and continues to be managed within this Segment.

<i>(dollars in thousands)</i>	Year ended September 30,		
	2018	2017	2016
Revenue	\$ 478,911	\$ 545,573	\$ 591,728
Cost of revenue	352,213	406,252	453,560
Gross profit	126,698	139,321	138,168
Selling, general and administrative expense	69,312	74,345	74,792
Operating income	57,386	64,976	63,376
Gross profit percentage	26.5%	25.5%	23.3%
Operating margin percentage	12.0%	11.9%	10.7%

Our U.S. Federal Services Segment has reported declines in revenue and cost of revenue across both fiscal years 2017 and 2018. These declines have been driven by contract terminations. These include:

- A significant subcontract for the Department of Veterans Affairs, which ended in fiscal year 2017;
- Contracts which came to their anticipated end; and
- Contracts acquired with Acentia which were reserved for small businesses, precluding us from rebidding for the work.

Our year-over-year profit margins continue to improve, driven by innovation and technology improvements, as well as a state-based assessments contract which was highly accretive in fiscal year 2018.

The acquired business from the citizen engagement center acquisition will be reported in the U.S. Federal Services Segment beginning in fiscal year 2019. In addition, we continue to utilize the project vehicles acquired with Acentia in fiscal year 2015 to enhance and expand our service offerings to the United States Federal Government.

Human Services Segment

The Human Services Segment provides national, state, provincial and local human services agencies with a variety of business process services and related consulting services for welfare-to-work, child support, higher education institutions and other human services programs. Approximately 70% of our revenue in this segment was earned in foreign jurisdictions.

<i>(dollars in thousands)</i>	Year ended September 30,		
	2018	2017	2016
Revenue	\$ 508,366	\$ 525,237	\$ 513,328
Cost of revenue	413,307	399,978	381,486
Gross profit	95,059	125,259	131,842
Selling, general and administrative expense	76,835	76,675	84,157
Operating income	18,224	48,584	47,685
Gross profit percentage	18.7%	23.8%	25.7%
Operating margin percentage	3.6%	9.2%	9.3%

Changes in revenue, cost of revenue and gross profit for the 2017 and 2018 fiscal years are summarized below.

	Revenue		Cost of Revenue		Gross Profit	
	Dollars in thousands	Percentage change over previous year	Dollars in thousands	Percentage change over previous year	Dollars in thousands	Percentage change over previous year
Balance for fiscal year 2016	\$ 513,328		\$ 381,486		\$ 131,842	
Organic growth	14,751	2.9 %	19,465	5.1 %	(4,714)	(3.6)%
Net acquisition and disposal	(862)	(0.2)%	(126)	— %	(736)	(0.6)%
Currency effect compared to the prior period	(1,980)	(0.4)%	(847)	(0.2)%	(1,133)	(0.9)%
Balance for fiscal year 2017	\$ 525,237	2.3 %	\$ 399,978	4.8 %	\$ 125,259	(5.0)%
Organic growth	(21,664)	(4.1)%	9,577	2.4 %	(31,241)	(24.9)%
Currency effect compared to the prior period	4,793	0.9 %	3,752	0.9 %	1,041	0.8 %
Balance for fiscal year 2018	\$ 508,366	(3.2)%	\$ 413,307	3.3 %	\$ 95,059	(24.1)%

The Human Services Segment recorded organic revenue growth in fiscal year 2017 and an organic decline in fiscal year 2018. In both years, our costs of revenue have increased, resulting in declines in gross profit and operating profit.

- Across both years, our mature welfare-to-work contracts in Australia and the United Kingdom have been coming to an end. In Australia, our Disability Employment Services contract ended and was replaced with its successor arrangement in July 2018. In the U.K., the Work Programme and Work Choice contracts are ending as the government shifts its focus away from mainstream employment programs to focus on programs designed to provide a more holistic approach to support the disabled and long-term sick populations into sustained employment. These changes are detrimental to our profit margin as the caseload from contracts ending steadily declines. The contracts which replace these are in a startup phase, where the workload steadily increases. The newer contracts also place a greater emphasis on sustained employment outcomes which further delays our earning of revenue. Without the impact of the startup of these contracts, we estimate that the Human Services Segment operating margin would have been 5.6% in fiscal year 2018.
- The jobactive contract in Australia includes a significant amount of pass-through revenue where we have discretionary spending reimbursed to us with no margin. As well as increasing our administrative burden, this reduces our overall profit margins.
- During fiscal year 2018, we recognized approximately \$8.0 million of revenue from our operations in Saudi Arabia. Our net assets for our Saudi Arabia operations were approximately \$4.5 million at September 30, 2018, and our accounts receivable at our Saudi Arabia operations are approximately \$5.4 million, which is net of reserves that we believe are appropriate considering the risk of non-collection of the receivables.
- We are challenged across the Segment by low unemployment rates in the geographies in which we operate. As a consequence, we are required to adapt our methodology to serve the populations provided to us. We anticipate profit margins in the single digits for fiscal year 2019.

Our results in fiscal year 2017 received a benefit from a full year of business from Assessments Australia, but this was offset by the disposal of our K-12 Education business in the United States.

The detrimental effect of the decline in the value of the British Pound following the results of the 2016 referendum on European Union membership affected both revenue and costs in fiscal 2017. The value of the British Pound provided a benefit in fiscal 2018.

Reorganization of segments

Effective October 1, 2018, our Chief Executive Officer reorganized our reporting segments based on the way management intends to allocate resources, manage performance and evaluate results. This change responds to recent changes in the markets we operate, the increasing integration of health and human services programs worldwide and the evolving needs of our government clients as they aim to deliver services in a more holistic manner to their citizens. Accordingly, we will report operating segments on a geographic basis. Our operating segments will be U.S. Health & Human Services, U.S. Federal Services and Outside the U.S.

Changes in revenue recognition

On October 1, 2018, we adopted a new methodology for reporting revenue. Although this new method will not affect the timing of revenue recognition on most of our contracts, we anticipate that revenue on our welfare-to-work contracts will be accelerated. This reflects our obligation to recognize long-term outcome fees across the period of performance, which may be several months, rather than deferring recognition until outcomes are certain, as was the requirement in fiscal year 2018 and prior. This should result in a closer matching of revenue and costs within these contracts and should mitigate some losses recorded in these contracts in their early months, although it is typical that any new contract will generally be less profitable than a mature contract. The effect of this new method of revenue recognition will be far more significant in the Outside the U.S. Segment, as this is where the greater share of welfare-to-work contracts with outcome payments is held.

We project that fiscal year 2019 revenue will benefit by approximately \$7 million as a result of the new methodology. We project that the cumulative effect of the new methodology on all prior years will increase our retained earnings, increase our deferred tax assets and decrease our deferred revenue by approximately \$33 million, \$14 million and \$47 million as of October 1, 2018, respectively.

Impact of the citizen engagement center acquisition

On November 16, 2018, we acquired 100% of General Dynamics Information Technology's citizen engagement centers business, pursuant to an asset purchase agreement dated October 5, 2018. This acquisition will affect our results in fiscal year 2019 and beyond.

- We expect revenue for fiscal year 2019 to increase between \$600 million and \$625 million.
- The two largest acquired contracts are cost-plus contracts and accordingly, we expect mid-single digit operating income margins for these contracts.
- We expect an increase in SG&A in order to handle the additional volume of work that the acquisition will create.
- Adding the assets related to this acquisition into the total Company portfolio allows us to spread the corporate SG&A costs across a substantially larger base of revenue. This will re-allocate indirect costs from our existing contracts to the two largest acquired cost-plus contracts, where they are recoverable.
- Since we report fully allocated operating income for our contracts, we expect an improvement in operating income for our contracts that are not cost-plus contracts.
- We expect less interest income because we used a significant portion of our cash on our balance sheet for the acquisition.
- We expect interest expense to increase as we utilized \$150 million of our credit facility.
- We expect to incur one-time acquisition costs of \$3 million in fiscal year 2019.
- There will be amortization of intangible assets created by purchase accounting. This amortization is a non-cash charge and therefore, our EBITDA will increase more than our operating income. We are still in the process of valuing the assets acquired.

Liquidity and capital resources

Our principal source of liquidity remains our cash flows from operations. These cash flows are used to fund our ongoing operations and working capital needs as well as investments in capital infrastructure and our share repurchases. These operating cash flows are driven by our contracts and their payment terms. For many contracts, we are reimbursed for the costs of startup operations, although there may be a gap between incurring and receiving these funds. Other factors which may cause shortfalls in cash flows include contract terms where payments are tied

to outcome deliveries, which may not correspond with the costs incurred to achieve these outcomes and short-term delays where government budgets are constrained.

To supplement our operating cash flows, we maintain and utilize our credit facility, which allows us to borrow up to \$400 million, subject to standard covenants. In fiscal years 2015 and 2016, we used this facility to fund acquisitions as well as short-term borrowings to cover some immediate working capital needs. At September 30, 2017, we had repaid these balances and had no outstanding borrowings under the credit facility during fiscal year 2018.

We believe our cash flows from operations should be sufficient to meet our day-to-day requirements.

Our priorities for cash utilization are to actively pursue new growth opportunities, to maintain our quarterly dividend program and, where opportunities arise, to make repurchases of our own shares.

We have no requirement to remit funds from our foreign locations back to the United States. However, where remitting these funds is possible and can be performed in a tax-free manner, we will do so. With the passage in the United States of the Tax Cuts and Jobs Act, we have been able to transfer a significant amount of funds from our foreign locations on a tax-free basis. We will continue to explore opportunities to bring back additional funds, taking into consideration the working capital requirements and relevant tax rules in each jurisdiction. Where we are unable to remit funds back without incurring a penalty, we will consider these funds indefinitely reinvested until such time as these restrictions are changed. As a result, we do not record U.S. deferred income taxes on any funds held in foreign jurisdictions. We have not attempted to calculate our potential liability from any transfer of these funds as any such transaction might include tax planning strategies which we have not fully explored. Accordingly, it is not possible to estimate the potential tax obligations if we were to remit all of our funds from foreign locations to the United States.

Our cash balances are held in the following locations and denominations (in thousands of U.S. Dollars):

	<u>As of September 30, 2018</u>	
U.S. Dollar denominated funds held in the United States	\$	302,098
U.S. Dollar denominated funds held in foreign locations		780
Funds held in foreign locations in local currencies		46,367
	<u>\$</u>	<u>349,245</u>

In addition, we held short-term investments of \$20.3 million as of September 30, 2018, in U.S. Dollar denominated investments that mature within the first quarter of fiscal year 2019.

The following table provides a summary of our cash flow information for the three years ended September 30, 2018.

<i>(dollars in thousands)</i>	<u>Year ended September 30,</u>		
	<u>2018</u>	<u>2017</u>	<u>2016</u>
Net cash provided by/(used in):			
Operations	\$ 323,525	\$ 337,200	\$ 180,026
Investing activities	(46,304)	(25,221)	(87,103)
Financing activities	(91,880)	(215,429)	(96,842)
Effect of exchange rates on cash and cash equivalents	(2,348)	3,503	(4,554)
Net increase/(decrease) in cash and cash equivalents	<u>\$ 182,993</u>	<u>\$ 100,053</u>	<u>\$ (8,473)</u>

The factors influencing cash flows from operations are:

- Our operating profit,
- Our cash collections,
- The timing of payments within contracts, particularly those with up-front payments, and

- The timing of tax payments, especially following the passage of the Tax Cuts and Jobs Act in the United States.

We measure our ability to collect receivables from customers using our Days Sales Outstanding (DSO) calculation. We have a target range for DSO of 65 to 80 days and we have typically stayed within the lower end of this range during the past three fiscal years. During both fiscal years 2018 and 2017, we experienced strong cash collections, particularly towards the end of the year, and reported a DSO of 63 days at September 30, 2018 and 2017. This resulted in significant cash flows from customers in both years, particularly in 2017.

Our tax payments for September 30, 2018, 2017 and 2016 were \$65.3 million, \$87.8 million and \$108.3 million, respectively. Tax payments are lower in fiscal year 2018 due to the Tax Cuts and Jobs Act in the United States.

We anticipate that our operating cash flows in 2019 may be lower than those in fiscal years 2017 and 2018 as those years received the benefit of stronger cash collections than anticipated. We note that the early or late payment of invoices from our largest customers may result in significant fluctuations in our cash flows from those anticipated. Owing to changes in financial reporting requirements, our cash flow statements starting in fiscal year 2019 will include movements in balances which we consider to be restricted cash and which we report in 'prepayments and other assets.' Our restricted cash balance at September 30, 2018, was \$7.3 million. We do not anticipate that this will result in a significant change in our reported operating cash flows.

In fiscal year 2018, we purchased short-term investments of \$20.0 million, which is the primary driver of the increase in cash used in investing activities from fiscal year 2017. In fiscal year 2016, we completed a significant build-out of our United States infrastructure. This, combined with the acquisition of Ascend and Assessments Australia, increased our investing cash outflows. Our infrastructure investment has returned to a normal level following the completion of this build-out.

Our cash flows from financing activities have been driven by our use of our credit facility, our repurchases of our common stock and our quarterly dividend.

In fiscal year 2015, we utilized our credit facility to fund the acquisition of Acentia, as well as to fund short-term working capital needs. Commencing in the fourth quarter of fiscal year 2016, we repaid these borrowings in full, principally from our United States operating cash flows. The citizen engagement center acquisition resulted in cash borrowings of \$150.0 million, which we will report in the three months ended December 31, 2018, as financing cash inflows, and an investment of approximately \$400 million, which we will report as an investing cash outflow. This cash outflow will be subject to change based upon the working capital acquired with the business. As we manage our cash in fiscal year 2019, we expect to utilize our credit facility as needed to cover working capital requirements.

We repurchased 1.1 million, 0.6 million and 0.6 million shares of common stock during fiscal years 2018, 2017 and 2016, utilizing cash of \$127.7 million. At September 30, 2018, we had \$192.8 million available for future repurchases under a plan approved by our Board of Directors. Subsequent to September 30, 2018, we purchased a further 0.2 million shares of common stock at a cost of approximately \$15 million, leaving approximately \$178 million available under our current Board authorization. Our share repurchases are at the discretion of our Board of Directors and depend upon our future operations and earnings, capital requirements general financial condition, contractual restrictions and other factors our Board of Directors may deem relevant.

Since the second half of fiscal year 2011, we have paid a quarterly dividend of \$0.045 per common share. This resulted in a regular cash outflow of approximately \$12 million per year. In the first fiscal quarter of 2019, we will pay a dividend of \$0.25 per common share, which we expect to continue on a quarterly basis and which would result in an annual cash outflow of approximately \$65 million. Continued payment of the dividend is subject to Board discretion.

Where we operate in foreign locations, we utilize the local currency to operate our business. Although surplus funds have been transferred to U.S. Dollar denominated bank accounts, we are still subject to gains or losses on these balances where the foreign currencies appreciate or depreciate against the U.S. Dollar. These increases or decreases are shown as the effect of exchange rates on our cash balances.

To supplement our statements of cash flows presented on a GAAP basis, we use the measure of free cash flow to analyze the funds generated from operations.

(dollars in thousands)	Year ended September 30,		
	2018	2017	2016
Cash provided by operations	\$ 323,525	\$ 337,200	\$ 180,026
Purchases of property and equipment and capitalized software costs	(26,520)	(24,154)	(46,391)
Free cash flow	\$ 297,005	\$ 313,046	\$ 133,635

Obligations and commitments

The following table summarizes our contractual obligations at September 30, 2018, that require the Company to make future cash payments:

(dollars in thousands)	Payments due by period				
	Total	Less than 1 year	1 - 3 years	3 - 5 years	More than 5 years
Operating leases	\$ 160,667	\$ 68,959	\$ 71,566	\$ 18,172	\$ 1,970
Debt(1)	510	136	271	103	—
Deferred compensation plan liabilities(2)	36,115	2,618	2,470	1,457	29,570
Total(3)	\$ 197,292	\$ 71,713	\$ 74,307	\$ 19,732	\$ 31,540

- (1) The debt balance of \$0.5 million at September 30, 2018, is interest free. Accordingly, no estimated interest payments have been included within the balances above.
- (2) Deferred compensation plan liabilities are typically payable at times elected by the employee at the time of deferral. The timing of these payments are based upon elections in place at September 30, 2018, but these may be subject to change. Payments falling due may be deferred again by the employee, delaying the obligation. Payments may also be accelerated if an employee ceases employment with us or applies for a hardship payment. At September 30, 2018, we held assets of \$34.3 million in a Rabbi Trust which could be used to meet these obligations.
- (3) Due to the uncertainty with respect to the timing of future cash flows associated with the Company's unrecognized income tax benefits at September 30, 2018, we are unable to reasonably estimate settlements with taxing authorities. The above table does not reflect unrecognized income tax benefits of approximately \$1.3 million, of which approximately \$0.7 million is related interest and penalties. See "Note 5. Income taxes" of the Consolidated Financial Statements for a further discussion on income taxes.

The contractual obligations table also omits our liabilities with respect to acquisition-related contingent consideration as part of the Assessments Australia acquisition in fiscal year 2016. See "Note 13. Business combinations and disposal" of our Consolidated Financial Statements for additional information on these balances.

Off-balance sheet arrangements

Other than our operating lease commitments, we do not have material off-balance sheet risk or exposure to liabilities that are not recorded or disclosed in our financial statements. We have significant operating lease commitments for office space; those commitments are generally tied to the period of performance under related contracts. Although for certain contracts we are bound by performance bond commitments and standby letters of credit, we have not had any defaults resulting in draws on performance bonds. Also, we do not speculate in derivative transactions. We have utilized interest rate derivatives to add stability to interest expense and to manage our exposure to interest rate movements.

Effects of inflation

As measured by revenue, approximately 33% of our business in fiscal year 2018 was conducted under cost-plus pricing arrangements that adjust revenue to cover costs increased by inflation. Approximately 6% of the business was time-and-material pricing arrangements where labor rates are often fixed for several years. We generally have been able to price these contracts in a manner that accommodates the rates of inflation experienced in recent years. Our remaining contracts are fixed-price and performance-based and are typically priced to mitigate the risk of our business being adversely affected by inflation.

Critical accounting policies and estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the U.S. requires us to make estimates and judgments that affect the amounts reported. We consider the accounting policies below to be the most important to our financial position and results of operations either because of the significance of the financial statement item or because of the need to use significant judgment in recording the balance. We base our estimates on historical experience and on various other assumptions that are believed to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities. Actual results could differ from those estimates. Our significant accounting policies are summarized in "Note 1. Business and summary of significant accounting policies" of the Consolidated Financial Statements included in Item 8 in this Annual Report on Form 10-K.

Revenue Recognition. We recognize revenue on arrangements as work is performed and amounts are earned. We consider amounts to be earned once evidence of an arrangement has been obtained, services have been delivered, fees are fixed or determinable and collectability of revenue is reasonably assured.

Approximately 33% of our business is derived from cost-plus pricing arrangements. Revenue on cost-plus contracts is recognized based on costs incurred plus the negotiated fee earned. Our key estimates relate to the allocation of indirect costs. Much of the allocation of allowable indirect costs is based upon rules established by the relevant contract or by reference to U.S. Federal Government standards. While the existence of these rules reduces the risk of a significant error, the allocation of indirect costs is typically audited by our customers and it usually takes a significant period of time for an audit to be concluded. The iterative process of an audit provides us with information to refine our estimates for open periods. We have not recorded any significant adjustments to our revenue related to changes in such estimates for any of the three years ended September 30, 2018. We are current in our submissions of costs to relevant regulators. Although audits of past costs remain open for certain years, we believe it is unlikely that a significant adjustment to prior periods would occur at this time.

On certain performance-based arrangements, our per-transaction fees may be higher in earlier years to compensate for anticipated higher costs at the commencement of contract operations. Where the discount in future fees is considered both significant and incremental, we are required to estimate our total future volumes and revenues and allocate an estimated fee to each transaction. We refine these estimates of total future volumes quarterly and we recognize these changes as a cumulative catch-up to our revenue. The sensitivity of these volume estimates is driven by the length of the contract, the size of the discounts and the maturity of the contract. Our greatest revenue volatility from our estimate will typically arise at the mid-point of the contract; in early periods of contract performance, changes to estimates of future volumes will have a smaller true-up; in later periods, there is less likelihood of a significant change in estimate. Although we had a number of contracts with these terms and conditions during the three years ended September 30, 2018, no significant adjustments to revenue were recorded in this period. As of September 30, 2018, many of these contracts are close to maturity and, accordingly, the likelihood of a significant adjustment has diminished. The only significant remaining contract is our contract with the Department of Education, which is in our U.S. Federal Services Segment. The contract, which has an expected total value of approximately \$0.9 billion, has completed its fourth full year of operations and has up to six years of operations remaining. Our transaction billing rate for the future periods is approximately 10% lower than it was for the earliest periods. If, at September 30, 2018, our estimate of future volumes had increased or decreased by five percent, it would not have resulted in a significant adjustment to revenue and operating income.

Where contracts have multiple deliverables, we evaluate these deliverables at the inception of each contract and as each item is delivered. As part of this evaluation, we consider whether a delivered item has value to a customer on a stand-alone basis and whether the delivery of the undelivered items is considered probable and substantially within our control, if a general right of return exists. Where deliverables, or groups of deliverables, have both of these characteristics, we treat each deliverable item as a separate element in the arrangement, allocate a portion of the allocable arrangement consideration using the relative selling price method to each element and apply the relevant revenue recognition guidance to each element. The allocation of revenue to individual elements requires judgment as, in many cases, we do not provide directly comparable services or products on a standalone basis.

Business combinations and goodwill. The purchase price of an acquired business is allocated to tangible assets and separately identifiable intangible assets acquired less liabilities assumed based upon their respective fair values. The excess balance is recorded as goodwill. Accounting for business combinations requires the use of judgment in determining the fair value of assets acquired and liabilities assumed in order to allocate the purchase price of entities acquired. Our estimates of these fair values are based upon assumptions we believe to be reasonable and, where appropriate, include assistance from third-party appraisal firms.

Goodwill is not amortized, but is subject to impairment testing on an annual basis, or more frequently if impairment indicators arise. Impairment testing is performed at the reporting unit level. This process requires judgment in identifying our reporting units, appropriately allocating goodwill to these reporting units and assessing the fair value of these reporting units. At July 1, 2018, the Company performed its annual impairment test and determined that there had been no impairment of goodwill. In performing this assessment, the Company utilizes an income approach. Such an approach requires estimation of future operating cash flows including business growth, utilization of working capital and discount rates. The valuation of the business as a whole is compared to the Company's market capital at the date of the acquisition in order to verify the calculation. In all cases, we determined that the fair value of our reporting units was significantly in excess of our carrying value to the extent that a 25% decline in fair value in any reporting unit would not have resulted in an impairment charge.

Long-Lived Assets (Excluding Goodwill). The Company reviews long-lived assets for impairment whenever events or circumstances indicate that the carrying amount of an asset may not be fully recoverable. Examples of indicators include projects performing less well than anticipated or making losses or an identified risk of a contract termination. Where a potential risk is identified, our review is based on our projection of the undiscounted future operating cash flows of the related customer project. To the extent such projections indicate that future undiscounted cash flows are not sufficient to recover the carrying amount of the related assets (the asset group), we recognize a non-cash impairment charge to reduce the carrying amount to equal projected future discounted cash flows. Judgment is required in identifying the indicators of impairment, in identifying the asset group and in estimating the future cash flows.

No impairment charges were recorded in the three years ending September 30, 2018.

Contingencies. From time to time, we are involved in legal proceedings, including contract and employment claims, in the ordinary course of business. We assess the likelihood of any adverse judgments or outcomes to these contingencies, as well as potential ranges of probable losses and establish reserves accordingly. The amount of reserves required may change in future periods due to new developments in each matter or changes in approach to a matter such as a change in settlement strategy.

Income Taxes. The Company recognizes the financial statement benefit of a tax position only after determining that the relevant tax authority would "more likely than not" sustain the position following an audit. For tax positions meeting the "more likely than not" threshold, the amount recognized in the financial statements is the largest benefit that has a greater than 50 percent likelihood of being realized upon ultimate settlement with the relevant tax authority. The assumptions and estimates used in preparing these calculations may change over time and may result in adjustments that will affect our tax charge.

Non-GAAP and other measures

We utilize non-GAAP measures where we believe it will assist the user of our financial statements in understanding our business. The presentation of these measures is meant to complement, but not replace, other financial measures in this document. The presentation of non-GAAP numbers is not meant to be considered in isolation, nor as an alternative to revenue growth, cash flows from operations or net income as measures of performance. These non-GAAP measures, as determined and presented by us, may not be comparable to related or similarly titled measures presented by other companies.

In recent years, we have made a number of acquisitions. We believe users of our financial statements wish to evaluate the performance of our underlying business, excluding changes that have arisen due to businesses acquired. We provide organic revenue growth as a useful basis for assessing this. To calculate organic revenue growth, we compare current year revenue excluding revenue from these acquisitions to our prior year revenue.

In fiscal year 2018, 29% of our revenue was generated outside the U.S. We believe that users of our financial statements wish to understand the performance of our foreign operations using a methodology which excludes the effect of year-over-year exchange rate fluctuations. To calculate year-over-year currency movement, we determine the current year's results for all foreign businesses using the exchange rates in the prior year. We refer to this adjusted revenue on a "constant currency basis."

In order to sustain our cash flows from operations, we require regular refreshing of our fixed assets and technology. We believe that users of our financial statements wish to understand the cash flows that directly correspond with our operations and the investments we must make in those operations using a methodology which combines operating cash flows and capital expenditures. We provide free cash flow to complement our statement of cash flows. Free cash flow shows the effects of the Company's operations and routine capital expenditures and

excludes the cash flow effects of acquisitions, share repurchases, dividend payments and other financing transactions. We have provided a reconciliation of free cash flow to cash provided by operations.

To sustain our operations, our principal source of financing comes from receiving payments from our customers. We believe that users of our financial statements wish to evaluate our efficiency in converting revenue into cash receipts. Accordingly, we provide DSO, which we calculate by dividing billed and unbilled receivable balances at the end of each quarter by revenue per day for the period. Revenue per day for a quarter is determined by dividing total revenue by 91 days.

During fiscal year 2018, we utilized our credit facility. Our credit agreement includes the defined term Consolidated EBITDA and our calculation of Adjusted EBITDA conforms to the credit agreement definition. We believe our investors appreciate the opportunity to understand the possible restrictions which arise from our credit agreement. Adjusted EBITDA is also a useful measure of performance which focuses on the cash generating capacity of the business as it excludes the non-cash expenses of depreciation and amortization, and makes for easier comparisons between the operating performance of companies with different capital structures by excluding interest expense and therefore the impacts of financing costs. The measure of Adjusted EBITA is a step in calculating Adjusted EBITDA and facilitates comparisons to similar businesses as it isolates the amortization effect of business combinations. We have provided a reconciliation from net income to Adjusted EBITA and Adjusted EBITDA as follows:

<i>(in thousands)</i>	Year ended September 30,		
	2018	2017	2016
Net income attributable to MAXIMUS	\$ 220,751	\$ 209,426	\$ 178,362
Interest expense	(2,591)	379	3,466
Provision for income taxes	78,393	102,053	105,808
Amortization of intangible assets	10,308	12,208	13,377
Stock compensation expense	20,238	21,365	18,751
Acquisition-related expenses	947	83	832
Gain on sale of a business	—	(650)	(6,880)
Adjusted EBITA	328,046	344,864	313,716
Depreciation and amortization of property, plant, equipment and capitalized software	51,884	55,769	58,404
Adjusted EBITDA	\$ 379,930	\$ 400,633	\$ 372,120

ITEM 7A. Quantitative and Qualitative Disclosures About Market Risk.

Our exposure to market risks generally relates to changes in foreign currency exchange rates.

At September 30, 2018 and 2017, we held net assets denominated in currencies other than the U.S. Dollar of \$100.3 million and \$186.8 million, respectively. Of these balances, cash and cash equivalents comprised \$46.4 million and \$63.7 million, respectively. Accordingly, in the event of a 10% unfavorable exchange rate movement across these currencies, we would have reported the following incremental effects on our comprehensive income and our cash flow statement (in thousands).

	As of September 30,	
	2018	2017
Comprehensive income attributable to MAXIMUS	\$ (10,030)	\$ (18,680)
Net decrease in cash and cash equivalents	(4,640)	(6,370)

Where possible, we identify surplus funds in foreign locations and place them into entities with the U.S. Dollar as their functional currency. This mitigates our exposure to foreign currencies. We mitigate our foreign currency exchange risks within our operating divisions through incurring costs and cash outflows in the same currency as our revenue.

We are exposed to interest rate risk through our credit facility when we utilize it. At September 30, 2018, we had no outstanding borrowings on our credit facility and, accordingly, no exposure to interest rate fluctuations. We utilized our credit facility in November 2018 to fund the acquisition of General Dynamics Information Technology's citizen engagement center business. Based upon our anticipated levels of borrowing, we would anticipate our borrowing rate to be based upon monthly LIBOR plus 1%. Our overall expense will be dependent upon our outstanding borrowings and the rate at which we repay this borrowing.

ITEM 8. Financial Statements and Supplementary Data.

The following consolidated financial statements and supplementary data are included as part of this Annual Report on Form 10-K:

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**Report of Ernst & Young LLP,
Independent Registered Public Accounting Firm,
on the Audited Consolidated Financial Statements**

Board of Directors and Shareholders
MAXIMUS, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of MAXIMUS, Inc. (the Company) as of September 30, 2018 and 2017, the related consolidated statements of operations, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended September 30, 2018, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at September 30, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended September 30, 2018, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of September 30, 2018, based on criteria established in *Internal Control-Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated November 20, 2018, expressed an unqualified opinion thereon.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the MAXIMUS, Inc.'s auditor since 1996.

Tysons, Virginia
November 20, 2018

MAXIMUS, Inc.

CONSOLIDATED STATEMENTS OF OPERATIONS

(Amounts in thousands, except per share data)

	Year ended September 30,		
	2018	2017	2016
Revenue	\$ 2,392,236	\$ 2,450,961	\$ 2,403,360
Cost of revenue	1,797,851	1,839,056	1,841,169
Gross profit	594,385	611,905	562,191
Selling, general and administrative expenses	285,241	284,593	269,091
Amortization of intangible assets	10,308	12,208	13,377
Restructuring costs	3,353	2,242	—
Gain on sale of a business	—	650	6,880
Operating income	295,483	313,512	286,603
Interest expense	1,000	2,162	4,134
Other income, net	4,726	2,885	3,499
Income before income taxes	299,209	314,235	285,968
Provision for income taxes	78,393	102,053	105,808
Net income	220,816	212,182	180,160
Income attributable to noncontrolling interests	65	2,756	1,798
Net income attributable to MAXIMUS	\$ 220,751	\$ 209,426	\$ 178,362
Basic earnings per share attributable to MAXIMUS	\$ 3.37	\$ 3.19	\$ 2.71
Diluted earnings per share attributable to MAXIMUS	\$ 3.35	\$ 3.17	\$ 2.69
Dividends per share	\$ 0.18	\$ 0.18	\$ 0.18
Weighted average shares outstanding:			
Basic	65,501	65,632	65,822
Diluted	65,932	66,065	66,229

See accompanying notes to consolidated financial statements.

MAXIMUS, Inc.

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(Amounts in thousands)

	Year ended September 30,		
	2018	2017	2016
Net income	\$ 220,816	\$ 212,182	\$ 180,160
Foreign currency translation adjustments	(9,334)	8,549	(13,828)
Interest rate hedge, net of income taxes of \$-, \$- and \$(16)	—	1	24
Comprehensive income	211,482	220,732	166,356
Comprehensive income attributable to noncontrolling interests	65	2,756	1,798
Comprehensive income attributable to MAXIMUS	\$ 211,417	\$ 217,976	\$ 164,558

See accompanying notes to consolidated financial statements.

MAXIMUS, Inc.

CONSOLIDATED BALANCE SHEETS

(Amounts in thousands)

	September 30,	
	2018	2017
ASSETS		
Current assets:		
Cash and cash equivalents	\$ 349,245	\$ 166,252
Short-term investments	20,264	—
Accounts receivable—billed and billable, net	357,613	394,338
Accounts receivable—unbilled	31,536	36,475
Income taxes receivable	5,979	4,528
Prepaid expenses and other current assets	43,995	55,649
Total current assets	808,632	657,242
Property and equipment, net	77,544	101,651
Capitalized software, net	22,429	26,748
Goodwill	399,882	402,976
Intangible assets, net	88,035	98,769
Deferred contract costs, net	14,380	16,298
Deferred compensation plan assets	34,305	28,548
Deferred income taxes	6,834	7,691
Other assets	9,959	10,739
Total assets	\$ 1,462,000	\$ 1,350,662
LIABILITIES AND SHAREHOLDERS' EQUITY		
Current liabilities:		
Accounts payable and accrued liabilities	\$ 114,378	\$ 122,083
Accrued compensation and benefits	95,555	105,667
Deferred revenue	51,182	71,722
Income taxes payable	4,438	4,703
Other liabilities	11,896	12,091
Total current liabilities	277,449	316,266
Deferred revenue, less current portion	20,394	28,182
Deferred income taxes	26,377	20,106
Deferred compensation plan liabilities, less current portion	33,497	30,707
Other liabilities	17,864	9,633
Total liabilities	375,581	404,894
Commitments and contingencies		
Shareholders' equity:		
Common stock, no par value; 100,000 shares authorized; 64,371 and 65,137 shares issued and outstanding at September 30, 2018 and 2017, at stated amount, respectively	487,539	475,592
Accumulated other comprehensive income	(36,953)	(27,619)
Retained earnings	633,281	492,112
Total MAXIMUS shareholders' equity	1,083,867	940,085
Noncontrolling interests	2,552	5,683
Total equity	1,086,419	945,768
Total liabilities and equity	\$ 1,462,000	\$ 1,350,662

See accompanying notes to consolidated financial statements.

MAXIMUS, Inc.

CONSOLIDATED STATEMENTS OF CASH FLOWS

(Amounts in thousands)

	Year ended September 30,		
	2018	2017	2016
Cash flows from operations:			
Net income	\$ 220,816	\$ 212,182	\$ 180,160
Adjustments to reconcile net income to net cash provided by operations:			
Depreciation and amortization of property, plant, equipment and capitalized software	51,884	55,769	58,404
Amortization of intangible assets	10,308	12,208	13,377
Deferred income taxes	6,721	4,762	5,652
Stock compensation expense	20,238	21,365	18,751
Gain on sale of business	—	(650)	(6,880)
Changes in assets and liabilities, net of effects of business combinations:			
Accounts receivable—billed and billable	34,033	53,025	(51,986)
Accounts receivable—unbilled	4,920	26	(5,590)
Prepaid expenses and other current assets	4,954	2,584	(2,027)
Deferred contract costs	1,838	2,037	(398)
Accounts payable and accrued liabilities	(7,725)	(28,309)	(2,371)
Accrued compensation and benefits	(8,795)	8,849	(869)
Deferred revenue	(27,039)	(15,401)	(11,661)
Income taxes	7,262	8,901	(13,125)
Other assets and liabilities	4,110	(148)	(1,411)
Cash provided by operations	323,525	337,200	180,026
Cash flows from investing activities:			
Purchases of property and equipment and capitalized software costs	(26,520)	(24,154)	(46,391)
Acquisition of businesses, net of cash acquired	—	(2,677)	(46,651)
Acquisition of part of noncontrolling interest	(157)	—	—
Proceeds from the sale of a business	—	1,035	5,515
Purchases of short-term investments	(19,996)	—	—
Other	369	575	424
Cash used in investing activities	(46,304)	(25,221)	(87,103)
Cash flows from financing activities:			
Cash dividends paid to MAXIMUS shareholders	(11,692)	(11,674)	(11,701)
Repurchases of common stock	(66,919)	(28,863)	(33,335)
Tax withholding related to RSU vesting	(8,529)	(9,175)	(11,614)
Borrowings under credit facility	136,632	185,000	149,823
Repayment of credit facility and other long-term debt	(136,769)	(349,981)	(195,200)
Stock option exercises	—	924	546
Stock compensation tax benefit	—	—	5,172
Other	(4,603)	(1,660)	(533)
Cash used in financing activities	(91,880)	(215,429)	(96,842)
Effect of exchange rate changes on cash	(2,348)	3,503	(4,554)
Net increase/(decrease) in cash and cash equivalents	182,993	100,053	(8,473)
Cash and cash equivalents, beginning of period	166,252	66,199	74,672
Cash and cash equivalents, end of period	\$ 349,245	\$ 166,252	\$ 66,199

See accompanying notes to consolidated financial statements.

MAXIMUS, Inc.

CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY

(Amounts in thousands)

	Common Shares Outstanding	Common Stock	Accumulated Other Comprehensive Income	Retained Earnings	Noncontrolling Interest	Total
Balance at September 30, 2015	65,437	\$ 446,132	\$ (22,365)	\$ 188,611	\$ 3,321	\$ 615,699
Net income	—	—	—	178,362	1,798	180,160
Foreign currency translation	—	—	(13,828)	—	—	(13,828)
Interest rate hedge, net of income taxes	—	—	24	—	—	24
Cash dividends	—	—	—	(11,701)	(1,060)	(12,761)
Dividends on RSUs	—	363	—	(363)	—	—
Repurchases of common stock	(587)	—	—	(31,338)	—	(31,338)
Stock compensation expense	—	18,751	—	—	—	18,751
Stock compensation tax benefit	—	5,172	—	—	—	5,172
Tax withholding relating to RSU vesting	—	(9,285)	—	—	—	(9,285)
Stock option exercises and RSU vesting	373	546	—	—	—	546
Balance at September 30, 2016	65,223	461,679	(36,169)	323,571	4,059	753,140
Net income	—	—	—	209,426	2,756	212,182
Foreign currency translation	—	—	8,549	—	—	8,549
Interest rate hedge, net of income taxes	—	—	1	—	—	1
Cash dividends	—	—	—	(11,674)	(1,132)	(12,806)
Dividends on RSUs	—	348	—	(348)	—	—
Repurchases of common stock	(558)	—	—	(28,863)	—	(28,863)
Stock compensation expense	—	21,365	—	—	—	21,365
Tax withholding related to RSU vesting	—	(8,724)	—	—	—	(8,724)
Stock option exercises and RSU vesting	472	924	—	—	—	924
Balance at September 30, 2017	65,137	475,592	(27,619)	492,112	5,683	945,768
Net income	—	—	—	220,751	65	220,816
Foreign currency translation	—	—	(9,334)	—	—	(9,334)
Cash dividends	—	—	—	(11,692)	(2,915)	(14,607)
Dividends on RSUs	—	318	—	(318)	—	—
Repurchases of common stock	(1,088)	—	—	(67,572)	—	(67,572)
Stock compensation expense	—	20,238	—	—	—	20,238
Tax withholding related to RSU vesting	—	(8,733)	—	—	—	(8,733)
RSU vesting	322	—	—	—	—	—
Acquisition of part of noncontrolling interest	—	124	—	—	(281)	(157)
Balance at September 30, 2018	64,371	\$ 487,539	\$ (36,953)	\$ 633,281	\$ 2,552	\$ 1,086,419

See accompanying notes to consolidated financial statements.

MAXIMUS, Inc.

Notes to Consolidated Financial Statements

For the years ended September 30, 2018, 2017 and 2016

1. Business and summary of significant accounting policies

Description of business

MAXIMUS, Inc. (the "Company" or "we") is a leading operator of government health and human services programs worldwide.

In fiscal year 2018, we conducted our operations through three business segments: Health Services, U.S. Federal Services and Human Services.

- The Health Services Segment provides a variety of business process services and appeals and assessments for state, provincial and national government programs. These services support a variety of government health benefit programs including Medicaid, the Children's Health Insurance Program (CHIP) and the Affordable Care Act (ACA) in the U.S., Health Insurance BC (British Columbia) in Canada, and the Health Assessment Advisory Service (HAAS) contract in the U.K.
- The U.S. Federal Services Segment provides business process solutions, program management, as well as system and software development and maintenance services for various U.S. federal civilian programs. The Segment also contains certain state-based assessments and appeals work that is part of the Segment's heritage within the Medicare Appeals portfolio and continues to be managed within this Segment.
- The Human Services Segment provides national, state and county human services agencies with a variety of business process services and related consulting services for welfare-to-work, child support, higher education institutions and other human services programs. Approximately 70% of our revenue in this segment was earned in foreign jurisdictions.

Principles of consolidation

The consolidated financial statements include the accounts of MAXIMUS, Inc. and its wholly owned subsidiaries. All intercompany balances and transactions have been eliminated in consolidation. Certain financial results have been reclassified to conform with our current period presentation.

Where MAXIMUS owns less than 100% of the share capital of its subsidiaries, but is still considered to have sufficient ownership to control the businesses, the results of these business operations are consolidated within our financial statements. The ownership interests held by other parties are shown as noncontrolling interests.

Use of estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities, the disclosure of contingent assets and liabilities and the reported amounts of revenue and expenses during each reporting period. Actual results could differ from those estimates. Our significant estimates include revenue recognition, estimates of the fair value of assets acquired and liabilities assumed in business combinations, estimates of the collectibility of receivables, estimates of future discounts in performance-based contracts, evaluation of asset impairment, accrual of estimated liabilities, valuation of acquisition-related contingent consideration liabilities and income taxes.

Revenue recognition

Revenue is generated from contracts with various pricing arrangements with total revenue contributions in fiscal year 2018 as follows:

- performance-based criteria (43%);
- costs incurred plus a negotiated fee ("cost-plus") (33%);
- fixed-price (18%); and
- time-and-materials (6%).

MAXIMUS, Inc.
Notes to Consolidated Financial Statements (Continued)
For the years ended September 30, 2018, 2017 and 2016

We recognize revenue on arrangements as work is performed and amounts are earned. We consider amounts to be earned once evidence of an arrangement has been obtained, services have been delivered, fees are fixed or determinable and collectability of revenue is reasonably assured.

We recognize revenue on performance-based contracts when earned, which occurs when we have achieved the performance obligation. This may result in revenue being recognized in irregular increments. In certain performance-based contracts, we may negotiate arrangements where we are reimbursed at higher levels at the beginning of an arrangement. Where we believe the rates in the latter part of the contract represent a significant and incremental discount to the customer, we recognize revenue at an average per-transaction rate. This results in a deferred revenue balance and requires us to estimate future volumes over the life of an arrangement. Adjustments to estimates of future volumes result in adjustments to revenue.

Revenue on cost-plus contracts is recognized as services are performed, based on costs incurred plus the negotiated fee earned. In certain contracts with the U.S. Federal Government, we may be paid an award fee, based upon the quality of the service we perform. Where this fee can be objectively determined, it is recognized ratably over the period of performance, which is between four and six months. Where the fee cannot be determined objectively, all revenue is deferred until the fee has been earned.

We recognize revenue on fixed-priced contracts when earned, as services are provided. Revenue is generally recognized on a straight-line basis unless evidence suggests that revenue is earned or obligations are fulfilled in a different pattern. The timing of expense recognition may result in irregular profit margins.

Revenue on time-and-materials contracts is recognized as services are performed, based on hours worked and expenses incurred.

Where contracts have multiple deliverables, we evaluate these deliverables at the inception of each contract and as each item is delivered. As part of this evaluation, we consider whether a delivered item has value to a customer on a stand-alone basis and whether the delivery of the undelivered items is considered probable and substantially within our control, if a general right of return exists. Where deliverables, or groups of deliverables, have both of these characteristics, we treat each deliverable item as a separate element in the arrangement, allocate a portion of the allocable arrangement consideration using the estimated relative selling price method to each element and apply the relevant revenue recognition guidance to each element.

Sales and purchases in jurisdictions subject to indirect taxes, such as value added tax, are recorded net of tax collected and paid.

New accounting standards

In May 2014, the FASB issued Accounting Standard Update (ASU) No. 2014-09, *Revenue from Contracts with Customers (ASC Topic 606)*. In addition, the FASB has issued additional updates covering technical items and changing the date of adoption. We adopted this standard on October 1, 2018, using the modified retrospective method. Under this method, we will recognize the cumulative effect of adoption as an adjustment to our retained earnings balance on October 1, 2018. Our balance sheet at October 1, 2018, will also be adjusted to reflect changes in our deferred revenue and unbilled accounts receivable balances, with corresponding changes to our deferred tax assets and liabilities. We will not adjust our comparative periods; we will provide disclosure of revenue and other related balances as they would have been reported under prior guidance for our fiscal year 2019.

The core principle of ASC Topic 606 is that we should recognize revenue in a manner which depicts the transfer of control for promised services from ourselves to our customers. The new standard will also require additional disclosures in our first quarter of 2019 regarding our contracts with customers, including disclosure of our remaining unsatisfied performance obligations. We are continuing to assess these disclosures.

To address the changes arising from ASC Topic 606, we established a cross-functional steering committee which includes representatives from across all our business and support segments. The steering committee is responsible for evaluating the impact of the standard on our operations including accounting, taxation, internal audit and financial systems. Our approach to analyzing these impacts included reviewing our current accounting policies and practices to identify potential differences that will result from applying the requirements of the new standard to our existing contracts. We have identified and made changes to our business processes, systems and controls in order to support revenue recognition and the related disclosures under ASC Topic 606.

MAXIMUS, Inc.

Notes to Consolidated Financial Statements (Continued)

For the years ended September 30, 2018, 2017 and 2016

We have substantially completed our evaluation of the effect of adopting ASC Topic 606. Based upon this assessment, we anticipate that we will record an increase of approximately \$33 million to our retained earnings balance at adoption, representing the after-tax effect of the acceleration of revenue on certain contracts; our opening balance sheet will show adjustments to unbilled receivables and deferred revenue to reflect these changes, along with corresponding changes in deferred taxation. The most significant cause of this change will come from some of our welfare-to-work contracts which have been reported in our Human Services Segment. Certain contracts include incentive payments where participants reach employment milestones, which are typically remaining in employment for a period of up to twelve months. Under our existing accounting guidance, we are required to defer this revenue until the outcome has been achieved. Under ASC Topic 606, we are required to recognize this revenue over the period where we are providing the relevant services. This will require us to make estimates of future outcome fees and the periods over which these fees will be earned. Other changes from ASC Topic 606 are not expected to be material.

In February 2016, the FASB issued ASU No. 2016-02, *Leases*. The new standard requires that assets and liabilities arising under leases be recognized on the balance sheet. The standard also requires additional quantitative and qualitative disclosures that provide the amount, timing and uncertainty of cash flows relating to lease arrangements. We are required to adopt this standard on October 1, 2019. In July 2018, the FASB provided an optional transition method of adoption, permitting entities to recognize a cumulative-effect adjustment to the opening balance of retained earnings in the period of adoption. We intend to adopt using the optional transition method. We are currently evaluating the likely effects on our business.

In August and November 2016, the FASB issued two ASUs pertaining to the statement of cash flows; ASU No. 2016-15 *Statement of Cash Flows (Topic 230): Classification of Certain Cash Receipts and Cash Payments* and ASU No. 2016-18, *Statement of Cash Flows (Topic 230): Restricted Cash*. These updates will require us to make certain changes to the presentation of our cash flows. The most notable change that we anticipate relates to the treatment of balances we consider to be "restricted cash." Restricted cash represents funds which are held in our bank accounts but which we are precluded from using for general business needs through contractual requirements; these requirements include serving as collateral for lease, credit card or letter of credit arrangements or where we hold funds on behalf of clients. As we do not consider them cash or cash equivalents, we have not included them within our cash flow statement except where we have moved restricted cash in or out of unrestricted cash balances. From October 1, 2018, we will be required to include movements in cash, cash equivalents and restricted cash within our consolidated statement of cash flows. At the time of adoption, we will recast our comparative financial statements as though this standard had always been in place. We do not believe they will have a significant effect on our reported cash flows.

In January 2017, the FASB issued ASU No. 2017-04, *Simplifying the Test for Goodwill Impairment*. This standard will not change the manner in which we would identify a goodwill impairment but would change the manner of the calculation of any resulting impairment. Under existing guidance, we would calculate goodwill for each of our reporting units by calculating the fair value of all existing assets and liabilities within that reporting unit and comparing this to the fair value of the reporting unit; to the extent that this difference is less than our existing goodwill balance related to that reporting unit, we would record an impairment. The new standard will require us to calculate goodwill based upon the difference between the fair value and reported value of a reporting unit. This standard would be effective for our 2021 fiscal year, although early adoption is permitted. The impact of the new standard will depend on the outcomes of future goodwill impairment tests.

Other than these new accounting standards, there have been no other recent pronouncements which we anticipate will significantly affect our financial statements.

Cash, cash equivalents and restricted cash

We consider all highly liquid investments with an original maturity of three months or less when purchased to be cash equivalents. Investments with a longer maturity are shown as short-term investments. Where we are obliged to hold cash balances as collateral for lease, credit card or letter of credit arrangements, or where we hold funds on behalf of clients, this balance is reported within prepayments and other current assets. These restricted cash balances totaled \$7.3 million and \$13.5 million at September 30, 2018 and 2017, respectively.

During the year, we have held some liquid investments with an original maturity in excess of three months. We have reported this balance as a short term investment. We have recorded income over the term of this investment,

MAXIMUS, Inc.
Notes to Consolidated Financial Statements (Continued)
For the years ended September 30, 2018, 2017 and 2016

which matured in October 2018. There is no material difference between the fair value and the reported value of the investment at September 30, 2018.

Accounts receivable—billed, billable and unbilled

Billed receivables are balances where an invoice has been prepared and issued and is collectible under standard contract terms.

Many of our clients require invoices to be prepared on a monthly basis. Where we anticipate that an invoice will be issued within a short period of time and where the funds are considered collectible within standard contract terms, we include this balance as billable accounts receivable.

Both billed and billable balances are recorded at their face amount less an allowance for doubtful accounts. We re-evaluate our client receivables on a quarterly basis, especially receivables that are past due, and reassess our allowance for doubtful accounts based on specific client collection issues.

We present unbilled receivables as a separate component of our consolidated balance sheet. Unbilled receivables represents a timing difference between when amounts are billed or billable and when revenue has been recognized or has occurred as of period end. The timing of these billings is generally driven by the contractual terms, which may have billing milestones that are different from revenue recognition milestones. Our unbilled receivables balance also includes retainage balances, where customers may hold back payment for work performed for a period of time to allow opportunities to evaluate the quality of our performance. Our unbilled receivable balance is recorded at fair value which is the value which we expect to invoice for the services performed, once the criteria for billing have been met.

Business combinations and goodwill

The purchase price of an acquired business is allocated to tangible assets, separately identifiable intangible assets acquired and liabilities assumed based upon their respective fair values. Any excess balance is recorded as goodwill. Costs incurred directly related to an acquisition, including legal, accounting and valuation services, are expensed as incurred.

Intangible assets are separately identified and recorded at fair value. These assets are amortized on a straight-line basis over useful lives estimated at the time of the business combination.

Goodwill is not amortized but is subject to impairment testing on an annual basis, or more frequently if impairment indicators arise. Impairment testing is performed at the reporting unit level. A reporting unit is the operating segment, or a business one level below that operating segment (the component level) if discrete financial information is prepared and reviewed regularly by segment management. However, components are aggregated if they have similar economic characteristics. The evaluation is performed by comparing the fair value of the relevant reporting unit to the carrying value, including goodwill, of the reporting unit. If the fair value of the reporting unit exceeds the carrying value, no impairment loss is recognized. However, if the carrying value of the reporting unit exceeds the fair value, the goodwill of the reporting unit may be impaired.

Our reporting units are consistent with our operating segments, Health Services, U.S. Federal Services and Human Services. We perform our annual impairment test as of July 1 of each year. We performed the annual impairment test, as of July 1, 2018, and determined that there had been no impairment of goodwill. In performing this assessment, we utilized an income approach. Such an approach requires estimation of future operating cash flows including business growth, utilization of working capital and discount rates. The valuation of the business as a whole is compared to our market value at the date of the test in order to verify the calculation.

Long-lived assets (excluding goodwill)

Property and equipment is recorded at cost. Depreciation is recorded over the assets' respective useful economic lives using the straight-line method, which are not to exceed 39 years for our buildings and 7 years for office furniture and equipment. Leasehold improvements are amortized over the shorter of their useful life or the remaining term of the lease. Repairs and maintenance costs are expensed as incurred.

All of the Company's capitalized software represents development costs for software that is intended for our internal use. Direct costs of time and materials incurred for the development of application software for internal use

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are capitalized and depreciated using the straight-line method over the estimated useful life of the software, ranging from three to eight years. Costs incurred for upgrades and enhancements that do not result in additional functionality are expensed as incurred.

Deferred contract costs consist of contractually recoverable direct set-up costs related to long-term service contracts. These costs include direct and incremental costs incurred prior to the commencement of providing service to our customer. These costs are expensed over the period the services are provided using the straight-line method.

We review long-lived assets for impairment whenever events or circumstances indicate that the carrying amount of an asset may not be fully recoverable. Our review is based on our projection of the undiscounted future operating cash flows of the related asset group. To the extent such projections indicate that future undiscounted cash flows are not sufficient to recover the carrying amount, we recognize a non-cash impairment charge to reduce the carrying amount to equal projected future discounted cash flows. No impairment charges were recorded in the three years ending September 30, 2018.

Income taxes

Deferred tax liabilities and assets are determined based on the difference between the financial statement and tax basis of assets and liabilities and are measured by applying enacted tax rates and laws for the taxable years in which those differences are expected to reverse. In addition, a valuation allowance is recorded if it is believed more likely than not that a deferred tax asset will not be fully realized.

We recognize the financial statement benefit of a tax position only after determining that the relevant tax authority would "more likely than not" sustain the position following an audit. For tax positions meeting the "more likely than not" threshold, the amount recognized in the financial statements is the largest benefit that has a greater than 50 percent likelihood of being realized upon ultimate settlement with the relevant tax authority.

Foreign currency

For all foreign operations, the functional currency is the local currency. The assets and liabilities of foreign operations are translated into U.S. Dollars at period-end exchange rates, and revenue and expenses are translated at average exchange rates for the year. The resulting cumulative translation adjustment is included in accumulated other comprehensive income on the consolidated balance sheet. Gains and losses from foreign currency transactions are included in other income, net.

Contingencies

From time to time, we are involved in legal proceedings, including contract and employment claims. We assess the likelihood of any adverse judgments or outcomes to these contingencies, as well as potential ranges of probable losses and establish reserves accordingly. The amount of reserves required may change in future periods due to new developments in each matter or changes in approach to a matter such as a change in settlement strategy.

Fair value measurements

Fair value is the price that would be received to sell an asset or paid to transfer a liability in the principal or most advantageous market in an orderly transaction between marketplace participants.

Assets and liabilities subject to fair value measurements are required to be disclosed within a fair value hierarchy. The fair value hierarchy ranks the quality and reliability of inputs used to determine fair value. Accordingly, assets and liabilities carried at, or permitted to be carried at, fair value are classified within the fair value hierarchy in one of the following categories based on the lowest level input that is significant in measuring fair value:

Level 1 - Fair value is determined by using unadjusted quoted prices that are available in active markets for identical assets and liabilities.

Level 2 - Fair value is determined by using inputs other than Level 1 quoted prices that are directly or indirectly observable. Inputs can include quoted prices for similar assets and liabilities in active markets or quoted prices for identical assets and liabilities in inactive markets. Related inputs can also include those used in valuation or other pricing models such as interest rates and yield curves that can be corroborated by observable market data.

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Level 3 - Fair value is determined by using inputs that are unobservable and not corroborated by market data. Use of these inputs involves significant and subjective judgment.

The carrying amounts of cash and cash equivalents, accounts receivable, accounts payable and other amounts included within current assets and liabilities that meet the definition of a financial instrument approximate fair value due to the short-term nature of these balances.

We hold investments in a Rabbi Trust on behalf of our deferred compensation plan. These assets are recorded on our consolidated balance sheet at fair value under the heading of "Deferred Compensation Plan Assets". These assets have quoted prices in active markets (Level 1). See "Note 12. Employee benefit plans and deferred compensation" for further details.

We have recorded a contingent consideration payment related to an acquisition which may be paid between now and 2022. The related liability is recorded on our consolidated balance sheet as a liability at estimated fair value and updated on a quarterly basis as an acquisition-related expense or benefit. The valuation of this liability is derived from internal estimates of future performance and not from inputs that are observable (Level 3).

2. Business segments

We have three business segments, Health Services, U.S. Federal Services and Human Services. These segments reflect the way in which historically we have organized and managed the business and is consistent with the manner in which our Chief Executive Officer operated and reviewed the results of the business during the year ended September 30, 2018.

Expenses which are not specifically included in the segments are included in other categories, including amortization of intangible assets, costs incurred in restructuring our U.K. Human Services business, the direct costs of acquisitions and the gain on sale of the K-12 Education business. These costs are excluded from measuring each segment's operating performance.

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The results of these segments for the three years ended September 30, 2018 are shown below (in thousands).

	Year ended September 30,		
	2018	2017	2016
Revenue:			
Health Services	\$ 1,404,959	\$ 1,380,151	\$ 1,298,304
U.S. Federal Services	478,911	545,573	591,728
Human Services	508,366	525,237	513,328
Total	<u>\$ 2,392,236</u>	<u>\$ 2,450,961</u>	<u>\$ 2,403,360</u>
Gross Profit:			
Health Services	\$ 372,628	\$ 347,325	\$ 292,181
U.S. Federal Services	126,698	139,321	138,168
Human Services	95,059	125,259	131,842
Total	<u>\$ 594,385</u>	<u>\$ 611,905</u>	<u>\$ 562,191</u>
Selling, general and administrative expense:			
Health Services	\$ 136,250	\$ 132,081	\$ 107,155
U.S. Federal Services	69,312	74,345	74,792
Human Services	76,835	76,675	84,157
Other	2,844	1,492	2,987
Total	<u>\$ 285,241</u>	<u>\$ 284,593</u>	<u>\$ 269,091</u>
Operating income:			
Health Services	\$ 236,378	\$ 215,244	\$ 185,026
U.S. Federal Services	57,386	64,976	63,376
Human Services	18,224	48,584	47,685
Amortization of intangible assets	(10,308)	(12,208)	(13,377)
Restructuring costs	(3,353)	(2,242)	—
Acquisition-related expenses	(947)	(83)	(832)
Gain on sale of a business	—	650	6,880
Other	(1,897)	(1,409)	(2,155)
Total	<u>\$ 295,483</u>	<u>\$ 313,512</u>	<u>\$ 286,603</u>
Operating income as a percentage of revenue:			
Health Services	16.8%	15.6%	14.3%
U.S. Federal Services	12.0%	11.9%	10.7%
Human Services	3.6%	9.2%	9.3%
Total	12.4%	12.8%	11.9%
Depreciation and amortization:			
Health Services	\$ 28,613	\$ 29,114	\$ 31,916
U.S. Federal Services	8,478	11,175	9,953
Human Services	14,793	15,480	16,535
Total	<u>\$ 51,884</u>	<u>\$ 55,769</u>	<u>\$ 58,404</u>

Acquisition-related expenses are costs of completed business combinations as well as the costs of any unsuccessful transactions. The charges above include costs for the acquisition of General Dynamics Information Technology's citizen engagement center business which were incurred in fiscal year 2018 prior to the transaction closing in fiscal year 2019. Other costs include those related to Revitalised Limited in fiscal year 2017 and both Ascend Management Innovations, LLC (Ascend) and Assessments Australia in fiscal year 2016.

We operate in the United States, the United Kingdom, Australia, Canada, Saudi Arabia and Singapore.

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Our revenue was distributed as follows (in thousands):

	Year ended September 30,		
	2018	2017	2016
United States	\$ 1,692,823	\$ 1,765,661	\$ 1,721,261
United Kingdom	347,026	346,342	384,649
Australia	247,850	232,434	200,539
Rest of World	104,537	106,524	96,911
Total	\$ 2,392,236	\$ 2,450,961	\$ 2,403,360

Identifiable assets for the segments are shown below (in thousands):

	Year Ended September 30,	
	2018	2017
Health Services	\$ 482,490	\$ 515,850
U.S. Federal Services	375,807	397,824
Human Services	144,445	169,523
Corporate/Other	459,258	267,465
Total	\$ 1,462,000	\$ 1,350,662

Our long-lived assets, consisting of property and equipment, capitalized software costs and deferred compensation plan assets, were distributed as follows (in thousands):

	Year Ended September 30,	
	2018	2017
United States	\$ 98,340	\$ 101,530
Australia	20,545	32,165
Canada	9,504	13,670
United Kingdom	5,498	9,251
Rest of World	391	331
Total	\$ 134,278	\$ 156,947

3. Concentrations of credit risk and major customers

Financial instruments that potentially subject us to significant concentrations of credit risk consist primarily of accounts receivable — billed, billable and unbilled.

The majority of our business is in the United States. Revenue from foreign projects and offices was 29%, 28% and 28% of total revenue for the years ended September 30, 2018, 2017 and 2016, respectively.

For each of the years ended September 30, 2018, our total revenue was derived from the following customers:

	Year ended September 30,		
	2018	2017	2016
State and local government agencies	51%	49%	46%
Foreign government agencies	27%	26%	26%
U.S. Federal Government agencies	16%	19%	22%
Other sources	6%	6%	6%

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Many of the state government agency programs receive significant federal funding. The other sources include local municipalities and commercial customers. We believe that the credit risk associated with our receivables is limited due to the creditworthiness of these customers.

During fiscal year 2018, the U.S. Federal Government, the U.K. Government, the Australia Government and the State of New York each provided more than 10% of our annual revenue. Within these governments, we may be serving several distinct agencies. Revenue from the U.S. Federal Government was exclusively within the U.S. Federal Segment. Revenue from the U.K. Government was both within the Health Services and Human Services Segments. Revenue from the State of New York was exclusively within our Health Services Segment. Revenue from the Australian Government was exclusively within our Human Services Segment. The proportion of revenue recognized from customers providing in excess of 10% of our consolidated revenue for each of the three years ended September 30, 2018, was as follows:

	Year ended September 30,		
	2018	2017	2016
U.S. Federal Government	16%	19%	22%
New York	16%	15%	12%
United Kingdom	12%	12%	16%
Australia	10%	*	*

* Government provided less than 10% of our consolidated revenue in this fiscal year.

4. Earnings per share

The weighted average number of shares outstanding used to compute earnings per share was as follows (in thousands):

	Year ended September 30,		
	2018	2017	2016
Weighted average shares outstanding	65,501	65,632	65,822
Effect of employee stock options and unvested restricted stock awards	431	433	407
Denominator for diluted earnings per share	65,932	66,065	66,229

For the years ended September 30, 2018, 2017 and 2016, we excluded approximately 5,000, 9,000 and 21,000 unvested restricted stock units, respectively, from the calculation of diluted earnings per share as the effect of including them would have been anti-dilutive.

5. Income taxes

The components of income before income taxes and the corresponding provision for income taxes are as follows (in thousands):

	Year ended September 30,		
	2018	2017	2016
Income before income taxes:			
United States	\$ 248,360	\$ 257,910	\$ 238,871
Foreign	50,849	56,325	47,097
Income before income taxes	\$ 299,209	\$ 314,235	\$ 285,968

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	Year ended September 30,		
	2018	2017	2016
Current provision:			
Federal	\$ 42,318	\$ 70,476	\$ 69,025
State and local	13,459	15,594	15,595
Foreign	15,895	11,221	15,536
Total current provision	71,672	97,291	100,156
Deferred tax expense (benefit):			
Federal	4,106	5,490	7,778
State and local	2,902	643	902
Foreign	(287)	(1,371)	(3,028)
Total deferred tax expense (benefit)	6,721	4,762	5,652
Provision for income taxes	\$ 78,393	\$ 102,053	\$ 105,808

Our results for the year ended September 30, 2018, benefited from the effects of the Tax Cuts and Jobs Act (the Act), which was signed on December 22, 2017, and was effective from January 1, 2018. The Act reduced our annual tax rate, resulting in reduced expense and a one-time benefit from a reduction in our deferred tax liabilities. It also included a "toll tax" on our undistributed and previously untaxed earnings in foreign locations, which is payable over eight years and which we have included in our long-term liabilities. At September 30, 2018, we have not completed our accounting for the tax effects of enactment of the Act; however, as described below, we have made a reasonable estimate of the effects on our existing deferred tax balances and the one-time transition tax. For these items we recognized provisional amounts in income tax expense benefit. The toll tax will be included in our U.S. federal income tax return for fiscal year 2018, which is expected to be filed in July 2019.

Our federal statutory income tax rate for the first quarter of fiscal year 2018 was 35%; the rate for the remainder of the fiscal year was 21%. This resulted in a statutory rate for the fiscal year of 24.5%. The provision for income taxes differs from that which would have resulted from the use of this rate is as follows (in thousands):

	Year ended September 30,		
	2018	2017	2016
Federal income tax provision at statutory rate of 24.5%, 35% and 35%	\$ 73,396	\$ 109,982	\$ 100,089
State income taxes, net of federal benefit	12,348	10,554	10,723
Foreign taxation	(1,531)	(6,940)	(3,976)
Permanent items	1,176	970	1,284
Tax credits	(2,438)	(4,851)	(1,592)
Toll tax	9,425	—	—
Deferred tax liability - tax rate change	(10,514)	—	—
Vesting of equity compensation	(2,849)	(6,569)	—
Other	(620)	(1,093)	(720)
Provision for income taxes	\$ 78,393	\$ 102,053	\$ 105,808

The significant items comprising our deferred tax assets and liabilities as of September 30, 2018 and 2017 are as follows (in thousands):

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	As of September 30,	
	2018	2017
Net deferred tax assets/(liabilities)		
Costs deductible in future periods	\$ 20,254	\$ 30,794
Deferred revenue	5,197	20,703
Stock compensation	3,469	4,976
Net operating loss carryforwards	302	360
Amortization of goodwill and intangible assets	(27,054)	(36,100)
Capitalized software	(6,016)	(9,197)
Accounts receivable - unbilled	(7,854)	(12,953)
Property and equipment	(2,011)	(3,924)
Prepaid expenses	(2,927)	(3,741)
Other	(2,903)	(3,333)
	<u>\$ (19,543)</u>	<u>\$ (12,415)</u>

Our deferred tax assets and liabilities are held in various national and international jurisdictions which do not allow right of offset. Accordingly, our presentation of deferred taxes on our consolidated balance sheet is split between jurisdictions which show a net deferred tax asset and a net deferred tax liability. Our net deferred tax position is summarized below (in thousands):

	As of September 30,	
	2018	2017
Balance of tax jurisdictions with net deferred tax assets	\$ 6,834	\$ 7,691
Balance of tax jurisdictions with net deferred tax liabilities	(26,377)	(20,106)
Net deferred tax liabilities	<u>\$ (19,543)</u>	<u>\$ (12,415)</u>

In fiscal year 2018, we remeasured our deferred tax asset and liability balances at December 22, 2017, based on the rates at which they are expected to reverse in the future. However, we are still analyzing certain aspects of the Act and refining our calculations, which could potentially affect the measurement of these balances or potentially give rise to new deferred tax amounts. The provisional amount recorded related to the remeasurement of our net deferred tax liabilities was a reduction to income tax expense of \$10.5 million for the fiscal year ended September 30, 2018. Additionally, in connection with the required one-time U.S. repatriation tax on undistributed earnings, we recorded a provisional tax expense of \$9.4 million. The Company will continue to analyze the Act to determine the full effects of the new law and monitor guidance from the United States Treasury Department as to the application of certain aspects of the Act. Additionally, we will monitor guidance for states and how they will organize their tax codes prospectively

We consider our foreign earnings in excess of the earnings subject to the one-time transition tax to be indefinitely reinvested outside of the United States in accordance with the relevant accounting guidance for income taxes. Accordingly, no U.S. deferred taxes have been recorded with respect to such earnings. As of September 30, 2018, our foreign subsidiaries held approximately \$47.1 million of cash and cash equivalents in either U.S. Dollars or local currencies.

Cash paid for income taxes during the years ended September 30, 2018, 2017, and 2016 was \$65.3 million, \$87.8 million and \$108.3 million, respectively.

The provision for income taxes includes all provision to return adjustments included in the year recognized in the financial statements.

We account for uncertain tax positions by recognizing the financial statement effects of a tax position only when, based upon the technical merits, it is "more-likely-than-not" that the position will be sustained upon examination. The total amount of unrecognized tax benefits that, if recognized, would affect our annual effective income tax rate was \$1.3 million and \$1.1 million at September 30, 2018 and 2017, respectively.

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We report interest and penalties as a component of income tax expense. In the fiscal years ending September 30, 2018, 2017 and 2016, we recognized interest expense relating to unrecognized tax benefits of less than \$0.1 million in each year. The net liability balance at September 30, 2018 and 2017 includes approximately \$0.7 million of interest and penalties.

We recognize and present uncertain tax positions on a gross basis (i.e., without regard to likely offsets for deferred tax assets, deductions and/or credits that would result from payment of uncertain tax amounts). The reconciliation of the beginning and ending amount of gross unrecognized tax benefits was as follows (in thousands):

	Year ended September 30,		
	2018	2017	2016
Balance at beginning of year	\$ 633	\$ 448	\$ 529
Increases for tax positions taken in current year	88	185	—
Reductions for tax positions of prior years	—	—	(81)
Balance at end of year	<u>\$ 721</u>	<u>\$ 633</u>	<u>\$ 448</u>

We file income tax returns in the U.S. federal jurisdiction and in various state and foreign jurisdictions. We are no longer subject to federal income tax examinations for years before 2014 and to state and local income tax examinations by tax authorities for years before 2013. In international jurisdictions, similar rules apply to filed income tax returns, although the tax examination limitations and requirements may vary. We are no longer subject to audit by tax authorities for foreign jurisdictions for years prior to 2013.

6. Debt

Credit Facilities

Our credit agreement provides for a revolving line of credit up to \$400 million that may be used for revolving loans, swingline loans (subject to a sublimit of \$5 million), and to request letters of credit, subject to a sublimit of \$50 million. The line of credit is available for general corporate purposes, including working capital, capital expenditures and acquisitions. Borrowings are permitted in currencies other than the U.S. Dollar. In September 2017, we extended the term of our credit agreement to September 2022, at which time all outstanding borrowings must be repaid. At September 30, 2018, we had no borrowings under the credit agreement.

In addition to borrowings under the credit agreement, we have an outstanding loan of \$0.5 million (0.7 million Canadian Dollars) with the Atlantic Innovation Fund of Canada. There is no interest charge on this loan. The Atlantic Innovation Fund loan is repayable over 15 remaining quarterly installments.

At September 30, 2018, we held two letters of credit under our credit agreement totaling \$0.7 million. Each of these letters of credit may be called by vendors in the event that the Company defaults under the terms of a contract, the probability of which we believe is remote. In addition, two letters of credit totaling \$3.0 million, secured with restricted cash balances, are held with another financial institution to cover similar obligations to customers.

Our credit agreement requires us to comply with covenants including a maximum total leverage ratio and a minimum fixed charge coverage ratio. We were in compliance with all covenants as of September 30, 2018. Our obligations under the credit agreement are guaranteed by material domestic subsidiaries of the Company, but are otherwise unsecured. In the event that our total leverage ratio, as defined in the credit agreement, exceeds 2.50:1, we would be obliged to provide security in the form of the assets of the parent Company and certain of its subsidiaries. Our credit agreement contains no restrictions on the payment of dividends as long as our leverage ratio does not exceed 2.50:1. At September 30, 2018, our total leverage ratio was less than 1.0:1.0. We do not believe that the provisions of the credit agreement represent a significant restriction to the successful operation of the business or to our ability to pay dividends.

The Credit Agreement provides for an annual commitment fee payable on funds not borrowed or utilized for letters of credit. This charge is based upon our leverage and varies between 0.125% and 0.275%. Commitment fees are recorded as interest expense on the consolidated statement of operations. Borrowings under the Credit Agreement bear interest at our choice at either (a) a Base Rate plus a margin that varies between 0.0% and 0.75% per year, (b) a Eurocurrency Rate plus an applicable margin that varies between 1.0% and 1.75% per year or (c) an

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Index Rate plus an applicable margin which varies between 1.0% and 1.75% per year. The Base Rate, Eurocurrency Rate and Index Rate are defined by the Credit Agreement.

Derivative Arrangement

In order to add stability to our interest expense and manage our exposure to interest rate movements, we may enter into derivative arrangements to fix payments on part of an outstanding loan balance. We agree to pay a fixed rate of interest to a financial institution and receive a balance equivalent to the floating rate payable. Our outstanding derivative instruments expired during fiscal year 2017. As this cash flow hedge was considered effective, the gains and losses in the fair value of this derivative instrument were reported in accumulated other comprehensive income (AOCI) in the consolidated statement of comprehensive income.

Interest Payments

During the fiscal years ended September 30, 2018, 2017 and 2016, we made interest payments of \$0.6 million, \$2.0 million and \$3.7 million, respectively.

7. Goodwill and intangible assets

Changes in goodwill for the years ended September 30, 2018 and 2017 are as follows (in thousands):

	Health Services	U.S. Federal Services	Human Services	Total
Balance as of September 30, 2016	\$ 123,679	\$ 228,148	\$ 45,731	\$ 397,558
Adjustment to goodwill acquired with Ascend and Assessments Australia, respectively	(557)	—	71	(486)
Acquisition of Revitalised	2,830	—	—	2,830
Foreign currency translation	2,508	—	566	3,074
Balance as of September 30, 2017	128,460	228,148	46,368	402,976
Foreign currency translation	(1,719)	—	(1,375)	(3,094)
Balance as of September 30, 2018	\$ 126,741	\$ 228,148	\$ 44,993	\$ 399,882

There have been no impairment charges to our goodwill.

The following table sets forth the components of intangible assets (in thousands):

	As of September 30, 2018			As of September 30, 2017		
	Cost	Accumulated Amortization	Intangible Assets, net	Cost	Accumulated Amortization	Intangible Assets, net
Customer contracts and relationships	\$ 129,113	\$ 42,683	\$ 86,430	\$ 129,916	\$ 33,457	\$ 96,459
Technology-based intangible assets	5,750	4,212	1,538	7,664	5,475	2,189
Trademarks and trade names	4,496	4,429	67	4,513	4,392	121
Total	\$ 139,359	\$ 51,324	\$ 88,035	\$ 142,093	\$ 43,324	\$ 98,769

As of September 30, 2018, our intangible assets have a weighted average remaining life of 11.9 years, comprising 12.0 years for customer contracts and relationships, 5.0 years for technology-based intangible assets and 1.3 years for trademarks and trade names. The estimated future amortization expense for the next five years for the intangible assets held by the Company as of September 30, 2018, is as follows (in thousands):

2019	\$ 9,377
2020	8,279
2021	7,416
2022	7,354
2023	7,339

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8. Balance Sheet Components

Property and equipment

Property and equipment, at cost, consists of the following (in thousands):

	As of September 30,	
	2018	2017
Land	\$ 1,738	\$ 1,738
Building and improvements	12,044	11,799
Office furniture and equipment	203,512	207,140
Leasehold improvements	55,918	53,531
	<u>273,212</u>	<u>274,208</u>
Less: Accumulated depreciation and amortization	(195,668)	(172,557)
Total property and equipment, net	<u>\$ 77,544</u>	<u>\$ 101,651</u>

Depreciation expense for the years ended September 30, 2018, 2017 and 2016 was \$40.7 million, \$45.2 million and \$49.2 million, respectively.

Capitalized software

Capitalized software consists of the following (in thousands):

	As of September 30,	
	2018	2017
Capitalized software	\$ 94,803	\$ 88,627
Less: Accumulated amortization	(72,374)	(61,879)
Total Capitalized software, net	<u>\$ 22,429</u>	<u>\$ 26,748</u>

Amortization expense for the years ended September 30, 2018, 2017 and 2016 was \$11.2 million, \$10.6 million and \$9.2 million, respectively.

Deferred contract costs

Deferred contract costs consist of the following (in thousands):

	As of September 30,	
	2018	2017
Deferred contract costs	\$ 29,941	\$ 30,776
Less: Accumulated amortization	(15,561)	(14,478)
Total Deferred contract costs, net	<u>\$ 14,380</u>	<u>\$ 16,298</u>

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9. Accounts receivable reserves

Changes in the reserves against accounts receivable were as follows (in thousands):

	Year ended September 30,		
	2018	2017	2016
Balance at beginning of year	\$ 6,843	\$ 4,226	\$ 3,385
Additions to reserve	243	5,106	2,335
Deductions	(2,801)	(2,489)	(1,494)
Balance at end of year	<u>\$ 4,285</u>	<u>\$ 6,843</u>	<u>\$ 4,226</u>

In evaluating the net realizable value of accounts receivable, we consider such factors as current economic trends, customer credit-worthiness, and changes in the customer payment terms and collection trends. Changes in the assumptions used in analyzing a specific account receivable may result in a reserve being recognized in the period in which the change occurs.

At September 30, 2018 and 2017, \$13.4 million and \$10.3 million of our unbilled receivables related to amounts pursuant to contractual retainage provisions. We anticipate that the majority of the fiscal 2018 balance will be billed and collected during fiscal year 2019.

10. Commitments and contingencies

Performance bonds

Certain contracts require us to provide a surety bond as a guarantee of performance. At September 30, 2018, we had performance bond commitments totaling \$37.5 million. These bonds are typically renewed annually and remain in place until the contractual obligations have been satisfied. Although the triggering events vary from contract to contract, in general we would only be liable for the amount of these guarantees in the event of default in our performance of our obligations under each contract, the probability of which we believe is remote.

Operating Leases

We lease office space and equipment under various operating leases. Lease expense for the years ended September 30, 2018, 2017 and 2016 was \$77.0 million, \$80.6 million and \$75.4 million, respectively. Our operating leases may contain rent escalations or concessions. Lease expense is recorded on a straight-line basis over the life of the respective lease.

Minimum future lease commitments under leases in effect as of September 30, 2018, are as follows (in thousands):

	Office space	Equipment	Total
Year ending September 30,			
2019	\$ 65,187	\$ 3,772	\$ 68,959
2020	47,398	2,254	49,652
2021	21,786	128	21,914
2022	11,950	2	11,952
2023	6,220	—	6,220
Thereafter	1,970	—	1,970
Total minimum lease payments	<u>\$ 154,511</u>	<u>\$ 6,156</u>	<u>\$ 160,667</u>

Sublease income for the year ended September 30, 2018, was \$2.2 million, and we anticipate future sublease income of approximately \$1.7 million per fiscal year through fiscal year 2020.

MAXIMUS, Inc.
Notes to Consolidated Financial Statements (Continued)
For the years ended September 30, 2018, 2017 and 2016

Collective bargaining agreements

Approximately 13% of our employees are covered by collective bargaining agreements or similar arrangements, the majority of which expire within one year.

Shareholder lawsuit

In August 2017, the Company and certain officers were named as defendants in a putative class action lawsuit filed in the U.S. District Court for the Eastern District of Virginia. The plaintiff alleged the defendants made a variety of materially false and misleading statements, or failed to disclose material information, concerning the status of the Company's Health Assessment Advisory Service project for the U.K. Department for Work and Pensions from the period of October 20, 2014 through February 3, 2016. In August 2018, the defendants' motion to dismiss the case was granted, and the case was dismissed. In October 2018, the plaintiffs filed a notice of appeal to the U.S. Circuit Court for the Fourth Circuit. That appeal is pending. At this time, it is not possible to reasonably predict whether this matter will be permitted to proceed as a class or to reasonably estimate the value of the claims asserted, and we are unable to estimate the potential loss or range of loss.

Medicaid claims

A state Medicaid agency has been notified of two proposed disallowances by the Centers for Medicare and Medicaid Services (CMS) totaling approximately \$31 million. From 2004 through 2009, we had a contract with the state agency in support of its school-based Medicaid claims. We entered into separate agreements with the school districts under which we assisted the districts with preparing and submitting claims to the state Medicaid agency which, in turn, submitted claims for reimbursement to CMS. The state has asserted that its agreement with us requires us to reimburse the state for the amounts owed to CMS. However, our agreements with the school districts require them to reimburse us for such amounts, and therefore we believe the school districts are responsible for any amounts that ultimately must be refunded to CMS. Although it is reasonably possible that a court could conclude we are responsible for the full balance of the disallowances, we believe our exposure in this matter is limited to our fees associated with this work and that the school districts will be responsible for the remainder. We have established a reserve to cover our estimated fees earned from this engagement relating to the disallowances. We exited the federal healthcare-claiming business in 2009 and no longer provide the services at issue in this matter. No legal action has been initiated against us.

11. Equity

Stock compensation

At September 30, 2018, 1.2 million shares remained available for grants under our 2017 Equity Incentive Plan. We typically issue new shares in satisfying our obligations under our stock plans.

We grant equity awards to officers, employees and directors in the form of restricted stock units (RSUs). RSUs issued generally vest ratably over one or five years. The fair value of the RSUs, based on our stock price at the grant date, is expensed in equal installments over the vesting period. For the fiscal years ended September 30, 2018, 2017 and 2016, compensation expense recognized related to RSUs was \$20.2 million, \$21.4 million and \$18.8 million, respectively. All individuals who are granted RSUs also receive dividend-equivalent payments in the form of additional RSUs. However, until the shares are issued, they have no voting rights and may not be bought or sold. In the event that an award is forfeited, the dividend-equivalent payments received by the holder with respect to that award are also forfeited. We estimate our stock award forfeitures as we expense each award.

A summary of our RSU activity for the year ended September 30, 2018, is as follows:

MAXIMUS, Inc.
Notes to Consolidated Financial Statements (Continued)
For the years ended September 30, 2018, 2017 and 2016

	Shares	Weighted-Average Grant-Date Fair Value
Non-vested shares outstanding at September 30, 2017	822,827	\$ 51.69
Granted	365,071	64.33
Vested	(464,658)	53.35
Forfeited	(61,307)	54.90
Non-vested shares outstanding at September 30, 2018	661,933	57.78

In addition to the non-vested shares, certain directors and employees held approximately 0.7 million vested awards whose issuance has been deferred as of September 30, 2018.

The weighted-average grant-date fair value of RSUs granted in the years ended September 30, 2017 and 2016, was \$53.63 and \$52.00, respectively. The total fair value of RSUs which vested during the years ended September 30, 2018, 2017 and 2016 was \$30.3 million, \$24.9 million and \$27.1 million, respectively. As of September 30, 2018, the total remaining unrecognized compensation cost related to unvested RSUs was \$37.2 million. This expense is expected to be realized over the next five years, with a weighted average life of 1.6 years.

Prior to fiscal year 2008, we granted stock options to certain employees. These were granted at exercise prices equal to the fair market value of our common stock at the date of grant, vested over a period of four years and expired ten years after the date of the grant. No compensation expenses related to stock options were recorded in any of the years shown. By September 30, 2018, all stock options issued had either been exercised or expired and no new options have been issued. The following table summarizes information pertaining to the stock options vested and exercised for the years presented (in thousands):

	Year ended September 30,		
	2018	2017	2016
Aggregate intrinsic value of all stock options exercised	\$ —	\$ 4,025	\$ 4,077
Net cash proceeds from exercise of stock options	—	924	546

The total income tax benefit recognized in the consolidated statement of operations for share-based compensation arrangements was \$8.7 million, \$15.0 million and \$7.4 million for the fiscal years ended September 30, 2018, 2017 and 2016, respectively.

Employees are permitted to forfeit a certain number of shares to cover their personal tax liability, with the Company making tax payments to the relevant authorities. These payments are reported in the consolidated statements of cash flows as financing cash flows. During the three years ending September 30, 2018, 2017 and 2016, we incurred liabilities related to these forfeitures of \$8.7 million, \$8.7 million and \$9.3 million, respectively.

Stock repurchase programs

Under a resolution adopted in June 2018, the Board of Directors authorized the repurchase, at management's discretion, of up to an aggregate of \$200 million of our common stock. This resolution superseded a similar authorization from August 2015. The resolution also authorizes the use of option exercise proceeds for the repurchase of our common stock. During the years ended September 30, 2018, 2017 and 2016, we repurchased 1.1 million, 0.6 million and 0.6 million common shares at a cost of \$67.6 million, \$28.9 million and \$31.3 million, respectively. At September 30, 2018, \$192.8 million remained available for future stock repurchases.

Between October 1, 2018, and November 20, 2018, we have made additional purchases of 0.2 million shares of common stock at a total cost of approximately \$15 million.

12. Employee benefit plans and deferred compensation

We have 401(k) plans for the benefit of employees who meet certain eligibility requirements. The plans provide for Company match, specified Company contributions and discretionary Company contributions. During the years

ended September 30, 2018, 2017 and 2016, we contributed \$7.4 million, \$7.0 million and \$6.0 million to the 401(k) plans, respectively.

We also have a deferred compensation plan, which is a non-qualified plan available to a restricted number of highly compensated employees. The plan enables participants to defer compensation for tax purposes. These deferred employee contributions are held within a Rabbi Trust with investments directed by the respective employees. The assets of the Rabbi Trust are available to satisfy the claims of general creditors in the event of bankruptcy. The assets of the plan are sufficient to meet 95% of the liabilities as of September 30, 2018. The assets within the Rabbi Trust include \$20.3 million invested in mutual funds which have quoted prices in active markets. These assets, as well as the related employee liabilities, are recorded at fair value with changes in fair value being recorded in the consolidated statement of operations.

13. Business combinations and disposals

Revitalised

On July 18, 2017, MAXIMUS Companies Limited, a wholly owned subsidiary of MAXIMUS, Inc., acquired 100% of the share capital of Revitalised Limited ("Revitalised"). We paid \$2.7 million at the point of acquisition and a further \$1.4 million in fiscal year 2018, following the achievement of performance targets established at acquisition. Revitalised provides digital solutions to engage communities in the areas of health, fitness and wellbeing. We acquired Revitalised in order to enhance the capabilities of our health services programs in the United Kingdom and, accordingly, the business was integrated into our Health Services Segment. Revitalised included goodwill of \$2.8 million and intangible assets of \$1.3 million. The goodwill represents the assembled workforce and enhanced capabilities stemming from the acquisition; the intangible assets represent the technology and customer relationships.

K-12 Education

On May 9, 2016, we sold our K-12 Education business, which was previously part of the Human Services Segment. We recorded gains of \$6.9 million and \$0.7 million in fiscal years 2016 and 2017, respectively.

The K-12 Education business contributed revenue of \$2.2 million and reported an operating loss of \$0.2 million in fiscal year 2016.

Ascend Management Innovations, LLC

On February 29, 2016, MAXIMUS Health Services, Inc., a wholly-owned subsidiary of MAXIMUS, Inc., acquired 100% of the share capital of Ascend for cash consideration of \$44.1 million. Ascend is a provider of independent health assessments and data management tools to government agencies in the U.S. We acquired Ascend to broaden our ability to help our existing government clients deal with the rising demand for long-term care services. This business was integrated into our Health Services Segment. We estimated the fair value of intangible assets acquired as \$22.3 million, with an average weighted life of 18 years, and the fair value of goodwill as \$18.0 million, which is expected to be deductible for tax purposes. We believe that this goodwill represents the value of the assembled workforce of Ascend, as well as the enhanced knowledge and capabilities resulting from this business combination.

Our allocation of fair value for the assets and liabilities acquired is shown below.

MAXIMUS, Inc.
Notes to Consolidated Financial Statements (Continued)
For the years ended September 30, 2018, 2017 and 2016

<i>(Amounts in thousands)</i>	Allocation of assets and liabilities
Cash consideration, net of cash acquired	\$ 44,069
Billed and unbilled receivables	\$ 4,069
Other assets	407
Property and equipment and other assets	707
Deferred income taxes	557
Intangible assets	22,300
Total identifiable assets acquired	28,040
Accounts payable and other liabilities	1,414
Deferred revenue	554
Total liabilities assumed	1,968
Net identifiable assets acquired	26,072
Goodwill	17,997
Net assets acquired	\$ 44,069

The valuation of the intangible assets acquired is summarized below:

<i>(Dollars in thousands)</i>	Useful life	Fair value
Customer relationships	19 years	\$ 20,400
Technology-based intangible assets	8 years	1,700
Trade name	1 year	200
Total intangible assets		\$ 22,300

Assessments Australia

On December 15, 2015, MAXIMUS acquired 100% of the share capital of three companies doing business as "Assessments Australia." We acquired Assessments Australia to expand our service offerings within Australia. The consideration was comprised of \$2.6 million in cash and contingent consideration of \$0.5 million to the sellers of Assessments Australia if sufficient contracts with a specific government agency are won by MAXIMUS prior to December 2022. We performed a probability weighted assessment of this payment. Future changes in our assessment of this liability will be recorded through the consolidated statement of operations. This business was integrated into our Human Services Segment. Management identified goodwill and intangible assets acquired as \$3.0 million and \$0.4 million, respectively. We believe that the goodwill represents the value of the assembled workforce of Assessments Australia, as well as the enhanced capabilities which the business will provide us.

The intangible assets acquired represent customer relationships. These are being amortized on a straight-line basis over six years.

At September 30, 2018, our estimate of the fair value of the contingent consideration is \$0.4 million.

14. Quarterly information (unaudited)

Set forth below are selected quarterly consolidated statement of operations data for the fiscal years ended September 30, 2018 and 2017. We derived this information from unaudited quarterly financial statements that include, in the opinion of our management, all adjustments necessary for a fair presentation of the information for such periods. Results of operations for any fiscal quarter are not necessarily indicative of results for any future period.

MAXIMUS, Inc.

Notes to Consolidated Financial Statements (Continued)

For the years ended September 30, 2018, 2017 and 2016

Earnings per share amounts are computed independently each quarter. As a result, the sum of each quarter's earnings per share amount may not equal the total earnings per share amount for the respective year.

	Quarter Ended			
	Dec. 31, 2017	March 31, 2018	June 30, 2018	Sept. 30, 2018
	(In thousands, except per share data)			
Health Services	\$ 352,090	\$ 365,633	\$ 359,050	\$ 328,186
U.S. Federal Services	132,983	116,327	112,226	117,375
Human Services	138,075	130,827	126,579	112,885
Revenue	<u>\$ 623,148</u>	<u>\$ 612,787</u>	<u>\$ 597,855</u>	<u>\$ 558,446</u>
Health Services	\$ 91,056	\$ 98,207	\$ 97,254	\$ 86,111
U.S. Federal Services	33,358	27,374	32,276	33,690
Human Services	27,546	23,222	25,154	19,137
Gross profit	<u>\$ 151,960</u>	<u>\$ 148,803</u>	<u>\$ 154,684</u>	<u>\$ 138,938</u>
Health Services	\$ 57,640	\$ 63,017	\$ 63,782	\$ 51,939
U.S. Federal Services	16,710	9,834	14,877	15,965
Human Services	8,051	3,393	7,469	(689)
Amortization of intangible assets	(2,718)	(2,603)	(2,525)	(2,462)
Restructuring costs	—	(2,320)	—	(1,033)
Acquisition-related expenses	—	—	—	(947)
Other/Corporate	—	—	(1,032)	(865)
Operating Income	<u>\$ 79,683</u>	<u>\$ 71,321</u>	<u>\$ 82,571</u>	<u>\$ 61,908</u>
Net income	59,952	55,106	60,242	45,516
Net income attributable to MAXIMUS	59,091	55,492	59,861	46,307
Basic earnings per share attributable to MAXIMUS	\$ 0.90	\$ 0.84	\$ 0.91	\$ 0.71
Diluted earnings per share attributable to MAXIMUS	\$ 0.89	\$ 0.84	\$ 0.91	\$ 0.71

MAXIMUS, Inc.

Notes to Consolidated Financial Statements (Continued)

For the years ended September 30, 2018, 2017 and 2016

	Quarter Ended			
	Dec. 31, 2016	March 31, 2017	June 30, 2017	Sept. 30, 2017
	(In thousands, except per share data)			
Health Services	\$ 340,729	\$ 348,994	\$ 335,090	\$ 355,338
U.S. Federal Services	141,298	145,370	131,589	127,316
Human Services	125,537	127,683	133,768	138,249
Revenue	<u>\$ 607,564</u>	<u>\$ 622,047</u>	<u>\$ 600,447</u>	<u>\$ 620,903</u>
Health Services	\$ 78,234	\$ 86,454	\$ 83,269	\$ 99,368
U.S. Federal Services	37,576	36,571	33,627	31,547
Human Services	29,008	29,292	35,293	31,666
Gross profit	<u>\$ 144,818</u>	<u>\$ 152,317</u>	<u>\$ 152,189</u>	<u>\$ 162,581</u>
Health Services	\$ 50,127	\$ 56,540	\$ 51,553	\$ 57,024
U.S. Federal Services	17,881	17,644	15,870	13,581
Human Services	11,769	9,629	16,368	10,818
Amortization of intangible assets	(3,402)	(3,386)	(2,720)	(2,700)
Restructuring costs	(2,242)	—	—	—
Acquisition-related expenses	—	—	—	(83)
Gain on sale of a business	—	—	650	—
Other/Corporate	(357)	(92)	90	(1,050)
Operating Income	<u>\$ 73,776</u>	<u>\$ 80,335</u>	<u>\$ 81,811</u>	<u>\$ 77,590</u>
Net income	46,329	53,097	57,788	54,968
Net income attributable to MAXIMUS	46,664	52,515	56,918	53,329
Basic earnings per share attributable to MAXIMUS	\$ 0.71	\$ 0.80	\$ 0.87	\$ 0.81
Diluted earnings per share attributable to MAXIMUS	\$ 0.71	\$ 0.80	\$ 0.86	\$ 0.81

15. Subsequent Events

Acquisition of General Dynamics Information Technology's Citizen Engagement Centers

On November 16, 2018, we acquired 100% of General Dynamics Information Technology's citizen engagement centers business, pursuant to an asset purchase agreement dated October 5, 2018. This acquisition strengthens our position in the administration of federal government programs. This business is being integrated into our U.S. Federal Services Segment. The cash purchase price of the business was \$400.0 million, subject to certain adjustments, including a final assessment of the working capital acquired on the date of the acquisition. To fund the acquisition, we utilized \$150.0 million of new borrowings from our credit facility with the balance paid using our cash balance.

As part of the acquisition, we have incurred acquisition-related expenses, including legal, accounting and other consultant services. Costs incurred prior to September 30, 2018, were \$0.5 million and are included within "acquisition-related expenses" within our segment disclosure. We anticipate that a further \$3 million has been or will be incurred during the first fiscal quarter of 2019.

At this time, we have not yet completed our assessment of the fair value of the assets acquired and liabilities assumed, including the valuation of our intangible assets and goodwill. Accordingly, we are unable to provide all of the information which would typically be disclosed including an allocation of the purchase price and pro forma financial information.

Reorganization of segments

Effective October 1, 2018, our Chief Executive Officer reorganized our reporting segments based on the way management intends to allocate resources, manage performance and evaluate results. This change responds to recent changes in the markets we operate, the increasing integration of health and human services programs worldwide and the evolving needs of our government clients as they aim to deliver services in a more holistic manner to their citizens. Accordingly, we will report operating segments on a geographic basis. Our operating segments will be U.S. Health & Human Services, U.S. Federal Services and Outside the U.S.

Dividend

On October 5, 2018, our Board of Directors declared a quarterly cash dividend of \$0.25 for each share of the Company's common stock outstanding. The dividend will be paid on November 30, 2018, to shareholders of record on November 15, 2018. Based on the number of shares outstanding, the payment will be approximately \$16.1 million.

ITEM 9. Changes in and Disagreements with Accountants on Accounting and Financial Disclosure.

None.

ITEM 9A. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures. Our management, with the participation of our principal executive officer and principal financial officer, has evaluated the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-15(e) under the Securities Exchange Act of 1934 (Exchange Act)) as of the end of the period covered by this Annual Report on Form 10-K. Based on this evaluation, our principal executive officer and principal financial officer concluded that our disclosure controls and procedures are effective and designed to ensure that the information required to be disclosed in our reports filed or submitted under the Exchange Act is recorded, processed, summarized and reported within the time periods specified by the Securities and Exchange Commission's (SEC) rules and forms and that such information is accumulated and communicated to our management, including our principal executive officer and principal financial officer as appropriate, to allow timely decisions regarding required disclosure.

Management's Report on Internal Control Over Financial Reporting. Our management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a-15(f) under the Exchange Act). Our internal control over financial reporting is designed to provide reasonable assurance regarding the reliability of our financial reporting and the preparation of published financial statements in accordance with generally accepted accounting principles.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Therefore, even those systems determined to be effective can provide only reasonable assurance with respect to financial statement preparation and presentation. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management assessed the effectiveness of our internal control over financial reporting as of September 30, 2018. In making this assessment, management used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in the *Internal Control—Integrated Framework (2013)*. Based on our assessment, we believe that as of September 30, 2018, our internal control over financial reporting was effective based on those criteria.

The attestation report concerning the effectiveness of our internal control over financial reporting as of September 30, 2018, issued by Ernst & Young LLP, the independent registered public accounting firm who also audited our consolidated financial statements, is included following this Item 9A.

Changes in Internal Control Over Financial Reporting. There was no change in our internal control over financial reporting (as defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act) identified in connection with the evaluation of our internal control that occurred during our fourth fiscal quarter of 2018 that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

**Report of Ernst & Young LLP,
Independent Registered Public Accounting Firm,
Regarding Internal Control over Financial Reporting**

Board of Directors and Shareholders
MAXIMUS, Inc.

Opinion on Internal Control over Financial Reporting

We have audited MAXIMUS, Inc.'s internal control over financial reporting as of September 30, 2018, based on criteria established in *Internal Control-Integrated Framework* issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, MAXIMUS, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of September 30, 2018, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of September 30, 2018 and 2017, and the related consolidated statements of operations, comprehensive income, shareholders' equity and cash flows for each of the three years in the period ended September 30, 2018 of MAXIMUS, Inc. and our report dated November 20, 2018 expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying Management's Report on Internal Control Over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control Over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

Tysons, Virginia
November 20, 2018

ITEM 9B. Other information.

As previously announced in a Form 8-K filed on October 9, 2018, our wholly-owned subsidiary, MAXIMUS Federal Services, Inc., entered into a definitive Asset Purchase Agreement (the "Purchase Agreement") on October 5, 2018 to acquire General Dynamics Information Technology's citizen engagement centers business for a cash purchase price of \$400.0 million, subject to certain reductions and adjustments including a final assessment of the working capital acquired on the date of the acquisition (the "Acquisition"). The Acquisition was completed on November 16, 2018. The Company funded the Acquisition and related costs and expenses with cash on hand and a borrowing of \$150.0 million under its revolving credit facility.

The foregoing does not constitute a complete summary of the terms of the Purchase Agreement, and reference is made to the complete text of the Purchase Agreement filed as Exhibit 2.1 to the Company's Current Report on Form 8-K filed with the Securities and Exchange Commission on October 9, 2018, and incorporated by reference herein.

The financial statements of the business acquired and pro forma financial information required will be filed on a Current Report on Form 8-K within 71 days of the date on which this report was required to be filed.

PART III

The information required by Items 10, 11, 12, 13 and 14 of Part III of Form 10-K has been omitted in reliance on General Instruction G(3) to Form 10-K and is incorporated herein by reference to the Company's Proxy Statement relating to its 2019 Annual Meeting of Shareholders (Proxy Statement) to be filed with the Securities and Exchange Commission (SEC), except as otherwise indicated below:

ITEM 10. *Directors, Executive Officers and Corporate Governance.*

The information required by this Item is incorporated by reference to the Proxy Statement.

ITEM 11. *Executive Compensation.*

The information required by this Item is incorporated by reference to the Proxy Statement.

ITEM 12. *Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters.*

Except for the information disclosed in this Item below, the information required by this Item is incorporated by reference to the Proxy Statement.

Securities Authorized for Issuance Under Equity Compensation Plans

The following table provides information as of September 30, 2018, with respect to shares of our common stock that may be issued under our existing equity compensation plans:

	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans(1)
Equity compensation plans/arrangements approved by the shareholders(2)	661,933	\$ —	1,237,272
Equity compensation plans/arrangements not approved by the shareholders	—	—	—
Total	661,933	\$ —	1,237,272

(1) In addition to being available for future issuance upon exercise of options that may be granted after September 30, 2018, all shares under the 2017 Equity Incentive Plan may be issued in the form of restricted stock, performance shares, stock appreciation rights, stock units or other stock-based awards.

(2) Includes the 2017 Equity Incentive Plan.

ITEM 13. *Certain Relationships and Related Transactions, and Director Independence.*

The information required by this Item is incorporated by reference to the Proxy Statement.

ITEM 14. *Principal Accounting Fees and Services.*

The information required by this Item is incorporated by reference to the Proxy Statement.

PART IV

ITEM 15. Exhibits, Financial Statement Schedules.

(a) 1. Financial Statements.

The consolidated financial statements are listed under Item 8 of this Annual Report on Form 10-K.

2. Financial Statement Schedules.

None. Financial statement schedules are not required under the related instructions.

3. Exhibits.

The Exhibits filed as part of this Annual Report on Form 10-K are listed on the Exhibit Index immediately preceding the signature page hereto, which Exhibit Index is incorporated herein by reference.

(b) Exhibits — see Item 15(a)(3) above.

(c) Financial Statement Schedules — see Item 15(a)(2) above.

ITEM 16. Form 10-K Summary.

None.

EXHIBIT INDEX

Exhibit Number	Description	Incorporated by reference herein	
		Form	Date
2.1	Equity Purchase Agreement dated as of March 6, 2015 by and among Acentia, LLC, Certain of the Equity Holders of Acentia, LLC, SPG Acentia Seller Representative, LLC, MAXIMUS Federal Services, Inc. and MAXIMUS, Inc.	Current Report on Form 8-K (File No. 1-12997)	March 9, 2015
2.2	Asset Purchase Agreement dated as of October 5, 2018 by and among General Dynamics Information Technology, Inc., MAXIMUS Federal Services, Inc. and MAXIMUS, Inc.	Current Report on Form 8-K (File No. 1-12997)	October 9, 2018
3.1	Amended and Restated Articles of Incorporation of the Company, as amended.	Quarterly Report on Form 10-Q (File No. 1-12997)	August 14, 2000
3.2	Articles of Amendment of Amended and Restated Articles of Incorporation.	Quarterly Report on Form 10-Q (File No. 1-12997)	May 10, 2013
3.3	Amended and Restated Bylaws of the Company.	Current Report on Form 8-K (File No. 1-12997)	June 19, 2015
4.1	Specimen Common Stock Certificate.	Quarterly Report on Form 10-Q (File No. 1-12997) (Exhibit 4.1)	August 14, 1997
10.1	* Form of Indemnification Agreement by and between the Company and each of the directors of the Company.	Registration Statement on Form S-1 (File No. 333-21611) (Exhibit 10.10)	February 12, 1997
10.2	* Executive Employment, Non-Compete and Confidentiality Agreement between Bruce L. Caswell and MAXIMUS, Inc.	Current Report on Form 8-K (File No. 1-12997)	January 16, 2018
10.3	* Amended and Restated Employment, Non-Compete and Confidentiality Agreement between Richard A. Montoni and MAXIMUS, Inc.	Current Report on Form 8-K (File No. 1-12997)	January 16, 2018
10.4	* Amended and Restated Income Continuity Program.	Annual Report on Form 10-K (File No. 1-12997)	November 16, 2015
10.5	* Deferred Compensation Plan, as amended.	Current Report on Form 8-K (File No. 1-12997)	November 27, 2007
10.6	* 2011 Equity Incentive Plan.	Proxy Statement on Schedule 14A (File No. 1-12997)	January 27, 2012
10.7	First Amendment to 2011 Equity Incentive Plan.	Current Report on Form 8-K (File No. 1-12997)	December 21, 2015
10.8	Amended and Restated Credit Agreement, dated as of March 15, 2013, among MAXIMUS, Inc., SunTrust Bank as Administrative Agent and other lenders party thereto.	Current Report on Form 8-K (File No. 1-12997)	March 21, 2013
10.9	First Amendment to Amended and Restated Credit Agreement dated as of March 9, 2015 among MAXIMUS, Inc., SunTrust Bank as Administrative Agent and other lenders party thereto.	Current Report on Form 8-K (File No. 1-12997)	March 9, 2015

Exhibit Number	Description	Incorporated by reference herein	
		Form	Date
10.10	Second Amendment to Amended and Restated Revolving Credit Agreement dated as of October 23, 2015 among MAXIMUS, Inc., certain subsidiaries of MAXIMUS, Inc. party thereto, SunTrust Bank, as Administrative Agent and other lenders party thereto.	Current Report on Form 8-K (File No. 1-12997)	October 26, 2015
10.11	* 1997 Equity Incentive Plan, as amended.	Registration Statement on Form S-8 (File No. 333-136400)	August 8, 2006
10.12	* First Amendment to the 1997 Equity Incentive Plan, as amended.	Current Report on Form 8-K (File No. 1-12997)	November 27, 2007
10.13	* 1997 Equity Incentive Plan—Restricted Stock Units—Terms and Conditions.	Current Report on Form 8-K (File No. 1-12997)	June 23, 2006
10.14	* 1997 Equity Incentive Plan—Non-Qualified Stock Option—Terms and Conditions.	Current Report on Form 8-K (File No. 1-12997)	June 23, 2006
10.15	* 1997 Director Stock Option Plan, as amended.	Annual Report on Form 10-K (File No. 1-12997) (Exhibit 10.2)	December 22, 1997
10.16	* 1997 Employee Stock Purchase Plan, as amended.	Registration Statement on Form S-8 (File No. 333-122711)	February 10, 2005
10.17	* 2017 Equity Incentive Plan.	Registration Statement on Form S-8 (File No. 333-217657)	May 4, 2017
10.18	Third Amendment to Amended and Restated Revolving Credit Agreement dated as of September 22, 2017 among MAXIMUS, Inc., certain subsidiaries of MAXIMUS, Inc. party thereto, SunTrust Bank, as Administrative Agent and other lenders party thereto.	Annual Report on Form 10-K (File No. 1-12997)	November 20, 2017
21.1	♦ Subsidiaries of the Company.		
23.1	♦ Consent of Independent Registered Public Accounting Firm.		
31.1	♦ Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.		
31.2	♦ Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.		
32.1	❖ Section 906 Principal Executive Officer Certification.		
32.2	❖ Section 906 Principal Financial Officer Certification.		
99.1	♦ Special Considerations and Risk Factors.		
101	The following materials from the MAXIMUS, Inc. Annual Report on Form 10-K for the year ended September 30, 2018 formatted in eXtensible Business Reporting Language (XBRL): (i) Consolidated Statements of Operations, (ii) Consolidated Statements of Comprehensive Income, (iii) Consolidated Balance Sheets, (iv) Consolidated Statements of Cash Flows, (v) Consolidated Statements of Changes in Shareholders' Equity and (vi) Notes to Consolidated Financial Statements. Filed electronically herewith.		

* Denotes management contract or compensation plan.

♦ Filed herewith.

❖ Furnished herewith.

MAXIMUS, Inc.
List of Subsidiaries
As of September 30, 2018

Name*	Jurisdiction of Incorporation/Organization
2020 Company, LLC	Illinois
Aged Care Assessments Australia Pty Ltd	Australia
Ascend Management Innovations LLC	Tennessee
Assymetrics Pty Ltd	Australia
Cheviot Recruitment Ltd	England & Wales
Child Welfare Assessments Pty Ltd	Australia
GAEA Management Ltd	British Columbia
Goldfields Employment and Training Services Pty Ltd (51% owned)	Australia
Health Management Limited	England & Wales
Interactive Technology Solutions, LLC	Maryland
InSysCo, Inc.	Virginia
ITSolutions Net Government Solutions, Inc.	Maryland
ITSolutions Net Inc.	Delaware
ITEQ Holding Company, Inc.	Maryland
MAXIMUS Asia Pte Ltd	Singapore
MAXIMUS Australia Holding Company Pty Ltd	Australia
MAXIMUS BC Health Inc.	British Columbia
MAXIMUS BC Health Benefit Operations Inc.	British Columbia
MAXIMUS Canada, Inc.	Canada
MAXIMUS Canada Employment Services Inc.	British Columbia
MAXIMUS Canada Services, Inc.	Canada
MAXIMUS Companies Limited	England & Wales
MAXIMUS Consulting Services, Inc.	Virginia
MAXIMUS Federal LLC	Texas
MAXIMUS Federal Services, Inc.	Virginia
MAXIMUS Federal Systems, LLC	Maryland
MAXIMUS Gulf Company Ltd (70% owned)	Saudi Arabia
MAXIMUS People Services Ltd	England & Wales
MAXIMUS Health Services, Inc.	Indiana
MAXIMUS HHS Holdings Limited	England & Wales
MAXIMUS Human Services, Inc.	Virginia
MAXIMUS Properties LLC	Virginia
MAXSolutions Pty Limited	Australia
Optimos LLC	Maryland
Policy Studies, Inc.	Colorado
PSI Services Holding, Inc.	Delaware
Remploy Ltd (80% owned)	England & Wales
Revitalised Limited	England & Wales
The Centre for Health and Disability Assessments Ltd	England & Wales
Themis Program Management and Consulting Ltd	British Columbia

* The names of other subsidiaries have been omitted from this list because, considered in the aggregate, they would not constitute a significant subsidiary under Securities and Exchange Commission Regulation S-X, Rule 1-02(w).

CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

We consent to the incorporation by reference in the following Registration Statements:

- (1) Registration Statements (Form S-8, Nos. 333-88012, 333-41871, 333-62380, 333-75263 and 333-136400) pertaining to the 1997 Equity Incentive Plan of MAXIMUS, Inc.;
- (2) Registration Statement (Form S-8, Nos. 333-41867 and 333-122711) pertaining to the 1997 Employee Stock Purchase Plan of MAXIMUS, Inc.;
- (3) Registration Statement (Form S-8, No. 333-41869) pertaining to the 1997 Director Stock Option Plan of MAXIMUS, Inc.; and
- (4) Registration Statement (Form S-8, 333-217657) pertaining to the 2017 Equity Incentive Plan of MAXIMUS, Inc.

of our reports dated November 20, 2018, with respect to the consolidated financial statements of MAXIMUS, Inc. and the effectiveness of internal control over financial reporting of MAXIMUS, Inc. included in this Annual Report (Form 10-K) of MAXIMUS, Inc. for the year ended September 30, 2018.

/s/ Ernst & Young LLP

Tysons, Virginia
November 20, 2018

Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Bruce L. Caswell, certify that:

1. I have reviewed this Annual Report on Form 10-K of MAXIMUS, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: November 20, 2018

/s/ BRUCE L. CASWELL

Bruce L. Caswell

Chief Executive Officer

Certification Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002

I, Richard J. Nadeau, certify that:

1. I have reviewed this Annual Report on Form 10-K of MAXIMUS, Inc.;
2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;
3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;
4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:
 - a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;
 - b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;
 - c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and
 - d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting.
5. The registrant's other certifying officer and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):
 - a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and
 - b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: November 20, 2018

/s/ RICHARD J. NADEAU

Richard J. Nadeau

Chief Financial Officer

Section 906 CEO Certification

I, Bruce L. Caswell, Chief Executive Officer of MAXIMUS, Inc. ("the Company"), do hereby certify, under the standards set forth in and solely for the purposes of 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

1. The Annual Report on Form 10-K of the Company for the fiscal year ended September 30, 2018 (the "Annual Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. Section 78m or 78o(d)); and
2. The information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: November 20, 2018

/s/ BRUCE L. CASWELL

Bruce L. Caswell

Chief Executive Officer

Section 906 CFO Certification

I, Richard J. Nadeau, Chief Financial Officer of MAXIMUS, Inc. ("the Company"), do hereby certify, under the standards set forth in and solely for the purposes of 18 U.S.C. Section 1350, as adopted pursuant to Section 906 of the Sarbanes-Oxley Act of 2002, that, to my knowledge:

1. The Annual Report on Form 10-K of the Company for the fiscal year ended September 30, 2018 (the "Annual Report") fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. Section 78m or 78o(d)); and
2. The information contained in the Annual Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: November 20, 2018

/s/ RICHARD J. NADEAU

Richard J. Nadeau

Chief Financial Officer

Special Considerations and Risk Factors

Our operations are subject to many risks, including those described below, that could adversely affect our future financial condition and performance and, therefore, the market value of our securities.

If we fail to satisfy our contractual obligations or meet performance standards, our contracts may be terminated, and we may incur significant costs or liabilities, including actual or liquidated damages and penalties, which could adversely impact our operating results, financial condition, cash flows and our ability to compete for future contracts.

Our contracts may be terminated for our failure to satisfy our contractual obligations or to meet performance standards and often require us to indemnify customers for their damages. In addition, some of our contracts contain substantial liquidated damages provisions and financial penalties related to performance failures. Although we have liability insurance, the policy coverage and limits may not be adequate to provide protection against all potential liabilities. Further, for certain contracts, we may post significant performance bonds or issue letters of credit to secure our performance, indemnification and other obligations. If a claim is made against a performance bond or letter of credit, we would be required to reimburse the issuer for the amount of the claim. Consequently, as a result of the above matters, we may incur significant costs or liabilities, including penalties, which could adversely impact our operating results, cash flows, financial condition and our ability to compete for future contracts.

Our business could be adversely affected by future legislative or government budgetary and spending changes.

The market for our services depends largely on federal and state legislative programs and the budgetary capability to support programs, including the continuance of existing programs. Many of our contracts are not fully-funded at inception and rely upon future appropriations of funds. Accordingly, a failure to receive additional, anticipated funding may result in an early termination of a contract. In addition, many of our contracts include clauses which allow clients to unilaterally modify or terminate contracts with little or no recompense.

Changes in government initiatives or in the level of government spending due to budgetary or deficit considerations may have a significant impact on our future financial performance. For example, President Trump campaigned on a promise to repeal or replace the Affordable Care Act (ACA), which has been a contribution to our growth over the past several years. If the ACA is repealed or revised, it could result in a loss of those contracts that are directly tied to the ACA, which could have a material adverse effect on our business. Similarly, increased or changed spending on defense, security or anti-terrorism threats may impact the level of demand or funding for our services. Many state programs in the United States, such as Medicaid, are federally mandated and fully or partially funded by the U.S. Federal Government. Changes to those programs, such as program eligibility, benefits, or the level of federal funding, could reduce the level of demand for services provided by us, which could materially adversely impact our future financial performance.

If we fail to accurately estimate the factors upon which we base our contract pricing, we may generate less profit than expected or incur losses on those contracts.

We derived approximately 18% of our fiscal 2018 revenue from fixed-price contracts and approximately 43% of our fiscal 2018 revenue from performance-based contracts. For fixed-price contracts, we receive our fee based on services provided. Those services might include operating a Medicaid enrollment center pursuant to specified standards, designing and implementing computer systems or applications, or delivering a planning document under a consulting arrangement. For performance-based contracts, we receive our fee on a per-transaction basis. These contracts include, for example, child support enforcement contracts in which we often receive a fee based on the volume of transactions. To earn a profit on these contracts, we must accurately estimate the likely volume of work that will occur, costs and resource requirements involved and assess the probability of completing individual transactions within the contracted time period. If our estimates prove to be inaccurate, we may not achieve the level of profit we expected or we may incur a net loss on a contract.

Our systems and networks may be subject to cybersecurity breaches.

Many of our operations rely heavily upon technology systems and networks to receive, input, maintain and communicate participant and client data pertaining to the programs we manage. Although we have experienced occasional attempted security breaches, to our knowledge none of those attempts have been successful. If our systems or networks were compromised, we could be adversely affected by losing confidential or protected information of program participants and clients, and we could suffer reputational damage and a loss of confidence from prospective and existing clients. Similarly, if our internal networks were compromised, we could be adversely affected by the loss of proprietary, trade secret or confidential technical and financial data. The loss, theft or improper disclosure of that information could subject us to sanctions under the relevant laws, breach of contract claims, lawsuits from affected individuals, negative press articles and a loss of confidence from our government clients, all of which could adversely affect our existing business, future opportunities and financial condition.

Many of our projects handle protected health information or other forms of confidential personal information, the loss or disclosure of which could adversely affect our business, results of operations and reputation.

As a provider of services under government health and human services programs, we often receive, maintain and transmit protected health information or other types of confidential personal information. That information may be regulated by the Health Insurance Portability and Accountability Act (HIPAA), the Health Information Technology for Economic and Clinical Health Act of 2009 (HITECH), Internal Revenue Service regulations or similar U.S. or foreign laws. The loss, theft or improper disclosure of that information could subject us to sanctions under the relevant laws, breach of contract claims, lawsuits from affected individuals, negative press articles and a loss of confidence from our government clients, all of which could adversely affect our existing business, future opportunities and financial condition.

We may lose executive officers and senior managers on whom we rely to generate business and execute projects successfully.

The ability of our executive officers and our senior managers to generate business and execute projects successfully is important to our success. The loss of an executive officer or senior manager could impair our ability to secure and manage engagements, which could harm our business, prospects, financial condition, results of operations and cash flows.

We may be unable to attract and retain sufficient qualified personnel to sustain our business.

Our delivery of services is labor-intensive. When we are awarded a government contract, we must quickly hire project leaders and operational staff. Some larger projects have required us to hire and train thousands of operational staff in a very short time period. That effort can be especially challenging in geographic areas with very low unemployment rates. The additional operational staff also creates a concurrent demand for increased administrative personnel. Our success requires that we attract, develop, motivate and retain:

- experienced and innovative executive officers globally;
- senior managers who have successfully managed or designed government services programs; and
- information technology professionals who have designed or implemented complex information technology projects within and outside the U.S.

Innovative, experienced and technically proficient individuals are in great demand and are likely to remain a limited resource. There can be no assurance that we will be able to continue to attract and retain desirable executive officers, senior managers and management personnel. Our inability to hire sufficient personnel on a timely basis or the loss of significant numbers of executive officers and senior managers could adversely affect our business.

We may incur significant costs before receiving related contract payments, which could result in an increased use of cash and risk of impairment charges.

When we are awarded a contract, we may incur significant expenses before we receive contract payments, if any. These expenses may include leasing office space, purchasing office equipment and hiring personnel. In other situations, contract terms provide for billing upon achievement of specified project milestones. As a result, in these situations, we are required to expend significant sums of money before receiving related contract payments. In addition, payments due to us from government agencies may be delayed due to billing cycles or as a result of failures by the government to approve governmental budgets in a timely manner. In addition to these factors, poor execution on project startups could impact us by increasing our use of cash.

In certain circumstances, we may defer costs incurred at the inception of a contract. Such action assumes that we will be able to recover these costs over the life of the contract. To the extent that a project does not perform as anticipated, these deferred costs may not be considered recoverable and may need to be impaired.

Government entities have in the past terminated, and may in the future terminate, their contracts with us earlier than we expect, which may result in revenue shortfalls and unrecovered costs.

Many of our government contracts contain base periods of one or more years, as well as option periods covering more than half of the contract's potential duration. Government agencies do not have to exercise these option periods, and they may elect not to exercise them for budgetary, performance or any other reason. Our contracts also typically contain provisions permitting a government customer to terminate the contract on short notice, with or without cause. Termination without cause provisions generally allow the government to terminate a contract at any time, and enable us to recover only our costs incurred or committed, and settlement expenses and profit, if any, on the work completed prior to termination. We may or may not be able to recover all the costs incurred during the startup phase of a terminated contract. The unexpected termination of significant contracts could result in significant revenue shortfalls. If revenue shortfalls occur and are not offset by corresponding reductions in expenses, our business could be adversely affected. We cannot anticipate if, when or to what extent a customer might terminate its contracts with us.

If we fail to establish and maintain important relationships with government entities and agencies, our ability to successfully bid under Request for Proposals (RFPs) may be adversely affected.

To facilitate our ability to prepare bids in response to RFPs, we rely in part on establishing and maintaining relationships with officials of various government entities and agencies. These relationships enable us to provide informal input and advice to the government entities and agencies prior to the development of an RFP. We also engage marketing consultants, including lobbyists, to establish and maintain relationships with elected officials and appointed members of government agencies. The effectiveness of these consultants may be reduced or eliminated if a significant political change occurs. In that circumstance, we may be unable to successfully manage our relationships with government entities and agencies and with elected officials and appointees. Any failure to maintain positive relationships with government entities and agencies may adversely affect our ability to bid successfully in response to RFPs.

We are subject to review and audit by governments at their sole discretion and, if any improprieties are found, we may be required to refund revenue we have received, or forego anticipated revenue, which could have a material adverse impact on our revenue and our ability to bid in response to RFPs.

We are subject to audits, investigations and reviews relating to compliance with the laws and regulations that govern our role as a contractor to agencies and departments of the U.S. Federal Government, state, local, and foreign governments, and otherwise in connection with performing services in countries outside of the United States. Adverse findings could lead to criminal, civil or administrative proceedings, and we could be faced with penalties, fines, suspension or debarment. Adverse findings could also have a material adverse effect on us because of our reliance on government contracts. We are subject to periodic audits by state, local and foreign governments for taxes. We are also involved in various claims, arbitrations and lawsuits arising in the normal conduct of our business, including but not limited to bid protests, employment matters, contractual disputes and charges before administrative agencies. Although we can give no assurance, based upon our evaluation and taking into account the advice of legal counsel, we do not believe that the outcome of any existing matter would likely have a material adverse effect on our consolidated financial position, results of operations or cash flows.

We may be subject to fines, penalties and other sanctions if we fail to comply with laws governing our business.

Our business lines operate within a variety of complex regulatory schemes, including but not limited to the Federal Acquisition Regulation (FAR), Federal Cost Accounting Standards, the Truth in Negotiations Act, the Fair Debt Collection Practices Act (and analogous national and state laws), the Foreign Corrupt Practices Act, the United Kingdom Bribery Act, as well as the regulations governing Medicaid and Medicare and accounting standards. If a government audit finds improper or illegal activities by us or we otherwise determine that these activities have occurred, we may be subject to civil and criminal penalties and administrative sanctions, including termination of contracts, forfeiture of profits, suspension of payments, fines and suspension or disqualification from doing business with the government. Any adverse determination could adversely impact our ability to bid in response to RFPs in one or more jurisdictions. Further, as a government contractor subject to the types of regulatory schemes described above, we are subject to an increased risk of investigations, criminal prosecution, civil fraud, whistleblower lawsuits and other legal actions and liabilities to which private sector companies are not, the result of which could have a material adverse effect on our operating results, cash flows and financial condition.

Adverse judgments or settlements in legal disputes could harm our operating results, cash flows and financial condition.

From time to time, we are subject to a variety of lawsuits and other claims. These may include lawsuits and claims related to contracts, subcontracts, securities compliance, employment claims and compliance with Medicaid and Medicare regulations, as well as laws governing debt collections and child support enforcement. Adverse judgments or settlements in some or all of these legal disputes may result in significant monetary damages or injunctive relief against us. In addition, litigation and other legal claims are subject to inherent uncertainties and management's view of these matters may change in the future. Those uncertainties include, but are not limited to, costs of litigation, unpredictable court or jury decisions, and the differing laws and attitudes regarding damage awards among the states and countries in which we operate.

If we do not successfully integrate the businesses that we acquire, our results of operations could be adversely affected.

Business combinations involve a number of factors that affect operations, including:

- diversion of management's attention;
- loss of key personnel;
- entry into unfamiliar markets;
- assumption of unanticipated legal or financial liabilities;
- becoming significantly leveraged as a result of incurring debt to finance an acquisition;
- unanticipated operating, accounting or management difficulties in connection with the acquired entities;
- impairment of acquired intangible assets, including goodwill; and
- dilution to our earnings per share.

Businesses we acquire may not achieve the revenue and earnings we anticipated. Customer dissatisfaction or performance problems with an acquired firm could materially and adversely affect our reputation as a whole. As a result, we may be unable to profitably manage businesses that we have acquired or that we may acquire or we may fail to integrate them successfully without incurring substantial expenses, delays or other problems that could materially negatively impact our business and results of operations.

We may face liabilities arising from divested or discontinued businesses.

During fiscal year 2008, we divested our Security Solutions, Unison, Education Systems, Justice Solutions and Asset Solutions businesses. During fiscal year 2010, we divested our ERP Solutions business, and during fiscal year 2016, we divested our K-12 Education business. The transaction documents for those divestitures contain a variety of representations, warranties and indemnification obligations. We could face indemnification claims and liabilities from alleged breaches of representations or warranties.

During 2009, we exited the revenue maximization business. Although we no longer provide those services, former projects that we performed for state clients remain subject to federal audits. Our contracts for that business generally provide that we will refund the portion of our fee associated with any federal disallowance. Accordingly, we may be obligated to refund amounts paid for such revenue maximization services depending on the outcome of federal audits. In March 2009, for example, a state Medicaid agency asserted a claim against us in connection with a contract we had to provide Medicaid administrative claiming services to school districts in the state. We had entered into separate agreements with the school districts under which we helped the districts prepare and submit claims to the state Medicaid agency which, in turn, submitted claims for reimbursement to the U.S. Federal Government. The state asserted that its agreement with us requires us to reimburse the state for amounts owed to the U.S. Federal Government. No legal proceedings have been instituted against us in that matter. We could face similar claims arising from such projects for other state clients. There is no assurance that we will prevail in such matters or that a court would limit our liability to the amount of our fees associated with a disallowance.

A number of factors may cause our cash flows and results of operations to vary from quarter to quarter.

Factors which may cause our cash flows and results of operations to vary from quarter to quarter include:

- the terms and progress of contracts;
- caseloads and other volume where revenue is derived on transactional volume on contracts;
- the levels of revenue earned and profitability of fixed-price and performance-based contracts;
- expenses related to certain contracts which may be incurred in periods prior to revenue being recognized;
- the commencement, completion or termination of contracts during any particular quarter;
- the schedules of government agencies for awarding contracts;
- government budgetary delays or shortfalls;
- the timing of change orders being signed;
- the terms of awarded contracts; and
- potential acquisitions.

Changes in the volume of activity and the number of contracts commenced, completed or terminated during any quarter may cause significant variations in our cash flows and results of operations because a large amount of our expenses are fixed.

We are subject to the risks of doing business internationally.

For the year ended September 30, 2018, 29% of our revenue was driven from jurisdictions outside the U.S. As a result, a significant portion of our business operations are subject to foreign financial, tax and business risks which could arise in the event of:

- foreign exchange fluctuations;
- unexpected increases in tax rates or changes in U.S. or foreign tax laws;
- non-compliance with international laws and regulations, such as data privacy, employment regulations and trade barriers;
- non-compliance with U.S. laws affecting the activities of U.S. companies in international locations including the Foreign Corrupt Practices Act;
- the absence in some jurisdictions of effective laws to protect our intellectual property rights;
- new regulatory requirements or changes in local laws that materially affect the demand for our services or directly affect our foreign operations;
- local economic and political conditions including severe or protracted recessions in foreign economies and inflation risk;
- the length of payment cycles and potential difficulties in collecting accounts receivable;
- difficulty managing and communicating with teams outside the U.S.;
- unusual or unexpected monetary exchange controls, price controls or restrictions on transfers of cash; or
- civil disturbance, terrorism or other catastrophic events that reduce business activity in other parts of the world.

These factors may lead to decreased revenues and profits, which could adversely affect our business, financial condition and results of operations.

We obtain most of our business through competitive bidding in response to government RFPs. We may not be awarded contracts through this process at the same level in the future as in the past, and contracts we are awarded may not be profitable.

Substantially all of our customers are government agencies. To market our services to government customers, we are often required to respond to government RFPs, which may result in contract awards on a competitive basis. To do so effectively, we must estimate accurately our cost structure for servicing a proposed contract, the time required to establish operations and likely terms of the proposals submitted by competitors. We must also assemble and submit a large volume of information within an RFP's rigid timetable. Our ability to respond successfully to RFPs will greatly impact our business. There is no assurance that we will continue to obtain contracts in response to government RFPs and our proposals may not result in profitable contracts. In addition, competitors may protest contracts awarded to us through the RFP process which may cause the award to be delayed or overturned or may require the customer to reinitiate the RFP process.

Even where we are an incumbent, our ability to secure continued work or work at similar margins may be affected by competitive rebids or contract changes and cancellations. Although it is difficult to track all the reasons for contract amendments, we believe that this contract attrition has affected approximately 7% to 10% of our business annually, with the attrition being replaced by new or expanded work elsewhere. However, there can be no assurance that we will be able to replace the work lost to attrition with new work.

If we are unable to manage our growth, our profitability will be adversely affected.

Sustaining our growth places significant demands on our management as well as on our administrative, operational and financial resources. For us to continue to manage our growth, we must continue to improve our operational, financial and management information systems and expand, motivate and manage our workforce. If our growth comes at the expense of providing quality service and generating reasonable profits, our ability to successfully bid for contracts and our profitability will be adversely affected.

We rely on key contracts with state, local and federal governments for a significant portion of our revenue. A substantial reduction in those contracts would materially adversely affect our operating results.

In fiscal year 2018, approximately 51% of our total revenue was derived from contracts with state and local government agencies. Approximately 54% of our total revenue was derived from four customers: the U.S. Federal Government, the U.K. Government, the State of New York and the Australia Government. Any significant disruption or deterioration in our relationship with state and local governments and a corresponding reduction in these contracts would significantly reduce our revenue and could substantially harm our business.

Government unions may oppose outsourcing of government programs to outside vendors such as us, which could limit our market opportunities and could impact us adversely. In addition, our unionized workers could disrupt our operations.

Our success depends in part on our ability to win profitable contracts to administer and manage health and human services programs traditionally administered by government employees. Many government employees, however, belong to labor unions with considerable financial resources and lobbying networks. Unions have in the past applied, and are likely to continue to apply, political pressure on legislators and other officials seeking to outsource government programs. Union opposition to these programs may result in fewer opportunities for us to service government agencies and/or longer and more complex procurements.

We do operate outsourcing programs using unionized employees in Canada and the United Kingdom. We have historically experienced opposition from the union in Canada, which does not favor the outsourcing of government programs. Adverse press coverage and union opposition may have a negative effect on the willingness of government agencies to outsource such projects as well as certain contracts that are operated within a unionized environment. Our unionized workers could also declare a strike which could adversely affect our performance and financial results.

We may be precluded from bidding and performing certain work due to other work we currently perform.

Various laws and regulations prohibit companies from performing work for government agencies that might be viewed as an actual or apparent conflict of interest. These laws may limit our ability to pursue and perform certain types of work. For example, some of our businesses assist government agencies in developing RFPs for various government programs. In those situations, the divisions involved in operating such programs would likely be precluded from bidding on those RFPs. Similarly, regulations governing the independence of Medicaid enrollment brokers and Medicare appeal providers could prevent us from providing services to other organizations such as health plans and providers.

Inaccurate, misleading or negative media coverage could adversely affect our reputation and our ability to bid for government contracts.

Because of the public nature of many of our business lines, the media frequently focuses their attention on our contracts with government agencies. If the media coverage is negative, it could influence government officials to slow the pace of outsourcing government services, which could reduce the number of RFPs. The media also focuses their attention on the activities of political consultants engaged by us, and we may be tainted by adverse media coverage about their activities, even when those activities are unrelated to our business. Moreover, inaccurate, misleading or negative media coverage about us could harm our reputation and, accordingly, our ability to bid for and win government contracts.

Our clients may limit or prohibit the outsourcing of certain programs or may refuse to grant consents and/or waivers necessary to permit private entities, such as us, to perform certain elements of government programs.

Governments could limit or prohibit private contractors like us from operating or performing elements of certain programs. Within the U.S., state or local governments could be required to operate such programs with government employees as a condition of receiving federal funding. Moreover, under current law, in order to privatize certain functions of government programs, the U.S. Federal Government must grant a consent and/or waiver to the petitioning state or local agency. If the U.S. Federal Government does not grant a necessary consent or waiver, the state or local agency will be unable to outsource that function to a private entity, such as us. This situation could eliminate a contracting opportunity or reduce the value of an existing contract.

We may rely on subcontractors and partners to provide clients with a single-source solution.

From time to time, we may engage subcontractors, teaming partners or other third parties to provide our customers with a single-source solution. While we believe that we perform appropriate due diligence on our subcontractors and teaming partners, we cannot guarantee that those parties will comply with the terms set forth in their agreements or remain financially sound. We may have disputes with our subcontractors, teaming partners or other third parties arising from the quality and timeliness of the subcontractor's or teaming partner's work, customer concerns about the subcontractor or other matters. Subcontractor or teaming partner performance deficiencies could result in a customer terminating our contract for default. We may be exposed to liability, and we and our clients may be adversely affected if a subcontractor or teaming partner fails to meet its contractual obligations.

We face competition from a variety of organizations, many of which have substantially greater financial resources than we do; we may be unable to compete successfully with these organizations.

We face competitors from a number of different organizations depending upon the market and geographic location in which we are competing. A summary of our most significant competitors is included in Item 1 of this Annual Report on Form 10-K under the heading "Competition."

Many of these companies are national and international in scope, are larger than us, and have greater financial resources, name recognition and larger technical staffs. Substantial resources could enable certain competitors to initiate severe price cuts or take other measures in an effort to gain market share. In addition, we may be unable to compete for the limited number of large contracts because we may not be able to meet an RFP's requirement to obtain and post a large performance bond. Also, in some geographic areas, we face competition from smaller consulting firms with established reputations and political relationships. There can be no assurance that we will be able to compete successfully against our existing or any new competitors.

Our Articles of Incorporation and bylaws include provisions that may have anti-takeover effects.

Our Articles of Incorporation and bylaws include provisions that may delay, deter or prevent a takeover attempt that shareholders might consider desirable. For example, our Articles of Incorporation provide that our directors are to be divided into three classes and elected to serve staggered three-year terms. This structure could impede or discourage an attempt to obtain control of us by preventing stockholders from replacing the entire board in a single proxy contest, making it more difficult for a third party to take control of MAXIMUS without the consent of our Board of Directors. Our Articles of Incorporation further provide that our shareholders may not take any action in writing without a meeting. This prohibition could impede or discourage an attempt to obtain control of us by requiring that any corporate actions initiated by shareholders be adopted only at properly called shareholder meetings.

7.3 Independence

The Vendors' team (Prime and/or Subcontractor) **must** be independent of both the software development vendor and the state agency sponsoring the project. These services must be provided by personnel who were not involved in the planning, design, development, or implementation of the system. By signing Section 2: Vendor Agreement and Compliance" of the *Technical Response Packet*, Vendor certifies compliance with this requirement.

At MAXIMUS, we pride ourselves on our cooperative working style when hired as an Independent Verification and Validation (IV&V) vendor. However, we also zealously guard our independence. Independence and objectivity are fundamental components of our work and prevent nonproductive discussions about any "agenda" or "motive" behind a finding. This means we only take on engagements that are free of conflicts of interest. This approach also means that we do not become vested in specific strategies, tools, or solutions. Our focus is always on the successful outcome of the project.

7.4 Staff Continuity Plan

As part of Vendor's response to this RFP, Vendor **shall** provide a staffing continuity plan that includes, but is not limited to the following topics:

1. Vendor's policies and plans for maintaining continuity of personnel assignments throughout the performance of any contract resulting from this RFP.
2. Vendor's contingency plans to avoid and minimize the impact of any unexpected personnel changes.
3. Vendor's planned backup resources for key personnel.

A final staff continuity plan **shall** be submitted to DHS for DHS approval within thirty (30) calendar days of the contract's actual start date, and which shall include the topics listed in Section 2.7 (D) above.

Clients are understandably concerned about the qualifications and continuity of the staff assigned to the project team. MAXIMUS has a highly successful history of attracting and retaining a talented, engaged, diverse, high performing workforce. In fact, our proposed project team members have been with MAXIMUS an average of 7.5 years.

Our experienced human resources experts and management staff know that there is no one thing that results in effective employee retention, it is a combination of things, from hiring the right staff, to giving them the right training, to supporting them in their current jobs, and helping them to grow. All of these things contribute to MAXIMUS ability to avoid and minimize the impact of any unexpected personnel changes.

7.4.1 Policies and Plans for Maintaining Personnel Continuity

On an annual basis, every MAXIMUS employee establishes goals that support individual, department, project, division/group, segment, and company goals, which are documented in the corporate performance management system. Establishing goals and objectives for the fiscal year gives every employee an opportunity to participate in the goal setting process and a chance to clearly understand management's expectations for his/her individual level of accomplishment for the fiscal year.

While supervisors discuss job performance goals with employees on an informal, day-to-day basis, the formal annual performance evaluation process is an opportunity to discuss achievement of goals, identify and correct weaknesses, encourage and recognize strengths; and discuss positive, purposeful approaches to meeting goals. The annual performance evaluation for each employee includes an assessment of the employee's adherence to the Standards of Conduct and MAXIMUS Compliance Policies and Procedures, and participation in applicable training and education programs and related activities. The results of the annual performance evaluation directly correlate to MAXIMUS annual bonus plan and merit increases.

To further support the retention of our staff, MAXIMUS focuses on the personal development of project staff. Along with the individual goals discussed above, we mentor employees and always look to promote staff from within before looking outside of the company. We offer a path for career progression — strong performers will be offered lead or supervisory positions should their performance warrant this promotion. Our career development matches internal employees to new opportunities, creating growth for our employees and a knowledgeable base for new contracts to build on.

To ensure that staff are ready for promotion, we communicate about available positions and help them build competencies so that when these opportunities present themselves, staff are ready to apply. Managers work closely with their staff so they know the skills they need to move up within the organization.

MAXIMUS also supports continuing education opportunities through a series of internal and external offerings. We utilize Workday Learning to offer courses on a variety of topics from project management to IT/digital and business skills; as well as our mandatory corporate compliance training. We also partner with Skillsoft to access their database of training for skill development.

For eligible employees who want to pursue an Associate's, Bachelor's, or Graduate degree, MAXIMUS offers tuition reimbursement. Eligible employees are classified as full time or part time (over 30 hours per

week) and have completed one year of continuous employment with MAXIMUS. Staff must receive an A or B in the class in order to be reimbursed.

Furthermore, MAXIMUS strongly endorses professional licensing for staff positions that require certification by authorities in the relevant profession. We reimburse our employees for costs associated with receiving the certification; for example, we cover the costs associated with employees who earn the Project Management Professional (PMP) certification. Likewise, we encourage employee participation in professional and technical societies when essential to maintaining the company's core competence in various technical fields. Accordingly, all professional staff members are encouraged to join the technical or professional society most closely aligned to their primary specialization.

7.4.2 Contingency Plans for Unexpected Personnel Changes

Although some degree of staff turnover is inevitable on long-term projects, the State deserves to have any departing staff replaced with consultants equally or more qualified and knowledgeable. Should a project team member unexpectedly leave the project, we initially look to our existing team to fill the position. It is very common in our business that while some staff are assigned full time to projects, other individuals (because of their areas of expertise) are assigned to multiple projects. For those team members that are not on-site or full-time, we hold internal weekly project status meetings so all team members are constantly apprised of project status. Should one team member depart the project, that position can be immediately filled by an equally-skilled team member. In this way, we do not lose continuity or have to expend time bringing a new team member up to speed.

If we need to identify a new resource, we look within MAXIMUS first. With access to more than 30,000 employees, it is unlikely that we do not have a qualified resource for the position. However, should we need to do outside recruitment, we have an established process for quickly identifying and onboarding qualified staff as described below:

- **Determination of Appropriate Skillset and Experience:** We identify recruitment needs based on contractual details, performance requirements, detailed volumes by task, and quality goals. We analyze historic trends and projected performance needs to quantify our approach and determine our staffing needs.
MAXIMUS develops job descriptions that include qualification levels for each position and client and contractual requirements. Our job descriptions are based on success profiles that help us to identify staff that will thrive in each position.
- **Steps Taken for Screening and Hiring Process/Procedure:** We use traditional recruiting tools such as local job boards, online job search sites, and outside recruiting firms if necessary, and we involve our staff in recruitment. Apart from traditional recruiting methods, our Employee Referral Program encourages MAXIMUS employees to refer qualified, external candidates for positions within our organization. We have found that current staff members are the best source of talent, and we reward them for helping us find new staff members who help us meet our project goals.
MAXIMUS develops success profiles and we use these profiles to rigorously screen all candidates and select only the highest quality personnel with the demonstrated skills and experience necessary to perform the work. For instance, the success profiles make certain that staff who interact with customers come to the project with experience in providing face-to-face customer service, experience with computers, and good interpersonal and communication skills.
- **Application Process:** MAXIMUS employment application process provides an online experience for applicants. Applicants create a profile that includes basic contact information, types of positions they are looking for, as well as a summary of their experience and skills. Once a profile is created, the applicant can search all MAXIMUS job openings, complete the application online, and upload their resume. The system also provides the option for applicants to receive notifications of new openings.
- **Interview Process:** Prior to conducting formal interviews, we ask applicants to complete pre-employment application packets. We will also conduct screening interviews to measure candidate aptitude skills. If appropriate, testing is performed to help verify potential candidates have the required skills.

In addition to undergoing pre-employment screening, all potential staff members participate in a formal interview process. We have a series of interviewing techniques and skills-based qualifications that help us find the right people.

- **Offer of Employment:** Once we interview and test candidates who meet the qualities we identify in our job descriptions and success profiles, and once they pass any testing and background checks, we make offers of employment to qualified candidates.

Regardless of whether we are utilizing an existing team member to fill a vacant role or hiring new staff, upon notification that a team member is no longer available, the MAXIMUS Independent Verification and Validation (IV&V) Lead will:

- Immediately notify the MAXIMUS Project Director of the identified issue.
- Work with the MAXIMUS Project Director to enable staff to prioritize the project work, clear competing commitments, and remove barriers to completing the work timely.
- Notify the Department of Human Services' (DHS) point of contact if it is anticipated the risk may become an issue and have an impact on the project schedule.
- Work with the MAXIMUS Project Director to identify staff with similar skills and experience to minimize the risk to the project should additional resources be required.
- Review the recommended resources with DHS to obtain approval before new staff begin work on the project.

7.4.3 Planned Backup Resources for Key Personnel

As discussed above, MAXIMUS always tries to first fill a vacancy from the existing project team. Specifically, for the Arkansas Integrated Eligibility and Benefit Management (IEBM) IV&V Project, we have identified backup resources should the need arise. For example, should our IV&V Lead, Sanjai Natesan, become unavailable, either Jeromy Smith or Dan Sisco, two of our proposed IV&V SMEs, would fill that role. Should an IV&V SME unexpectedly leave the project, one of the other IV&V SMEs would assume those responsibilities. If the State requires additional assistance beyond what we estimate to be needed for the scope of work, MAXIMUS can call upon one of our other IV&V experts to provide additional assistance.

7.5 Acceptance of General Terms and Conditions

Except upon the approval of DHS, the terms and conditions set out in this section are non-negotiable items and will be transferred to the contract as written. DHS has determined that any attempt by any vendor to reserve the right to alter or amend the terms and conditions via negotiation, without the approval of DHS, is an exception to the terms and conditions that will result in rejection of the proposal. A statement accepting and agreeing to the terms and conditions set out in this section, or to alternate terms and conditions upon approval of DHS, is required to be submitted with the respondent's proposal.

MAXIMUS understands and agrees that the terms and conditions set out in Attachment D are non-negotiable items and will be transferred to the contract as written.

8. Technical Proposal

In this section, we discuss MAXIMUS:

- Background and Qualifications (Section 8.1)
- Technical Solution and Scope of Work (Section 8.2)
- Project Organization and Qualifications (Section 8.3)

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8.1 Background and Qualifications

MAXIMUS Human Services, Inc. (MAXIMUS)¹ offers the State of Arkansas world-class Independent Verification and Validation (IV&V)/Quality Assurance (QA) services proven to proactively mitigate risk, verify quality and completeness, and enhance the probability of a successful implementation.

The Arkansas Department of Human Services (DHS) is modernizing the delivery of eligibility services for multiple human services programs through the implementation of the Arkansas Integrated Eligibility System (ARIES). To protect this investment in the modernization initiative, the State needs a recognized and experienced Contractor with a proven track record of providing IV&V services. We bring extensive experience supporting similar efforts across the U.S., applying our knowledge of national health and human services programs — including the State's Integrated Eligibility and Benefit Management (IEBM) solution — and working productively with multiple vendors, including Deloitte.

MAXIMUS experience reduces your risk and improves project quality

- 30+ years IV&V for Medicaid systems
- 6 years of experience providing IV&V for the Deloitte NextGen Solution in North Dakota
- More than 30 years of experience working with the SNAP, TANF, and Medicaid Programs

With over 30 years of experience providing IV&V and independent QA, MAXIMUS has supported more than 100 projects in nearly every state in the nation, as shown in *Exhibit 8.1-1: MAXIMUS IV&V/Independent QA Experience*. We have helped our clients address a variety of challenging project issues and risks and worked to address them collaboratively to the benefit of these projects and our clients. Our ability to deal with project issues and risks in an independent and non-adversarial manner has engendered respect and confidence in our ability to "get the job done" in partnership with the entire project team, including the state staff; Design, Development, and Implementation (DDI) contractors, QA contractors, and Project Management Office (PMO) contractors.

¹ MAXIMUS Human Services, Inc. was established as a wholly owned subsidiary of MAXIMUS, Inc. in 2006. Throughout this proposal, references to MAXIMUS as it relates to overall experience refers both to MAXIMUS, Inc. and MAXIMUS Human Services, Inc.

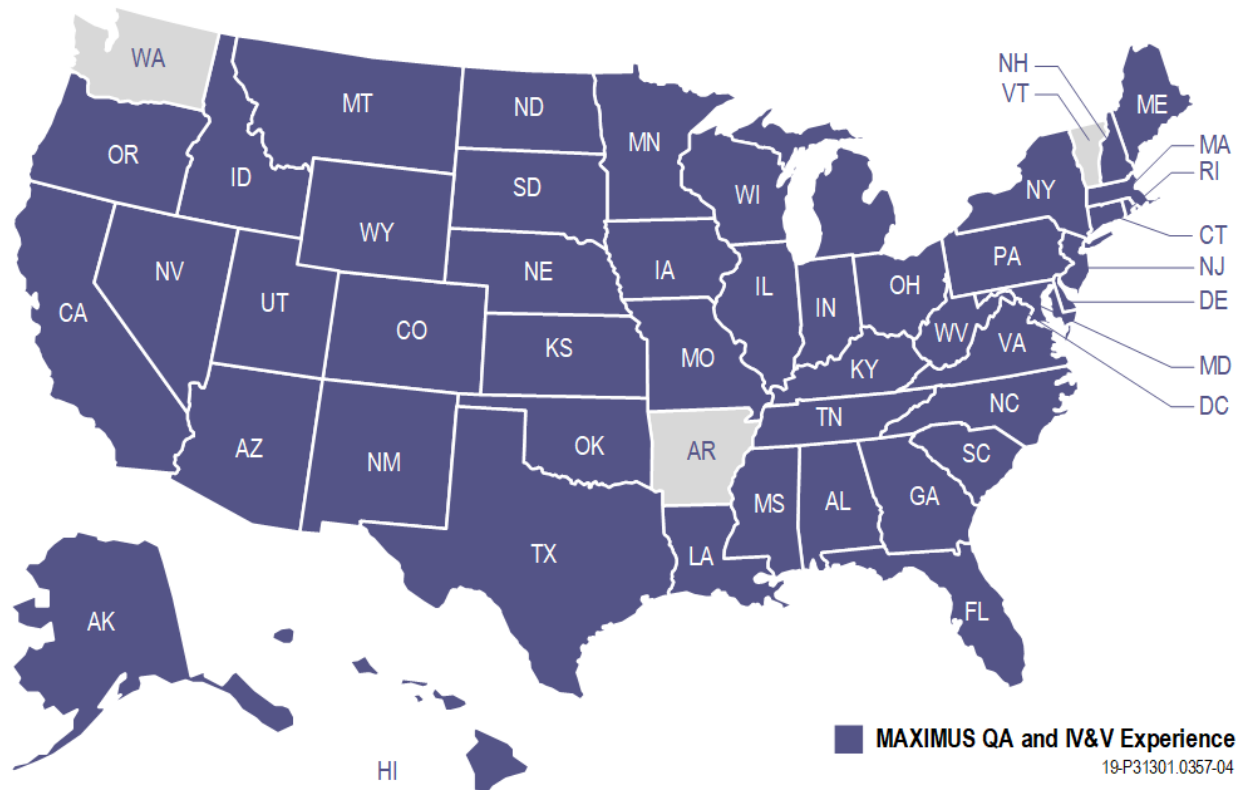


Exhibit 8.1-1: MAXIMUS IV&V/Independent QA Experience. *The MAXIMUS IV&V and Independent QA methodologies have been developed and proven over the past 30 years on more than 100 projects across nearly every state in the nation.*

Our methodology, as discussed in detail in *Section 8.2: Technical Solution and Scope of Work*, has proven successful on system implementations supporting many government program areas, including Integrated Eligibility (IE) and Medicaid systems, Electronic Benefits Transfer (EBT) for the Supplemental Nutrition Assistance Program (SNAP) and the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC); Child Support Enforcement (CSE); Child Welfare; State Pension systems; and Unemployment Insurance/Unemployment Compensation (UI/UC) systems. This experience provides us an in-depth knowledge of systems implementation with regard to public benefits, process development and process expertise, and national and state programs.

8.1.1 Medicaid IV&V Experience

| Describe your company's level of experience with IV&V services provided for Medicaid (Sec 2.1)

MAXIMUS has a particularly long history of work with the Medicaid program and Medicaid systems in particular, including Medicaid and Medicaid Management Information Systems (MMIS), and IE systems that combine Medicaid Enrollment and Eligibility (E&E) with other benefit programs. As a corporation, MAXIMUS public sector healthcare experience dates back to 1978. In 1989, we were awarded our first MMIS contract with the State of Hawaii to provide procurement and evaluation support for the selection of a fiscal agent and independent QA monitoring of the system implementation.

In addition, across our parent company, MAXIMUS, Inc. and its subsidiaries, we have assisted numerous clients on engagements pertaining to Medicaid, as shown in *Exhibit 8.1-2: MAXIMUS Medicaid Program Operations Experience*. Our collective corporate knowledge gained from these engagements enables us to bring a comprehensive perspective of Medicaid systems and Medicaid programs, policies, and innovations to the benefit of each of our IV&V clients.

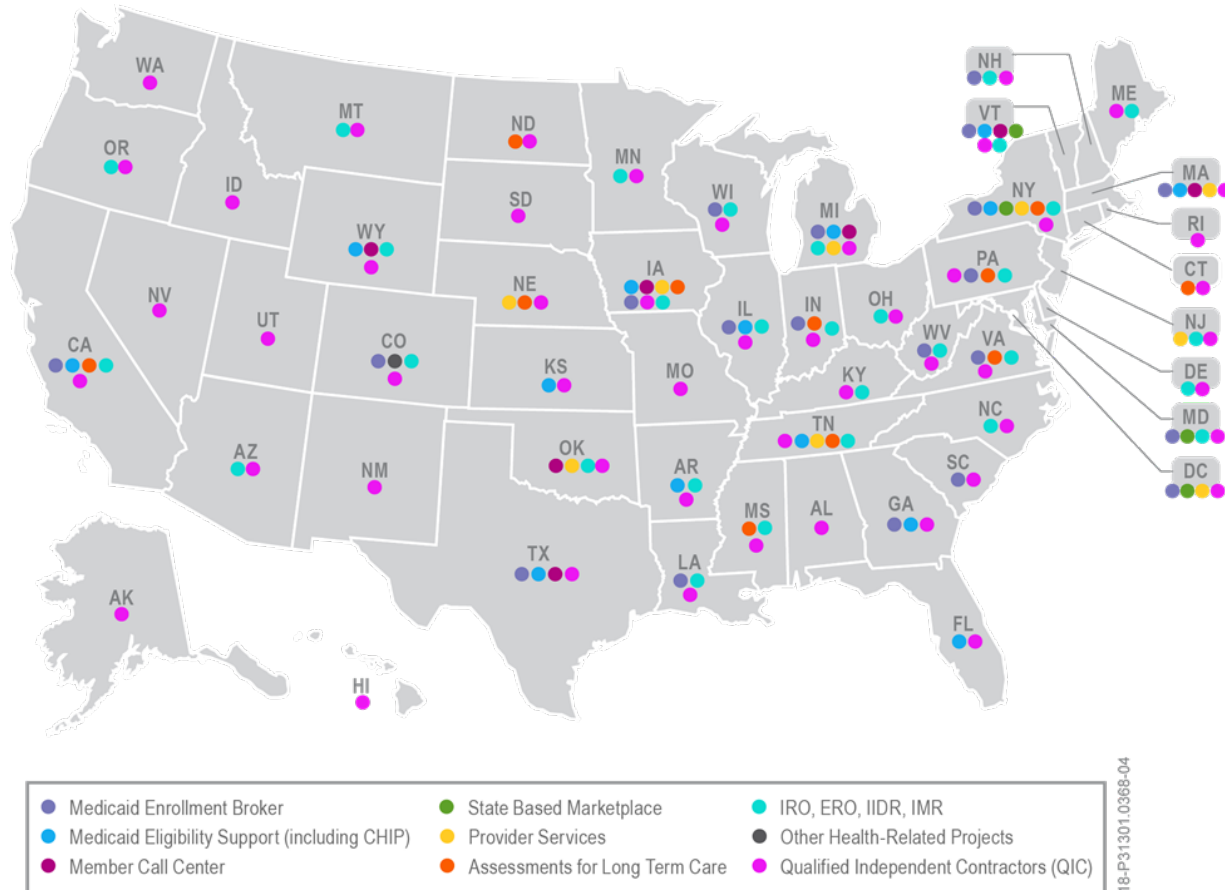


Exhibit 8.1-2: MAXIMUS Medicaid Program Operations Experience. *The range of MAXIMUS experience provides us depth of knowledge about Medicaid, Medicare, and other medical programs, informing our understanding of CMS regulations and guidelines and enhancing our ability to support Arkansas.*

As shown in *Exhibit 8.1-3: MAXIMUS Medicaid IV&V/Independent QA Experience*, MAXIMUS has provided IV&V and Independent QA to numerous Medicaid Information Technology (IT) projects. Our clients recognize the advantage of having a contractor experienced in every phase of a system replacement — from planning and procurement through IV&V/QA of the system implementation. They know of our objectivity in providing these consulting services and our willingness to put the client's needs first in verifying that the right system is built.

PROJECT/CUSTOMER	DESCRIPTION
Integrated Eligibility (IE)	
<p>IV&V for the North Dakota Eligibility System Modernization (ESM) Project North Dakota DHS</p>	<p>Currently performing periodic IV&V assessments of the State's IE system implementation. The new system, Self-Service Portal And Consolidated Eligibility System (SPACES), will replace five legacy systems and serve as the system of record for SNAP, Temporary Assistance for Needy Families (TANF), Child Care, Low Income Home Energy Assistance Program (LIHEAP), Medicaid, and the Children's Health Insurance Program (CHIP). Our IV&V assessments cover all aspects of the project including, but not limited to, the DHS project management team, Deloitte (that is, the DDI Contractor), overall project progress, and stakeholder engagement.</p> <p>Additional details about this project are provided in <i>Section 8.1.6: Project Examples</i>.</p>
<p>Project Management and QA of the New Jersey Consolidated Assistance Support System (CASS) Project New Jersey DHS</p>	<p>Provided QA, project management, and special project services for the CASS Project as it determines its next steps. The MAXIMUS QA Team is also responsible for the development of multiple Implementation Advance Planning Documents (IAPDs), as well as providing Centers for Medicare and Medicaid Services (CMS)-required IV&V attestations relative to integration with the Federally-Facilitated Exchange (FFE)/Federally-Facilitated Marketplace (FFM).</p> <p>Additional details about this project are provided in <i>Section 8.1.6: Project Examples</i>.</p>
<p>IV&V of the North Carolina Families Accessing Services through Technology (NC FAST) Program North Carolina Department of Health and Human Services (DHHS)</p>	<p>Currently performing IV&V assessments of the entire NC FAST Case Management Program, which covers all aspects of the program including the DHHS project management team, integration vendor progress, and stakeholder engagement. The goal of each assessment is to understand and assess the NC FAST Case Management Program management, development processes, and quality and completeness of the NC FAST Case Management solution to those processes. Deliverables include monthly IV&V Assessment reports, Executive Flash reports, quarterly CMS-required progress reports, and CMS-required Medicaid Eligibility and Enrollment Toolkit (MEET) Checklists (delivered for each Milestone Review).</p> <p>Additional details about this project are provided in <i>Section 8.1.6: Project Examples</i>.</p>
<p>IV&V/QA of the Ohio IE/Health and Human Services (HHS) Business Intelligence (BI) Project Ohio Department of Job and Family Services (ODJFS)</p>	<p>Currently providing a wide variety of IV&V/QA services in support of the Ohio IE/HHS BI System Program. We developed a Quality Management Plan (QMP) for the effort and conducted a comprehensive initial assessment of the overall IE/HHS BI System Program. We conduct Progress and Program Milestone Assessments, and will continue these periodically for the duration of the project.</p>
<p>IV&V of the OK Benefits Project Oklahoma DHS</p>	<p>Recently began providing a variety of IV&V services as the State consolidates its CSE, SNAP, TANF, Medicaid Eligibility, Child Care, and Child Welfare systems into an integrated eligibility system. MAXIMUS will conduct reviews of Request for Proposals (RFPs), Statements of Work (SOWs), and contracts during the DDI procurement period; and will provide assessments of DDI contractor deliverables to help mitigate risk and ensure the proper implementation of OK Benefits.</p>

Exhibit 8.1-3: MAXIMUS Medicaid IV&V/Independent QA Experience. *We have provided IV&V/Independent QA services on several IE and MMIS initiatives that are similar to the ARIES implementation project in size, scope, and complexity.*

PROJECT/CUSTOMER	DESCRIPTION
IV&V for Utah Medical Eligibility Systems Utah Department of Health (DOH)	Currently providing IV&V services for CMS and the State of Utah in support of the Medicaid Eligibility and Enrollment Life Cycle (MEELC). MAXIMUS provide progress reports and Medicaid E&E Checklists, reviews project and system processes and progress across the System Development Life Cycle (SDLC), and evaluates and makes recommendations about the State artifacts that are required for milestone reviews.
MMIS	
IV&V of the North Carolina MMIS+ Program North Carolina DHHS	Provided IV&V services of the NCMMIS+ Program project implementations, which consist of three DDI projects: the Replacement MMIS project (NCTracks), the Reports and Analytics (R&A) project for data warehouse supporting decision support and fraud detection functionality, and the Business Process Automation System (BPAS) project for the Division of Health Service Regulation (DHRS). MAXIMUS also provided IV&V services for the NCTracks implementation of International Classification of Diseases (ICD)-10.

Exhibit 8.1-3: MAXIMUS Medicaid IV&V/Independent QA Experience (continued). *We have provided IV&V/Independent QA services on several IE and MMIS initiatives that are similar to the ARIES implementation project in size, scope, and complexity.*

8.1.2 SNAP IV&V Experience

Describe your company's level of experience with IV&V services provided for SNAP (Sec 2.1)

Section 8.1.1: Medicaid IV&V Experience highlights our experience supporting IE system implementation projects that combine Medicaid E&E functions with other benefit programs. Each of these initiatives includes a SNAP component, providing MAXIMUS with significant insight into the functionality surrounding SNAP system modules and the SNAP program and policy requirements as dictated by federal and state regulations.

MAXIMUS SNAP IV&V EXPERIENCE

- North Dakota ESM Project (implementing Deloitte's NextGen Solution)
- New Jersey CASS Project
- NC FAST Program
- Ohio IE/HHS BI Project
- OK Benefits Project
- Utah Medical Eligibility Systems

In addition to our extensive SNAP IE experience, MAXIMUS has spent more than 25 years helping state agencies plan, procure, and implement Electronic Benefits Transfer (EBT)/Electronic Funds Transfer (EFT) systems for the SNAP Program. We have worked in a planning, technical support, and QA/IV&V role on a number of SNAP EBT projects, each informing our understanding of the implementation processes.

MAXIMUS has been an industry leader of SNAP EBT since its infancy — helping to develop the infrastructure, standards, and processes that have made it the highly-successful benefit delivery program it is today. For example, in the early 1990s, MAXIMUS worked with the U.S. Department of Agriculture (USDA) to author the Model Acceptance Test Plan Guide to be used by state-initiated EBT projects.

This experience provides us an in-depth knowledge of SNAP state programs and policies, as well as EBT with regard to public benefits, process development, and process expertise. In most cases, these SNAP EBT projects included other programs that are slated for implementation in ARIES (for example, TANF and other cash disbursement programs such as child care assistance, child support, and LIHEAP), further adding to our capabilities to support the IEBM implementation.

MAXIMUS has assisted over 50 state agencies with major EBT systems procurements, helping our clients to meet their objectives and gain Federal Financial Participation (FFP) funding. *Exhibit 8.1-4: MAXIMUS SNAP EBT Experience* illustrates some additional SNAP projects.

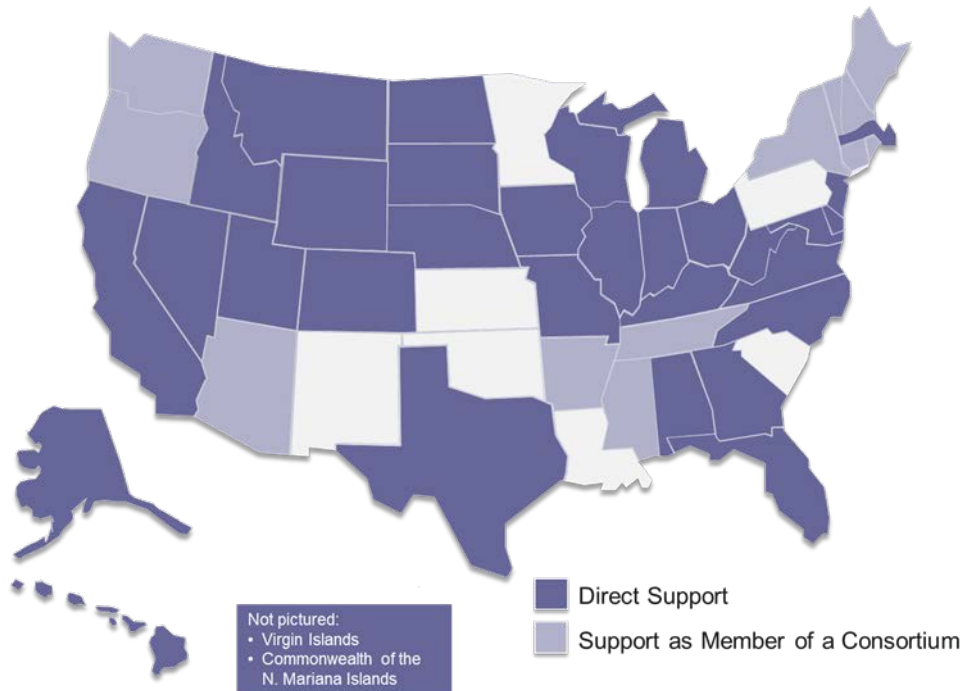


Exhibit 8.1-4: MAXIMUS SNAP EBT Experience. *MAXIMUS SNAP experience implementing EBT systems provides a solid foundation of IV&V support roles on which to build an IV&V program for the implementation of ARIES.*

Although SNAP EBT was rolled out nationwide, MAXIMUS has continued to support states in their re-procurement activities and system transfers, as demonstrated in *Exhibit 8.1-5: Current MAXIMUS SNAP Projects*.

Project/Customer	Project Requirements
Florida SNAP/TANF/WIC EBT Re-procurement Support	<ul style="list-style-type: none"> ■ Support requirements development for the project at hand ■ Develop RFP to procure the DDI contractor ■ Develop evaluation and scoring criteria and tool for the procurement process ■ Support procurement and evaluation activities ■ Develop the IAPD
Missouri SNAP/TANF EBT Re-procurement Support	
South Dakota/North Dakota SNAP/TANF EBT Re-procurement Support	

Exhibit 8.1-5: Current MAXIMUS SNAP Projects. *Our history with SNAP goes back to its inception and we supported SNAP implementations in more states than any other vendor; we currently are working with several states in support of re-procurement activities.*

8.1.3 Other IV&V Experience

Describe your company's level of experience with other IV&V services (Sec 2.1)

MAXIMUS has also provided IV&V/QA services for large-scale systems implementations for other health and human services areas, as shown in *Exhibit 8.1-6: Additional MAXIMUS IV&V/QA Experience – January 2009-Present*.

PROJECT/CUSTOMER	DESCRIPTION
WIC EBT	
QA for the Alaska WIC EBT Implementation Alaska Department of Health and Social Services (DHSS)	Providing QA services to include: readiness assessment; EBT processor deliverable reviews; system design; UAT planning, test scripts, and results; Retailer and Third Party Processor (TPP) certification planning, implementation, and evaluation; pilot readiness, implementation, and assessment; and rollout preparation and assessment.
QA for the Arizona in Motion (AIM) System Migration Arizona Department of Health Services (ADHS)	Provided QA in all areas of functional and technical design. Monitored and reviewed software development; and advised on best test, pilot phase, training and implementation strategies, and end user documentation. Helped ensure the functionality and conformance of the project.
Arizona Health and Nutrition Delivery System (HANDS) Consortium WIC MIS and EBT QA Project ADHS	Provided WIC EBT QA support to the five-member HANDS Consortium, which includes Arizona, American Samoa, the Commonwealth of the Marianas Islands (CNMI), Guam, and the Navajo Nation. Worked extensively to assure quality of testing to include developing test plan recommendations, developing the QA Test Plan Guide, providing User Acceptance Testing (UAT) support, providing pilot and rollout support, and training.
Chickasaw WIC EBT QA Services Chickasaw Nation Nutrition Services	Provided QA services to include deliverable reviews, risk monitoring and identification, test script review, status and technical call participation, as-needed technical support, and UAT participation.
Colorado WIC EBT QA Services Colorado Department of Public Health and Environment (CDPHE)	Assisted the State as it implemented an online EBT solution. QA services included reviewing the EBT Service Provider's deliverables, monitoring and reporting on vendor and clinic enablement, and supporting UAT.
Florida WIC Management Information System (MIS) and EBT QA Services Florida DOH	Provided QA services during the DOH's coordinated implementation of a WIC MIS and WIC EBT systems. Services included deliverable reviews, testing, and pilot evaluation.
Indiana WIC MIS/EBT IV&V Services Indiana DOH	Provided IV&V to help ensure that the WIC MIS/EBT projects met their established goals and objectives. Services included monitoring, reviewing, and evaluating the following: <ul style="list-style-type: none"> ■ System design ■ System transfer, modification, and technical testing ■ UAT ■ Retail certification for EBT ■ Pilot testing ■ Rollout The final task included preparing post-implementation evaluations and system documentation audits for MIS and EBT.
Maryland WIC EBT QA Services Maryland State Treasurer's Office on behalf of the Department of Health and Mental Hygiene	Providing QA during the implementation of EBT in both Maryland and the U.S. Virgin Islands. Services include reviewing the EBT Processor's deliverables; monitoring its processes and activities including system design, testing, and retailer and TPP certification; coordinating retailer certification and evaluation results; assisting with the pilot readiness assessment; and performing the rollout assessment.
Minnesota WIC MIS QA Project Minnesota DOH	Provided QA services throughout the entire SDLC of the project. Support included: project initiation, planning, and management; system design confirmation and change requirements; system modification and testing; UAT; pilot; and data conversion and rollout.

Exhibit 8.1-6: Additional MAXIMUS IV&V/QA Experience – January 2009-Present. *Given our wide range of IV&V experience across multiple functional areas, we are confident that the MAXIMUS Project Team is well qualified to assist DHS in meeting its goals and objectives for system modernization and transition to ARIES.*

Project/Customer	Description
Independent QA of the Mississippi EBT Implementation Project Mississippi DOH	Providing QA services during the EBT implementation, to include reviewing implementation contractor deliverables, requirements validation, UAT support, and vendor certification support.
Nebraska WIC MIS/EBT QA Services Nebraska DHHS	Providing QA services during the implementation of the Mountain Plains State Consortium (MPSC) State Agency Model (SAM) MIS and the development and implementation of EBT. Services include oversight of vendor tasks and activities; vendor deliverable review; evaluation and certification of system readiness for UAT; pilot, testing, and implementation for MIS and EBT; developing the UAT Plan and test script; managing/monitoring UAT; overseeing/evaluating retailer EBT certification; and performing post-implementation reviews of both systems.
QA Services for the North Carolina Crossroads Consortium North Carolina DHHS on behalf of the WIC Programs of Alabama, North Carolina, Virginia, and West Virginia	Provided independent reviews of all deliverables. Participated in design sessions; conducted risk analysis and identified potential risks and issues; reviewed current status and environment; and provided assessment information to the four Crossroads states. Evaluated/reviewed any established methodology, business requirements, and technical requirements; validated requirements against business rules; and validated traceability to any project documents. Monitored testing, pilot, and rollout activities.
North Carolina WIC EBT QA Services North Carolina DHHS	Providing QA services to include: deliverable reviews, risk monitoring and identification, participation in status and technical calls, UAT support and reporting, monitoring of retailer readiness, pilot site evaluation and recommendations, and rollout monitoring.
Oklahoma WIC EBT Planning and QA Services Project Oklahoma DOH, WIC Services	Provided planning support and QA services for the implementation of a WIC EBT system. QA services included deliverable reviews, risk monitoring and identification, test plan and test scripts, participation in status and technical calls, UAT support, test report, certification of readiness, pilot site evaluation and recommendations, and post-implementation review.
Oregon WIC EBT Implementation QA Services Project Oregon Nutrition and Health Screening Program	Provided QA services to include deliverable reviews, risk monitoring and identification, test plan and test scripts, participation in status and technical calls, UAT support, test report, retailer system certification testing and reports, pilot support, and pilot evaluation support.
Pennsylvania WIC MIS/EBT IV&V Project Pennsylvania DOH	Providing IV&V of the configuration of the new MIS; the conversion of data and operations from the existing environment; and the capability to load benefits onto smart cards, redeem those benefits at the retailer, and also process the retailer claims for reimbursement. Services involve validating the work products, deliverables, and functionality of both the MIS and EBT projects.
South Carolina WIC EBT Independent QA Project South Carolina Department of Health and Environmental Control (DHEC)	Providing an independent review of all project-related deliverables to promote the stability, quality, and success of the WIC EBT services implementation initiative. Conducting risk analyses and identify potential risks and issues throughout the project life cycle. Reviewing and providing feedback on any testing and certification activities; assessing QA criteria; assessing overall testing/QA/certification approach/methodology; and evaluating testing facilities and tools. Reviewing and provide feedback on training plans and materials. Assisting with pilot plans for the project and assess the results; as well as provide on-site support during pilot activities.
South Dakota WIC EBT QA Services South Dakota DOH	Provided independent quality review and assessment of the EBT implementation from the contracting of the Transfer and Implementation (T&I) vendor through the DDI and closeout of the project.

Exhibit 8.1-6: Additional MAXIMUS IV&V/QA Experience – January 2009-Present (continued). *Given our wide range of IV&V experience across multiple functional areas, we are confident that the MAXIMUS Project Team is well qualified to assist DHS in meeting its goals and objectives for system modernization and transition to ARIES.*

Project/Customer	Description
Virginia/West Virginia WIC EBT QA Services Project Virginia DOH/West Virginia DOH	Provided QA services during implementation of a joint state WIC EBT implementation. QA services included: deliverable reviews, risk monitoring and identification, test plan and test scripts, participation in status and technical calls, as-needed technical support, pilot support, and pilot evaluation.
Wisconsin WIC EBT QA Services Project Wisconsin Department of Health Services	Provided QA services to include deliverable reviews, risk monitoring and identification, test plan and test scripts, participation in status and technical calls, UAT support, test report, retailer system certification testing and reports, pilot support, and pilot evaluation support.
Child Welfare and Child Support Enforcement	
Delaware Automated CSE System (DACSES) QA and Staff Augmentation Services Delaware Department of Health and Social Services (DHSS)	Provided QA analysis of development project deliverables and State staff augmentation for development project management and business analysts.
Indiana Child Welfare Technical Assistance, Advance Planning Document (APD), and IV&V Projects Indiana Department of Child Services (DCS)	Currently working on our fourth child welfare consulting project with the State of Indiana to provide Title IV-E foster care, adoption assistance, guardianship assistance (GAP), and extended foster care; Title IV-A Emergency Assistance (EA); Supplemental Security Income (SSI), Medicaid enrollment, and Title IV-E waiver support. Responsible for providing ad hoc research and analysis; business process reviews; QA reviews; policy review, development, and analysis; technical assistance; training; child welfare information system technical assistance; and audit preparation services. IV&V tasks included reviewing the business processes of the Title IV-E Central Eligibility, Social Security, and Medicaid Enrollment Units and the provider audit processes; making recommendations for improvements; and assisting in implementing changes; supporting annual updates of the APD for the child welfare information system; monitoring changes to federal or State child welfare policy and advising DCS of the impact on its programs; and reviewing child welfare services standards and providing recommendations for improvement.
IV&V Services for the Management Gateway for Indiana's Kids (MaGIK) Indiana DCS	Provided IV&V services for enhancements to the MaGIK system, assisted the State in developing a business strategy for MaGIK and related systems, and supported the State in contract negotiations with its vendor. In addition, MAXIMUS assisted the State with the development of its annual APDU. Additional details about this project are provided in <i>Section 8.1.6: Project Examples</i> .
Mississippi SACWIS QA/IV&V Project Mississippi DHS	Comprehensive QA/IV&V project that includes services through the life of the SACWIS project from planning through DDI. Currently assisting DHS during the planning phase of the project, including significant efforts around requirements development and the APD process.
Nevada CSE Automated System QA Project Nevada DHHS, Division of Welfare and Supportive Services (DWSS)	Currently serving as the QA Contractor on the initiative to replace the Nevada Operations of Multi-Automated Data Systems (NOMADS), which supports the Nevada Child Support Program. Initially conducted the feasibility study to identify the best system replacement alternative, and conducting a study to fully identify CSE program requirements, consider potential alternate solutions, and estimate costs and benefits of alternatives for system modernization. Also, completed Business Process Reengineering (BPR) to finalize the detailed requirements for the new CSE system.
Oregon SACWIS (OR-KIDS) QA Project Oregon DHS	Assessed the State and vendor plans, processes, activities, and products to help verify the project met its objectives and requirements; adhered to its charter and plans; managed risks associated with schedule, cost, and quality; and took corrective action. Provided periodic and QA assessments of both the DDI vendor and the Planning and QC vendor's processes and deliverables.

Exhibit 8.1-6: Additional MAXIMUS IV&V/QA Experience – January 2009-Present (continued). *Given our wide range of IV&V experience across multiple functional areas, we are confident that the MAXIMUS Project Team is well qualified to assist DHS in meeting its goals and objectives for system modernization and transition to ARIES.*

Project/Customer	Description
South Carolina Palmetto Automated Child Support System (PACSS) QA Project South Carolina Department of Child Support Services	Currently providing QA services for the South Carolina PACSS implementation project to ensure that the DDI vendor meets all project standards and the system delivered meets federal and State requirements. Provide QA analysis of all development project deliverables throughout all phases of the SDLC from design and development through testing and implementation. Also provide financial audit services to ensure the new statewide system is correctly allocating, distributing, disbursing, and recording collections and disbursement.
HIX/HIE	
Independent QA Services for the Oregon HIX-IT Project Oregon Health Authority (OHA)	Compiled a comprehensive QMP for the HIX-IT Project. Prepared an Initial Risk Assessment Report that defined the initial risks identified for the project across 14 Quality Standards and nine Process Standards. Performed on-going QA services including the production of quarterly QA Reports, as well as a Quality Control (QC) review of system requirements.
Independent IV&V/QA for the Statewide HIE Project Oregon Office of Health Information Technology (OHIT)	Provided a variety of procurement support services, including reviewing the HIE RFPs and vendor proposals; and supported contract negotiations. Developed the State's HIE Program Evaluation Plan, as required by the Office of the National Coordinator (ONC) for HIT. Performed a variety of ongoing QA services including monthly project quality reports.
Independent QA, QC, and IV&V Services for the Cover Oregon Project Cover Oregon (ORHIX Corporation)	Compiled a QMP for the Cover Oregon Project. Prepared an Initial Risk Assessment Report that defined the initial risks identified for the Cover Oregon Project across 16 Quality Categories. This report included findings, risks, and recommendations across the entire Cover Oregon operation. Performed QA, QC, and IV&V testing services, including monthly QA status reports.
IV&V Services for Pennsylvania Patient and Provider Network (P3N) Implementation Project (formerly called PA Community Shared Services (CSS) Implementation Project) Pennsylvania Office of Administration, Office for Information Technology, PA eHealth Partnership Authority	Provided IV&V services for the implementation of the P3N supporting HIE throughout the Commonwealth. Services included: <ul style="list-style-type: none"> ■ Performing quality management and reporting ■ Performing requirements validation and traceability through implementation ■ Observing and/or participating in integration and acceptance testing ■ Analyzing performance metrics (scope, quality, and schedule) ■ Performing documentation and deliverable reviews ■ Performing program evaluation and review
UI/UC	
IV&V of the Kansas Unemployment Insurance Modernization (UIM) System Kansas Department of Labor (KDOL)	Provided IV&V services to help verify and validate that the new system met established requirements and the needs of the user community. The UIM Project was implemented in two phases: Phase 1 – BPR/Requirements; and Phase 2 – System Implementation, Integration, and Data Conversion. KDOL performed the implementation, integration, and data conversion activities internally and tasked MAXIMUS with the management oversight of the software development activities.
IV&V of the Pennsylvania Unemployment Compensation Modernization System (UCMS) Project Pennsylvania Department of Labor and Industry (DLI)	Responsible for evaluating contract deliverables; assuring that interim milestones were complete; and verifying that the application development process and resulting software met user requirements, contract specifications, and published Commonwealth standards. Provided continuous and ongoing IV&V oversight to all areas of the project.

Exhibit 8.1-6: Additional MAXIMUS IV&V/QA Experience – January 2009-Present. *Given our wide range of IV&V experience across multiple functional areas, we are confident that the MAXIMUS Project Team is well qualified to assist DHS in meeting its goals and objectives for system modernization and transition to ARIES.*

8.1.4 Experience with the Deloitte NextGen Solution IEBM

Describe your company's knowledge or experience with the Deloitte NextGen Solution IEBM. (Sec 2.1)

Since 2013, MAXIMUS has supported the North Dakota DHS during planning and implementation of SPACES, giving us significant experience working with Deloitte, the DDI Contractor, as they implement their NextGen Solution IEBM. While Deloitte has guided the State in how North Dakota requirements could be implemented using NextGen, there has been some customization to fully meeting the State's requirements. To date, Release 1 (Affordable Care Act (ACA) Medicaid) and Release 2 (TANF, SNAP, and Child Care) are in production. Release 3 (Non-ACA Medicaid) will finish design in September 2019 with development and system integration testing in progress. The State is starting UAT planning and testing for Release 3 execution in October 2019 with implementation planned for June 2020.

As the IV&V Contractor, MAXIMUS has assessed the products and processes provided by Deloitte. Our IV&V team is well versed in the structure and functionality provided by NextGen. Given the status of each release at the time, MAXIMUS monthly IV&V assessments focus on some of the areas identified in *Exhibit 8.1-7: IV&V Assessment Areas*, giving us insight into the IEBM system as it is being developed and rolled out.

ASSESSMENT FOCUS	ARTIFACTS AND AREAS REVIEWED	
Project Management	<ul style="list-style-type: none"> ■ Project Management Plan ■ Project Estimation and Scheduling ■ Communication Management ■ Deliverable Acceptance Criteria ■ Risk Management 	<ul style="list-style-type: none"> ■ Issue Management ■ Action Item Management ■ Integrated Change Control Management ■ Project Staffing
Quality Management	<ul style="list-style-type: none"> ■ QA ■ Gate Reviews 	<ul style="list-style-type: none"> ■ Process Definition and Product Standards
Requirements Management	<ul style="list-style-type: none"> ■ Requirements Analysis ■ Requirements Definition 	<ul style="list-style-type: none"> ■ Requirements Traceability
Development Environment	<ul style="list-style-type: none"> ■ Development Hardware 	<ul style="list-style-type: none"> ■ Development Software
Software Development	<ul style="list-style-type: none"> ■ High-Level Design ■ Detailed Design ■ Job Control 	<ul style="list-style-type: none"> ■ Contractor Training ■ Code ■ Unit Test
System and Acceptance Testing	<ul style="list-style-type: none"> ■ System Integration Test (SIT) ■ Interface Testing 	<ul style="list-style-type: none"> ■ System Acceptance and Turnover
Data Management	<ul style="list-style-type: none"> ■ Data Conversion 	<ul style="list-style-type: none"> ■ Database Design
Operating Environment	<ul style="list-style-type: none"> ■ System Hardware ■ System Software 	<ul style="list-style-type: none"> ■ Database Software ■ System Capacity
User Training and Documentation	<ul style="list-style-type: none"> ■ Training Plans ■ Training Materials 	<ul style="list-style-type: none"> ■ User Guides
Organizational Change Management (OCM)	<ul style="list-style-type: none"> ■ Organizational Change Plan 	<ul style="list-style-type: none"> ■ Organizational Change Activities

Exhibit 8.1-7: IV&V Assessment Areas. As the IV&V Contractor, we have assessed the complete NextGen Solution from requirements through UAT and rollout including project management practices and policies, providing us with in-depth understanding of both the system capabilities and Deloitte's approach to implementation projects.

8.1.5 Prior Experience with Deloitte

Describe your company's prior experience with Deloitte.

As described in *Section 8.1.4: Experience with the Deloitte NextGen Solution IEBM*, we are currently the IV&V Contractor on a project with Deloitte in North Dakota. IV&V interaction with

Deloitte during the project has been extensive with reviews of deliverables and review of software design, development and testing metrics, and supporting data. Deloitte has provided access to information necessary to complete the monthly IV&V assessments and has readily accepted and acted on our recommendations.

We previously worked with Deloitte on Oregon's SACWIS and are currently working with Deloitte on the Oregon Child Support Enforcement Automated System (CSEAS) Replacement. In each of these, Deloitte served/serves as the DDI Contractor. MAXIMUS was the QA Contractor on the Oregon SACWIS Project and we are currently the PMO on Oregon CSEAS. Our projects with Deloitte have provided us with a solid understanding of their approach to implementation projects, including how they are organized, how they manage projects, their methodologies, their staffing techniques, and their culture. Further, our staff have access to several internal resources who joined MAXIMUS from Deloitte, bringing extensive insight into methodologies and implementation tools and techniques.

8.1.6 Project Examples

Describe five (5) examples of projects similar in size, complexity and scope to this RFP your company has completed within the past five (5) years. Response must include the following information: Project name and brief detail of provided services, client name, client contact person(s) name, email address and current phone number of contact person(s), project timeframe and the projected amount. (Sec. 2.3-D)

Although we have many examples of projects similar in size and scope to the ARIES implementation, we have selected five projects to showcase our capabilities to provide IV&V support to Arkansas.

8.1.6.1 IV&V of the North Dakota Eligibility System Modernization Project

North Dakota DHS determines eligibility for medical assistance, cash assistance, supplemental nutrition, child care assistance, and heating assistance in four separate information systems. The objective of the State's ESM Project is to replace the current eligibility systems with an IE system for medical assistance and all economic assistance programs that provides interactive sharing of client information amongst its service programs. This will result in increased efficiency, ease of use, mobility of the application, and effective reporting for decision making. The new system, SPACES, will replace five legacy systems and serve as the system of record for SNAP, TANF, Child Care, LIHEAP, Medicaid, and CHIP.

Relevance to the Arkansas IEBM IV&V Project

- Project is ongoing however, Deloitte's NextGen Solution is fully implemented and is now in the maintenance and enhancement phase; total duration of the project is 2013 – 2020
- Total IV&V contract value of \$3.8 million
- State government claims/IE system
- Includes Transitional and MAGI Medicaid eligibility
- Includes SNAP eligibility, case management, and benefit issuance

The project includes the North Dakota DHS and the State IT Department and has as stakeholders the 53 county Divisions of Social Services (DSS) impacted by the system replacement. Deloitte is the DDI vendor and is implementing its NextGen Solution IEBM.

The State contracted with MAXIMUS to provide IV&V of the ESM Project. MAXIMUS project deliverables include:

- IV&V Plan and Updates
- Initial Assessment
- Project Governance and Project Structure Assessment
- Requirements Management Assessment
- Management Briefings
- Periodic Assessments (through 2015)
- Monthly Enhanced IV&V Assessment (starting in September 2015)

This project started out in a periodic model with an intensive series of initial assessments followed by twice annual periodic assessments. In April 2015, the State moved from an internal system build to hiring Deloitte as its DDI. This change accelerated the pace of the project and, as a result, the State and CMS determined this merited a change to a full-time, on-site IV&V presence consistent with MEELC.

Since September 2015, MAXIMUS has provided reports on a monthly basis. The focus areas for each report depend on the project activities occurring at the time, but is drawn from the focus areas in the original MAXIMUS scope of work, including the following:

- **Project Management**
 - Project Management Plan
 - Project Estimation and Scheduling
 - Communication Management
 - Deliverable Acceptance Criteria
 - Risk Management
 - Issue Management
 - Action Item Management
 - Integrated Change Control Management
 - Project Staffing
- **Quality Management**
 - QA
 - Process Definition and Product Standards
 - Gate Reviews
- **User Training and Documentation**
- **Requirements Management**
 - Requirements Management
 - Requirements Analysis
- Security Requirements
- **Operating Environment**
 - System Hardware
 - Database Software
 - System Software
 - System Capacity
- **Development Environment**
 - Development Hardware
 - Development Software
- **Software Development**
 - High-Level Design
 - Contractor Training
 - Detailed Design
 - Code
 - Job Control
 - Unit Test
- **System and Acceptance Testing**
 - SIT
 - System Acceptance and Turnover
 - Interface Testing

- **Data Management**
 - Database Design
 - Data Conversion
- **OCM**

Key accomplishments include:

- IV&V's review of deliverables identified inconsistencies within and across documents that would have proven difficult/costly to correct later in project.
- IV&V lower level review of data supporting project metrics reported at a higher level kept status reporting more accurate.
- IV&V review of UAT test case design creation approach significantly reduced the time required to create test cases and reduced impact on the overall project schedule for Release 2.
- IV&V identified risks and issues found during our assessments that required mitigation for the State or contractor.

The NextGen solution is fully implemented. MAXIMUS IV&V support continues through the maintenance and enhancement phase of the project.

Customer Contact:

North Dakota DHS



8.1.6.2 Project Management and QA of the New Jersey CASS Implementation Project

The goal of the CASS Implementation Project was to provide new and fully-integrated functionality that will support the TANF, SNAP, WorkFirst New Jersey (WFNJ), General Assistance (GA), Child Care, as well as most Medicaid programs supervised by the Division of Medical Assistance and Health Services (DMAHS). CASS was to be implemented with a state-of-the-art design versatile enough in its architecture, structure, and code to support the evolving business needs of New Jersey's programs.

Relevance to the Arkansas IEBM IV&V Project
<ul style="list-style-type: none"> ■ Project is complete; total duration of the project was 2009 – 2017 ■ Total contract value of \$15.9 million ■ State government claims/IE system ■ Included Transitional and MAGI Medicaid eligibility ■ Included SNAP eligibility, case management, and benefit issuance

MAXIMUS scope of work consisted of four primary tasks: QA, IAPD Services, Project Management, and Special Project Services. We were also responsible for CMS-required IV&V attestations relative to integration with the FFE/FFM. The QA tasks are discussed below.

The purpose of MAXIMUS QA management was to guide the CASS Project to the achievement of its overall goals and objectives. The role of MAXIMUS was that of an advocate for CASS, sharing an objective third party perspective with the CASS Implementation Contractor and the State. In this role, we provided ongoing project management including developing and maintaining the QA Management Plan and QA Change Control Plan, participating in status

meetings and Joint Application Design (JAD) sessions, and providing biweekly Status Meeting Reports and quarterly Process and Product Quality Assessment Reports. During the eight phases of the project, MAXIMUS provided the following QA assessments:

- Kick-Off Meeting Documentation
- Project Management Plan
- QA Plan
- Configuration Management Plan
- Communication Plan
- Problem Management Plan
- Risk Management Plan
- Change Management Plan
- Workforce Transition Plan
- Change Control Plan
- Knowledge Transfer Plan
- Requirements Specification Document
- Gap Analysis Document
- High-Level Design Document
- System Architecture Design Document
- Security Assessment Report - Design
- Capacity Analysis Plan
- Detailed Design Document
- Data Conversion Plan
- Test Plan
- Hardware and Software Acquisition Plan
- Implementation Plan
- User and Technical Documentation
- Training Documentation
- System Documentation
- Operations Guide
- Security Assessment Report - Construction
- Unit Tested Code
- System Test Results Document
- UAT Results Document
- Security Assessment Report - UAT
- Capacity and Performance Test Results Document
- Pilot Test Results Document
- Security Assessment Report - Pilot
- Data Conversion Results Document
- Master Copy of Training Material
- Pre-Implementation Computer-Based Training
- Training Database
- Security Assessment Report – Implementation
- Phased Training and Implementation
- Operations Reports
- Help Desk Reports
- Maintenance Reports
- Security Assessment Report - Operations
- Turnover Plan

There were numerous delays by the Implementation Contractor. When the Implementation Contractor was unable to complete the system testing after two years, the State terminated its contract.

Key accomplishments include:

Due to the valuable QA and PM services provided by MAXIMUS, the State retained our services following the termination of the Implementation Vendor to assist the State with the next steps for the project. We worked on a RFP for the conversion of the current mainframe; and assisted with special projects, an Independent Assessment of Security Controls, Operation Advance Planning Document Update (OAPDU), and a Closeout Implementation Advance Planning Document Update(C-IAPDU) to update DHS' federal partners concerning the plans for the project. Both the OAPDU and the C-IAPDU were approved by the federal partners.

Customer Contact:

New Jersey DHS, Division of Family Development (DFD)

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

8.1.6.3 IV&V of the NC FAST Program

North Carolina DHHS Information Technology Division (ITD) provides leadership in the use of technology to plan, develop, and operate the automated systems for DHHS, and to implement technical solutions that maximize resources.

MAXIMUS was engaged by DHHS to provide IV&V support for the NC FAST Program. DHHS supervises North Carolina's human service programs administered by 100 county DSS. The Department was utilizing 19 legacy systems to collect, maintain, and process

information about applicants and recipients. These legacy systems were disparate and not well suited to support the growing demands of economic benefits, child welfare, adult care and aging services, health insurance reform, and related changes in accountability to share and integrate information.

The NC FAST Program was established to implement technology and processes to improve and standardize the way North Carolina provides benefits and services to its citizens through a new online eligibility system for a wide range of income-related programs, as well as for several service programs. The State acquired a proven, pre-built case management software solution — the Cúram Enterprise Framework™ — to support the current and future automation needs of the DHHS ITD, DSS, Division of Aging and Adult Services (DAAS), Division of Medical Assistance (DMA), Division of Child Development (DCD), and 100 county DSS. The State is implementing the NC FAST solution following an Agile framework in the following 14 separate, integration projects:

- Project 1: Global Case Management and the U.S. Department of Agriculture (USDA)/Food and Nutrition Services (FNS) Program
- Projects 2 & 6: Screening and Intake for Work Force (TANF, Medicaid, Special Assistance, and Refugee Assistance Programs [Part 1])
- Projects 2 & 6: TANF, Medicaid, Special Assistance, and Refugee Assistance Eligibility Project (Part 2)
- Project 3: LIHEAP, Child Care, and Crisis Intervention Program (CIP)

Relevance to the Arkansas IEBM IV&V Project

- Program currently in its seventh year; total duration of the project is 2012 – 2020
- To date, seven projects within the program are complete and the systems are operational and in use across North Carolina's 100 counties.
- Total contract value of \$6.3 million
- State government claims/IE system
- Includes Transitional and MAGI Medicaid eligibility
- Includes SNAP eligibility, case management, and benefit issuance

- Project 4: Children's Services Project, which includes child welfare functionality and has declared itself a transitional Comprehensive Child Welfare Information System (CCWIS) Project
- Project 5: Aging and Adult Protective Services (AAPS) Project
- Project 7: NC FAST FFM Interoperability Integration
- Project 8: Eastern Band of Cherokee Indians
- Project 9: Medicaid Self Service and Program Integrity
- Project 10: Identity Proofing Feasibility
- Project 11: Social Security Number Removal Initiative (SSNRI)
- Project 12: Document Management
- Project 14: Medicaid Transformation
- Project 15: Infrastructure Management

The original contract required MAXIMUS to provide an initial assessment, followed by periodic assessments of the NC FAST Case Management Program. We were also required to include a report on the accomplishments of the active project(s) since the last assessment. However, given the thoroughness of MAXIMUS assessments and the benefits realized by the Program and CMS' increasing interest in full-time, on-site IV&V, the State requested MAXIMUS provide IV&V services on a full-time basis for the remainder of the contract. This change has proven beneficial since the NC FAST Program transitioned from a Waterfall to an Agile methodology after completion of its first four projects. Since May 2017, MAXIMUS has a full-time IV&V team on-site and provides monthly IV&V assessment reports, as well as CMS-required reporting consistent with the MEELC.

NC FAST is extremely complex due to the wide range of functionality and programs included and planned in the system. Its user base includes not only multiple State agencies, but more than 100 county DSS. NC FAST is implementing the Cúram Solution for each project, a configurable solution based on Service Oriented Architecture (SOA). Each planned implementation must be closely coordinated, planned, and executed across not only the NC FAST Program, but the important stakeholder and user groups to ensure the implementation is adequately tested and the user community is properly trained and supported. NC FAST is both State- and federally-funded, and includes funding from CMS, the Administration for Children and Families (ACF), and FNS. Its development and required functions are subject to extensive, complex federal and State laws, regulations, and policies.

MAXIMUS performs independent assessments of the entire NC FAST Case Management Program, which cover all aspects of the Program including, but not limited to the DHHS Project Management Team, the Integration Vendor's progress, and stakeholder engagement. The goal of each assessment is to understand the NC FAST Case Management Program's management and development processes and the quality and completeness of the NC FAST Case Management solution to those processes.

MAXIMUS deliverables include:

- IV&V Plan and updates (currently delivered annually)
- On-Site Assessment Reports (currently delivered monthly)
- On-Site Assessment Presentations (currently delivered quarterly)
- Status Reports (currently delivered monthly)
- Executive Flash Reports (as needed)
- CMS-required Progress Reports (delivered quarterly)
- CMS-required MEET Checklists (delivered for each Milestone Review)

Assessments are completed at both the program level, over Operations and Maintenance (O&M) activities, and for specific projects under development. Specific MAXIMUS assessment tasks vary depending on the phase of the project, and include review of the following:

- **Management Oversight**

- | | |
|--------------------------------------|---|
| – Project Sponsorship | – Subcontractors and External Staff |
| – Management Assessment | – NC FAST Program Office |
| – Project Management | – QA |
| – BPR | – Process Definition and Product Standards |
| – Risk Management | – Requirements Management |
| – Change Management | – Security Requirements |
| – Communication Management | – Requirements Analysis |
| – Configuration Management | – Interface Requirements |
| – Project Estimating and Scheduling | – Requirements Allocation and Specification |
| – Project Personnel and Organization | – Reverse Engineering |

- **Development Oversight**

- | | |
|------------------------|---------------------|
| – System Hardware | – High-Level Design |
| – System Software | – Detailed Design |
| – Database Software | – Job Control |
| – System Capacity | – Code |
| – Development Hardware | – Unit Test |
| – Development Software | |

- **Implementation Oversight**

- SIT
- Pilot Test
- Interface Testing
- Acceptance and Turnover
- Data Conversion
- Database Design
- User Training and Documentation
- Developer Training and Documentation

- **Operations Oversight**

- Operational Change Tracking
- Customer and User Operational Satisfaction
- Operational Goals
- Operational Documentation
- Operational Processes and Activity

To date, Projects 1, 2, 3, 6, 7, 9, and 11 are complete and the systems are operational and in use across North Carolina's 100 counties. This includes Medicaid E&E functionality for both the ACA and Non-ACA Medicaid, which were released as part of Projects 2 and 6. Development is currently under way for Projects 4, 12, and 14. Project 5 has not yet started and Project 8 is on hold pending finalization of logistics for rollout.

Because Projects 9, 12, and 14 include significant functionality that will impact the Medicaid program, CMS has determined that the MEELC process applies to this project work.

Key accomplishments include:

- NC FAST and MAXIMUS assisted CMS by serving as a pilot for the MEET checklist process. The Team transitioned from this pilot status to MEET Version 1.0, and is now utilizing MEET Version 1.1.
- MAXIMUS worked closely with NC FAST management and its QA Manager to adjust the IV&V reporting format to allow NC FAST to more easily track key findings and recommendations through to completion.
- The IV&V Team includes one Project Management Institute (PMI)-certified Project Management Professional (PMP), two with certifications in Lean Six Sigma (one Black Belt and one Green Belt), and four Agile trained team members. Feedback and recommendations from the IV&V Team have positively impacted NC FAST's implementation of Agile processes, particularly in the areas of quality, estimating, and scheduling.
- Over time, NC FAST has developed a strong governance model and project management processes; ongoing assessments by IV&V confirm that these defined processes and standards are followed continuously.
- IV&V coverage across projects allows for identification of strengths to be replicated and areas where there is inconsistency across projects which must be remedied.

Customer Contact:

North Carolina DHHS

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8.1.6.4 IV&V of the North Carolina MMIS+ Program

The NCMMIS+ Program consisted of three DDI projects: the Replacement MMIS Project, the R&A Project for data warehouse supporting decision support and fraud detection functionality, and the BPAS Project for DHSR.

MAXIMUS services in support of the NCMMIS+ Program included:

- Providing IV&V services during the SDLC of all three primary projects
- Providing flexible management of the MAXIMUS Team to adapt to schedules and defined deliverables for the R&A and BPAS Projects
- Providing flexible management of the MAXIMUS Team to adapt to the inevitable changes in DDI schedules in a program of this scope
- Providing initial planning of all IV&V work tasks with flexibility in the planning for changes negotiated with DHHS based on the DDI Contractors' approved changes
- Providing careful execution of each IV&V assessment task, with immediate notification to DHHS when, as a result of an IV&V task execution, a project risk or issue is identified that could have a critical adverse impact on the Program's cost, quality, or schedule
- Providing an IV&V assessment of the business, technical, and/or management quality of DDI deliverables and SDLC processes
- Providing an IV&V assessment on the individual DDI contractor's conformance to contract requirements throughout their DDI activities
- Helping the State receive CMS certification for the Replacement MMIS and R&A
- Adhering to the regulations with respect to IV&V set forth in 45 CFR 95.626
- Monitoring project progress against published milestones and schedules
- Reviewing critical deliverables as identified in the Developers' proposals
- Performing process and management-level assessments to identify deviations from established plans and processes
- Monitoring alignment of the developers and the State with the development contract standards

Relevance to the Arkansas IEBM IV&V Project

- Program complete; total duration of the project was 2012 – 2015
- Total contract value of \$1.6 million
- State government claims system
- Includes Transitional and MAGI Medicaid eligibility
- Includes SNAP eligibility, case management, and benefit issuance

- Incorporating the Enterprise Program Management Office (EPMO) workflow process into its assessment plans for each project within the NCMMIS+ Program, reviewing all milestones at each gate in support of the EPMO requirements
- Monitoring system integration touch points between the Replacement MMIS, R&A, and DHSR systems and other agency and external systems, where appropriate
- Attending selected meetings between the developers and the State to assess project status and the health of the relationship between the developers and the State
- Assessing and monitoring the practices of the NCMMIS+ Program Office to determine alignment with State and federal standards and internal processes and procedures

In addition, MAXIMUS performed the following IV&V activities:

- Evaluated the system technical documentation for each project (to assess the State's ability to smoothly transfer the systems to different vendors in the future)
- Monitored the Replacement MMIS and R&A system certification efforts throughout the SDLC (according to CMS process requirements) to identify any risks, issues, and required corrective actions
- Provided an independent evaluation of the accuracy of payments made from the Replacement MMIS
- Reported the findings from our IV&V assessment activities and made recommendations for corrective and mitigating actions, and process and other improvements, if any, for consideration by the State

The MAXIMUS IV&V Team utilized extensive project management skills guided by knowledge of PMI's *Project Management Body of Knowledge (PMBOK)* to manage the project. The team included certified PMPs to successively assess project management activities. The teams used extensive knowledge of public assistance and Medicaid policy and claims management systems to perform IV&V of the planning, design, development, and testing of the NC MMIS+ system. Experience in implementing systems in a public and private sector provided the skills necessary to perform IV&V and support the State with implementation of the system.

Key accomplishments include:

- The MAXIMUS Team was instrumental in tracking and reporting on the conformance of multiple vendors to contract requirements throughout the DDI efforts.
- MAXIMUS provided independent reviews and assessment of major vendor deliverables and processes, including all plans and schedules.
- MAXIMUS monitored and assessed the execution of the plans and schedules based on defined and accepted criteria and protocols of the entire NC MMIS+ program. IV&V supported risk and issues processes including identification and mitigation.
- Following implementation of the MMIS system, MAXIMUS provided IV&V of the ongoing ICD-10 Project and supported the State in preparing for certification of the MMIS. Much of the funding for the NC MMIS+ Program was from CMS, who relied on MAXIMUS to be its "person on the ground," and keep them aware of program progress, risks, and issues.

Customer Contact:

[REDACTED]

8.1.6.5 IV&V Services for the Indiana MaGIK and Child Welfare Federal Compliance Projects

MAXIMUS provided IV&V assessments and related support during enhancements to MaGIK, the child welfare information system for the Indiana DCS. MaGIK included both the Commercial Off-The-Shelf (COTS) product, Casebook, as well as custom development done by Case Commons (the Casebook

vendor) using an Agile methodology, and custom development by in-house DCS developers. MAXIMUS also provided assistance to DCS during contract renegotiation with Case Commons, implementation of an intake (hotline) module and other significant enhancements, and development of an overall business strategy "roadmap" for the MaGIK ecosystem. This Agile project was unique in that the Case Commons development team were remotely located from the State product owners and testers. The team utilized video conferencing and online tools to allow for activities such as standup meetings and backlog refinement that would normally have occurred in person.

Over the life of the contract, MAXIMUS:

- Drafted detailed work plans
- Scheduled, coordinated, and participated in IV&V interviews
- Reviewed program documents and contractor deliverables
- Provided regular status reports and IV&V assessments
- Assisted with the development of the MaGIK Project performance scorecards
- Assisted with the development of DCS' Strategic Business Plan
- Helped ensure alignment with its five-year Child Family Service Plan (CFSP).

Under a separate contract, MAXIMUS assisted in the development of several APDs for MaGIK.

Customer Contact:

[REDACTED]

Relevance to the Arkansas IEBM IV&V Project

- Project complete; total duration of the project was 2015 - 2016
- Total contract value of \$702,000
- State government human services system
- Includes case management

8.2 Technical Solution and Scope of Work

MAXIMUS offers world-class IV&V services designed to proactively mitigate risk, verify quality and completeness, and enhance the probability of a successful implementation. We have the depth of experience, a proven approach, the clear commitment, and the financial and organizational stability to serve as your trusted partner.

The Arkansas IEBM Solution is a critical component in moving the State closer to its goals of more efficiently managing a broad range of eligibility function across multiple human services programs. DHS is seeking a contractor to provide IV&V services during the DDI of ARIES, which is intended to replace the State's antiquated legacy systems. Services are currently being sought to provide IV&V of the DDI work provided by the IEBM SI. Further, the IV&V services must be in compliance with CMS MEELC/MEET guidance. To protect the significant State investment in building the new system, DHS needs a recognized and experienced IV&V contractor with the corporate strength and proven track record necessary to provide these services.

For more than 30 years, MAXIMUS has delivered effective IV&V, QA, and QC services for health and human services (HHS) systems engagements in nearly every state in the U.S. Our provision of these services is based on a consistent and disciplined approach that emphasizes independence, objectivity, and the use of a proven rigorous methodology. Within the context of systems development initiatives such as the IEBM, we define IV&V as an external function that performs independently of the project organization's infrastructure to promote successful completion of the project's goals and objectives. Our prior experience providing IV&V services provides MAXIMUS with the credibility to effectively evaluate and assess project management teams, as well as project plans, processes, procedures, and controls. Our approach is designed to eliminate subjectivity while clearly defining expectations and focusing the MAXIMUS Project Team on project areas that have the highest risk. DHS can rely on our qualified and experienced IV&V staff, methodology, approach, tools, and comprehensive schedule to achieve the objective of helping to ensure that ARIES is delivered on time, within budget, and in accordance with the end users' requirements.

8.2.1 Understanding of the SI RFP

| Provide in detail your company's knowledge of the Arkansas DHS System Integrator (SI) RFP (# SP-17-0012)

In preparation for submitting our bid, MAXIMUS reviewed the IEBM SI RFP # SP-17-0012 in detail. Our team understands the scope and scale of the IEBM implementation and the project goals of improved customer service through integrated case management. MAXIMUS has supported similar projects in 14 states in which our IV&V services helped each of these clients mitigate project risks and achieve successful outcomes.

The IEBM Project is a significant undertaking for the State. We understand Arkansas has faced a number of challenges already and has selected Deloitte to design, develop, and implement an integrated solution. MAXIMUS understands the challenges that the project team faces integrating Arkansas's disparate system and implementing an integrated case approach. We also understand the business drivers that necessitate replacement of existing legacy applications.

Our team understands Arkansas’s legacy environment. *Exhibit 8.2-1: DHS Current Technology Landscape* details the IT assets currently deployed to support DHS assistance programs as provided in the IEBM System Integrator RFP # SP-17-0012. Current systems have been implemented to support single DHS programs and do not support a customer-centric approach to delivery of DHS services. Moreover, disparate systems require many complex interfaces and/or manual steps to support benefit calculation across programs. The current technology landscape does not support desired DHS business processes, and maintenance of separate systems does not leverage economies of scale relative to ongoing system support. Maintenance and Operations (M&O) costs are likely to reduce substantially by integrating the silo systems currently in operation to support DHS IT needs.

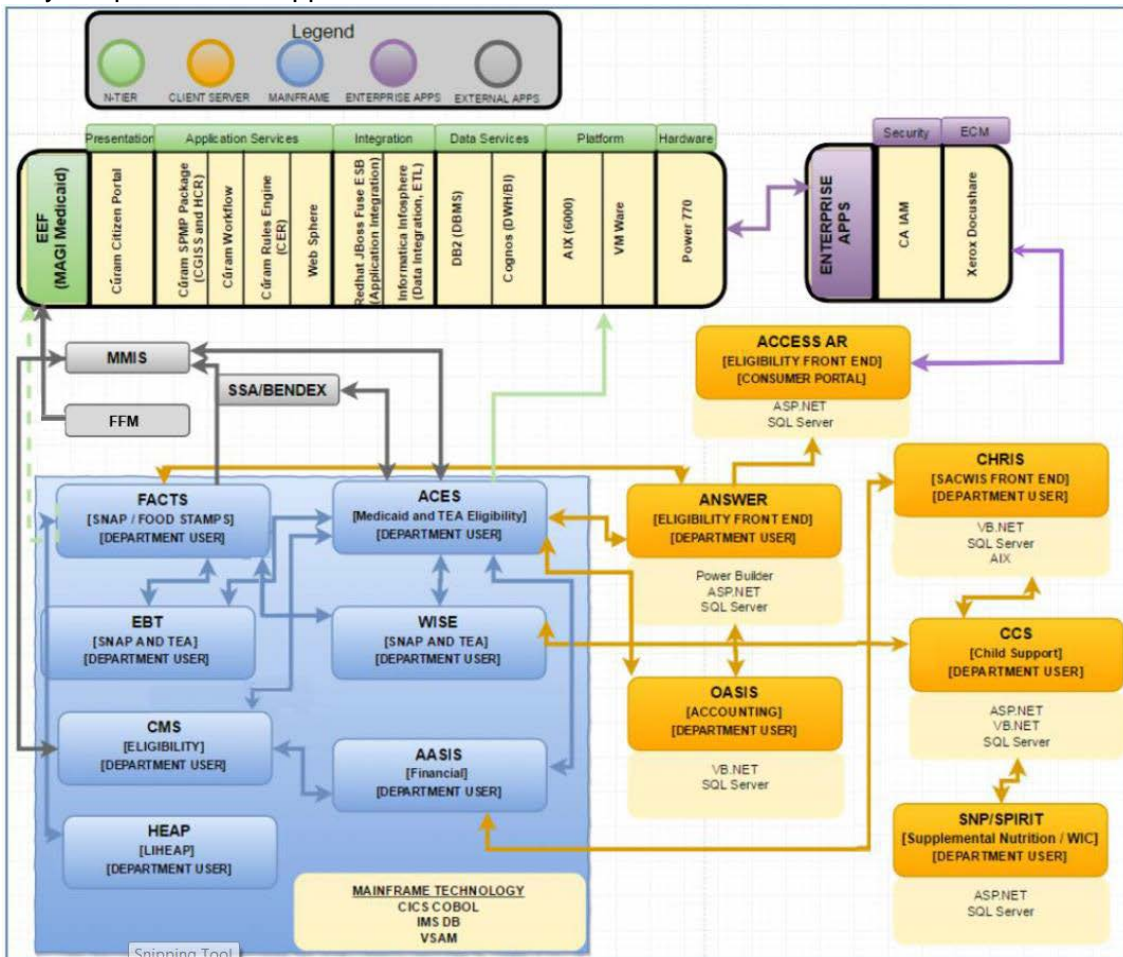


Exhibit 8.2-1: DHS Current Technology Landscape. Current DHS systems support individual programs and are spread across multiple technology platforms

MAXIMUS also understands the program scope of the IEBM system. We have experience providing IV&V services to customers implementing IT solutions for each of the programs that DHS plans to integrate with IEBM. We are also familiar with the DHS approach to eligibility determination and case management for key programs to include providing pre-screening and referral of other programs to other case management systems. *Exhibit 8.2-2: IEBM Solution Programs and Functionality In-scope* details our understanding of the programs in IEBM scope and those activities that DHS anticipates the IEBM will perform for each program.

PROGRAM	Pre-Screen	Application Data	Eligibility	Enrollment ⁴	Benefit Management	Case Management	Redetermination	Change of Circumstance	Client Overpayment Tracking
Medicaid/CHIP	✓	✓	✓						
Arkansas Works	✓	✓	✓						
SNAP	✓	✓	✓		✓ ³	5	✓	✓	✓
LIHEAP	✓								
Child Care	✓	✓	✓						
TEA	✓	✓	✓ ¹		✓ ³	5	✓	✓	✓
WIC	✓	✓	✓ ¹					✓ ²	
Child Support	✓	✓							
Veterans' Services	✓	✓							

- ¹ The IEBM system will provide the Applicant a determination of the first phase of eligibility. For full certification, the Applicant must be referred to the Arkansas Department of Health (ADH).
- ² ADH will periodically provide the IEBM system with a file containing all currently certified WIC clients. For those known to IEBM, all change of circumstances will be coordinated with the ADH WIC System (currently SPIRIT).
- ³ Benefit calculation and issuance for the SNAP and Transitional Employment Assistance (TEA) programs are managed by the IEBM and delivered by a third-party EBT vendor
- ⁴ Enrollment in specific programs or with providers is currently outside the scope of the IEBM (however, for Medicaid the IEBM Solution will assess eligibility for specific Medicaid programs).
- ⁵ Case Management (for Employment and Training (E&T) Programs and TANF/TEA) — The IEBM Solution will integrate with the E&T and TANF/TEA case management solutions (both providing eligible client information to the case management systems and receiving updates from them) and these external systems will provide the required case management support.

Exhibit 8.2-2: IEBM Solution Programs and Functionality In-scope.

8.2.1.1 Key Business Drivers

MAXIMUS understands the key business imperatives driving DHS' IEBM initiative. DHS is seeking to evolve IT assets to support more efficient and effective service delivery to Arkansas residents. DHS' ultimate goal is to improve customer service through more efficient business processes. Improved efficiency of DHS services also reduces overall operational costs. DHS has performed comprehensive analysis of existing business processes to identify potential process improvements that support these goals. The State has also performed critical work of defining these process changes and including resulting requirements in the functional and technical requirements specifications. DHS has defined the following key business drivers related to the IEBM Program:

- Migrate to a person/family-centric model
- Leverage technology to improve client satisfaction, robust self-service and multi-channel access to benefits
- Increase access to data and information
- Decrease technology risk and/or costs
- Improve operational efficiency and effectiveness

In the following subsections, we detail our understanding of these business drivers and how IV&V supports successful outcomes in each area.

8.2.1.1.1 Migrate to a Person/Family-Centric Model

DHS requires IEBM to evaluate eligibility for all relevant programs at the “household” level. This kind of person/family-centric approach enables evaluation of household circumstances for multiple programs with a single application process. Enabling applications for multiple programs streamlines customer contact with DHS, minimizes collection and data entry of the household circumstances across multiple systems and platforms, and reduces the need for complex cross-system data interfaces. DHS customers have a single entity to communicate with to inquire on the status of their applications and/or report changes to ongoing household circumstances. These benefits result in improved customer access, outcomes, costs, accountability, and quality of DHS programs and services compared to the existing program-centric model supported by legacy IT assets.

MAXIMUS has provided services to other states implementing IE solutions to minimize siloed service delivery. Our team monitors requirements and design processes to validate that solution designs support person/family-centric models and achieve DHS needs. IV&V verifies the integrity of household information is maintained throughout the implementation process and across IEBM functional areas. Our team monitors project progress and verifies data collection, eligibility determination, and benefit calculation, and client correspondence functions support the family-centric model. Our team also validates that solution inquiry and reporting models present household-level demographic, financial, and eligibility results based on the household configuration across all requested programs.

8.2.1.1.2 Leverage Technology to Improve Client Satisfaction, Robust Self Service, and Multi-Channel Access to Benefits

Modern, N-Tiered IE solutions offer an opportunity for Arkansas to expand the channels available for residents to engage with DHS. Many states have implemented client-facing web solutions enabling residents to explore potential eligibility through prescreening features, apply for services online, inquire about the status of benefits once approved, and report changes to household circumstances. In some cases, depending on program and verification requirements, states have allowed disposition of benefits and/or changes to existing benefits based on customer information entered through client-facing portal solutions. In addition, many states have implemented document imaging and Optical Character Recognition (OCR) features to scan customer provided verifications, further reducing the level of data entry required by the client and DHS staff.

This model provides the maximum information to customers as rapidly as possible, significantly improving the customer experience. Moreover, adoption of the person/family-centric model supports a more holistic view of the case and replaces the need for customers to interact with multiple case workers across multiple business units, and across multiple disparate IT systems. Customers benefit from a “one-stop” method to communicate with DHS and provides comprehensive case information together.

MAXIMUS is familiar with these approaches and has provided IV&V services to other jurisdictions implementing this kind of client-facing capability (for example, North Carolina, North Dakota, Ohio, and Oklahoma). Our team understands program policy and the potential impact to federal QC requirements if implemented solutions allow benefit calculation errors. Our team works closely with solution design teams to understand design implications and potential error scenarios. MAXIMUS reports potential risk to management teams and DHS leadership, as appropriate. Our team also offers recommended strategies to mitigate identified risks and resolve issues.

8.2.1.1.3 Increase Access to Data and Information

While the goals of various public assistance programs are different, each focuses on a key aspect of the health and welfare of citizens without financial means. Given the nature of these programs collectively, each requires common customer information to evaluate program eligibility and assess benefit levels. In many cases, the same or similar demographic and relationship information is required to compose assistance groups, and common income and resource data is needed to evaluate eligibility. Modern IE solutions consolidate all of this data entry into a streamlined application process.

Modern IE solutions consolidate client demographic and financial data in a single database in order to minimize redundant data entry across multiple systems. In addition, an integrated delivery approach minimizes, if not eliminates, time consuming and error prone manual interventions and cross system inquiries. IE determination automates evaluation of cross program impacts. As an example, DHS workers processing SNAP applications no longer need to investigate the ACES system for a TANF/TEA grant while calculating the SNAP budget. The automated eligibility determination and benefit calculation process evaluates the requested programs and determines eligibility sequentially based on program heuristics. In most states implementing IE determination, they system automates the budgeting process and correctly considers any TANF/TEA grant(s) as income in the SNAP eligibility calculation.

Consolidated individual, case, and eligibility data in a single schema also streamlines critical inquiry and reporting capabilities. Benefit inquiries can be defined for both DHS staff and client-facing portals, improving communication between DHS and the public. In addition, program reporting capabilities are expanded enabling program managers new insights into program delivery and expanded program management capabilities.

MAXIMUS understands the benefits DHS gains from increased access to data and information from the IEBM project and we have helped many other states achieve successful outcomes in this area. We are also familiar with user interface design approaches that support — or hinder — data integrity. Our team leverages this experience and communicates concerns to design teams and IEBM managers in real time as potential risks or issues are identified. Our team

leverages this experience to validate project teams consider all circumstances and develop data schemas and functional designs that enable comprehensive data access and analysis.

8.2.1.1.4 Decrease Technology Risk and/or Costs

Cost is a primary driver for many states to consolidate IT assets. Cost is relevant to all of our customers implementing N-Tier IE solutions. MAXIMUS understands this is especially relevant for Arkansas DHS given the program focus of each system (that is, ACES, FACTS, HEAP). Each system requires human resources to maintain system infrastructure and enhance software to address policy changes. In many areas, it is likely that policy changes and/or legislative changes impact multiple systems. These scenarios require complicated testing and rollout strategies to implement changes without introducing regression issues. Moreover, mainframe-based technologies are expensive to operate and maintain, and human resources with requisite programming skills (for example, COBOL, CICS.) are becoming increasingly difficult to find.

Introduction of a modern IE solution does not alleviate all M&O complexities, modern systems can significantly streamline support of human services programs. Thorough requirements traceability and design definition help ease impact analysis and change control. End-to-end, bi-directional requirements traceability helps identify processes and code that require change based on an identified problem, enhancement, or change resulting from legislation. Consolidation of program support into a single integrated system also streamlines the testing and makes regression issues more easily identified. Moreover, integrated solutions consolidate build and deployment for major releases, streamlining the release process.

Transitioning to modern technologies also enables DHS to scale the solution more easily than current systems allow. Increased scalability provides greater flexibility to IT managers to implement changes or respond to database growth. This flexibility reduces overall maintenance costs of the new system. Moreover, N-Tier technologies expand the human resource pool as more candidates are highly skilled in the selected software technology reducing the human resource risk during IEBM operations phases.

MAXIMUS understands DHS' goal of decreasing technology risks and overall program costs. We have helped other clients such as North Dakota and North Carolina to achieve success in this area through thorough verification and validation of requirements adherence through all phases of the project. To support DHS success, our IV&V team works closely with project teams throughout the requirements, design, and development phases to validate teams maintain requirement integrity and traceability. Our team raises risks if requirements gaps are identified and works with the IEBM team to close gaps with effective solutions. The IV&V team also closely monitors solution design and testing activities to validate the solution is defined in a comprehensive manner and that testing processes verify implementation of IEBM functional and technical requirements.

8.2.1.1.5 Improve Operational Efficiency and Effectiveness

MAXIMUS understands the DHS goal of improving operational efficiency and effectiveness with the IEBM solution. As stated previously, consolidating disparate systems into a single IE solution provides many opportunities to streamline application entry, data collection, client and staff inquiry, and reporting and data sharing processes. IE determination automates cross-

system inquiries supporting improved accuracy with less human effort. All of these qualities enable staff and customer efficiency gains and improves the effectiveness of DHS service delivery. IEBM requirements improve DHS operational efficiency and effectiveness by:

- **Enhancing self-service capabilities** through a client-facing portal supporting benefit screening, registration, application entry, and benefit/case inquiry.
- **Improving the user interface** enabling efficient and effective data collection of individual demographics and household income and resource data and enforcing program rules.
- **Streamlining business processes and removing redundant tasks** by consolidating common data entry across programs into an integrated application and eligibility determination process.
- **Improving workflow and integration between systems** by minimizing data inconsistency across the enterprise and eliminating data inquiry and validation across multiple systems to validate accurate benefit calculation.
- **Decreasing training required** by reducing the number of systems and system behaviors staff must understand to perform their job function and reducing reliance on human training of program policy through automation of processes determining assistance group members, individual and assistance group level income and resource budgets, and accurate benefit calculation.

MAXIMUS helps DHS achieve these goals by monitoring project progress and verifying that project processes result in outcomes that align with DHS business drivers and project goals. The MAXIMUS IV&V Team provides an independent perspective throughout the engagement. Our team raises concerns in real-time so they can be evaluated and addressed by project teams. Regular IV&V reporting details the results of ongoing IV&V analysis and communicates findings, risks, recommendations, and progress toward approved mitigation strategies keeping project leaders and State and Federal stakeholders informed on progress toward project goals. IV&V helps identify risk early when mitigation strategies are least costly.

8.2.1.1.6 Establish an Integrated Platform of Components that will Decrease Total Cost of Ownership (TCO) and Support Future Needs

Our team has worked with other clients implementing enterprise system integration projects supporting the delivery of state human services programs. In many areas, DHS programs and workflows are similar and these common processes are easily reused across the enterprise if designed agnostic to specific programs. In other areas, only workflow components are reusable across the enterprise. Maximizing component reuse requires the SI vendor (or DDI) vendor to provide deep and a thorough understanding of platform features and capabilities and clear understanding of the DHS teams' solution enterprise requirements. Effective communication between the SI and DHS teams is critical to design IEBM components that support enterprise reuse and maximize cost savings over the life of the deployed system.

DHS is well positioned to work collaboratively with Deloitte. Based on past experience providing IV&V services for Deloitte-led implementations, we are aware that Deloitte provides functional experts with a deep understanding of their NextGen solution. IV&V helps verify this understanding is effectively communicated to DHS teams and that teams coordinate effectively

to make informed design and implementation decisions, maximizing enterprise reuse and minimizing total cost of ownership of the IEBM system over its lifetime. Further, our proposed IV&V team includes several former Deloitte employees with experience delivering Deloitte IE solutions.

Throughout the engagement, MAXIMUS validates that IEBM teams define and implement integrated solution designs that support enterprise reuse based on DHS' needs. Our team supports this through comprehensive review and verification of project management processes and controls; requirements management and traceability; design processes and artifacts; and testing plans, artifacts, and test outcomes. At each point of project execution, the MAXIMUS IV&V Team leverages our functional and process expertise to identify potential deviations from DHS requirements that pose risks to enterprise reuse or operational cost savings. Our team communicates these risks and recommended mitigation strategies in real time to project teams and project leaders to support timely remediation and risk analysis.

8.2.1.2 Key Tasks and Deliverables

MAXIMUS reviewed the IEBM Work Breakdown Structure (WBS) defined in the IEBM SI RFP (RFP # SP-17-0012). The WBS represents a comprehensive, systematic approach to manage the IEBM implementation. Based on our review of the WBS, we are familiar with the planned project phases represented by each WBS task. Our team is also experienced providing IV&V review and analysis on planned task outputs and deliverables. DHS plans the following IV&V tasks during the IEBM Project:

- Task 1: Project Management and Monitoring
- Task 2: Planning
- Task 3: Technical Design Specification
- Task 4: DDI
- Task 5: Data Conversion
- Task 6: Testing
- Task 7: OCM, Training, and Knowledge Transfer
- Task 8: Pilot, Rollout, and Go-Live
- Task 9: Warranty Support

Section 3.7.2 - Implementation Scope of Work Overview of the IEBM System Integrator RFP (RFP # SP-17-0012) defines the scope and objectives of each task. Task objectives are clear and consistent with other large-scale IE programs. It is not our intent to restate the task objectives here. Rather, in the following sections, we describe the critical role that IV&V plays throughout the IEBM project lifecycle. Here, we provide how IV&V supports successful IEBM outcomes by reviewing and assessing task deliverables and validating task objectives are achieved.

Task 1: Project Management and Monitoring

Effective project management is critical to the successful implementation of the IEBM Project. During this task, IEBM project management teams define essential project governing processes, procedures, and management controls for the project through the Project Management Plan. In addition, schedule management and reporting processes are defined and approved. Establishing, reviewing, and approval of a comprehensive Project Management Plan and Schedule is a critical component of the project.

Exhibit 8.2-3: Project Management and Monitoring Task Deliverables details the required deliverables and outputs from WBS Task 1.

TASK	DEL #	SI DELIVERABLE NAME
1. Project Management and Monitoring	1.1	Completed Project Establishment Checklist
	1.2	Integrated Project Management Plan
	1.3	Project Schedule
	1.4	Project Reporting Artifacts (Weekly, Monthly Reports, Risk, Issue and Decision Making Logs)
	1.5	Release/Project Closeout Check-List

Exhibit 8.2-3: Project Management and Monitoring Task Deliverables. *The MAXIMUS IV&V Team monitors the development of the PMP and review and approval of plan aspects with the SI Vendor and DHS managers.*

It is important that all teams understand each process as well as process goals. Each project management process details how project teams communicate, report progress, mitigate risk, and help ensure that the delivered solution meets DHS' needs. Each process provides controls for project managers to achieve scheduled milestones and quickly respond when deviations are identified. Clear presentation of the PMP is important as well because this document provides a reference source to IEBM teams guiding project operations.

During this phase, the MAXIMUS IV&V Team performs a detailed review of project plans and schedule. The primary perspective of this review is to, at a minimum, validate:

■ Project Management Plan

- Project processes are defined at a sufficient level of detail and clearly define how teams execute tasks and report progress to project management teams.
- Processes define and implement effective management controls enabling managers to identify deviations from plan as early as possible and effectively mitigate quality, cost, and/or schedule risk.
- Plans provide effective communication channels to inform management teams of project progress and deviations from plan.
- Risk and issue management processes are clearly defined and meaningful analysis tools are provided to assist managers in mitigating project risks early.

■ Project Schedule

- Scheduled tasks are defined at an appropriate level of detail and provide an understanding of the task level of effort.

- Task durations are defined and resources assigned enabling schedule accountability.
- The schedule defines cross task dependencies to support effective resource allocation and management oversight.
- The schedule defines the IEBM critical path and supports management visibility into the critical tasks directly impacting the schedule and critical implementation milestones.

Throughout the duration of the IEBM Project, MAXIMUS monitors project operations. The IV&V Team validates approved processes are implemented and enforced across the project. IV&V also validates that planned management controls are available and monitored by project management teams to assess and mitigate project risk.

Task 2: Planning

During the Planning task, project teams define the technical planning aspects of the overall Project Management Plan. The implementation focused plans defined during this task address how key technical aspects of the project are implemented and how teams implement key industry standards. Plans developed during this task are critical because the corresponding processes directly impact overall system performance, usability, component reuse, protection of sensitive DHS and customer information, and requirements verifications.

Exhibit 8.2-4: Planning Task Deliverables details the required deliverables and outputs from WBS Task 2.

TASK	DEL #	SI DELIVERABLE NAME
2. Planning	2.1	Overall SDLC Approach Plan
	2.2	System Architecture
	2.3	System Security Plan
	2.4	Technology Environment Specifications and Infrastructure Plan
	2.5	OCM Plan
	2.6	Data Conversion Plan
	2.7	Master Test Plan
	2.8	Training and Knowledge Transfer Plan
	2.9	Roll-Out Plan (Pilot and Full Roll-Out)
	2.10	Deployment Plan (Pilot and Full Deployment)
	2.11	System Operations, Support, and Transition Plan

Exhibit 8.2-4: Planning Task. *The technical plans that specify the design and implementation approach of critical implementation aspects of the IEBM solution are reviewed to verify alignment with relevant industry standards, recognized best practices, and applicable SI contract requirements.*

The MAXIMUS IV&V Team reviews each planning document. This analysis assesses the level of detail provided and validates adequate information is available to guide project teams implementing each component. Plan detail is also assessed in terms of providing State reviewers sufficient information to understand and approve planned processes and integrated architectures.

The IV&V Team considers the following with respect to key deliverables of the Planning task:

- **Overall SDLC Approach** provides comprehensive support and control of all requirements management, design, development, and implementation activities and alignment with (and/or integration of) the CMS XLS Framework.
- **System Architecture** details the Service-Oriented Architecture (SOA) model-driven framework being used that enables the development of service-oriented models to facilitate the interaction and communication of deployed technologies.
- **System Security Plan** details the security architecture, processes, and controls to meet State and federal standards and provides relevant risk scenarios and approaches to protect IEBM from known risk threats and vulnerabilities.
- **Technology Environment Specifications and Infrastructure Plan** clearly defines the IEBM infrastructure (hardware, operating system, networking, and COTS software) and specifications for each application environment required to achieve planned development and testing processes.
- **OCM Plan** is based on a comprehensive Stakeholder Needs Assessment and that all essential OCM, training, and knowledge transfer needs are identified and planned for.
- **Data Conversion Plan** defines processes to identify legacy data required by the IEBM system and defines Extract, Translate, and Load (ETL) routines to convert legacy individual and program data to the integrated IEBM schema and test routines for accuracy.
- **Master Test Plan** defines detailed testing plans for each release including the types of testing to be performed as well as clear, measurable test phase entrance and exit criteria.
- **Training and Knowledge Transfer Plan** aligns with findings from the Stakeholder Needs Assessment and defines required processes to identify training needs and develop content to prepare the organization for the new system.
- **Roll-Out Plan (Pilot and Full Roll-Out)** provides planning details that define the uninterrupted transition from legacy tools to the IEBM Solution and are compliant with Federal Title 7 for 277.18 (g)(2)(ii).
- **Deployment Plan (Pilot and Full Deployment)** details site requirements and step-by-step plans to deploy the IEBM system into the production environment and defines appropriate checkpoints to monitor and verify progress.
- **System Operations, Support, and Transition Plan** clearly defines processes to transition management software management responsibility to M&O as well as clear, measurable M&O entrance criteria.

Throughout the duration of the IEBM Project, MAXIMUS monitors project operations and adherence to approved implementation plans. The IV&V Team validates approved processes are implemented and enforced across the project. Our team also validates that vendor commitments are achieved and/or deviations are approved by appropriate DHS managers.

Task 3: Technical Environment Specification

The specification defined in this task is critical to IEBM success. Under sizing the IEBM infrastructure has the potential to significantly impact solution performance and adversely

impact user attitudes of the new system during key deployment timeframes. It is critical the solution is sized appropriately to support peak user periods and achieve approved Service Level Agreements (SLA). It is also important that SLAs are quantifiable, measurable, and strictly enforced.

Exhibit 8.2-5: Technical Environment Specification Task Deliverables details the required deliverables and outputs from WBS Task 3.

TASK	DEL #	SI DELIVERABLE NAME
3. Technical Environment Specification	3.1	Technical Environment Specifications Plan

Exhibit 8.2-5: Technical Environment Specification Task Deliverables. *Our review validates that the specification defines all environments required to achieve project objectives and that disaster recovery and business continuity planning is supported.*

During this task, the MAXIMUS IV&V Team monitors technical analysis performed by the DDI vendor to model production transaction volume and assess final IEBM hardware and infrastructure needs. We validate modeling techniques as well as relevant technical and user assumptions and verify that accurate user population and data volumes are included in the environment analysis.

Task 4: DDI

This task manages and monitors the execution of plans to define and build the IEBM system. This task includes execution of key processes including requirements management, solution design, and software development activities to implement Arkansas configurations and customizations to the NextGen solution.

Exhibit 8.2-6: DDI Task Deliverables details the required deliverables and outputs from WBS Task 4.

TASK	Del #	SI Deliverable
4. DDI	4.1	Requirements Validation and Updates to the Requirements Traceability Matrix (RTM), BPA, and Use Cases
	4.2	Functional Design Document (FDD)
	4.3	Technical Design Document (TDD)
	4.4	Data Integration and Interface Control Documents (ICD)
	4.5	Updated and Completed Functional and Technical RTM

Exhibit 8.2-6: DDI Task Deliverables. *The MAXIMUS IV&V Team monitors DDI execution and verifies approved processes and procedures are followed and enforced.*

During this phase, the Deloitte team is required to lead IEBM DDI tasks as follows:

- Requirements Validation.** Define and facilitate a process to review and validate IEBM Use Cases and detailed requirements (functional and non-functional) documentation. During these processes, vendor teams must elicit comprehensive, integrated requirements and elaborate baseline requirements to document agreed upon requirements changes

Detailed design. Facilitate JAD sessions to evaluate design alternatives to meet the elaborated requirements and achieve consensus around resolving requirements gaps through custom software development or revisions to DHS business processes.

- **Implement the design.** Lead, coordinate, and execute IEBM development tasks required to implement elaborated requirements in alignment with the design documents produced through the detailed design process.

The MAXIMUS Team verifies that planned DDI management controls are available to project managers and that DDI risks and issues are identified, resolved, and/or escalated, as needed. The IV&V Team also validates that requirements traceability is maintained throughout each IEBM DDI phase and that Requirements Management Plans are strictly followed.

The IV&V Team considers the following with respect to key deliverables of the DDI task:

- **Requirements Validation and Updates to RTM, BPA, and Use Cases** define fully elaborated IEBM requirements confirming IEBM designs capture the entire approved functional scope based on complete requirements analysis and that requirements are mapped to planned releases.
- **FDD** provide system overview diagrams and functional details are provided to vet and approve “out of the box” features and detailed functional designs of DHS-specific customizations.
- **TDD** provides detailed technical designs that address how the approved functional design is implemented, including COTS software, the configuration of these components, the data integration and interfaces, and the design of any custom development required.
- **Data Integration and ICD** adequately defines integration approach and data design for the solution focused on the interfaces to external systems.
- **Updated and Completed Functional and Technical RTM** supports requirements verification through IEBM test activities and maps functional and technical requirements to actual test cases and test scripts.

Task 5: Data Conversion

During this task, legacy data is analyzed and logic is defined to translate legacy data formats to the IEBM integrated database schema and to support integrated user interface features. This task includes defining the detailed conversion schedule, methods to validate and track each legacy data element and definition for potential conversion to IEBM; defining IEBM legacy data ETL routines; and incrementally validating IEBM conversion processes through trial/mock conversion(s) prior to performing UAT.

Data conversion for a system like IEBM is extremely complicated. Effective planning is required with both legacy system teams as well as teams responsible for IEBM development. On the first day of implementation, all data in the system is converted data and the system must work effectively and determine accurate results using this information. Through this task, the conversion team must develop all tools required to cleanse, de-duplicate, and convert legacy data into the IEBM data schema.

Exhibit 8.2-7: Data Conversion Task Deliverables details the required deliverables and outputs from WBS Task 5.

TASK	DEL #	SI DELIVERABLE
5. Data Conversion	5.1	Data Conversion Testing Report and Results

Exhibit 8.2-7: Data Conversion Task Deliverables. *The MAXIMUS IV&V Team validates that each legacy data element is tracked and evaluated, and that auditing capabilities are established to verify all records are processed or exceptions are tracked.*

The MAXIMUS IV&V Team monitors the execution of the Data Conversion Plan. We validate reported progress against conversion artifacts and validate that adequate staff resources are assigned to the effort and that they possess the necessary understanding of IEBM processes to effectively facilitate complex conversion decisions. Our team reviews the results of mock conversions and validates converted data has been tested and is ready for production prior to performing UAT.

Task 6: Testing

This task monitors the comprehensive execution of the IEBM Test Plan to verify that the solution designs achieve elaborated IEBM requirements. This task monitors and controls all test phases, including:

- Unit Testing
- String/Link Testing
- SIT
- UAT
- Regression Testing
- Performance/Stress Testing

Exhibit 8.2-8: Testing Task Deliverables details the required deliverables and outputs from WBS Task 6.

TASK	DEL #	SI DELIVERABLE
6. Testing	6.1	Completed SIT Readiness Checklist
	6.2	SIT Testing Report and Results
	6.3	Completed UAT Readiness Checklist
	6.4	UAT Testing Report and Results

Exhibit 8.2-8: Testing Task Deliverables. *The MAXIMUS IV&V Team monitors test planning and execution activities to validate approved testing plans are executed and that executed tests verify IEBM requirements.*

Our team validates test scenarios and test cases are developed for each functional requirement and that the test artifacts are traced to the relevant requirements. In addition, we sample test cases to review defined tests actually verify all relevant aspects of the traced requirement as the requirement is defined. In some cases, our team may execute a sample of test cases to verify reported testing results.

IV&V review of test plans and artifacts is also intended to validate testing approaches comply with federal funding partner requirements (e.g., FNS, CMS) and align with industry relevant

industry standards (Software Engineering Institute (SEI), the Capability Maturity Model Integration (CMMI), International Standards Organization (ISO) 9000, or the Institute of Electrical and Electronics Engineers (IEEE) or IEEE 829 Standard for Software and System Test Documentation and related standards).

Task 7: OCM, Training, and Knowledge Transfer

This task monitors the execution of critical tasks intended to prepare the DHS organization for the transition to the IEBM system. This task includes the definition of training objectives and development of training assets to achieve those objectives. Training assets may include Instructor Led Training (ILT) curriculum, Computer Based Training (CBT), “Help” features within the IEBM system, and other methods. All defined Training and Knowledge Transfer assets are defined in the IEBM Training Course Catalog.

In some cases, project teams may agree to alter DHS business processes to take advantage of new technical capabilities or solution features. These OCM changes must also be tracked and thoroughly evaluated for process efficiency and effectiveness.

This task includes planning and delivery of training equipment and facilities, scheduling training sessions, facilitating the sessions, surveying the participants, and analyzing the results to ensure adequate attendance and learning has occurred. DHS intends for technical training and knowledge transfer for technical staff to begin as soon as possible in the project schedule, with ongoing, advanced and refresher training throughout the contract period. MAXIMUS assumes relevant technical training assets are also detailed in the Training Course Catalog.

Exhibit 8.2-9: OCM, Training, and Knowledge Transfer Task Deliverables details the required deliverables and outputs from WBS Task 7.

TASK	DEL #	SI DELIVERABLE
7. OCM, Training, and Knowledge Transfer	7.1	Training and Knowledge Transfer Materials
	7.2	Training and Knowledge Transfer Completion Report
	7.3	Executive Briefing

Exhibit 8.2-9: OCM, Training, and Knowledge Transfer Task Deliverables *The IV&V Team monitors progress against Training and Knowledge Transfer Plans throughout the IEBM project lifecycle.*

The MAXIMUS IV&V Team validates that all approved training materials and assets outlined in the Training Course Catalog are delivered, align with industry best practices, and support end-user understanding of the targeted subject matter. DHS plans to validate training materials during UAT. Thus, we verify that all training materials are approved by DHS prior to commencing UAT. To validate successful completion of Training and Knowledge Transfer activities, we review training survey results to help ensure that training provides adequate end-user learning and or relevant remedial training has been implemented as needed.

Our team monitors updates to the Training Course Catalog and verifies that all agreed training assets are identified, tracked, and delivered based on agreements reached between with DHS teams. We also monitor OCM activities and validate that approved process changes are fully evaluated. We help ensure that DHS end-users are not overburdened with increased work that could result in decreased worker productivity or customer service.

The MAXIMUS Team attends the Training and Knowledge Transfer Executive Briefing to verify that reported outcomes and risks facing training teams are reported and that effective resource allocation is provided to achieve training objectives.

Task 8: Pilot, Rollout, and Go-Live

This task executes IEBM production pilot and rollout plans. During this task, the IEBM team will deploy the solution to a specified controlled pilot population and to a validated production environment. The pilot evaluation must comply with Title 7 for 277.18(g)(2)(ii) for a live production pilot and Handbook 901 as defined by the FNS. Upon successful pilot evaluation and certification by federal oversight bodies, the IEBM system will be rolled out to the remainder of the State in accordance with the approved Go-Live plans.

Exhibit 8.2-10: Pilot, Rollout, and Go-Live Task Deliverables details the required deliverables and outputs from WBS Task 8.

TASK	DEL #	SI DELIVERABLE
8. Pilot, Roll-Out and Go-Live	8.1	Pilot Deployment Report and Signoff
	8.2	Formal System Acceptance and Final Go-Live report

Exhibit 8.2-10: Pilot, Rollout and Go-Live Task Deliverables. *The MAXIMUS IV&V Team monitors pilot and rollout planning, and validates that dependencies are identified and planned for and program integrity is maintained.*

As part of this review, the IV&V Team validates:

- User information and security access is established in the IEBM Solution
- Interim support processes are defined and implemented supporting pilot issues and IEBM stability is reached prior to the transition to M&O processes and staffing models
- Controls are in place to maintain program integrity during the transition phase while both legacy systems and the IEBM are operational
- Vendor reported efficiency gains and user satisfaction results as well as the effectiveness of analysis methods and accuracy of conclusions
- Pilot execution complies with federal oversight bodies defined in Title 7 for 277.18(g)(2)(ii) for a live production pilot

IV&V also validates that M&O plans are in place, tested, and operational to support the transition of solution support post Go-Live. We monitor pilot and go-live operations to verify defect reporting processes and validate support processes are in place to resolve defects in accordance with warranty support plans and approved SLAs.

Task 9: Warranty Support

IV&V also verifies that M&O processes are stable and responsive to customer needs and service level commitments. Throughout the Warranty support task, our team monitors incident triage processes and verifies reported incidents are thoroughly assessed relative to approved solution designs and are appropriately classified as defects or enhancements. We also validate change management process support production operations and configuration management processes control the release of potentially multiple code streams.

Exhibit 8.2-11: Warranty Support Task Deliverables details the required deliverables and outputs from WBS Task 9.

TASK	DEL #	SI DELIVERABLE
9. Warranty Support	9.1	Completion of all Warranty Activities Report

Exhibit 8.2-11: Warranty Support Task Deliverables. The MAXIMUS IV&V Team monitors M&O and verifies that support processes are in place to accommodate reported incident volumes.

8.2.1.3 IEBM DDI Requirements

MAXIMUS performed a detailed review of the RTM provided with the IEBM System Integrator RFP # SP-17-0012. Our proposed team is familiar with the system and process requirements defined by Arkansas and is well positioned to both support the DHS team in tracking requirements throughout the engagement and validate delivered solutions.

DHS has defined a comprehensive requirements baseline. The baseline Requirements RTM includes requirements support to include:

- Functional RTM
- Technical RTM
- Implementation RTM
- M&O RTM

The Functional RTM describes necessary features, functions, and behaviors of the system. The Technical RTM defines IEBM non-functional requirements around architecture, infrastructure, security, and support for component reuse and system administration. *Exhibit 8.2-12: IEBM System Requirements* details the specific categories of requirements captured in the IEBM system-focused RTMs.

RTM	REQUIREMENTS CATEGORY	
Functional	FR1: General	FR8: Redetermination
	FR2: Pre-Screening	FR9: Client Change
	FR3: Application	FR10: Medical Review Team
	FR4: Interviews	FR11: Overpayments and Audits
	FR5: Documentation	FR12: Appointments and Caseload
	FR6: Eligibility Determination	FR13: Reporting and BI
	FR7: Benefit Issuance	

Exhibit 8.2-12: IEBM System Requirements. The State has defined a comprehensive baseline requirements detailing both the Functional and Non-Functional needs of the IEBM system.

RTM	REQUIREMENTS CATEGORY	
Technical	G1: Usability	T0: Technology Solution Stack
	G2: Audit and Compliance	T1.1: Portal
	G3: Performance and Availability	T2.1: Case Management Functionality
	G4: Interoperability/Interfaces	T2.2: Notifications and Alerts
	G5: Scalability and Extensibility	T3.1: Business Rules Engine
	G6: Regulatory and Security	T3.2: Workflow and Business Process Management
	G7: Interface List	T3.3: Enterprise Content Management
	G8: Solution Management and Admin	T3.4: Application Server
		T4.1: Enterprise Service Bus / Application Integration
		T4.2: Data Integrity, Quality, and ETL
		T4.3: Master Data Management (MDM)
		T5.1: Database Management System
		T5.2: Analytical Processing and Business Intelligence
		T6.1: Identity and Access Management
		T6.2: Privacy and Consent
		T7: Infrastructure

Exhibit 8.2-12: IEBM System Requirements (continued). *The State has defined a comprehensive baseline requirements detailing both the Functional and Non-Functional needs of the IEBM system.*

MAXIMUS understands the complex and integrated nature of modern, multi-program eligibility determination systems and how solution designs may have cross requirement (or cross subsystem) impacts. For example, it is critical that common Application (FR3) data structures are designed to collect individual level information and support individual and group level income and resource budgets for requested programs. The IEBM eligibility determination transaction necessarily processes a large amount of data. The IV&V Team validates that IEBM data model and schema designs are developed with system performance in mind.

Another example of complex requirements integration includes designs identifying when applicant information is “effective”. Effective date tracking of individual information is critical to support accurate benefits calculation over multiple eligibility periods. For example, If a client loses employment income effective December 15, IEBM may be designed to support accurate eligibility results and benefit amounts for multiple periods (for example, December, January, and ongoing periods) in a single transaction. The IV&V Team verifies that requirements analysis considers these options, as appropriate.

MAXIMUS supports the IEBM Project by leveraging our understanding of DHS program requirements and business needs and participation in requirements analysis and solution design processes. Throughout the requirements process, the MAXIMUS IV&V Team validates that DHS and vendor participants discuss requirements at a sufficient level of detail and that teams address the integrated nature of DHS defined functional and technical requirements. As additional details are identified, IV&V verifies that requirements documents are updated to reflect requirements elaborations and traces requirements through design and test artifacts based on the approved Requirements Management Plan.

Our team also monitors design processes to validate solution designs are defined at a sufficient level of detail enabling DHS reviewers to verify functional and non-functional requirements are

addressed and that integrated aspects have been accounted for to DHS satisfaction. Integrated design issues are best identified during this phase, even if resolution requires additional effort. Effort at the design stage is far less costly than identification of major issues during the testing or implementation phase.

DHS has also defined comprehensive process requirements defining key project management and solution support requirements and metrics. The Implementation and M&O RTMs define essential process requirements the DDI vendor must support throughout the IEBM SDLC and for ongoing support post solution rollout. *Exhibit 8.2-13: IEBM Process Requirements* summarizes the IEBM process-focused RTMs.

RTM	REQUIREMENTS CATEGORY	
DDI	I1: Project Management	I6: Testing
	I2: Planning	I7: OCM, Training, and Knowledge Transfer
	I3: Technical Environment Specification	I8: Pilot, Roll-Out and Go-Live
	I4: Design, Development, and Implement	I9: Warranty Support
	I5: Data Conversion	I10: Implementation Service Level Requirements
Maintenance and Operations (M&O)	O1: EEF M&O Transition	O5: M&O Turnover Services
	O2: Application M&O Transition	O6: Hosted Private Cloud Services (Optional)
	O3: DDI to M&O Transition	O7: M&O Service Level Requirements
	O4: Modifications and Enhancements	

Exhibit 8.2-13: IEBM Process Requirements. *The State has defined a comprehensive baseline requirements detailing essential DDI and M&O support processes and required service levels.*

The MAXIMUS IV&V Team reviews Project Management Plans to verify proposed processes adhere to the Implementation and M&O RTMs. Our team also validates that planned management controls defined in each plan support progress reporting and required process outcomes and service levels. Throughout the duration of the project, the IV&V Team participates in project status meetings, and project risks and issues discussions. We monitor primary project communication channels to verify IEBM implementation and support processes enforce approved processes and management controls and that required service levels are achieved. If service level gaps are identified, our team validates that appropriate escalation and mitigation steps are defined and followed to resolve anomalies.

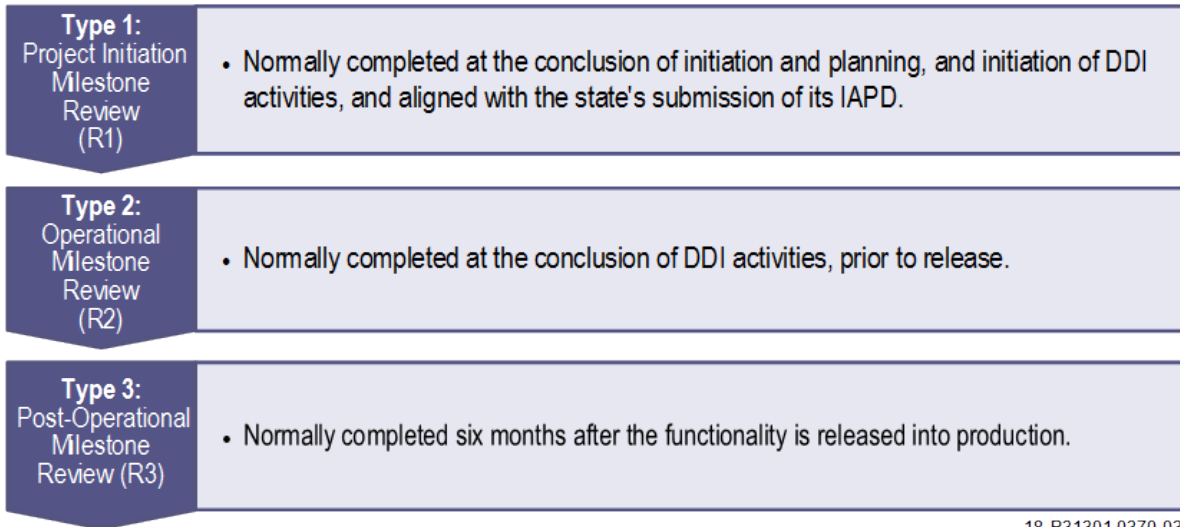
8.2.2 Understanding of the MEELC and MEET

| Describe your company's understanding of MEELC and MEET (Sec 2.4.B. 1.d)

CMS introduced the MEET 1.0 in 2017 for states to leverage as they work to streamline and modernize their E&E systems. MEET provides tools as well as an end-to-end view of the CMS processes followed to review the Medicaid E&E business functions and supporting systems being developed by states. As part of MEET, CMS developed the MEELC, which ensures alignment with the latest federal regulations and guidance, the Medicaid Information Technology Architecture (MITA), and the standards and conditions for Medicaid IT. MEELC is flexible, fitting various state approaches and SDLCs (for example, Agile or Waterfall).

Through MEET and MEELC processes, CMS reviews projects receiving Medicaid development funding throughout the SDLC with three formal milestone checkpoints, as illustrated in *Exhibit 8.2-14: MEET Milestone Reviews*.

Milestone Reviews per the MEET Guidance



18-P31301.0370-03

Exhibit 8.2-14: MEET Milestone Reviews. Under MEET guidelines, checklists are completed by the states when approaching one of the three milestone reviews; the checklists are then reviewed and verified by the IV&V vendor.

Since the release of MEELC/MEET Version 1.1, we have found CMS is requesting that states utilize the Project Partnership Understanding (PPU) agreement process to formally establish when these reviews are expected to occur. As described in MEELC, the PPU is normally completed at the start of initiation and planning.

MAXIMUS is experienced in the use of MEET, having employed it on several current projects. We have also used the companion toolkit (that is, the Medicaid Enterprise Certification Toolkit (MECT) and the Medicaid Enterprise Certification Life Cycle (MECL)) that CMS introduced in 2007 for development of MMIS.

MAXIMUS has embraced MEET and MEELC as they evolved; in fact, we piloted the MEET checklists during the development cycle prior to the official release. We have incorporated the applicable federal requirements into our IV&V oversight activities and deliverable reviews to help ensure that our clients provide the appropriate documentation and address the concerns of their federal partners. When CMS first introduced the MEET 1.0, we adjusted our IV&V methodology to align our oversight with the MEET guidelines, including the MEELC. Since then, CMS has adapted both MEET and MEELC to support Agile projects and they released MEET 1.1 in August 2018. In accordance with CMS iterations, we have made additional adjustments to our methodology. CMS recently announced that a new version of MEET and MEELC will be released in the near future although no details were provided. We expect that the modifications will result in updated processes that are more objectives-based. Regardless of the changes made by CMS, we will modify our processes to address any new CMS requirements as we have done in other projects when changes occurred. We are currently applying MEET/MEELC on several of our IV&V projects; examples are described below.

- **North Dakota ESM Project:** As discussed in *Section 8.1.6.1*, MAXIMUS was engaged by the ND Department of Human Services (DHS) to provide IV&V of the ESM Project. Consistent with the MEET/MEELC guidance, the MAXIMUS IV&V Team is embedded with the North Dakota Project Team, participating in the full SDLC of activities including daily meetings and reviews. MAXIMUS supported the ESM Program while it piloted MEET 1.0 for CMS prior to its official release in August 2017. MAXIMUS brought extensive background using the MMIS checklist and, as a result, provided guidance to the State and DDI Contractor Deloitte in completing the checklists. MAXIMUS worked closely with MITRE and CMS to streamline the review process during the pilot period. We also provided input to MITRE and CMS regarding the checklists and processes, identifying effective and ineffective processes at both the project and program level. We facilitated discussions between the State, Deloitte, MITRE, and CMS to review the State's checklist responses and MAXIMUS assessments. In addition, we discussed potential revisions to the assessment based on revised responses or evidence provided with MITRE, as needed. MAXIMUS worked with the North Dakota ESM Team and CMS to adopt changes that were implemented in MEET 1.1. In addition, we recently reviewed updated and completed checklists that North Dakota developed for Release 2. We periodically meet independently with CMS to discuss concerns and respond to questions related to our progress reporting.
- **NC FAST:** MAXIMUS was engaged by the DHHS to provide IV&V support for the NC FAST Program, as discussed in *Section 8.1.6.3*. Consistent with the MEET/MEELC guidance, the MAXIMUS IV&V Team is embedded with the NC FAST Project Team participating in the full SDLC of activities, including daily meetings and reviews at both the project and program level. MAXIMUS began providing quarterly progress reporting in January 2018 as required by MEET 1.0. MAXIMUS worked with the NC FAST Team and CMS to adopt the changes implemented in the MEET 1.1 in August 2018. MAXIMUS worked with CMS and NC FAST as they jointly developed a Project Partnership Understanding (PPU) agreement to outline the expected milestone reviews for the enhancement projects, with consideration for NC FAST's Agile development methodology. MAXIMUS adapted the previous quarterly reports to meet the reporting requirements in MEET 1.1. In accordance with MEELC and MEET guidelines, we attend E&E meetings bi-weekly with the NC Program Director, Deputy Directors, and representatives of CMS and their consultants (that is, MITRE Corporation [MITRE]) to review the status of the projects and our recommendations. We also periodically meet independently with CMS to discuss concerns and respond to questions related to our progress reporting. In preparation for the Milestone 2 review for enhancements slated to go into production in October 2018, we reviewed State documents and evidence, along with any working modules/code applicable to that particular review in order to complete the reviewer comments portion of the E&E Checklists.

8.2.3 Sample CMS Quarterly Reports

Provide two (2) sample reports of the CMS Quarterly Report. (Sec 2.4.M)

Sample CMS Quarterly Reports are provided as *Appendix A*.

8.2.4 Sample IV&V Assessment Reports

Provide two (2) sample IV&V assessment reports

Sample IV&V Assessment Reports are provided as *Appendix B*.

8.2.5 Sample Risk Report and Issue Log

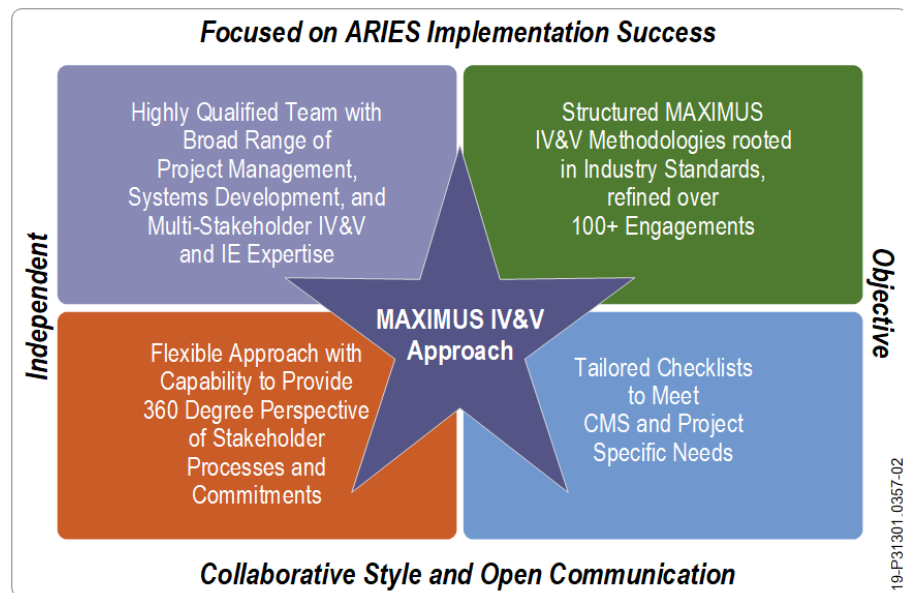
Provide one (1) sample report of Risk Report and Issue Log. (Sec 2.4.G and H)

A sample Risk Report and Issue Log is provided as *Appendix C*.

8.2.6 Approach to the SOW

Describe your company's overall approach to meeting the project requirements described in the Scope of Work for this RFP (Sec. 2.4.A-I)

Developed over the last 28 years on a wide range of public sector projects, the MAXIMUS IV&V services continues to mature and adapt as business process and technology applications change. MAXIMUS works diligently with our IV&V clients to ensure transparency and openness in our reporting; we have found that this leads to a more productive and



congenial work environment. We communicate significant risks and issues as soon as they are identified and we notify all involved parties before presenting our findings at status meetings. We firmly believe that it is not our job to catch stakeholders unaware, but rather to work to expose issues and risks in as timely a manner as possible so that they can be resolved to the betterment of the project as a whole.

Our experience has underscored the importance of clearly articulated, structured, organized, and transparent governance. All relevant stakeholders must understand the governance structure and participate in order to achieve success. MAXIMUS has been or is currently serving as the IV&V Contractor on several eligibility programs with similar governance structures and we are familiar with the typical pitfalls and obstacles inherent in various types of IV&V projects — particularly those initiated in the public sector. Our IV&V support can help DHS remain focused on the primary program objectives and not get lost in the details.

Throughout the course of our engagement, we follow a structured PM Plan to help ensure that activities are conducted timely. We also establish deliverable expectations up front to help ensure that our products are acceptable to our clients, meeting their expectations. The MAXIMUS IV&V approach is built on the following principles:

- **Independent, objective findings and recommendations.** MAXIMUS fully understands and appreciates the importance of establishing and maintaining our independence and objectivity. We provide independent analysis for identifying risks that could impact project success and make actionable recommendations for mitigation strategies based on the risk magnitude and probability, without any bias or ulterior motives. We clearly recognize that this independence is fundamental to our successful delivery of value-added services. As required by the RFP, MAXIMUS maintains complete independence from the state, as well as any specific project teams or vendors.
- **Collegiality and objectivity.** While we pride ourselves on our collaborative working style, when hired as your IV&V Contractor, we zealously guard our independence. Objectivity is a fundamental component of our work and prevents nonproductive discussions about any "agenda" or "motive" behind a finding. This means we only take on engagements that are free of conflicts of interest. This approach also means that we are not vested in specific strategies, tools, or solutions. Our focus is always on project and program success, identifying risks before they are problematic, and assessing mitigation strategies.
- **Benefit from lessons learned on similar projects.** The MAXIMUS IV&V approach takes full advantage of lessons learned from other systems development, maintenance, and enhancement experiences and from a large number of system oversight projects. The MAXIMUS IV&V Team has a wealth of relevant IV&V experience in serving other health and human services organizations with similar system efforts, as well as specific IV&V expertise in system development projects across many program areas. The benefits of this experience allow the team to effectively leverage lessons learned to assist the project in both avoiding project re-work and reducing the costs of re-work if it is not avoidable. Additionally, our national IV&V Team is continually involved in communication between active projects, so we share recent lessons learned experience as it occurs, allowing our clients to avoid those same pitfalls.
- **Consideration of federal partner requirements.** For each engagement we undertake, we consider any unique requirements of federal partners that we must address as part of our work (for example, CMS, ACF, the Federal Office of Child Support Enforcement (OCSE), FNS). One of the primary goals of this IEBM initiative is to represent federal interests and provide an independent and unbiased perspective on the progress of the project. As we will describe later in this section, completing the MEET Checklists and developing the Quarterly IV&V Progress Reports for CMS is a critical part of our methodology for Medicaid projects. From our experience in other states, we understand the checklists and have successfully used them in recent IV&V projects.
- **Applying a deep understanding of the business.** We understand that IT projects are often much more than just technical, system development efforts. Our deep corporate commitment to serving the public sector and robust staffing approach helps ensure that we not only understand the technical aspects of a project, but the program and operational considerations as well. For more than 30 years, we have gained first-hand experience providing these same IV&V services to other state entities. We also have experience working with a variety of stakeholders, including multiple state MMIS and E&E programs, as well as health benefit exchanges. With MAXIMUS, the State can be confident that our IV&V

Team has an indepth understanding of Medicaid E&E programs, as well as the IT requirements.

- **Leveraging proven checklists.** In addition to the MEET checklists, our approach includes the use of structured MAXIMUS checklists regarding project activities and artifacts. (See *Section 8.2.6.1: MAXIMUS IV&V Methodology* for details).
- **Assigning a seasoned team.** MAXIMUS offers multi-disciplinary teams of highly-experienced professional consultants, qualified to deliver tangible results that meet the specific project requirements for state initiatives. The team that we have assembled for the State possesses the relevant programmatic and technical experience based on the specific needs of Arkansas, the specific stakeholders, and the project. Our team supports agencies with insights gained from real world service delivery, knowledge of industry best practices, and lessons learned from the individual and collective experiences of the members.
- **Maintaining flexibility.** We develop our schedules and work plans to meet the requirements of each project, as it evolves. Throughout a project, we work closely with the IV&V client, CMS, and other stakeholders and oversight bodies to discuss and adjust the focus of our work. This aspect of our approach is especially important as projects progress and the associated IV&V needs evolve. For example, as CMS updates the MEET and MEELC processes, we will adapt our approach to incorporate any changes. MAXIMUS has recent experience with this adaptation process from both our North Carolina and North Dakota projects that followed the MEELC using the MEET. Both projects assisted in piloting these checklists prior to their formal release and continue to use them today. When CMS introduced the MEET 1.0 in 2017, we adjusted our IV&V methodology to align our oversight with the MEET and MEELC guidelines. Since then, CMS has adapted both MEET and MEELC to support Agile projects and they released MEET 1.1 in August 2018. In accordance with CMS iterations, we have made additional adjustments to our methodology.

8.2.7 MAXIMUS IV&V Methodology

MAXIMUS provision of IV&V services is based on the value of following a consistent and disciplined methodology that emphasizes independence, objectivity, and the use of a proven set of repeatable processes. Our methodology is extremely flexible allowing us to make modifications to meet the specific needs of our clients. This provides MAXIMUS with the capability to effectively assess project management teams and their activities, as well as SDLC processes, project plans, procedures, and controls; and to evaluate the artifacts created as byproducts of the SDLC. It is designed to eliminate subjectivity while clearly defining expectations and focusing the MAXIMUS IV&V Team on areas that pose the highest risk. Our IV&V reviews and subsequent reporting are focused on evaluating specific products and assessing overall project risk and identifying issues. *Exhibit 8.2-15: MAXIMUS IV&V Methodology* shows each of the components of our methodology, described in greater detail below.

Inputs to the IV&V Process

The foundation of our work is based on the following three interdependent inputs:

- Standards:** As a foundation for the IV&V process, we use industry, federal, and State standards that provide guidelines and often dictate specific activities that must occur during a project's life span. These set the expectations for how programs and projects are expected to operate and produce artifacts. For example, IEEE Standard 1012-2012 provides fundamental guidance about performing IV&V activities, while several other standards provide specific guidance for systems development and project management activities. Rather than picking one specific standard that focuses on a



Exhibit 8.2-15: MAXIMUS IV&V Methodology. *The MAXIMUS IV&V Methodology provides a structured framework for us to evaluate a project's products and processes against industry and government standards and best practices, resulting in actionable recommendations to resolve issues and mitigate risks.*

narrow component of the work, we have found that we develop a more rigorous approach to IV&V by taking the best practices derived from a larger set of standards. *Exhibit 8.2-16: Summary of IV&V Standards* provides a preliminary list of the standards relevant to the Medicaid Eligibility Modernization Project. In addition, we will work with DHS to determine other applicable standards and revise our checklists and planned activities accordingly.

STANDARD	DESCRIPTION
IEEE 1012-2012: Software Verification and Validation	IEEE provides fundamental guidance for key acquisition, engineering, and management-related software IV&V activities. It identifies key processes, activities, and tools necessary to support a software development effort. This standard is employed to assess customer's project planning activities, which require the DDI Contractor to adhere to the tenets of this standard.
IEEE 1074-2006: Developing Software Life Cycle Processes	IEEE provides specific definition of processes necessary to define an effective SDLC model. This standard is employed to assess the adequacy of the project's acquisition and software development strategies.
IEEE/EIA: 12207-2008 Industry Implementation of International Standard ISO/IEC 12207:2008: Systems and Software Engineering – Software Life Cycle Processes	This IEEE/EIA standard evolved from the ISO standards and defines specific software development processes needed to plan a software development effort. It also incorporates specific supporting processes, including documentation. This standard is employed to assess the adequacy of the software development vendor's SDLC and management processes.
IEEE 1028-2008: Standard for Software Reviews and Audits	This IEEE standard defines five types of software reviews and audits, along with procedures required for the execution of each type. Types included are management reviews, technical reviews, inspections, walk-throughs, and audits.
American National Standards Institute (ANSI)/ISO 9000-3: Software QA	This ANSI/ISO standard serves as the basis for IEEE/EIA: 12207-2008 and defines specific software development and QA processes. This standard is employed to assess the adequacy of the software development vendor's SDLC, software QA, and management processes.
IEEE Standard 730- 2014: Standard for Software Quality Assurance Processes	This IEEE standard defines requirements for initiating, planning, controlling, and executing the Software QA processes of a software development or maintenance project.
IEEE 29148-2011: Systems and Software Engineering – Life Cycle Processes – Requirements Engineering	This standard is the successor to IEEE 830-1998, IEEE 1233-1998, and IEEE 1362-1998. It contains provisions for the processes and products related to the engineering of requirements for systems and software products and services throughout the life cycle. It also provides additional guidance in the application of requirements engineering and management processes for requirements-related activities in ISO/IEC 12207 and ISO/IEC 15288.
IEEE 828-2012 - IEEE Standard for Configuration Management in Systems and Software Engineering	This standard establishes the minimum requirements for processes for Configuration Management (CM) in systems and software engineering. The application of this standard applies to any form, class, or type of software or system. This standard addresses what CM activities are to be done, when they are to happen in the life cycle, and what planning and resources are required. It also describes the content areas for a CM Plan.
IEEE 829-2008: IEEE Standard for Software and System Test Documentation	This standard is the successor to IEEE 829-1998. This standard describes a set of basic software test processes and guides the determination of applicable processes for the project. These process tasks determine the appropriate breadth and depth of test documentation. The documentation elements for each type of test documentation can then be selected.
IEEE 1008-1987 – IEEE Standard for Software Unit Testing	This standard specifies a standard approach to software unit testing that can be used as a basis for sound software engineering practices.
CMMI	CMMI provides a model of five levels of process 'maturity' that determine the effectiveness of an organization's ability to deliver quality software. These process areas and associated practices are considered when evaluating software development processes.

Exhibit 8.2-16: Summary of IV&V Standards. *We use proven, industry standards compiled from industry and federal sources as the basis for our IV&V criteria and will incorporate any additional applicable Arkansas standards provided by DHS.*

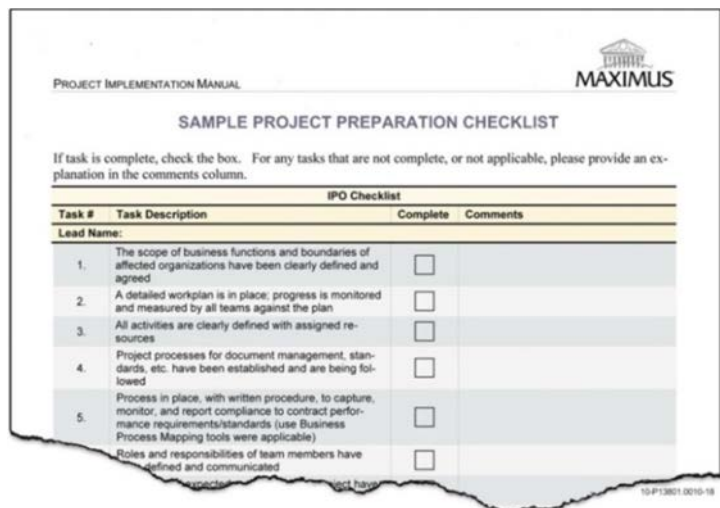
STANDARD	DESCRIPTION
PMI PMBOK® Guide – Sixth Edition and relevant extensions and practice standards	PMI's PMBOK Guide is the recognized standard for the project management profession. The Government Extension extends the precepts of proficient project management found in the PMBOK Guide to public sector entities. Practice standards include: Risk Management, Scheduling, WBS, and CM.
Information Technology Infrastructure Library (ITIL®)	ITIL® provides a cohesive set of best practices drawn from the public and private sectors internationally and is the most widely-accepted approach to IT service management in the world. These standards include IT Service Management (ITSM) standards and best practices, based on expert advice.
45 CFR 95.626	Federal Regulation that governs an assessment for QA/IV&V analysis.
International Board of Standards for Training, Performance and Instruction (IBSTPI)	IBSTPI has been developing and validating the standards for professionals in the fields of training and performance for more than two decades. More than 400 organizations worldwide in a wide variety of sectors (including private industry, academia, military, and government) are using these standards to improve both individual performance and organizational results.
Center for Internet Security (CIS)	The CIS is a non-profit enterprise that helps organizations reduce the risk of business and e-commerce disruptions resulting from inadequate technical security controls. CIS provides enterprises with consensus best practice standards for security configurations, as well as resources for measuring information security status and for making rational decisions about security investments.
MITA 3.0	The MITA initiative of the Center for Medicaid and CHIP Services (CMCS) is intended to foster integrated business and IT transformation across the Medicaid enterprise to improve the administration of the Medicaid program. MITA 3.0 (February 2012) supersedes MITA 2.0. It includes the Enhanced Funding Requirement: Seven Conditions and Standards.
MEELC	MEELC ensures alignment with the latest federal regulations and guidance, MITA, and the standards and conditions for Medicaid IT. MEELC is flexible, fitting various state approaches and SDLCs (such as, Agile or Waterfall).
MEET	CMS developed MEET in 2017 to assist states as they work to streamline and modernize their Eligibility and Enrollment (E&E) systems. MEET describes the key roles in the MEELC, provides tools for the states to use, and presents an end-to-end view of CMS' process to review the Medicaid E&E business functions and supporting systems being developed by states.
FNS Handbook 901	The primary objective of this Handbook is to ensure successful approval and subsequent Federal funding of projects supporting FNS programs to modernize benefit delivery.
Final Rule: Automated Data Processing and Information Retrieval System Requirements: System Testing	Published in 2014, this rule amends the SNAP regulations to strengthen the requirements for adequate testing and pilot before rolling out a new management information system or major system changes.
Other Program-Specific Requirements and Guidance	CMS, FNS, and ACF each publish a variety of program-specific requirements, standards, guidelines, and publications.
Patient Protection and ACA Section 1561 Standards	Section 1561 requires the HHS, in consultation with the Health Information Technology (HIT) Policy Committee, and the HIT Standards Committee to develop interoperable and secure standards and protocols that facilitate electronic enrollment of individuals in federal and state health and human services programs.
Patient Protection and ACA Section 1104 Standards	Section 1104 establishes new requirements for administrative transactions that will improve the utility of the existing Health Insurance Portability and Accountability Act (HIPAA) transactions and reduce administrative costs. ACA Section 1104 requires the HHS Secretary to adopt and regularly update standards, implementation specifications, and operating rules for the electronic exchange and use of health information for the purposes of financial and administrative transactions.

Exhibit 8.2-16: Summary of IV&V Standards (continued). *We use proven, industry standards compiled from industry and federal sources as the basis for our IV&V criteria and will incorporate any additional applicable Arkansas standards provided by DHS.*

STANDARD	DESCRIPTION
HIPAA 820, 834, and 270/271 Transactions	These HHS-maintained standards refer to the security surrounding various types of HIPAA-protected transactions such as enrollment, eligibility, payment, and service review and authorization.
Section 508 of the Rehabilitation Act	CMS-maintained accessibility standards regarding electronic and information technology.
Health Information Technology for Economic and Clinical Health (HITECH) Act	The HITECH Act addresses the privacy and security concerns associated with the electronic transmission of health information.
Federal Security Standards for Cloud Computing	This includes Federal Information Security Management Act (FISMA) standards, Federal Information Processing Standards (FIPS), and National Institute of Standards and Technology (NIST) <i>Guidelines on Security and Privacy in Public Cloud Computing</i> (NIST Special Publication 800-144), among others.
NIST Standards for Disaster Recovery (DR) and Continuity of Operations Program (COOP)	Discusses essential contingency plan elements and processes, highlights specific considerations and concerns associated with contingency planning for various types of information system platforms, and provides examples to assist readers in developing their own information system contingency plans.
ACA Limited English Proficiency (LEP) Standards	Standards governing the Exchange's requirements to provide program information and application and enrollment assistance in a manner that is accessible to individuals with LEP, including providing language services at no cost to the individual.

Exhibit 8.2-16: Summary of IV&V Standards (continued). We use proven, industry standards compiled from industry and federal sources as the basis for our IV&V criteria and will incorporate any additional applicable Arkansas standards provided by DHS.

- Structured Checklists:** Industry, federal, and State standards also drive the customization of structured checklists against which we perform our reviews. MAXIMUS relies on our own comprehensive set of structured checklists that form an important initial framework for our IV&V reviews. The checklists were initially developed using industry standards and have been refined by incorporating lessons learned from numerous engagements. We



use the checklists as a tool while performing assessments of both project processes and products, and they will be tailored for each reviewed program or project area to match specific needs and priorities of IEBM. MAXIMUS will use these checklists in conjunction with interviews, monitoring program and project status reports and metrics, and other ongoing oversight activities to assess overall program and project management; the effectiveness of State IT resources or outside contractors in achieving the project goals and objectives; and the accuracy, completeness, and thoroughness of information supplied to the project by other stakeholders for making major project decisions.

- Experienced Team of Seasoned Professionals:** MAXIMUS brings a multi-disciplinary team of professional consultants, highly experienced and qualified to deliver tangible results.

Our team will support DHS with insights gained from real world service delivery, knowledge of industry best practices, and lessons learned from the individual and collective experiences of the team members. Our team has extensive experience supporting similar projects including IE system implementations in New Jersey, North Carolina, North Dakota, Ohio, and Oklahoma. Between the experience offered by our proposed personnel on public sector IT projects and the access to a deep bench of MAXIMUS consultants who can be called upon should any unexpected issues arise; you can be confident that the MAXIMUS IV&V Team will deliver high-impact IV&V services that enhance the probability of successful outcomes for IEBM.

IV&V Process Steps

Our overall approach begins with a focused team of experienced IV&V professionals. This team will start by working closely with the DHS to quickly orient the team, finalize the project work plan, and schedule the required key stakeholder interviews. Then, they will identify and review all relevant materials, including current project documentation; and review relevant standards and best practices, including standards promulgated by the PMI in its *PMBOK® Guide*. In parallel with this effort, we will begin interviewing key project stakeholders and attend meetings. Throughout our engagement, we execute our IV&V plans; perform analysis of products and processes; and communicate findings, risks, and recommendations to CMS, the State, and the relevant contractors. Based on the information gleaned during this process, MAXIMUS will document specific findings, issues, and risks that are identified, as well as actionable recommendations to resolve issues and mitigate risks.

IV&V Process Outputs

MAXIMUS will provide all the necessary equipment, including personal computers to perform the IV&V function, including project tracking, reporting, management, and production of deliverables. We will use the MAXIMUS standard MS Suite to develop deliverables for this contract. We will also leverage Application Lifecycle Management (ALM) tools provided by the DDI Contractor and any tracking tools provided by the State.

Our typical deliverables for the assessments completed during the course of an IV&V engagement include formal reports that describe the work completed as well as specific findings documented on completed checklists for both products and processes that we have reviewed. We follow the CMS template and guidance for developing these reports. The contents of the report are designed to support all MEELC reviews.

The first step in the development of each IV&V deliverable is the Deliverable Expectation Document (DED). DEDs are proven mechanisms that not only confirm the scope and intention of each IV&V deliverable, but also define and gain approval of the deliverable's acceptance criteria. These documents establish clear and mutually agreed upon performance measurement baselines for all IV&V deliverables prior to the submission of a first instance of a deliverable. We have found that the DED process is helpful for both the IV&V Team and our state partners, providing an opportunity to align expectations related to IV&V deliverables. For state approving authorities, they also provide a guide against which the deliverable can be measured, streamlining the acceptance process. Each of our deliverables includes a revision history that identifies the version of the draft, the date the draft was submitted, deliverable point of

contact/person making change, and a description of changes made. Further, we always include a Table of Contents, lists of Figures and/or Tables, and an Acronym list. In addition, as required, we include a Decision Log and a list of assumptions/constraints, and risks related to the document.

We submit our proposed DED for DHS and CMS approval. We also submit draft and final formal reports simultaneously to CMS and DHS. Further, we typically submit our reports to the other federal partners. In addition, we conduct formal presentations to ensure that relevant stakeholders fully understand and accept the feedback that we have provided. Specific project outputs will be defined in our project's IV&V Plan and corresponding Deliverable Expectation Documents (DED) (discussed in greater detail in *Section 8.2.6.7: Document Transparency*).

Regardless of the feedback format, the output of our IV&V process is always directed at helping to ensure that the project stays on track by identifying and resolving issues and mitigating risks in a timely manner.

8.2.7.1 Develop an Initial IV&V Project Plan

The initiation and planning period of a project sets the stage for the entire engagement. A haphazard approach to planning and orientation may result in a chaotic project environment with incongruent goals and confused staff; while a methodical approach typically results in a cohesive team working towards the same understood common goals. Therefore, our objective during this step is to make sure that all of the required people, processes, and tools are in place and there is a common understanding of project expectations across stakeholders. The kickoff meeting and development of the IV&V Project Plan set the stage so that we can mobilize the MAXIMUS IV&V Team to begin work on IEBM in an organized, structured fashion. To accomplish this task, we will conduct the following steps:

- **Step 1: Conduct Kickoff Meeting.** To facilitate understanding of the overall scope and roles and responsibilities for all parties, at the onset of our engagement, we will conduct a kickoff meeting with key stakeholders. During this meeting and any other meetings during the course of our engagement, we will work to minimize disruption to the Project Team so that their work and the project schedule are not impacted. The kickoff meeting begins the ongoing, collaborative working style that is characteristic of our involvement. Project staff, DHS staff, the DDI Vendor, other relevant vendors, and key project stakeholders are expected to not only attend, but actively participate in the meeting. During the initial kickoff meeting, we will discuss the project plan, schedule, project roles and responsibilities (for all staff). We will also discuss project risks that have previously been identified by DHS, the DDI Vendor, or the prior IV&V Contractor. In addition, we will complete any forms and paperwork required for physical and electronic access. The project kickoff meeting will occur within five business days of contract execution, and MAXIMUS will provide meeting minutes that include a list of attendees, topics discussed, decisions, outcomes, and planned next steps.
- **Step 2: Develop Comprehensive IV&V Project Plan.** After the kickoff meeting, we will document any agreements as well as the finalized project schedule and develop the IV&V Project Plan. This deliverable will formalize our approach to the project management deliverables described throughout our proposal. The IV&V Project Plan is designed to be a

descriptive and prescriptive document covering our project management approach for the engagement. The IV&V Project Plan will follow PMI project management methodologies as defined in the PMBOK® and will include the following:

- Project scope, including purpose, requirements, deliverables, constraints, dependencies, assumptions, and WBS, and metrics for tracking project performance, and WBS
- Risk and Issues Analysis and Management Plan
- QMP
- Change Control Process
- Monitoring and Control Plan
- Staffing Plan
- Communication Plan

The initial IV&V Project Plan will be delivered within 30 calendar days of the contract’s actual start date

- **Step 3: Develop IV&V Work Plan.** The IV&V Work Plan includes a finalized version of the project schedule.

8.2.7.2 Knowledge of DHS Functional Requirements

MAXIMUS has deep roots in Medicaid eligibility dating back to our founding in 1975. Over the course of four decades, we have helped dozens of states improve their eligibility processes and related systems. Across these numerous engagements, MAXIMUS has functioned in many roles such as PMO contractor, QA contractor, and systems planning consultant. Through this work, we have developed unparalleled expertise in IE, including a deep familiarity with the requirements that are the foundation for most IE systems. We are also well versed with the pragmatic and program-driven requirements that vary from state to state. For example, state-unique attributes may derive from type of program (such as state-run or county-run) or others.

Exhibit 8.2-17: MAXIMUS IE Projects describes our most recent IE projects.

Project/Customer	Description
<p>IV&V for the North Dakota ESM Project North Dakota DHS</p>	<p>Currently performing periodic IV&V assessments of the State's IE system implementation. The new system, SPACES, will replace five legacy systems and serve as the system of record for SNAP, TANF, Child Care, LIHEAP, Medicaid, and CHIP. Our IV&V assessments cover all aspects of the project including, but not limited to, the DHS project management team, Deloitte, overall project progress, and stakeholder engagement.</p>
<p>Project Management and QA of the New Jersey CASS Project New Jersey DHS</p>	<p>Provided QA, project management, and special project services for the CASS Project as it determines its next steps. The MAXIMUS QA Team is also responsible for the development of multiple IAPDs, as well as providing CMS-required IV&V attestations relative to integration with the FFE/FFM.</p>

Exhibit 8.2-17: MAXIMUS IE Projects. *Our experience has familiarized us with the state of the art in IE systems, as well as the best practices that help ensure a successful system and a smooth certification process.*

Project/Customer	Description
IV&V of the NC FAST Program North Carolina DHHS	Currently performing IV&V assessments of the entire NC FAST Case Management Program, which covers all aspects of the program including the DHHS project management team, integration vendor progress, and stakeholder engagement. The goal of each assessment is to understand and assess the NC FAST Case Management Program management, development processes, and quality and completeness of the NC FAST Case Management solution to those processes. Deliverables include monthly IV&V Assessment reports, Executive Flash reports, quarterly CMS-required progress reports, and CMS-required MEET Checklists (delivered for each Milestone Review).
IV&V/QA of the Ohio IE/HHS BI Project Ohio DJFS	Currently providing a wide variety of IV&V/QA services in support of the Ohio IE/HHS BI System Program. We developed a QMP for the effort and conducted a comprehensive initial assessment of the overall IE/HHS BI System Program. We conduct Progress and Program Milestone Assessments, and will continue these periodically for the duration of the project.
IV&V of the OK Benefits Project Oklahoma DHS	Recently began providing a variety of IV&V services as the State consolidates its CSE, SNAP, TANF, Medicaid Eligibility, Child Care, and Child Welfare systems into an integrated eligibility system. MAXIMUS will conduct reviews of RFPs, SOWs, and contracts during the DDI procurement period; and will provide assessments of DDI contractor deliverables to help mitigate risk and ensure the proper implementation of OK Benefits.
IV&V for Utah Medical Eligibility Systems Utah DOH	Currently providing IV&V services for CMS and the State of Utah in support of the MEELC. MAXIMUS provide progress reports and Medicaid E&E Checklists, reviews project and system processes and progress across the SDLC, and evaluates and makes recommendations about the State artifacts that are required for milestone reviews.

Exhibit 8.2-17: MAXIMUS IE Projects (continued). *Our experience has familiarized us with the state of the art in IE systems, as well as the best practices that help ensure a successful system and a smooth certification process.*

Initially, we will focus on the areas described below. MAXIMUS will create a presentation on our understanding of ARIES functional requirements. Within 45 calendar days of our start date, the MAXIMUS IV&V Project Team will deliver to DHS a presentation that reflects our knowledge.

8.2.7.2.1 DHS Programs, Policies, and Manuals

MAXIMUS will become familiar with the State’s specific ARIES requirements by reviewing a subset of existing policies and manuals, current IEBM planning documents, and any other DDI documentation that has been completed at time of award. We bring a general understanding of DHS programs and will work with the State to understand the State’s unique requirements. In addition, our proposed on-site Subject Matter Expert (SME), Stephen Long, brings extensive experience working with DHS and will transfer knowledge to the other members of the IV&V Team. We will deepen our understanding of DHS and the Division of the County Operations (DCO) organizational structures and specific information about the State’s health and human services programs by reviewing public information and State documentation in addition to interviewing State staff and other IEBM stakeholders.

8.2.7.2.2 HIPAA and Confidential Personal Information

Our work across health and human services has provided us with a solid understanding of federal requirements and standards including the HIPAA standards for protecting sensitive patient data, MAXIMUS understands that data is a valuable asset, and we bring a dedicated corporate security team as well as an extensive set of corporate security policies that comply with the State's Information Security Policy. We work hard to uphold the trust placed in us by our

clients and the individuals we serve. As part of our core competencies and proven security strategies, we safeguard our systems, confidential state information, Personally Identifiable Information (PII), Protected Health Information (PHI), and our own physical facilities. Although we do not anticipate the need to handle any PII or PHI on this project in our role as IV&V Contractor, safeguards will be in place in the event that we are exposed to protected information.

8.2.7.2.3 MITA

MITA was instituted by CMS in 2005 to encourage transformation of Information IT efforts, foster flexible solutions, and support sharing of technology across the Medicaid enterprise to improve administration and delivery of the Medicaid program. MITA asks states to perform a self-assessment and develop a plan (or “roadmap”) to progress in the capability and maturity of the organization. As part of the Seven Conditions and Standards plus the additional five conditions² that are required for states to receive enhanced funding for Medicaid systems, the State must “align to and advance IV&V for Medical Eligibility increasingly in MITA maturity for business, architecture, and data.” The checklists and progress reports included as part of MEELC provide an opportunity for IV&V to validate that this condition is being met. For example:

- MITA Objectives**
- Adopt industry standards for data exchange
 - Promote reusable components through standard interfaces and modularity
 - Promote efficient and effective data sharing to meet stakeholder needs
 - Provide a beneficiary-centric focus
 - Support interoperability, integration, and an open architecture
 - Promote secure data exchange
 - Promote good practices (e.g., the Capability Maturity Model (CMM) and data warehouse)
 - Support integration of clinical and administrative data to enable better decision making
 - Break down artificial boundaries between systems, geography, and funding (within the Title XIX Program)
- Source: CMS. Overview of MITA Initiative 3.0*

- The IV&V Progress Report, which is required to be prepared quarterly as part of the MEELC, asks specifically about the State’s MITA Roadmap and the State’s use of its MITA State Self-Assessment (SS-A) to evaluate where it needs to enhance its capabilities.
- All six checklists issued as part of MEET Version 1.1, which must be completed periodically throughout the system life cycle at milestones defined in MEELC, include checklist items derived from MITA requirements.

CMS issued a significant update to its MITA framework in 2011 with the release of MITA 3.0. which incorporates updates to the framework based on new legislative requirements, updates to Medicaid policy, and changes to accommodate new technology that was not commonly in use at the time of the prior release (such as cloud computing). MAXIMUS has performed IV&V (including independent Quality Management Services [QMS]) and QA for three types of projects subject to the set of conditions and standards, including MITA:

² The additional five conditions were issued on June 27, 2016 in a memorandum to State Medicaid Directors (SMD#16-009) regarding Mechanized Claims Processing and Information Retrieval Systems – APD Requirements.

- Medicaid E&E Systems, typically as part of a larger IE system
- MMIS
- HIX

In addition to this IV&V work, since the passing of the ACA in 2010, MAXIMUS has been involved in the implementation of this monumental policy. We focused on helping our clients achieve compliance with the Provider enrollment and screening requirements included in the ACA. When CMS began promoting modularity as a key building block for new Medicaid support systems, we were at the forefront with a modular Provider Management solution we developed and implemented in Tennessee. From this start, we now have a proven Provider module that we have implemented in three states and that has undergone a full CMS certification review. As part of the Medicaid enterprise, these modules must also take MITA into consideration.

8.2.7.2.4 MEELC and MEET

Our team brings significant experience with the MEELC and MEET toolkit, as described in detail in *Section 8.2.2: Understanding of the MEELC and MEET*. Our ongoing participation in MMIS and IE modernization efforts for over a decade has kept us current and informed on the CMS business and technical requirements including MEELC and MEET. When CMS introduced the MECL and the MECT in 2007, we began applying the criteria on our ongoing MMIS projects. We used MECL/MECT as an IV&V vendor, assisting North Carolina during its MMIS certification process. Also, we have used MECL/MECT as a provider, assisting clients employing our Medicaid Provider Management Module. Our module is the first of its kind to receive CMS approval through the MELC process.

This familiarity with CMS goals and directives enabled us to play a significant role as MEELC/MEET was rolled out in 2017. Since our staff had been on the front lines of MECL/MECT and MEELC/MEET were based on MECL/MECT, we piloted the MEET checklists with our clients during the development cycle prior to the official release. We continued to support clients during the transition to MEET 1.0. We adjusted our IV&V methodology to align our oversight with the MEET guidelines, including the MEELC. Since then, CMS has adapted both MEET and MEELC to support Agile projects and they released MEET 1.1 in August 2018. In accordance with CMS iterations, we have made additional adjustments to our methodology. We offer full capabilities to apply MEELC/MEET that blends Medicaid system subject matter and technological expertise, IV&V competency, and hands-on experience in getting the job done right.

We are currently applying MEET/MEELC on two of our IV&V projects (that is, NC FAST and North Dakota ESM), enabling us to bring lessons learned and best practices regarding MEELC/MEET to the State.

8.2.7.2.5 CMS XLC

We understand the importance of incorporating the CMS certification process throughout the overall SDLC instead of viewing it as a stand-alone activity that occurs after the eligibility replacement system has been implemented. We are also knowledgeable of the CMS XLC as we have participated in numerous gate reviews on several different projects. For example, on our ongoing North Dakota ESM IV&V Project, we reviewed deliverables produced by Deloitte

that related to architecture, requirements, and design. We provided comments regarding each of the deliverables to the State. For gate reviews, Deloitte used information from those deliverables to create the slide deck for the gate reviews. To the extent possible, we reviewed the slide decks prior to their use and then participated in the gate reviews.

In addition, we monitored the environment readiness tasks and attended workgroup meetings. Any working documents from those meetings were reviewed by the MAXIMUS IV&V Team. Although there was no formal deliverable for environment readiness, we were able to review the readiness of some of the environments during the Preliminary Design Review (PDR) gate review. The IV&V Team also monitored status against criteria established by the State and the Deloitte. Our assessments are included in our monthly reports. For each release, at the end of a phase, we participate in meetings in which the status is reviewed and decisions are made to move forward. For example, we participated in the meetings in which the decisions were made to implement Releases 1 and 2 of North Dakota's system.

As various gate reviews have occurred, MAXIMUS reviewed the progression of the system. Our first checklists used deliverables as the basis of our assessments. Our most recent checklist (completed in June 2019) used actual results from the system and testing (screen prints, test results, review of tables and reference files being used by the system). We also participated in the review of the Operational Readiness Review (ORR) slide deck created by Deloitte. No formal ORR will be held until March 2020. We have not yet been involved in post-operational reviews or annual operation analysis for Releases 1 and 2.

Further, should we require additional insight into how the CMS XLC is applied, we can leverage MAXIMUS Federal systems developers who use an Agile development approach for functional development and standard project planning for non-functional projects that comply directly with the CMS XLC. The processes they follow ensure that CMS is involved in each step of the process and that we obtain all needed gate approvals.

8.2.7.3 Knowledge of the Arkansas IEBM

Building on our research and study of DHS requirements described in *Section 8.2.1.1: Knowledge of DHS Functional Requirements*, MAXIMUS will become familiar with the State's current Medicaid Enterprise as well as the current IEBM system by reviewing legacy DDI documentation and current IEBM operations documentation. This will enable us to understand the current IEBM's architecture, subsystems, data interfaces, and reporting requirements. Further, we will deepen our understanding by interviewing State staff and other IEBM stakeholders about the current strategy for replacing legacy systems and about additional stakeholders that must be included in ARIES DDI efforts.

MAXIMUS will create a presentation on our understanding of the State's IEBM. Within 60 calendar days of our start date, the MAXIMUS IV&V Project Team will deliver to DHS a presentation that reflects our knowledge.

8.2.7.4 Monthly IV&V Assessments

The Monthly IV&V Assessments provide clear, actionable recommendations that the State can use to actively mitigate or manage documented project challenges. For key findings and recommendations, the IV&V Team tracks and reports on project progress in addressing these

challenges. Throughout the course of our engagement and during every Monthly IV&V Assessment, we seek to identify project risks that may threaten the success of the project, which sometimes leads us in a direction not identified on the checklist. On engagements similar to the IEBM, depending on project status, we typically center our evaluations on a combination of the following nine focus areas:

- Project Management
- Quality Management
- Training
- Requirements Management
- Operating Environment
- Development Environment
- Agile Software Development
- Data Management
- Operations and Maintenance

As potential risks or issues in other areas become apparent to the IV&V Team during our assessment, we will identify these to project management and perform risk assessments on those as well.

One of the first, and often most important, activities of the MAXIMUS IV&V methodology is conducting the initial Monthly IV&V Assessment. This initial assessment provides an opportunity for the IV&V Team to develop a comprehensive understanding of the project

health and becomes a baseline for future assessments. The initial Monthly IV&V Review focuses on developing a high-level understanding of project status to provide the State with insight into overall project health. This assessment also informs our planning for subsequent assessments. Although the topics or focus areas may vary from month to month, the steps that we follow are largely the same. To accomplish this task, we complete the following steps:

- **Step 1: Compile and customize relevant IV&V review checklists.** We select the relevant checklists for the Monthly IV&V Assessment based on the current status of the IEBM Project when we begin our contract. The checklists are compiled and updated, as required, and represented in question and answer format.
- **Step 2: Interview selected staff from the State and other stakeholders.** An assessment cannot be considered complete without the input of selected project staff or other stakeholders, depending on the focus area. Working with the State, the MAXIMUS IV&V Team identifies and schedules interviews with the necessary participants to afford us a view into the approach to the specific focus area under review. Using pre-determined criteria and relying on our experience identifying risks, the MAXIMUS IV&V Team designs interview questions based on preliminary review of documentation as well as the evaluation criteria for the high-risk areas. Again, during these interviews, we make every effort to minimize disruption to project team members or other stakeholders.
- **Step 3: Determine and review relevant documentation, processes, and project artifacts.** In tandem with interviewing project staff, evaluating project documentation provides the MAXIMUS IV&V Team with a complete picture of the project's health and strategy. Working with the State, we identify the documentation relevant to our assessment

IV&V Transparency

Publication of IV&V Checklists helps all parties to prepare for our reviews and keep focused on the overall success of the project.

and perform any necessary administrative activities required to gain access to the documentation, including State and IT project plans, work products, deliverables, business processes, and management decisions, as well as recent IV&V reports, if applicable. It is critical that our assessments are based on the most up-to-date and accurate information possible. For this reason, it is important that the MAXIMUS IV&V Team receive copies of all project status reports, project plan updates, IV&V reports, and/or risk assessment reports that are available, as well as any relevant draft deliverables, meeting notes, and/or working papers. Our experience on our other Medicaid projects helps to inform our review; the experiences in other states provide us with a set of lessons learned and potential risks and issues of which to be aware.

- **Step 4: Identify/attend project meetings.** Attending project meetings provides the MAXIMUS IV&V Team with a unique opportunity to observe the Project Team(s) "in action." Working with the State, the MAXIMUS IV&V Team identifies the relevant meetings that would be beneficial for the team member(s) to attend in completing our initial assessment, and on an ongoing basis. This could include status meetings, PMO meetings, or even internal walkthroughs of SDLC products and QA activities. To minimize disruption to the project team, MAXIMUS participates primarily as observers during meetings that we attend.
- **Step 5: Review/track obligations.** Over time, we have found that the careful tracking and monitoring of the commitments, obligations, and requirements throughout the project's life cycle is critical to our clients' success. As a result, the MAXIMUS IV&V Team works diligently to verify that the obligations (for example, terms, conditions, SOW, requirements, standards, development milestones, acceptance criteria, and delivery dates) between all relevant parties are clearly defined and agreed upon. During our initial assessment, MAXIMUS identifies sources of these obligations and how performance against them is demonstrated. These commitments and obligations are carefully tracked and monitored throughout the project life cycle. This process applies to any relevant State agencies or departments involved in the project, as well as any external entities and/or trading partners.
- **Step 6: Identify issues, risks, and proposed mitigation strategies.** MAXIMUS employs a detailed issue and risk management methodology that has been successfully used on many prior IV&V projects. We will customize the methodology described in detail in Section 8.2.6.1: *MAXIMUS IV&V Methodology* to align with the State's scope, goals, and objectives.
- **Step 7: Deliver Draft Monthly IV&V Assessment Report.** The MAXIMUS IV&V Team develops and delivers to the DHS and CMS a formalized draft Monthly IV&V Assessment Report that summarizes the status of the tasks reviewed and presents a summary of findings (both positive and negative), risks, and recommendations in each high-risk area. We will follow the CMS template and guidance for developing this report. The contents of the report are designed to support all MEELC/MEET reviews and MEELC Quarterly Reports. This report discusses specific recommendations related to the project scope and objectives as identified in the IV&V Project Plan. In addition, we provide recommendations for quantitative performance metrics that support monitoring and communication of project status. MAXIMUS provides a draft simultaneously to CMS and DHS for a "fact check." We submit the draft report simultaneously to CMS and DHS no later than 5:00 p.m. Central Time (CT) on the Friday of the first full week of the month following the reporting period. We also meet with the appropriate Project Team members, as needed, to discuss the draft report

during the review period and to gather the information needed to correct or clarify the contents of the report.

- **Step 8: Deliver Finalized Monthly IV&V Assessment Report.** Based on comments that we receive on the draft report, we provide a final Monthly IV&V Report to DHS and CMS. In addition to a written report, we have found that it is critical to provide in-person feedback on an assessment to the relevant stakeholders.
- **Step 9: Brief Stakeholders.** Following delivery of our finalized Monthly IV&V Report, MAXIMUS schedules a meeting with the IEBM executive leadership to discuss key project risks, as well as our findings and recommendations for managing and/or mitigating those risks in future project activities.

8.2.7.5 IT Governance Committee (ITGC) Reports

ITGC Reports are a critical component of our process as it provides the project's oversight bodies with key messaging of critical project risks. We expect that State executives will use the Executive Summary to improve decision-making that impacts the project in terms of scope and funding. MAXIMUS works diligently with our clients to provide transparency and openness in all our reporting; we have found that this leads to a more productive and congenial work environment. On similar projects, we use dashboard reports to provide an easy to read yet robust reporting of problem areas as well as successes. Upon award, we will work with DHS to design a format for an Executive Summary that condenses the information in our Monthly IV&V Assessment report. *Exhibit 8.2-18: Sample Dashboard Report* provides an example from a similar project.

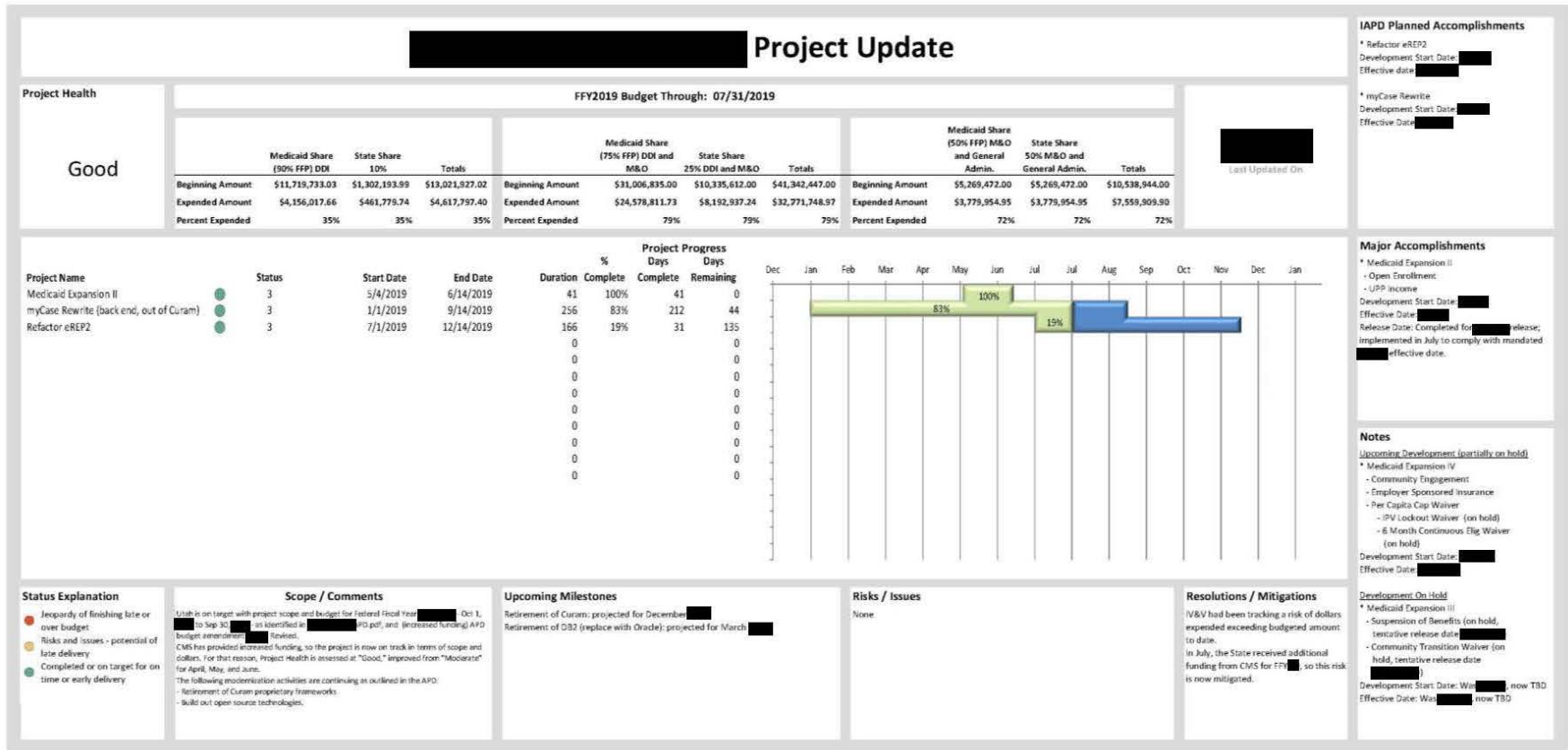


Exhibit 8.2-18: Sample Dashboard Report. Our IT Governance Committee Report may include a dashboard that provides a quick visual representation of project health for the reporting period.

Before submitting the finalized report each month, we will develop a Monthly Executive Summary and deliver it to the ITGC within the Governor's Office. All Monthly Executive Summaries will be submitted no later than 5 pm CT on Friday of the second full week of the month following the reporting period.

8.2.7.6 Document Transparency

Our typical deliverables for IV&V engagement assessments include formal reports describing completed work, as well as completed checklists documenting specific findings for reviewed products and processes. We help ensure that all technical components of the deliverables are satisfied according to the contract, including revision history, table of contents, list of figures, list of tables, referenced documents, decision log, assumptions/constraints/risks, and acronyms. MAXIMUS will work with the State to determine whether some or all of these components are applicable to the deliverable in question, and will ensure all such components are included where the State deems them relevant.

In addition, we conduct formal presentations to help ensure that relevant stakeholders fully understand and accept the feedback that we have provided. Specific project outputs are defined in our project's IV&V Project Management Plan. Regardless of the feedback format, the output of our IV&V process is always directed at helping to ensure that the project stays on track by identifying and resolving issues and mitigating risks in a timely manner.

The effective management of the various IV&V deliverables during the project is an important aspect of the overall IV&V effort. It is important that the intention and content of each IV&V deliverable is well understood and communicated. It is also important that these deliverables are subjected to a rigorous quality check prior to their publication. This is particularly essential for IV&V reports, which often receive wide distribution with federal partners, stakeholders, and other oversight entities. For these reasons, the MAXIMUS methodology includes several important steps in the overall IV&V deliverable process related to the quality management for the IV&V effort.

- **DED Process.** As described in greater detail in *Section 8.2.6.1: MAXIMUS IV&V Methodology*, we develop a DED for each IV&V deliverable to define and gain approval of the deliverable's acceptance criteria before we start preparing the document. We always include a Revision History to provide an audit trail, table of contents, lists of figures and/or tables, and an acronym list. In addition, as required, we include a List of Referenced Documents, a Decision Log, and list of assumptions/constraints and risks related to the document.
- **Agency "Fact Check."** Prior to final submission of IV&V deliverables, we provide a draft deliverable to CMS, other federal partners, and the State's Project Manager for a fact check process. While as the IV&V Contractor, we are mindful our independence, we want to make sure that our assessments are based on accurate information. In the event that we have incorrect or incomplete information, this fact check process provides an opportunity to provide additional information for IV&V consideration prior to finalizing the report. As part of the fact check process, we sometimes suggest scheduling an IV&V deliverable walkthrough with a wider audience to provide an opportunity for the impacted agencies to ask for clarification, as needed, from the IV&V Team.

- **Final Deliverable.** Based on corrections provided to the draft deliverable, we incorporate any appropriate changes and deliver a final version to DHS and CMS.

This deliverable review process helps provide the State with valuable, high-quality IV&V deliverables. *Exhibit 8.2-19: MAXIMUS IV&V Deliverable Quality Process* provides a graphic representation of this flow.

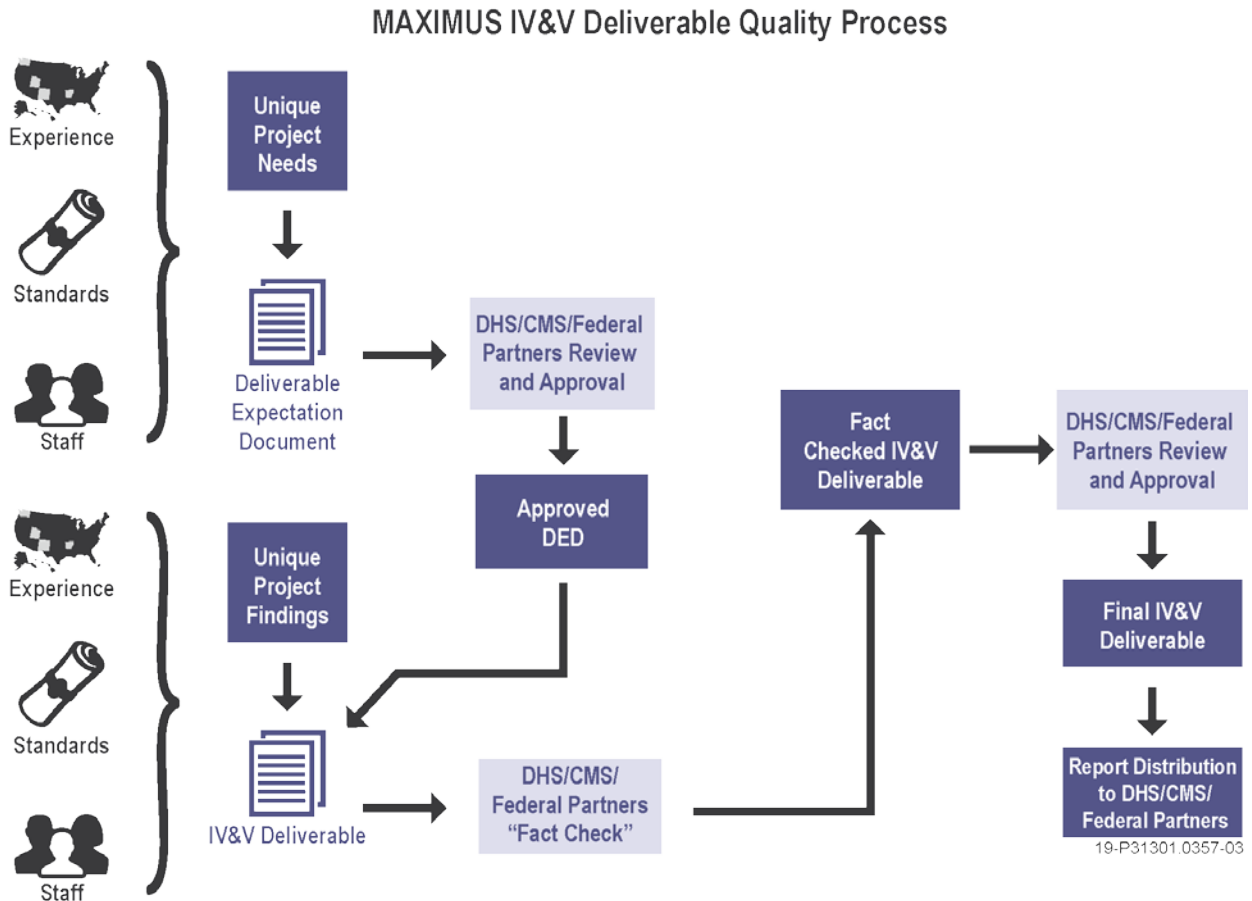


Exhibit 8.2-19: MAXIMUS IV&V Deliverable Quality Process. *Leveraging our extensive experience, published standards, and proven staff, we develop high-quality DEDs and deliverables.*

8.2.7.7 IV&V Risk Report

Risk identification is the process of identifying potential conditions and situations that, if realized, could negatively impact project goals and outcomes. While a risk has the potential to occur and disrupt the project, an issue is something that has already occurred and is causing disruption of some type. We tie the identification and management of risks and issues closely together because in a project environment, risks that are not mitigated may transition into issues and issues can jeopardize project success often by derailing the project. In this section, we discuss both risk and issue management. Please refer to *Section 8.2.6.9: Issues Log* for more details on monitoring issues.

MAXIMUS has always made risk and issue management a central focus in our system implementation projects. Whether we are providing PMO, QA, or IV&V services, we routinely flag and then work to manage risks and issues that may harm the team’s ability to successfully

deliver the new system. Like status reporting, risk and issue management is a long-running, proactive activity that is led by a few, but ultimately involves the entire team.

MAXIMUS follows a “no surprises” philosophy for risk notification, wherein no risk should ever come as a surprise to project leadership. This philosophy means that discussion and identification of risks should be open and continuous, that risks should be identified as early as possible, and that everybody on the team participates in risk identification, mitigation, and issue resolution when risks become manifest.

Projects of the size, scope, and complexity of ARIES implementation project come with inherent risk. Our philosophy acknowledges that fact, and we encourage everyone on the project team to come forward with any concerns they may have about potential risks, as well as input on how to mitigate risks or work to address them should they manifest themselves into actual issues. All input on risks and issues is welcomed and encouraged.

Some project philosophies treat risk as a taboo subject or one to be discussed as little as possible. MAXIMUS “no surprises” philosophy instead shines a light on risk so that it can be managed accordingly, resulting in unexpected issues and negative outcomes being minimized. The more informed and transparent the project is about risks and the more actively risk is managed, there will be fewer surprises from risks actually manifesting. To promote this, we build regular risk reporting into our project status reports and use ad hoc reporting as well as regular channels to announce any new and significant risks. While “urgent” or “emergency” risks should be minimal using our approach, they are escalated immediately to the DHS Project Executive and DDI Project Manager if they occur.

Based on our work in previous IE system eligibility projects, we have confronted a number of risks that may be present in the ARIES Project. *Exhibit 8.2-20: Example Risks* highlights some of these and describes how they might be characterized for impact, scope, and priority.

Example Legacy System Replacement Project Risk	Impact, Scope, and Priority
Data Conversion: Legacy system data requires a large amount of manual conversion, potentially increasing risk related to data quality, schedule, and cost	If the data are known to be irregular and incomplete due to lax edits and rules in the legacy system, then the impact should be rated High (3). Widespread problems with data conversion would likely result in higher costs and potentially implementation delays, which would rate a scope of Severe (3). Accordingly, this issue would earn a priority of High (9).
Code: Transfer (base) system undergoes change before the project commencement	Changes in the donor-system codebase might invalidate planning assumptions and delay some milestones or deliverables, but this should be controllable and not widespread, earning an impact of Medium (2). It is likely that such code changes would be localized and would only affect some milestones or deliverables, netting a scope of Moderate (2). This results in a priority of Medium (4).
Training Materials: System development and testing defects may impact the development and review of training materials	Issues with training materials are likely to affect the task of producing training content, but should not delay any milestones, earning this an impact score of Low (1). Similarly, the scope of the issue is limited, earning an impact score of Low (1). This results in a priority score of Low (1).

Exhibit 8.2-20: Example Risks. *Prior to establishing a risk mitigation plan, we assess the impact and severity of each risk and assign a priority.*

Key elements of our risk and issue management approach include:

- **Developing a Risk and Issue Management Plan** that adheres to the approach outlined in the State’s procedural manual. MAXIMUS understands that the DDI contractor is also responsible for preparing their own Risk and Issue Management Plan.
- **Review newly-identified risks on a regular basis** (usually at the standing Project Status Meeting or at a dedicated Risk Review Meeting) with the ARIES Project Team; as the IV&V Contractor, MAXIMUS will offer its guidance on how to document and deal with newly-identified risks.
- **Maintain a Risk Register** that is used to document all identified risks, including key attributes of each risk such as the risk owner assigned to monitor the risk, its description, source of the risk, priority, severity and impact if realized, and a Risk Mitigation Plan
- **Proactively monitor risks and issues** at dedicated risk meetings as well as at weekly project team meetings
- **Immediately escalate risks identified as emergency** to the DHS Project Executive and the DDI Project Manager. The PMO Project Manager will draft plans for immediate response as appropriate to the nature of the risk.
- **Place immediate attention on issues (risks that have manifested) to resolve or reduce impacts.** Each risk will be assigned a severity and impact rating, mitigation recommendation, and individual responsible for monitoring the risk. Risks are tracked in an Issues Log as described in the following section, assigned to staff for corrective action, reviewed periodically, and monitored until they are resolved.
- **Provide Monthly Risk Reports to DHS**, as illustrated in *Exhibit 8.2-21: Risk Report*, we will submit a full Risk Report with our Monthly IV&V Assessment Report.

MONTHLY RISK REPORT	
Deliverable Description	<ul style="list-style-type: none"> ■ This document presents the results of the ongoing IV&V risk process. Risks will be documented, prioritized, and tracked using this monthly report. The report will include: <ul style="list-style-type: none"> – Executive Summary, including overall status of the projects’ risk and issue management processes, as well as summary information including the number of risks open and closed, the number of risks distributed across categories, risk trends over time, and any risks that have progressed to issues within the month – Ongoing analysis of which sources are the most important drivers of overall project risk – New risks and issues identified during the period – Changes to existing risks and issues during the period – Action items, including status, due date, and owner – Decisions made during the period ■ This deliverable will be produced on a monthly basis and included as [art of our Monthly IV&V Assessment Report.
MAXIMUS Responsibilities	<ul style="list-style-type: none"> ■ Collect information, including interviews, project documentation, and participation in meetings. ■ Conduct analysis of risk/issue information. ■ Prepare draft and final report.

Exhibit 8.2-21: Monthly Risk Report. *We will work with DHS to standardize an acceptable format for the Monthly Risk Report.*

MONTHLY RISK REPORT	
Expectations for DHS Responsibilities	<ul style="list-style-type: none"> ■ Provide access to key program and project stakeholders and artifacts. ■ Forward information regarding any risks or issues identified. ■ Collaborate with IV&V and other vendor staff to prepare mitigation and avoidance strategies. ■ Provide detailed comments on draft deliverable within 5 business days. ■ Review and approve final deliverable as appropriate.
Expectations for DDI Contractor's Responsibilities	<ul style="list-style-type: none"> ■ Provide access to key DDI staff and discuss project artifacts and project planning documents

Exhibit 8.2-21: Monthly Risk Report (continued). *We will work with DHS to standardize an acceptable format for the Monthly Risk Report.*

8.2.7.8 IV&V Issues Log

As discussed in the previous section, risks that have manifested into issues require immediate attention to resolve or reduce their impacts. We track issues in an Issues Log which will be attached to the Monthly IV&V Assessment Report. In the event that we detect a new issue and determine it to be of high or moderate impact, we will escalate it to the DHS Project Executive and the DDI Project Manager within two business days.

In our experience, it is critical to diligently capture and maintain all relevant information regarding each issue, as illustrated in *Exhibit 8.2-22: Example Issue Log Data*.

Field Name	Description
ID	A unique identification number, assigned sequentially to each log entry
Status	Issue status: either open, on hold, or closed
Title	User entered descriptive Title
Description	Brief narrative describing factors affecting scope, analysis, or response determination. Include trigger event(s) that will require escalation.
Issue or Risk	Issue
Issue Category	Type of issue, for example, related to software, hardware, management, resources
Impact/Priority	Project Impact or Severity Rating; describes the effect of the issue on the project
Mitigation Strategies	Description of strategy how this particular issue will be handled – what, when, by who and how will it be done to avoid it or minimize consequences
Decision	Documents the general approach to responding to the issue
Date Identified	Date the item was opened
Identified By	Person, situation or group responsible for identifying the issue
Owner	Name of person accountable for managing the issue to resolution; all documented items must have an assigned owner
Assigned To	Name of person assigned to work with the owner to conduct additional analysis or planning; all documented items must have an assigned party
Target Date	Date the issue should be resolved by, given the current circumstances
Current Status	Status as of report date
Last Action Date	Date that the last action was taken on this item
Next Action Date	The next date that the item should be reviewed
Closure Date	Date that the item was closed
Final Resolution	Describes how issue was resolved
Related Action Items	A text field to list related Issues or Risks

Exhibit 8.2-22: Example Issue Log Data. *As the IV&V Contractor, MAXIMUS focuses on early identification of issues, tracking until they are resolved, and implementation of mitigation or corrective action strategies.*

Upon award, we will work with DHS to ensure that we are capturing all of the desired issue data. We will include the Issues Log with the monthly IV&V Assessments. In the event that a new issue of high or moderate impact is identified, we will update the Issue Log and submit it to DHS within two business days.

8.2.7.9 Meetings and Interviews

Throughout the course of our engagement, MAXIMUS will participate in numerous ongoing project meetings including DDI deliverable walkthroughs. In addition, as part of our monthly assessments, we will interview IEBM stakeholders as needed to understand processes, procedures, and tools used in the IEBM project environments.

For meetings hosted and facilitated by the State, DDI Contractor, or other stakeholders, our participation will vary depending on the meeting purpose. For example, for some meetings, we will attend as an observer only and not disrupt the conversation.

We will include a list of meetings and interviews attended in our Monthly IV&V Assessment reports, providing the date of the meeting, meeting subject, and participants.

8.2.7.10 Systems Development and Life Cycle Gate Reviews

MAXIMUS brings the experience with assisting our clients in preparing and executing the various Gate Reviews that are often required for CMS initiatives, as well as independently assuring federal agencies that their regulations, mandates, guidance, and standards are being appropriately addressed.

CMS instituted the CMS Gate Review process for Medicaid Eligibility Systems in conjunction with the time-limited specific exception to the cost allocation requirements contained in OMB Circular A-87 (Section C.3) and new regulations contained in 42 CFR Part 433 that provided enhanced 90/10 funding for IE systems. The purpose of the Gate Reviews is to provide a collaborative series of consults and reviews at specific (progressive) points during the CMS IT lifecycle (see inset). Not every review may be required for a project; rather, the recommended reviews are documented in the PPU which is a written agreement between the key stakeholders that establishes a common understanding regarding which reviews will be conducted for the project, which artifacts are appropriate, and which tests are necessary based on the project's complexity level as determined by the Business Owner. The PPU is submitted to and approved by the CMS IT Governance Office.

CMS provides each state developing an eligibility system with a list of artifacts and presentation requirements for each of the Gate Reviews selected. Artifacts and demonstration materials are then uploaded by the State to the CMS zONE website prior to each Gate Review to allow

CMS XLC Phases/Gate Reviews

- **Initiation/Architecture Review (AR)**
- **Concept/Investment Selection Review (ISR)**
- **Planning/Project Baseline Review (PBR)**
- **Requirements Analysis/Requirements Review (RR)**
- **Design/Preliminary Design Review (PDR), Detailed Design Review (DDR)**
- **Development/Environment Readiness Review(ERR1) (VRR)**
- **Testing/ERR2**
- **Implementation/Operational Readiness Review (ORR)**
- **Operation and Maintenance (O&M)/Post Implementation Review (PIR), Annual Operational Analysis (AOA)**
- **Disposition/Disposition Review (DR)**

sufficient time for CMS to review these documents prior to the formal Gate Review. During each formal Gate Review, the State will make a presentation and discuss CMS comments regarding the artifacts and presentation. CMS follows up with a formal letter approving the successful completion of a phase and/or requests additional information prior to approving the Gate Review. MAXIMUS has participated in the role of IV&V Contractor for the full set of gate reviews across a number of our IE projects. We understand the importance of incorporating the CMS certification process throughout the overall SDLC instead of viewing it as a stand-alone activity that occurs after the eligibility replacement system has been implemented. We have seen the positive overall impact that such reviews can have on our eligibility projects in New Jersey, North Dakota, Ohio, and North Carolina.

We will supply any IV&V services that CMS may require to bring DHS into compliance with the CMS XLC for project oversight and execution. This includes supporting CMS Gate Reviews. We will assist DHS to prepare for any CMS Gate Reviews that are scheduled during the course of our engagement. We will attend conference calls or meetings with the State or DDI Vendor regarding preparation for the review, provide feedback on IEBM documents being prepared for the review, and participate in the review by providing input during discussions as needed. We will also report our participation in Gate Reviews in our Monthly IV&V Assessment Report.

8.2.7.11 Project Management Support:

Effective project management provides a structured framework by which managers can plan, organize, and control the tasks essential to the smooth operation and ultimate success of any project. Furthermore, effective project management provides the tools, techniques, and processes that allow project managers to identify, manage, and mitigate potential risks before they become issues.

An independent and objective evaluator can examine such areas as long-range planning (key to a multi-phased project), overall resource effectiveness and efficiency, and other over-arching project components in an unbiased manner that will reflect the actual project status. It is challenging for a project manager to always remain focused on the entire project scope when certain components fall behind; an experienced IV&V contractor such as MAXIMUS can provide DHS that focus and develop recommendations for project success. *Exhibit 8.2-23: Project Management Support Oversight Activities* includes a comprehensive list of MAXIMUS IV&V activities requested in the RFP. We will report our findings and recommendations from these activities in our Monthly IV&V Assessment Report.

TASK		MAXIMUS IV&V ACTIVITIES	
PROGRESS AGAINST BUDGET AND SCHEDULE			
<p>Evaluate and make recommendations on the estimating and scheduling process of the project to ensure that the project budget and resources are adequate for the work-breakdown structure and schedule.</p>			
<p>Review schedules to verify that adequate time and resources are assigned for planning, development, review, testing and rework.</p>			
<p>Evaluate project progress, resources, budget, schedules, workflow, and reporting.</p>			
<p>Evaluate project reporting plans and actual project reports to verify that project status is accurately traced using project metrics.</p>			

Exhibit 8.2-23: Project Management Support Oversight Activities. *IV&V evaluation of the Project Management practices on complex projects is key to examining and determining the overall health of the project.*

TASK	MAXIMUS IV&V ACTIVITIES
<p>Verify that milestones and completion dates are planned, monitored, and met.</p>	<ul style="list-style-type: none"> ■ Review DDI Contractor's with respect to tracking milestone and completion dates ■ Verify that the project schedule identifies milestones, task start and end dates, and other completion dates ■ Assess process for measuring project performance against milestones and completion dates ■ Verify milestone and progress reviews are addressed. ■ Compare the planned versus actual project schedules to identify any missed milestone or completion date, including reasons for slippage and mitigation plans, as appropriate ■ Review process for resolving slippage in schedule.
RISK MANAGEMENT	
<p>Verify that a Project Risk Management Plan is created and being followed.</p>	<ul style="list-style-type: none"> ■ Review DDI Contractor's Risk Management Plan ■ Review relevant commitments made by the DDI Contractor regarding the Risk Management Plans and procedures ■ Verify that the Risk Management Plans and procedures are communicated, understood, implemented, accepted, monitored, and followed consistently by State Project staff ■ Validate that the Risk Management Plan provides for the classification of risks based upon their likelihood of occurring and their potential project impact
STATE GOALS AND FEDERAL REQUIREMENTS IN RFP DOCUMENTS	
<p>Verify that State and Federal goals and requirements are built into the RFP documents</p>	<ul style="list-style-type: none"> ■ Review RFP drafts for procuring vendor services against documented State and federal goals
ADHERENCE TO THE STATE'S SDLC	
<p>Verify that DDI training is technically adequate, includes the State's SDLC, is appropriate for the development phase, and is available at appropriate times.</p>	<ul style="list-style-type: none"> ■ Review relevant commitments made by the DDI Vendor regarding adherence to Arkansas SDLC ■ Review commitments to developer training, including training approach, tools, materials, support, curriculum, delivery, logistics, administration, and measurement of effectiveness ■ Review Work Plan for schedule of training across development phases ■ Review the plan for coverage of appropriate technical topics and supporting technical materials and collateral ■ Review the plan for measurement of the effectiveness of the developer training process and retraining, as required ■ Review the schedule for system developer training ■ Review the syllabi and rubric for system developer training
<p>Verify that all necessary policy, process, and standards documentation is easily available to developers.</p>	<ul style="list-style-type: none"> ■ Obtain listing of all relevant policy, process, and standards documentation ■ Review availability and accessibility of relevant policy, process, and standards documentation ■ Review hard- and soft-copy availability ■ Verify that all necessary policy, process, and standards documentation is easily available to authorized users

Exhibit 8.2-23: Project Management Support Oversight Activities (continued). *IV&V evaluation of the Project Management practices on complex projects is key to examining and determining the overall health of the project.*

TASK	MAXIMUS IV&V ACTIVITIES
INCORPORATION OF THE SEVEN STANDARDS AND CONDITIONS PLUS FIVE ADDITIONAL FOR MEDICAID IT	
Verify that the Seven Standards and Conditions plus the additional five have been incorporated	<ul style="list-style-type: none"> ■ Review and assess the project against the seven conditions and standards <ul style="list-style-type: none"> - Modularity standard - MITA Condition - Industry Standard - Leveragability Condition - Business Results Condition - Reporting Condition - Interoperability Condition ■ The additional five conditions are: <ul style="list-style-type: none"> - Modified Adjusted Gross Income (MAGI)-based System Functionality - Mitigation Plan - Key State Personnel - Documentation - Minimization of Cost for Operation on an Alternate System
QUALITY OF MITA SELF ASSESSMENT, CONCEPT OF OPERATIONS, INFORMATION ARCHITECTURE, AND DATA ARCHITECTURE	
Review and assess quality of the MITA Self-Assessment, the Concept of Operations, Information Architecture, and Data Architecture	<ul style="list-style-type: none"> ■ Review and assess the quality of the MITA State Self-Assessment. ■ Review and assess the quality of the Concept of Operations. ■ Review and assess the system's Information Architecture. ■ Review and assess the system's Data Architecture.
REFLECTION OF STATE'S MITA GOALS AND PLANS INTO DESIGN AND DEVELOPMENT	
Verify that State's MITA goals and requirements can be traced from concept through design and development to testing.	<ul style="list-style-type: none"> ■ Review RTM data elements, including associated documentation ■ Review RTM maintenance processes ■ Review the requirements traceability reporting ■ RTM tracking from inception to testing to production deployment ■ Review software design and test plans to verify software elements are reasonably mapped to software requirements ■ Verify that the RTM process properly accounts for removal of unnecessary software elements ■ Walk through requirements traceability process with Business Analysis (BA) and Development staff
CONFIGURATION MANAGEMENT	
Review and evaluate the CM plans and procedures associated with the development process.	<ul style="list-style-type: none"> ■ Review DDI Contractor's CM Plan ■ Review relevant commitments made by the DDI Contractor regarding the CM Plans and procedures ■ Verify that the CM Plans and procedures are communicated, understood, implemented, accepted, monitored, and followed consistently by State Project staff ■ Review and evaluate State-approved DDI Contractor's proposed environments including Development, Training, Conversion, Testing, QA, and Production to verify that the environments adequately support the tasks being conducted in those environments ■ Evaluate CM Plans against industry and Arkansas standards ■ Review CM log, meeting minutes, and other documentation to assess compliance with CM Plan

Exhibit 8.2-23: Project Management Support Oversight Activities (continued). *IV&V evaluation of the Project Management practices on complex projects is key to examining and determining the overall health of the project.*

TASK	MAXIMUS IV&V ACTIVITIES
<p>Verify that all critical development documents, including but not limited to requirements, design and code are maintained under an appropriate level of control.</p>	<ul style="list-style-type: none"> ■ Review list of critical development documents ■ Review CM Plan with regard to development documents, spreadsheets, artifacts, and data ■ Confirm that the definition of "critical development documents" is clear and included in the CM Plan ■ Review approval and control processes for various levels of document control ■ Verify that the CM Plans and procedures are communicated, understood, implemented, accepted, monitored, and followed consistently by State Project staff
<p>Verify that the processes and tools are in place to identify code versions and to rebuild system configurations from source code.</p>	<ul style="list-style-type: none"> ■ Review CM Plan with regard to inclusion of relevant "configuration items", including environments, operating systems, application components, hardware, documents, etc. ■ Review CM Plan with regard to specific processes and automation tools for code version control, including both system, COTS, and custom-developed software and libraries ■ Review CM Plan with regard to specific processes and tools for rebuilding system configurations for source code ■ Verify that processes and tools are in place throughout the development life cycle ■ Validate that appropriate code libraries exist (once established) and that the appropriate configuration items are housed there.
<p>Verify that appropriate source and object libraries are maintained for training, test, and production and that formal sign-off procedures are in place for approving work products.</p>	<ul style="list-style-type: none"> ■ Review CM Plan with regard to specific processes and automation tools for management of source code, object code, custom application code, library, and configuration files ■ Verify that relevant environments are accounted for including development, system test, integration test, UAT, training, pilot, and production ■ Review formal sign-off procedures for configuration items between environments and gates
<p>Verify that mechanisms are in place to prevent unauthorized changes being made to the system and to prevent authorized changes from being made to the wrong version.</p>	<ul style="list-style-type: none"> ■ Review CM Plan with regard to inclusion of security, audit, and other control mechanisms to prevent unauthorized changes being made ■ Review software migration processes, controls, and security ■ Review CM roles and responsibilities ■ Review industry standards and guidelines and templates ■ Verify that the CM security guidelines are communicated, understood, implemented, accepted, monitored, and followed consistently by State Project staff ■ Verify that appropriate mechanisms are in place

Exhibit 8.2-23: Project Management Support Oversight Activities (continued). *IV&V evaluation of the Project Management practices on complex projects is key to examining and determining the overall health of the project.*

TASK		MAXIMUS IV&V ACTIVITIES	
CHANGE MANAGEMENT			
<p>Verify that a Change Management Plan is created and being followed. Evaluate the change management plans and procedures to verify they are developed, communicated, implemented, monitored, and complete; and that resistance to change is anticipated and prepared for. Ensure that the change management plan has standard steps to identify, vet, assess impact, and approve/decline the change via a change control board and appropriate sign-offs.</p>	<ul style="list-style-type: none"> ■ Review DDI Contractor's Change Management Plans and procedures ■ Review relevant commitments made by the DDI Contractor regarding the Change Management Plans and procedures ■ Compare Change Management Plan to contractual requirements and State standards and practices ■ Assess the extent to which the Change Management Plan is complete, maintained, and adheres to standards and assessment criteria ■ Verify the Change Management Plan is understood, communicated, implemented, accepted, monitored, and consistently followed by State Project staff ■ Review DDI Contractor's Change Management Plan, including identification and mitigation of anticipated resistance ■ Review stakeholder roles and responsibilities in monitoring and managing resistance to change ■ Review Change Management Committee's (or similar executive committee) membership, charter, and goals ■ Verify that all necessary stakeholders are represented on the Change Management Committee ■ Review strategies for identifying, addressing, and overcoming resistance to change ■ Review plans, processes, controls, and support to overcoming anticipated resistance to change ■ Evaluate the degree to which ongoing feedback regarding Change Management plans and activities reflect stakeholder concerns and recommendations. 		
ADHERENCE TO SLAs			
<p>Evaluate new and existing system hardware and software configurations to determine if their performance is adequate to meet existing and proposed system requirements.</p>	<ul style="list-style-type: none"> ■ Review relevant commitments made by the DDI Vendor regarding integration of new and existing system hardware configurations and system performance ■ Review relevant hardware performance requirements and SLAs ■ Review relevant requirements regarding system software maintainability and upgradeability, including system software configuration management requirements and SLAs ■ Review the DDI Vendor's Performance Test Plan ■ Review the system hardware performance test results ■ Evaluate the results of the performance test compared to the system's SLAs ■ Review results of volume or stress testing against SLA requirements ■ Verify that procedures are in place and are being followed to track performance metrics according to established systems service level agreements 		

Exhibit 8.2-23: Project Management Support Oversight Activities (continued). *IV&V evaluation of the Project Management practices on complex projects is key to examining and determining the overall health of the project.*

8.2.7.12 Modular Development

Sound software development requires that program software be designed based on approved functional and technical requirements. *Exhibit 8.2-24: Modular Development Oversight Activities* describes the oversight activities that we will conduct to assess the high-level design documents including the Concept of Operations and the Architecture.

TASK		MAXIMUS IV&V ACTIVITIES	
IEBM CONCEPT OF OPERATIONS, ARCHITECTURE, AND DESIGN			
<p>(SD-1) Evaluate and make recommendations on existing high level design products to verify the design is workable, efficient, and satisfies all system and system interface requirements.</p>	<ul style="list-style-type: none"> ■ Review DDI Vendor's High-Level Design Document and supporting documentation ■ Review relevant commitments made by the DDI Vendor regarding the High-Level Design Document, including workability, efficiency, and level of details ■ Review relevant high-level design requirements ■ Review RTM with regard to traceability of system and system interface requirements to the High-Level Design Document ■ Review the High-Level Design Document review and approval process, including key stakeholder involvement ■ Review System and System Interface Requirements 		
<p>Evaluate the design products for adherence to the project design methodology and standards.</p>	<ul style="list-style-type: none"> ■ Review relevant program design methodology and standards ■ Review DDI Vendor's High-Level Design Deliverable with regard to adherence to the required design methodology and standards ■ Evaluate the High-Level Design Documents for adherence to the project design methodology and standards 		
<p>Evaluate the design and analysis process used to develop the design and make recommendations for improvements. Evaluate design standards, methodology and CASE tools, if applicable used will be evaluated and make recommendations.</p>	<ul style="list-style-type: none"> ■ Review the project Design Methodology Documentation ■ Review the design and analysis process used to develop the High-Level Design Document ■ Evaluate the design and analysis process used to develop the design ■ Evaluate the methods that will be used to "close the gap" between the COTS, and more specifically the DDI Vendor's proposed technical environment, functionality and the business requirements ■ Review the project Design Methodology Documentation with regard to design standards, methodology, and CASE tools ■ Review the design standards, methodology, and CASE tools used to develop the High-Level Design Document 		
<p>Verify that design requirements can be traced back to system requirements.</p>	<ul style="list-style-type: none"> ■ Review the Requirements Management Plan and RTM ■ Review a sample of design requirements and track through RTM to system requirements 		
INTERFACES AND DATA SHARING REQUIREMENTS			
<p>Evaluate interface testing plans and procedures for compliance with industry standards.</p>	<ul style="list-style-type: none"> ■ Obtain the DDI Contractor's Interface Testing Plan for the Project including the Vendor's procedures for compliance with industry standards ■ Review relevant commitments made by the CRM Integrator regarding system test environments, including use of automated testing tools ■ Review relevant industry standards ■ Review the DDI Contractor's Test Plan for adequacy and completeness of interface testing plans and procedures ■ Review the Interface Testing Plan to verify if all necessary preparatory work has been considered ■ Evaluate adequacy of coordination with external entities ■ Evaluate adequacy of mock interface testing plans 		

Exhibit 8.2-24: Modular Development Oversight Activities. *Large scale systems modernization requires a complex and involved process that can best be managed through an effective SDLC methodology that prescribes the industry-recognized structure and best practices necessary during all phases of the SDLC from requirements definition to design, development through testing, and implementation to production and maintenance.*

TASK		MAXIMUS IV&V ACTIVITIES
DATA TRANSITION PLAN		
Evaluate existing and proposed plans, procedures and software for data transition.	<ul style="list-style-type: none"> ■ Obtain the DDI Vendor's Data Conversion and Migration Plan for the Project ■ Review relevant commitments made by the DDI Vendor regarding data conversion including cleansing, extracting, transforming, loading, migrating, and validating data from existing legacy systems to the new system ■ Review the DDI Vendor's Plan for data conversion requirements ■ Review relevant assumptions made by the DDI Vendor regarding data conversion ■ Review the existing and proposed plans, procedures, and software for data conversion ■ Review the number of mock conversions planned ■ Review the plan for data not converted or not available to be converted ■ Review the plan for data that is not sufficiently cleansed ■ Evaluate the existing and proposed plans, procedures, and software for data conversion 	
Verify that procedures are in place and are being followed to review the completed data for completeness and accuracy and to perform data clean-up as required.	<ul style="list-style-type: none"> ■ Review the DDI Vendor's Conversion Plan for specific procedures for converted data validation ■ Verify that procedures are in place for converted data validation ■ Verify that procedures are in place for data clean-up ■ Verify that procedures are being followed for converted data validation and data clean-up, as required ■ Verify that management controls are in place for converted data validation and data clean-up ■ Verify that issues from processes are being documented and tracked 	
Determine conversion error rates and if the error rates are manageable.	<ul style="list-style-type: none"> ■ Review relevant commitments and assumptions made by the DDI Vendor regarding data conversion ■ Review the DDI Vendor's Conversion Plan for the determination of acceptable error rates for conversion ■ Review DDI Vendor's data conversion error logs to determine data conversion error rates ■ Review appropriate industry standards regarding data conversion error rates ■ Determine if the identified error rates are manageable for the COT 	
REQUIREMENTS TRACEABILITY		
Evaluate and make recommendations on the project's process and procedures for managing requirements.	<ul style="list-style-type: none"> ■ Review DDI Vendor's Requirements Management Plan, including processes and procedures ■ Review relevant industry and COT standards, including the Requirements Traceability Matrix (RTM) ■ Assess adequacy of processes and procedures ■ Assess traceability of requirements throughout the project life cycle ■ Verify that all Requirements Management Plans and procedures are developed, communicated, implemented, monitored, and completed ■ Evaluate the requirements analysis methods that the team uses to identify and close "the gap" between the COTS and the business requirements 	

Exhibit 8.2-24: Modular Development Oversight Activities (continued). *Large scale systems modernization requires a complex and involved process that can best be managed through an effective SDLC methodology that prescribes the industry-recognized structure and best practices necessary during all phases of the SDLC from requirements definition to design, development through testing, and implementation to production and maintenance.*

TASK		MAXIMUS IV&V ACTIVITIES	
SYSTEM SECURITY AND PRIVACY			
Verify that mechanisms are in place to prevent unauthorized changes being made to the system and to prevent authorized changes from being made to the wrong version.		<ul style="list-style-type: none"> ■ Review CM Plan with regard to inclusion of security, audit, and other control mechanisms to prevent unauthorized changes being made ■ Review software migration processes, controls, and security ■ Review CM roles and responsibilities ■ Review industry standards and guidelines and templates ■ Verify that the CM security guidelines are communicated, understood, implemented, accepted, monitored, and followed consistently by State Project staff ■ Verify that appropriate mechanisms are in place 	
COVERAGE AND INTEGRITY OF TESTING			
(ST-3) Verify that an appropriate level of test coverage is achieved by the test process, that test results are verified, that the correct code configuration has been tested, and that the tests are appropriately documented, including formal logging of errors found in testing.		<ul style="list-style-type: none"> ■ Obtain the DDI Contractor's Test Plan and Configuration Management Plan for the Project ■ Review the Test Plan to determine if there is an appropriate level of testing contained in the planned process ■ Review relevant commitments made by the DDI Contractor regarding testing, including QA processes ■ Review the processes and controls for the DDI Contractor's RTM ■ Review the process utilized to verify the test results to evaluate its completeness and accuracy ■ Review the CM Plan in conjunction with the Test Plan to verify that the code is being properly controlled ■ Review the process for documenting the test results and determine its adequacy and completeness ■ Review the process for logging errors found during testing and determine if it is adequate and complete, including a process for prioritizing and fixing defects found during the testing 	
CAPACITY MANAGEMENT			
Evaluate the existing processing capacity of the system and verify that it is adequate for current statewide needs for both batch and on-line processing.		<ul style="list-style-type: none"> ■ Review DDI Vendor's Capacity Management Plan with respect to ensuring that the existing COT processing capacity is adequate for current statewide needs for both batch and on-line processing ■ Review relevant commitments made by the DDI Vendor regarding adequacy of system software to verify that the existing COT processing capacity is adequate for current statewide needs for both batch and on-line processing ■ Review existing and proposed system performance requirements for both batch and on-line processing ■ Review current batch and on-line processing volume and requirements ■ Evaluate the performance statistics and the processing requirements to verify that it is adequate for current statewide needs 	
DISASTER RECOVERY PLANNING			
Verify that procedures are in place for systems monitoring, security, back-up, and recovery including disaster recovery and business continuity		<ul style="list-style-type: none"> ■ Review the DDI Vendor's plans for the implementation of the process activities including, backup, disaster recovery, and daily operations ■ Review relevant commitments made by the DDI Vendor regarding operational processes, including backup, disaster recovery, and daily operations ■ Review relevant operational documentation available ■ Evaluate operational plans and process for completeness and accuracy ■ Evaluate whether the operational process activities including backup, disaster recovery, and daily operations process are being followed 	

Exhibit 8.2-24: Modular Development Oversight Activities (continued). *Large scale systems modernization requires a complex and involved process that can best be managed through an effective SDLC methodology that prescribes the industry-recognized structure and best practices necessary during all phases of the SDLC from requirements definition to design, development through testing, and implementation to production and maintenance.*

TASK		MAXIMUS IV&V ACTIVITIES
REGRESSION TESTING		
<p>Verify regression testing is conducted according to approved plans and procedures</p>	<ul style="list-style-type: none"> ■ Review DDI Vendor’s Test Plan to evaluate the regression testing approach, the regression test case execution, the regression testing team, and the regression test case results documentation ■ Review regression test results to verify necessary testing has been completed and documented correctly ■ Review defect reports to verify defects are identified, monitored, corrected, retested, and traced ■ Verify a regression testing methodology is included in the defect reporting approach ■ Verify DDI Vendor has conducted all regression test activities identified in the Test Plan 	

Exhibit 8.2-24: Modular Development Oversight Activities (continued). *Large scale systems modernization requires a complex and involved process that can best be managed through an effective SDLC methodology that prescribes the industry-recognized structure and best practices necessary during all phases of the SDLC from requirements definition to design, development through testing, and implementation to production and maintenance.*

8.2.7.13 IV&V Support for the CMS MEELC and MEET

Per the solicitation instructions, the IV&V Contractor must meet IV&V requirements in the MEELC; this includes use of the MEET checklists that are required at each CMS Milestone Review. MAXIMUS has been engaged with MEET from its start in December 2016. At that time, we assisted our clients in North Dakota and then North Carolina who were both pilot states for MEET prior to its formal release. Both states transitioned to MEET Version 1.0 upon its release in August 2017 and later moved to MEET Version 1.1. The MAXIMUS Team had prior experience with MEET (developed for MMIS systems), the precursor to MEET. As a result, we were able to provide recommendations and feedback to both the State and to CMS and MITRE regarding simplification of the checklist process. For further details on these projects, please refer to *Section 8.1: Background and Qualifications* and *8.2.2: Understanding of the MEELC and MEET*.

Under MEET guidelines, checklists are completed when the States are approaching one of the three milestone reviews (that is, R1 – Project Initiation Milestone Review, R2 – Operational Milestone Review, and R3-Post Operational Milestone Review). Depending on the overall plan for the particular system, there may be more than one of each type of milestone review — for example, an R2 scheduled prior to each major release. In our experience, if the MEELC process is initiated for a system already in place, a particular project may be permitted to skip the R1 milestone review and move straight to one of the later reviews. The milestone review structure assumes a Waterfall SDLC. However, where states are using an iterative SDLC such as Agile, CMS has worked with the state to identify appropriate intervals at which to complete milestone reviews — typically this is associated with the release of major functionality for the Medicaid program.

Once the schedule for the milestone reviews is established by CMS, the IV&V Team must work with the State and the DDI Contractor (or in-house IT team if development is internal) to complete the appropriate documents required for the review, utilizing the checklists and progress report template provided in the MEET toolkit. This is a collaborative effort, as the State together with the DDI Contractor must document how the system meets or plans to meet Medicaid regulations and standards and conditions. The IV&V Contractor must then review the evidence presented and provide an independent assessment of whether or not the requirement

is met. In our experience, this collaborative process may take six to eight weeks to complete for each milestone review. In addition, the IV&V Contractor must provide a CMS IV&V Progress Report, based on the template provided in the MEET toolkit. Depending on the timing of the milestone review, we may be able to use our monthly or quarterly report or provide an updated version, as required.

The progress reports and checklists must be completed and submitted to CMS at least two weeks prior to the scheduled milestone review for review by CMS and possibly MITRE. In our experience, MITRE serves as the SME for CMS for work related to the MEET and MEELC process. We have found this useful as the MITRE staff with whom we have engaged on one state's project have been part of the review process for other states as well.

Depending on the type of review, different evidence may be presented related to a particular requirement. For example:

- **R1 review:** the State may present evidence that there are requirements established for required functionality
- **R2 review:** the State may present evidence that functionality was built in the system and has been tested successfully
- **R3 review:** the State may provide evidence that the functionality is in use and working effectively.

MEET/MEELC Timeline

Exhibit 8.2-25: MEET/MEELC Requirements describes the CMS requirements and their associated timeframe.

CMS REQUIREMENT	TIMING
CMS designates date for MEELC milestone review	TBD by CMS
IV&V Contractor compiles the Monthly IV&V Assessments into Quarterly Progress Reports that objectively illustrate the strengths and weaknesses of the project and provide recommendations for correcting identified weaknesses; report is submitted to CMS and DHS simultaneously	15th day of the month
State and DDI Contractor complete checklist	Start 10 weeks prior to the Milestone Review
IV&V Contractor reviews E&E checklists, collaborates with the DHS and the DDI vendor to review evidence, annotate review findings, and annotate resolutions in each of the MEET checklists,	Start 4 weeks prior to the Milestone Review
IV&V Contractor finalizes checklist by completing the reviewer comment portion	3 calendar weeks prior to the Milestone Review
IV&V Contractor submits checklist to CMS attached to a Quarterly Progress Report	2 calendar weeks (14 days) prior

Exhibit 8.2-25: MEET/MEELC Requirements. *The MEET/MEELC process can be lengthy as there are numerous activities that must be done prior to the review meeting.*

8.2.7.14 Ongoing IV&V Activities

On an ongoing basis, we will deliver the IV&V services described in the following subsections early enough to meet the deadlines for the tasks under review. For many of these, we will customize our existing checklists to reflect ARIES specifics.

8.2.7.14.1 Maintain Document Repository

Our approach to document management includes establishing and communicating standards, ensuring appropriate access to a project repository, monitoring compliance with standards, managing the deliverable review cycle, and incorporating continuous quality improvements. We will leverage the DHS SharePoint site and place our deliverables with the rest of the IEBM materials. Our team has extensive experience with SharePoint as MAXIMUS utilizes SharePoint to manage internal documents and have also used it on several past projects. We will work with DHS to ensure that our repository provides the structure content needed by the State and that appropriate State staff gain access to retrieve documents.

8.2.7.14.2 Evaluate DDI’s QA Process

QA involves defining and establishing appropriate quality standards, processes, and metrics to be followed throughout the project life cycle and is a critical component during the development of IT projects. IV&V examination of QA practices helps to ensure that quality standards and processes are being applied and accepted by all stakeholders across life cycle activities, and, where necessary, new or modified quality processes are developed.

MAXIMUS will assess the DDI Contractor’s QA framework to determine if project processes are adequate, effective, and efficient for meeting the project’s goals and objectives. Further, we will assess if project deliverables and other artifacts meet the established standards. *Exhibit 8.2-26: QA Oversight Activities* includes a comprehensive list of MAXIMUS IV&V activities related to this assessment area. The final set of tasks, subtasks, and milestones will be defined in the IV&V PMP.

TASK	MAXIMUS IV&V ACTIVITIES
Evaluate and make recommendations on the Quality Assurance plans, procedures and organization.	<ul style="list-style-type: none"> ■ Review DDI Contractor’s QA Plan, including policies, procedures, and organization ■ Review QA standards and metrics ■ Review QA Plan activities, tasks, and dependencies ■ Review QA Plan resource utilization ■ Review QA procedures, policies, and controls ■ Review QA organization and span of control
Verify that the QA function has an appropriate level of independence from project management.	<ul style="list-style-type: none"> ■ Review DDI Contractor’s QA Plan regarding organization and level of independence from program management ■ Verify that the QA Team does not report to the Development Manager ■ Assess QA reporting process for independence (report filtering before distribution, distribution procedures, how comments are received and reports updated)
Verify that the QA function monitors the fidelity of all defined processes in all phases of the project.	<ul style="list-style-type: none"> ■ Review DDI Contractor’s QA Plan in each phase of the project ■ Verify that the QA organization and processes monitor the fidelity of project phases in the overall Project
Verify that the quality of all products produced by the project is monitored by formal reviews and sign-offs.	<ul style="list-style-type: none"> ■ Review DDI Contractor’s QA Plan with regard to formal product reviews and approvals, including design, code, documentation, training material, Communication Plans, etc. ■ Verify that the quality of all products produced by the project are monitored by formal reviews and sign offs

Exhibit 8.2-26: QA Oversight Activities. *QA oversight activities are intended to determine if project processes, standards, and guidelines are adequate, effective, and efficient for meeting the project’s goals and objectives.*

TASK	MAXIMUS IV&V ACTIVITIES
<p>Verify that project self-evaluations are performed and that measures are continually taken to improve the process.</p>	<ul style="list-style-type: none"> ■ Review DDI Contractor’s QA Plan with regard to project self-evaluations ■ Review the QA Plan for standards and procedures for self-evaluations ■ Verify that program self-evaluations are performed and that measures are continually taken to improve the process
<p>Monitor the performance of the QA function by reviewing its processes and reports and performing spot checks of system documentation; assess findings and performance of the processes and reports.</p>	<ul style="list-style-type: none"> ■ Review the QA commitments and obligations ■ Review QA processes and reports ■ Perform spot checks of QA system documentation ■ Assess QA findings and performance of the processes and reports ■ Monitor the performance of QA ■ Review QA reports against contractual and other obligations
<p>Verify that QA has an appropriate level of independence; evaluate and make recommendations on the project’s QA plans, procedures, and organization.</p>	<ul style="list-style-type: none"> ■ Review the DDI Contractor’s QA Plan, including organization chart and reporting relationships ■ Assess QA organizational structure for independence (for example, level within the organization, report-to relationships, potential conflicts of interests of QA Team, etc.) ■ Review QA standards and procedures for conducting assessments ■ Review processes by which the QA Team creates and distributes reports ■ Assess QA reporting process for independence (report filtering before distribution, distribution procedures, how comments are received and reports updated, etc.) ■ Compare QA organizational structure, procedures, and report distribution procedures to industry, the State, and State standards and best practices ■ Compile recommendations on QA plans, procedures, and organization
<p>Evaluate if appropriate mechanisms are in place for project self-evaluation and process improvement.</p>	<ul style="list-style-type: none"> ■ Review project self-evaluation and process improvement mechanisms ■ Review obligations of various vendors with regard to providing assistance to program process improvement (for example, knowledge transfer, technical training, coaching) ■ Review the extent to which the self-evaluation and process improvement mechanisms are used and documented ■ Review the extent to which action items are documented and followed up ■ Review the involvement of program management and stakeholders
<p>PROCESS DEFINITION AND PRODUCT STANDARDS</p>	
<p>Review and make recommendations on defined processes and product standards associated with the system development.</p>	<ul style="list-style-type: none"> ■ Review DDI Contractor’s QA Plan and/or PMP to assess processes and product standards ■ Review relevant industry and State standards ■ Review DDI Contractor’s published project approach for system development ■ Review DDI Contractor’s published approach for configurable items

Exhibit 8.2-26: QA Oversight Activities (continued). *QA oversight activities are intended to determine if project processes, standards, and guidelines are adequate, effective, and efficient for meeting the project’s goals and objectives.*

TASK	MAXIMUS IV&V ACTIVITIES
<p>Verify that all major development processes are defined and that the defined and approved processes and standards are followed in development.</p>	<ul style="list-style-type: none"> ■ Review all major project development processes ■ Verify that project development processes are defined, approved, communicated, understood, implemented, and monitored ■ Verify that the approved and documented processes are followed in development
<p>Verify that the processes and standards are compatible with each other and with the system development methodology.</p>	<ul style="list-style-type: none"> ■ Review project development and configuration standards ■ Compare project standards for compatibility and consistency ■ Compare project software development standards and processes with industry standards ■ Verify that the QA processes and standards are compatible with the software development methodology
<p>Verify that all process definitions and standards are complete, clear, up-to-date, consistent in format, and easily available to project personnel.</p>	<ul style="list-style-type: none"> ■ Review project development and configuration standards for consistency in format and clarity ■ Verify that the process definitions and standards are complete, clear, up-to-date, consistent in format, and easily available to project personnel ■ Review measures, reports and information gathering strategies to measure operational performance, compliance and/or clinical quality of the governing entity, the shared services and participating entities

Exhibit 8.2-26: QA Oversight Activities (continued). *QA oversight activities are intended to determine if project processes, standards, and guidelines are adequate, effective, and efficient for meeting the project's goals and objectives.*

8.2.7.14.3 Review IEBM Change Request Process and Tracking System

A common problem in large implementation projects is scope creep caused by continuous shifting of requirements during the design and development phases. To help ensure that the State maintains control of the scope and budget, our IV&V oversight will cover the change request and tracking systems in place. As shown in *Exhibit 8.2-27: Change Management Oversight Activities*, there are multiple areas that we can assess to evaluate the effectiveness of the change control procedures.

Task	MAXIMUS Activities
<p>Verify that a Change Management Plan is created and being followed. Evaluate the change management plans and procedures to verify they are developed, communicated, implemented, monitored, and complete; and that resistance to change is anticipated and prepared for. Ensure that the change management plan has standard steps to identify, vet, assess impact, and approve/decline the change via a change control board and appropriate sign-offs.</p>	<ul style="list-style-type: none"> ■ Review IEBM Change Management Plans and procedures ■ Review relevant commitments made by IEBM regarding the Change Management Plans and procedures ■ Compare Change Management Plan to contractual requirements and State standards and practices ■ Assess the extent to which the Change Management Plan is complete, maintained, and adheres to standards and assessment criteria ■ Verify the Change Management Plan is understood, communicated, implemented, accepted, monitored, and consistently followed by State Project staff ■ Review IEBM Change Management Plan, including identification and mitigation of anticipated resistance ■ Review stakeholder roles and responsibilities in monitoring and managing resistance to change ■ Review Change Management Committee's (or similar executive committee) membership, charter, and goals ■ Verify that all necessary stakeholders are represented on the Change Management Committee ■ Review strategies for identifying, addressing, and overcoming resistance to change ■ Review plans, processes, controls, and support to overcoming anticipated resistance to change ■ Evaluate the degree to which ongoing feedback regarding Change Management plans and activities reflect stakeholder concerns and recommendations.

Exhibit 8.2-27: Change Management Oversight Activities. *Our assessment of change request and tracking focuses on ensuring that the impact on scope, cost, and schedule is carefully considered before requests are approved.*

8.2.7.14.4 Verify and Validate Unit Test Results

We will verify that the DDI Contractor's coding and unit testing processes produce sound and effective system components that are traceable to the requirements. We will customize the activities provided in *Exhibit 8.2-28: Unit Testing Oversight*, adding items to each section based on IEBM or ARIES specific demands.

Task	MAXIMUS Activities
<p>Evaluate the plans, requirements, environment, tools, and procedures used for unit testing system modules.</p>	<ul style="list-style-type: none"> ■ Review DDI Vendor’s Test Management Plan regarding the plans, requirements, environments, tools, and procedures used for unit testing system modules ■ Review relevant commitments made by the DDI Vendor regarding the plans, requirements, environments, tools, and procedures used for unit testing system modules ■ Review industry standards and guidelines and templates ■ Review relevant requirements ■ Evaluate the plans, requirements, environment, tools, and procedures used for unit testing system modules
<p>Evaluate the level of test automation, interactive testing and interactive debugging available in the test environment.</p>	<ul style="list-style-type: none"> ■ Review DDI Vendor’s Test Management Plan regarding the level of test automation, interactive testing, and interactive debugging available in the test environment ■ Review relevant commitments made by the DDI Vendor regarding the level of test automation, interactive testing, and interactive debugging available in the test environment ■ Review industry standards and guidelines and templates ■ Review relevant requirements ■ Evaluate the level of test automation, interactive testing, and interactive debugging available in the test environment
<p>Verify that an appropriate level of test coverage is achieved by the test process, that test results are verified, that the correct code configuration has been tested, and that the tests are appropriately documented.</p>	<ul style="list-style-type: none"> ■ Review DDI Vendor’s Quality Management Plan regarding the level of test coverage achieved by the test process, that test results are verified, that the correct code configuration has been tested, and that the tests are appropriately documented ■ Review relevant commitments made by the DDI Vendor regarding testing ■ Review industry standards and guidelines and templates ■ Review relevant requirements ■ Verify that an appropriate level of test coverage is achieved by the test process, that test results are verified, that the correct code configuration has been tested, and that the tests are appropriately documented ■ On a selected basis, verify the results of unit tests are adequately and properly documented ■ Review and verify the Unit Test Report provided by the DDI Vendor

Exhibit 8.2-28: Unit Testing Oversight. *During our IV&V of unit testing, our focus is on ensuring that required steps are taken to trace requirements to individual units of code.*

8.2.7.14.5 Verify and Validate System Integration Testing Prior to UAT

We complete test case validation by reviewing a comprehensive sample of test cases and test scenarios. Along with the State, we will define specific report content and verification processes during planning for the System Integration Testing review. Test reviews provide findings, risks and recommendations with respect to testing strategies plans, processes, and tools. Reviews also validate test results and verify integration of solution modules with the solution as a whole. A sample of activities that we will conduct during System Integration testing is included in *Exhibit 8.2-29: System Testing Oversight Activities*.

Task	MAXIMUS Activities
<p>Evaluate the plans, requirements, environment, tools, and procedures used for integration testing of system modules.</p>	<ul style="list-style-type: none"> ■ Obtain the DDI Contractor's plans, requirements, tools, and procedures used for the integration testing of the Eligibility system modules ■ Review the plans, requirements, environment, tools, and procedures for the State system integration test ■ Review relevant commitments made by the DDI Contractor regarding integration testing, including use of automated testing tools ■ Review relevant assumptions made by the DDI Contractor regarding integration testing ■ Review relevant State commitments and obligations regarding integration testing ■ Evaluate the plans, requirements, environment, tools, and procedures used for integration testing
<p>Evaluate the level of automation and the availability of the system test environment.</p>	<ul style="list-style-type: none"> ■ Obtain the DDI Contractor's System Test documents for the system test environment for the Project ■ Review the level of automation identified for the system test environment for the Project ■ Review the availability of the system test environment for testing of Project ■ Review relevant commitments made by the DDI Contractor regarding system test environments, including use of automated testing tools ■ Review relevant assumptions made by the DDI Contractor regarding system test environments ■ Review relevant State commitments and obligations regarding the system test environments ■ Evaluate the integration testing of the level of automation and availability of the test environment ■ Evaluate the level of automation based on the RFP requirements, RFP commitments, and the State-approved System Test Plans for the State
<p>Verify that an appropriate level of test coverage is achieved by the test process, that test results are verified, that the correct code configuration has been tested, and that the tests are appropriately documented, including formal logging of errors found in testing.</p>	<ul style="list-style-type: none"> ■ Obtain the DDI Contractor's Test Plan and Configuration Management Plan for the Project ■ Review the Test Plan to determine if there is an appropriate level of testing contained in the planned process ■ Review relevant commitments made by the DDI Contractor regarding testing, including QA processes ■ Review the processes and controls for the DDI Contractor's RTM ■ Review the process utilized to verify the test results to evaluate its completeness and accuracy ■ Review the CM Plan in conjunction with the Test Plan to verify that the code is being properly controlled ■ Review the process for documenting the test results and determine its adequacy and completeness ■ Review the process for logging errors found during testing and determine if it is adequate and complete, including a process for prioritizing and fixing defects found during the testing
<p>Verify that the test organization has an appropriate level of independence from the development organization.</p>	<ul style="list-style-type: none"> ■ Obtain the approved DDI Contractor's Test Plan for the Project ■ Review the Test Plan to understand the team involved ■ Review the development organization chart and responsibilities ■ Review the identified roles and responsibilities identified in the plan for system integration testing ■ Review the identified testing team participants and their roles for system integration testing ■ Verify that the appropriate level of independence exists between the testing organization and the development organization

Exhibit 8.2-29: System Testing Oversight Activities. MAXIMUS reviews test plans and artifacts to validate that planned tests are performed and that test cases and scenarios verify implementation of Arkansas requirements.

8.2.7.14.6 Verify and Validate UAT Results

Issues related to overall user acceptance of a system the size and complexity of ARIES at this stage of the SDLC can derail the entire project. As shown in *Exhibit 8.2-30: UAT Oversight Activities*, MAXIMUS will review the artifacts and UAT processes.

Task	MAXIMUS Activities
User Acceptance procedures and acceptance criteria for each product must be defined, reviewed, and approved prior to test and the results of the test must be documented. User Acceptance procedures must address the process by which any software product that does not pass acceptance testing will be corrected.	<ul style="list-style-type: none"> ■ Obtain the DDI Contractor's user acceptance procedures and user acceptance criteria for each product ■ Review the approved user acceptance procedures and user acceptance criteria to determine if they are adequate, accurate, and complete ■ Review DDI Contractor's DEDs if available ■ Verify that the user acceptance procedures and user acceptance criteria were defined, reviewed, and approved prior to testing ■ Verify that the results of tests are documented ■ Obtain a copy of the DDI Contractor's process for the user acceptance procedures that identifies the process for correcting any software product that does not pass user acceptance testing ■ Review the process for adequacy, accuracy, and completeness ■ Review relevant commitments made by the DDI Contractor regarding user acceptance procedures and QA ■ Verify that appropriate stakeholders are involved in the user acceptance process
Verify that appropriate user acceptance testing based on the defined acceptance criteria is performed satisfactorily before acceptance of software products.	<ul style="list-style-type: none"> ■ Review the DDI Contractor's acceptance testing plans and procedures ■ Review defined and documented acceptance testing criteria ■ Verify that appropriate user acceptance testing is satisfactory, adequate, accurate, and complete before the State's user acceptance of software products
Verify that the user acceptance test organization has an appropriate level of independence from the contractor.	<ul style="list-style-type: none"> ■ Review the System Acceptance Test Plan to understand the team involved ■ Review the development organization chart and responsibilities ■ Review the identified roles and responsibilities identified in the Plan for the testing of the Project during the user acceptance testing ■ Review the identified testing team participants and their roles for user acceptance testing ■ Verify that the appropriate level of independence exists for the software testing team and the contractor

Exhibit 8.2-30: User Acceptance Testing Oversight Activities. IV&V of UAT is critical to completing implementation of a modernization project as the review's purpose is to verify that end users are provided the opportunity to evaluate the system and to validate that the test results meet project expectations before moving to the next SDLC phase.

8.2.7.14.7 Conduct the Initial Assessments of Data Conversion Plans, Procedures, and Software

As seen in *Exhibit 8.2-31: Data Conversion, Procedures, and Software Oversight Activities*, we will conduct the initial assessments of the data conversion plan, procedures, and software.

Task	MAXIMUS IV&V Activities
DATA CONVERSION PLAN	
<p>Verify that procedures are in place and are being followed to review the completed data for completeness and accuracy and to perform data clean-up as required.</p>	<ul style="list-style-type: none"> ■ Review the DDI Vendor's Conversion Plan for specific procedures for converted data validation ■ Verify that procedures are in place for converted data validation ■ Verify that procedures are in place for data clean-up ■ Verify that procedures are being followed for converted data validation and data clean-up, as required ■ Verify that management controls are in place for converted data validation and data clean-up ■ Verify that issues from processes are being documented and tracked
<p>Determine conversion error rates and if the error rates are manageable.</p>	<ul style="list-style-type: none"> ■ Review relevant commitments and assumptions made by the DDI Vendor regarding data conversion ■ Review the DDI Vendor's Conversion Plan for the determination of acceptable error rates for conversion ■ Review DDI Vendor's data conversion error logs to determine data conversion error rates ■ Review appropriate industry standards regarding data conversion error rates ■ Determine if the identified error rates are manageable for the COT
PROCEDURES	
<p>Verify that procedures are in place for systems monitoring, security, backup, and recovery including disaster recovery and business continuity</p>	<ul style="list-style-type: none"> ■ Review the DDI Vendor's plans for the implementation of the process activities including, backup, disaster recovery, and daily operations ■ Review relevant commitments made by the DDI Vendor regarding operational processes, including backup, disaster recovery, and daily operations ■ Review relevant operational documentation available ■ Evaluate operational plans and process for completeness and accuracy ■ Review a sample of actual operational processes, to the extent it is being conducted during the On-Site Assessment period ■ Evaluate whether the operational process activities including backup, disaster recovery, and daily operations process are being followed
<p>Make recommendations on optimizing the process for applying systems enhancements and upgrades to minimize risk to business operations.</p>	<ul style="list-style-type: none"> ■ Review the documented roles and responsibilities for system enhancements and upgrades ■ Identify systems enhancement and upgrade requirements and best practices that are not addressed by the current documented procedures ■ Identify potential risks that are not being adequately maintained ■ Evaluate the potential impact of not performing the missing procedures ■ Recommend changes to existing procedures to reduce substantial risks
SOFTWARE	
<p>Verify that the DDI Vendor has adequate technical environments in place to support development, testing, production staging, production operations, etc. as well as adequate processes and procedures to manage those environments</p>	<ul style="list-style-type: none"> ■ Review the documented technical environments put in place by the Vendor ■ Validate that the system software configurations are identical between development, testing, staging, and production. ■ Verify that the testing environment has an adequate mix and volume of test data to provide valid test cases and effective volume and performance testing ■ Review the procedures for migrating software from development to test, into production staging and, finally, production operations ■ Validate that software staging is sufficiently automated to avoid errors ■ Validate software roll-back procedures and verify that adequate recovery mechanisms are in place

Exhibit 8.2-31: Data Conversion, Procedures, and Software Oversight Activities. MAXIMUS oversight of data conversion, procedures, and software prior to implementation will help ensure that rollout will occur without major glitches.

8.2.7.15 CMS-Requested Testing

CMS requires that states perform annual testing of their eligibility systems using test data and scenarios provided by CMS. This helps to ensure that the systems and interfaces are operating

properly. As the IV&V Contractor, we will provide oversight to the testing process. We will review the DDI Contractor's usage of the provided scenarios. We will also examine a subset of daily test results to assess the integrity of the DDI testing. We will also review and provide recommendations on the final testing report prepared by the DDI Contractor prior to submission to CMS. In the event that we identify any issues or concerns regarding the testing process and quality, we will report our concerns to the DDI Contractor and DHS within 48 hours. We will submit the required CMS IV&V inputs no later than three weeks before the final report is submitted.

We have performed similar oversight on similar projects. For example, in North Dakota, we provided attestations that the system interface with the FFM was ready for implementation. As the IV&V Contractor, we sat in a room with the DDI testers and State testers. We had established a testing time with CMS. State testers had entered data into the system that matched the CMS criteria before call. During call, DDI vendor released transaction (payload) for those test cases to CMS. CMS verified the case information was received in their test system. Then we tested receipt of a payload from CMS. Based on the test results, we then uploaded findings to CMS including an attestation letter.

8.2.7.16 Update the IV&V Project Plan

As significant events occur or at a minimum annually, we will review and revise the IV&V Project Plan to reflect changes. Also, as schedules are revised for DDI deliverables, we will adjust our work plan. As with other deliverables, we will submit the revised IV&V Project Plan to DHS for approval.

8.2.7.17 USDA FNS Requirements

MAXIMUS understands the FNS FFP requirement to submit a Testing Assessment and Recommendation with the DHS request to FNS to move the project from UAT to pilot and from pilot to production (as specified by 7 CFR 277.18 and conditions for continued FFP funding). MAXIMUS also understands checklist requirements to validate testing of FNS reports (FNS-366B, FNS-46, SF-425, FNS 788, FNS 388, FNS 388A and FNS-209). MAXIMUS will coordinate with DHS and FNS to schedule these testing activities.

As part of our IV&V role, we will help ensure that DHS and the DDI Contractor follow the FNS SNAP Eligibility System Go Live Requirements. For example, DHS must provide a complete test plan prior to the start of the testing phase and subsequently provide documentation to FNS regarding the results of UAT before the system is piloted in a production environment. FNS concurrence to advance from testing to pilot is a condition for continued FFP. All aspects of program eligibility must be tested to ensure that the system makes accurate eligibility determinations in accordance with federal statutes and regulations and approved State policies, and that system functionality meets the required functional specifications. DHS will describe how all system testing will be conducted and the resources to be utilized in order to verify that the system complies with SNAP requirements, system design specifications, and performance standards including responsiveness, usability, capacity and security. Testing includes but is not limited to unit testing, integration testing, performance testing, end-to-end testing, UAT, and regression testing. During UAT, detailed scripts covering all areas of program functionality will be used so that any errors identified can be replicated, corrected and re-tested.

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8.3 Project Organization and Staffing

MAXIMUS staff experience will provide the Arkansas IEBM project with the skills and expertise to reduce risk and improve quality

There is nothing more critical to a project's success than the right people. DHS that the selection of its IV&V Contractor will play a critical role in the success of the IEBM Solution Implementation. We are confident that the MAXIMUS Team cannot be matched in terms of experience, knowledge, or expertise. Our staff has significant experience following guidelines from CMS, FNS, and ACF; and also offers firsthand knowledge and experience working for state agencies across the country.

Our staff experience will support risk reduction and quality improvement

- 73 combined years of IE experience
- 18 years working with Arkansas DHS
- Experience with CMS MEELC and MEET
- Experience with FNS Handbook 901

The Arkansas IEBM IV&V Project will be led by the experienced staff of our Program Modernization Consulting (PMC) Practice. Drawing heavily on expertise often gained inside of government Health and Human Services (HHS) agencies, the consultants in the Practice focus on helping clients in their efforts to improve service delivery and business operations. Among these services are:

- Performing IV&V services for IE systems for governmental agencies following Waterfall or Agile methodologies
- Working with the CMS MITA 3.0
- Working with the MEELC and MEET, including participating in the pilots for MEET 1.0 and, more recently, MEET 1.1
- Working with CMS 45 CFR 95.626, OCSE 45 CFR 307.15(b)(10), and Food Stamp regulations at 7 CFR 277.18
- Working with FNS Handbook 901 requirements
- Working with CCWIS requirements
- Working with security and privacy standards, such as the HIPAA, NIST, and ISO
- Utilizing our proven project management methodology and standards-based evaluation of project management activities

As shown in *Exhibit 8.3-1: MAXIMUS Project Team Organization*, our team is sufficiently resourced with a Project Director/IV&V SME, IV&V Lead, and five IV&V SMEs. Each team member brings specific skills and capabilities to help deliver the services described in this proposal. These resources will be applied as required to the effort, depending on the IV&V activities underway at the time and the status of the project. This flexible staffing model allows us to not only bring in specialized expertise but also to increase or decrease our team size as needed to account for the volume of work being performed by the project team.

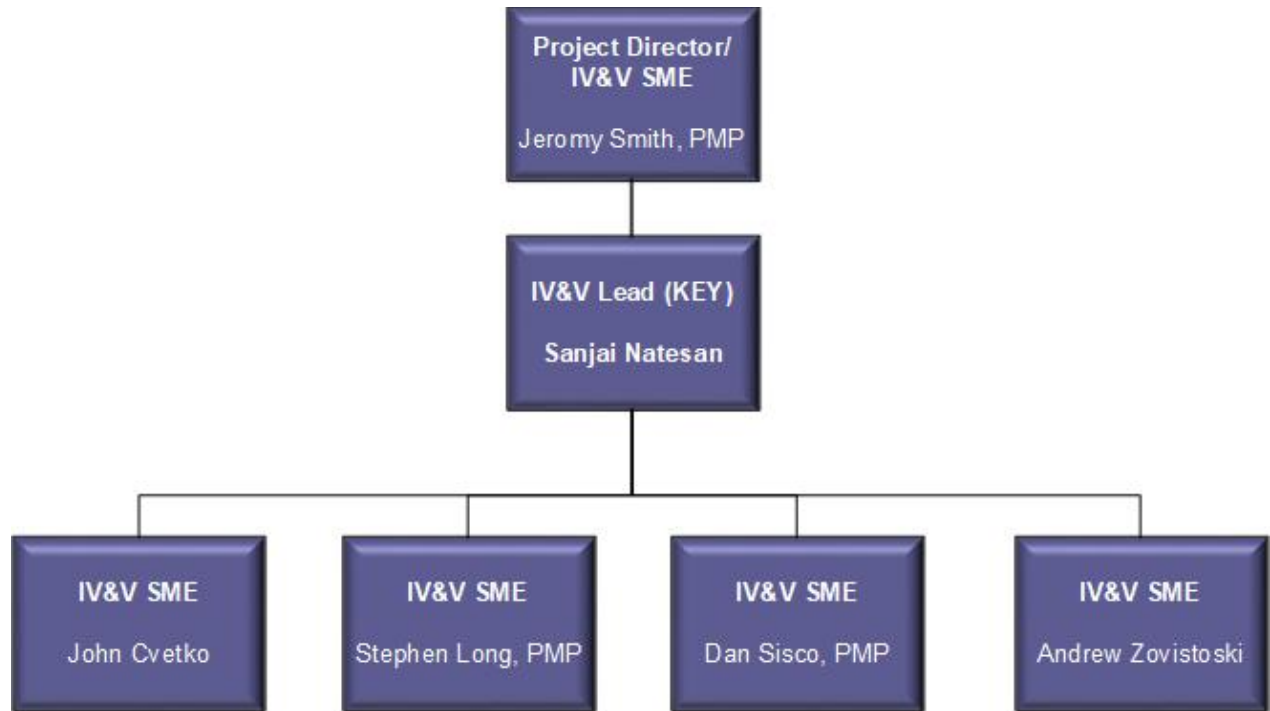


Exhibit 8.3-1: MAXIMUS Project Team Organization. *The MAXIMUS Project Team is staffed to ensure the highest level of functional and technical expertise.*

8.3.1 Key Personnel

Describe the Key Personnel by position your company proposes to provide to staff this project. Vendor response must include key personnel's knowledge of the Deloitte NextGen Solution IEMB, all prior experience with Deloitte, and all prior IVV experience including IVV services provided for Medicaid and SNAP. (Sec 2.5)

MAXIMUS commits to using the personnel identified in this proposal. The State can be assured that Sanjai Natesan, our proposed IV&V Lead, will be fully dedicated to this contract. Furthermore, MAXIMUS has a very high retainage rate; however, some amount of staff turnover is expected on any long term engagement. While we intend to deliver the staff proposed herein, we understand that DHS has the right to approve proposed personnel changes during the term of the contract.

Below, we provide detailed resumes for all project team members.

JEROMY SMITH, PMP

Project Director/Subject Matter Expert

Qualifications

- More than 20 years of experience leading mission critical engagements for public sector clients
- 15 years of working with eligibility systems for state human services programs
- 10 years of IV&V experience
- 6 years of experience working for MAXIMUS
- Multi-state experience supporting IE development projects that include functionality for TANF, Food Stamps, Medicaid, and State cash and healthcare programs
- Implemented IE solutions for Deloitte in New Hampshire, Texas, and West Virginia
- PMI-certified PMP

Experience

Quality Management Services (QMS) of the Electronic Licensing System (ELS) Project Oregon Department of Fish and Wildlife (ODFW)

Project Manager

2018 – 2019

Jeromy managed MAXIMUS QMS providing comprehensive QA and QC review and analysis to ODFW leadership and key external stakeholders. He closely monitored configuration, customization, and deployment of a product solution automating Oregon's sporting license and tagging processes. The ELS provided online and mobile assets to support application workflows and reporting processes.

MAXIMUS provided QA/QC resources in accordance with QMS review and reporting processes defined by the Office of the State Chief Information Officer (OSCIO). Jeromy provided primary QA/QC analysis and communicated progress, risks, and issues to ODFW managers as well as project oversight bodies (including OSCIO and the Legislative Fiscal Office (LFO)) through monthly and quarterly QMS reporting and milestone assessments.

Reference: [REDACTED]

IV&V/QA of the Ohio IE/HHS BI Project Ohio DJFS

Project Manager

2013 – 2018

Jeromy led the MAXIMUS Project Team providing QA and IV&V services to assess project progress and performance relative to key, Ohio-defined, focus areas, including: Project Initiation and Planning, Requirements Management, Systems Design, Systems Development, Testing, Deployment, M&O, Project Governance, and Organizational Change Management. On a quarterly basis, the MAXIMUS Team assessed the Ohio project and reported findings, risks, and recommendations for each of 147 detailed focus area topics. The project included assessment of the State's efforts to integrate processing for the ACA, SNAP, and TANF Programs.

Reference: [REDACTED]

Prior Experience

Pennsylvania Home and Community Based Care Information System (HCSIS) Project Pennsylvania Office of Developmental Programs

Application Manager/Deputy Project Manager

2007 - 2009

The purpose of the HCSIS Project was to provide an automated solution to support the assessment, service supports, and financial management for the Department of Public Welfare (DPW) Medicaid Waiver programs supporting Home- and Community-based services. The HCSIS systems supports programs administered by the Office of Developmental Programs (ODP) and the Office of Long-Term Living Services (OLTL). While Jeromy managed the HCSIS application, the system was extended to support programs for the Bureau of Autism Services, Office of Mental Health and Substance Abuse Services (OMHSAS) as well as expanded OLTL programs. The HCSIS system also provided a comprehensive data warehouse solution to provide Business Intelligence capabilities for program managers. For this engagement, Jeromy:

- Managed the HCSIS development team through the full SDLC of critical system enhancements to support OLTL, BAS, and OMHSAS.
- Led effort to modernize HCSIS to next generation .Net technologies, and NUnit QA procedures.
- Led HCSIS team through successful CMMI Level 3 assessment by streamlining Quality Management procedures and enforcing adherence to defined processes

Reference: [REDACTED]

Colorado Benefits Management System (CBMS) Implementation Assessment Colorado Office of Innovation and Technology (OIT)

Assessment Lead

2006

The State had contracted with EDS to implement a system to replace Colorado's legacy application. Due to project management, implementation, and training problems, the CBMS faced unacceptable accuracy in benefits calculation and significant user adoption issues. OIT engaged Deloitte Consulting to assess system and project problems and offer recommendations to improve both the system and implementation success. During this engagement, Jeromy:

- Evaluated reports of system functionality flaws and performed a detailed analysis to determine the cause of significant application issues
- Evaluated rules engine implementation to determine potential problems in definition of the Standard Filing Unit and resulting eligibility determination and benefits calculation logic; identified and reported problems resulting in significant overpayments and erroneous recoveries
- Reported findings to relevant legislative bodies and the Governor Bill Owens' staff, and ultimately the Governor himself

Reference: [REDACTED]

Texas Integrated Eligibility Redesign (TIERS) Project Texas Health and Human Services Commission (HHSC)

Various roles including Development Lead,
Application Manager, and Project Manager

2001 - 2007

The purpose of the TIERS Project was to develop a state-of-the-art eligibility determination and case management system to replace the HHSC's legacy, mainframe-based SAVERR application. The project was a multi-year effort that is currently supporting more than 1,100 users and will transform the way HHSC evaluates eligibility. The project combines the eligibility determination for Food Stamps, TANF, Medicaid, Institutionalized Care, and HCBC programs. The project supports multiple methods of

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case management that provides each office with customizable features based on the business practices in the office depending on the size and location of the office. The project incorporates multiple error rate reduction tools including second party review, case reading, error prone profiling, and quality control sampling for identifying risk areas. Jeromy's responsibilities included:

- Managing requirements definition and development activities for TIERS "Application Entry", Benefits Issuance, Reporting, and QC subsystems
- Managing application development and system support activities upon deployment of first iteration functionality (all functionality required to support TANF, Food Stamp and non-LTC Medicaid Programs) to the production environment; this team supported TIERS user base until passage of HB 2292 and restructuring of eligibility determination within HHSC
- Working closely with IV&V vendors to document system requirements and manage end-to-end requirements traceability, planning baselines, and defining and adhering to project QA processes

Reference: [REDACTED]

New Hampshire New HEIGHTS IE System New Hampshire DHS

Various positions including Test Lead and Application
Development Manager

1998 - 2001

Deloitte Consulting was engaged to define and develop a new system to replace the State of New Hampshire's legacy, mainframe-based eligibility system. The NewHEIGHTS system provided a modernized, integrated approach to eligibility determination and case management for the State's TANF, Food Stamps, Medicaid, and State cash and healthcare programs. The NewHEIGHTS system was a client-server based system with an IBM DB2 database. Jeromy was responsible for:

- Managing the testing process to ensure functionality implemented to respond to the Personable Responsibility and Work Opportunity Act (PRWOA) met Federal and customer requirements
- Managing application development activities for Application Entry, Benefits Issuance, QC, and Benefits Recovery functionality
- Implementing a complex change order to automate management of eligibility redetermination timeframes

Reference: [REDACTED]

Professional History

MAXIMUS Human Services, Inc., Director (2013–Present)

MorphoTrust, Inc., Senior Program Manager (2009–2013)

Deloitte Consulting, Senior Manager (1998–2009)

Education

Master's degree in Public Management/MIS, Carnegie Mellon University

B.S. in Public Administration, Indiana University

Professional Affiliations/Certifications

PMP Certification, PMI

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SANJAI NATESAN

IV&V Lead

Qualifications

- 20+ years' experience providing technical expertise and business acumen in the development of custom business solutions for large scale, custom IT application systems in both the public and private sectors
- 14 years of project management experience
- 16 years in leading implementation of IE systems that include SNAP, TANF, Medicaid, Foster Care, Exchange eligibility (APTC, CSR) etc. across multiple states
- Worked with various IE vendors such as Deloitte (Delaware, California, Colorado)
- Skilled in large-scale project management, statewide/enterprise-wide information systems, IE, and state-based exchanges, policy analysis and program development, business case development, transition planning, change management, and call center operations

Experience

HIT Program, State Innovation Model (SIM) Colorado Office of e-Health Innovation

Health IT Program Advisor

2019 - Present

The development of Colorado's Health IT Roadmap is one of the first large initiatives undertaken by OeHI and the eHealth Commission. OeHI partnered with Mosaica Partners, using Mosaica's proven approach, to assist in its development. The process engaged over 1,000 stakeholders in Colorado's health care community. These stakeholders were involved through interviews, workshops, a statewide survey, organizational briefings, and public forums. As a result of this broad collaborative involvement, this Roadmap truly represents Colorado. Sanjai was responsible for:

- Providing oversight management of HIT Program and HIE
- Coordinating all project activities and ensuring the timely completion of project deliverables
- Vendor, deliverable, and project management for HIT program
- Running HIT work group and data governance committee

Reference:

Connect for Health Colorado Product Director/Solution Architect

2013 - 2018

Sanjai provided oversight on behalf of the business on all aspects of functional requirements, design, testing, and implementation, with a particular focus on implementing and stabilizing the online, customer-facing system and putting in place the necessary maintenance and support functions to ensure seamless operations of the online E&E systems, carrier interfaces, and service center technologies. Colorado is considered one of the most successful State-based Marketplaces; due in a large part to the breadth and stability of our technology infrastructure. For this project, Sanjai:

- Built high-performing team to support all technology needs for Connect for Health Colorado including both customer-facing and internal IT systems and support.
- Worked extensively with executives to develop budget for technology and operations in line with overall sustainability plan for Connect for Health Colorado
- Provided senior advisory services on Open Enrollment planning, service center operations, and overall eligibility verification strategy
- Architected and managed exchange eligibility engine and decision support tool

- Advised project management on functional and technical questions and issues
- Provided consulting services to develop the strategic and operational plans and implementation

Reference: [REDACTED]

Prior Experience

Mississippi Department of Human Services, Health Services

Solutions Architect

2016 - 2017

Sanjai worked with Mississippi State Agencies in on the transformation and interoperability initiatives to better serve the citizens, increase integrity of health and social services programs, and reduce costs. For the engagement, Sanjai was responsible for:

- Providing oversight on behalf of the business on all aspects of functional requirements, design, testing, and implementation, with a particular focus on E&E
- Providing senior advisory services on Open Enrollment planning, service center operations, and overall eligibility verification strategy
- Architecting and managing exchange eligibility engine and decision support tool
- Advising project management on functional and technical questions and issues
- Providing consulting services to develop the strategic and operational plans and implementation

Reference: [REDACTED]

Iowa IE System Iowa DHHS

Program Management/IV&V Lead

2012 - 2013

Sanjai provided IV&V services for the development of Iowa's IE system for SNAP, TANF, and Medicaid programs. As IV&V Lead, he was responsible for reviewing system integrator design and functional documents, and advising project management on functional questions and issues. He also advised the system integrator on functional risks and provided solutions and expert advice.

Reference: [REDACTED]

National Clearinghouse for SNAP Consortium of States (Alabama, Florida, Georgia, Louisiana, Mississippi) Department of Human Services

Program Management/IV&V Lead

2012 - 2013

Sanjai provided IV&V services for the development of national clearinghouse for SNAP recipient across five states. As a Program manager and functional advisor, he reviewed functional documents, advised vendors on processes, and liaised between the functional team and vendor. He advised vendors on technical architecture and functional specifications, and managed the functional and testing teams.

Reference: [REDACTED]

Massachusetts Executive Office of Health and Human Services

Program Management/IV&V Lead

2012 - 2013

Sanjai provided analysis and roadmap development services to integrate 18 different health, human, and social service state agencies into a single portal for a whole person view. Sanjai:

- Developed technical and functional diagrams for each of the systems
- Identified the common reusable modules across agencies

- Created the data transfer and data sharing agreements across these agencies.
- Documented challenges and developed the risk and benefit analysis on integrating all 18 agencies.

Reference: [REDACTED]

Hawaii Integrated E&E System Hawaii DHS

Program Management/IV&V Lead

2012 - 2013

Sanjai provided services for the development of the RFP for Hawaii's IE and HIX Program. He was responsible for providing consulting services to develop the strategic and operational plans for the design and implementation of an IE system. Sanjai:

- Developed technical requirements for the new IE system
- Wrote the RFP and Statement of Work
- Helped in the vendor selection process

Reference: [REDACTED]

Colorado Benefit Management System (CBMS) Colorado Department of Human Services

Technical/Functional Lead

2009 - 2012

The CBMS is an integrated on-line, real-time automated system with 25+ subsystems to support eligibility and benefits determination, client correspondence, management reports, interfaces, and case management for public assistance programs like SNAP, TANF and Medical. CBMS also incorporates eligibility determination for programs such as Medicaid, food assistance, cash assistance, and the Children's Basic Health Plan. The project encompasses programs that determine eligibility and associated benefits for more than 493,000 clients and for more than 264,000 cases in Colorado. There are approximately 4,000 users of the CBMS. For this engagement, Sanjai:

- Managed day-to-day operation of the current application, interacted with State SMEs, and acted as liaison for the web portal and IDE team on all functional and technical questions
- Analyzed the maintenance and enhancements requests and coordinated with project management and technical teams to prioritize the changes
- Worked with the management team to estimate cost and resources required to implement requested maintenance and enhancements
- Led team of developers to coordinate the design, development, testing, and implementation of the enhancements and system defects for authorization, benefit issuance, and benefit recovery tracks
- Worked with the end users and policy specialists to analyze and identify inadequate functional areas and made necessary recommendations through which system performance and functional efficiency could be enhanced

Reference: [REDACTED]

California Welfare Network (CalWIN) California DHHS

Senior Information Specialist

2006 - 2009

CalWIN is a large-scale, state-of-the-art, complex client/server eligibility determination and management system developed for 18 of California's counties to support approximately 25,000 interactive users. The system is developed on an IBM Sequent Enterprise Server running Oracle 8i on UNIX operating system with Windows NT based PowerBuilder. For the engagement, Sanjai:

- Analyzed federal certification requirements, identified functional areas for compliance, provided assistance to SMEs in documenting the functions to be reviewed by the federal authorities, and prescribed system changes to accommodate the certification requirements
- Translated requirements into detailed specifications for system changes and enhancements, developed work plan detailing tasks for the identified changes, provided flow charts along with detailed logic specifications and schedule, and conducted design review sessions for all work performed
- Analyzed and proposed solutions to production and processing problems
- Participated in ongoing system maintenance and refinement by constructing studies and analysis for workflow, legislative and regulatory changes, reporting, and statistics
- Provided guidance to QA analysts and testers in the preparation of test cases and test scripts
- Assisted in identification and documentation of risks
- Obtained buy-in from management, users, affected divisions, and vendor/contractors for project commitments

Reference: [REDACTED]

Delaware Customer Information System (DCIS-II) Delaware Department of Health and Social Services

Senior Consultant

1996-2000

DCIS-II is a welfare system for the State. DHSS is responsible for administering the State's income maintenance programs such as AFDC, GA, Refugee Assistance (RA), Food Stamps (FS), and Medicaid. The DCIS-II enabled DHSS to efficiently administer and deliver the income maintenance programs and provide the appropriate services to their clients. Sanjai designed, coded, and tested programs to pull data from DB2 database in the form of VSAM and sequential flat files. He also designed, coded, and testing the programs using PL/SQL to load the extracted data into Oracle database.

Reference: [REDACTED]

Professional History

SIM/Colorado Office of e-Health Innovation, Health IT Program Advisor (2019–Present)

C4B Solutions, Product Director/Solution Architect (2013- 2018)

PCG, Program Management/IV&V Lead (2012-2013)

Deloitte, Technical/Functional Lead (2009-2012)

EDS/HP, Senior Information Specialist (2006-2009)

Deloitte, Senior Consultant (1999-2006)

Education

Bachelor of Engineering (B.E.), Electrical and Electronics Engineering

Professional Affiliations/Certifications

Certificate in Business Management, Business Administration and Management, General

JOHN CVETKO, PMP, CISSP, ZCEA

IV&V Subject Matter Expert

Qualifications

- 25 years of experience in large-scale system implementations
- 13 years of Project Management and QA/IV&V experience on government systems project.
- 7 years of working with eligibility systems for state human services programs
- Project and test management of large systems
- Analysis of system architectures
- Security reviews, remediation and planning
- Business and technology strategic plan development and implementation
- Executive-level facilitation and collaboration
Worked on Medicaid IE projects in the following states: North Carolina, North Dakota, Oregon, and Utah
- Worked directly with Deloitte on the North Dakota and Oregon systems

Experience

Oregon IE Project Oregon DHS

Project Manager/Technical Lead for Program Testing Activities

2018 - 2019

This project was an implementation of a Medicaid IE system from Kentucky. The goal of the system was to combine Medicaid MAGI and Non-MAGI, SNAP, TANF, and child care into a single system with “no wrong door”. John assisted in developing the overall State UAT test plan to the federal standards. He was responsible for UAT data and environment management with the SI vendor for six testing environments and worked with SMEs within the programs to ensure proper test coverage and test creation. He also led development of test scenarios with traceability to policy and requirements.

Reference:

North Dakota ESM Project North Dakota DHS

Testing Manager

2017 - 2018

This project was an implementation of a Medicaid IE system transferred from Michigan that combined Medicaid MAGI and Non-MAGI, SNAP, TANF, and LIHEAP into a single system with “no wrong door”. Service delivery of benefits were done through a State and county partnership. John:

- Managed the test team of 15 UAT testers
- Participated in CMS/FNS weekly status meetings that addressed funding, APDs, program issues, and gate reviews
- Analyzed the SI vendor’s (Deloitte) release quality and made recommendations to the Executive Steering Committee for improving vendor performance; this analysis resulted in a recommendation against UAT exit, early in the testing process and enabled the State to proactively redeploy resources and identify the need for a project extension
- Made recommendation to sponsors to change testing process that resulted in quality improvement of vendor releases to the State
- Developed and managed time-travel testing processes for State and SI vendor
- Managed the performance testing and security vulnerability testing activities from the State’s perspective
- Refined and made recommendation to adjust the testing resources and approach during the project extension

- Managed defect triage meetings between sponsors, SMEs, and the SI vendor; reported testing status to sponsors on a weekly basis

Reference: [REDACTED]

ERP Upgrade Project Benchmade

Independent QA Consultant

2017

This two-month project was the final phase of a major upgrade to the company's ERP/CRM system. The upgrade incorporated a number of new features that had an impact on the general ledger. The company board required the upgrade and testing activities to be independently reviewed. John:

- Reviewed the testing and cutover plans for reasonableness, focusing on risks and major gaps
- Reviewed the test data conversion activities related to significant transactions and processes
- Provided QA assessment reports on findings and recommendations to the board

Reference: [REDACTED]

IV&V of the NC FAST Program North Carolina DHHS

IV&V Security Analyst

2013 - 2017

This project was an expansion of the existing Curam Medicaid system to include social benefits programs. John was responsible for:

- Assisting in quarterly quality assessments
- Reviewing the States' MITA roadmap and the proposed system architecture to verify it meets the seven conditions and standards
- Reviewing the State's MARS-E v2.0 self-assessment to verify it is in alignment with the project security plan and other security artifacts
- Making recommendations based on reviews mentioned above
- Identifying risks and making recommendations for security compliance improvements

Reference: [REDACTED]

IV&V of the Mississippi MACWIS Replacement Project Mississippi DCPS

QA Consultant

2016

This project was a replacement of the child welfare legacy mainframe system. The proposed system was intended to be a modular system with an Enterprise Service Bus (ESB) to enable modularity and facilitate a phased approach to system conversion. For this engagement, John:

- Assisted in developing the IV&V QMP and Quarterly Risk Assessments
- Assessed and monitored project processes for developing the system functional and non-functional requirements
- QC of the Agency's system functional and non-functional requirements
- QC of the proposed system architecture for alignment with the MITA Seven Conditions and Standards
- Made recommendations to enhance Agency's modular approach and improve its MITA maturity level by incorporating additional industry standard components into their design.

- Identify and proposed mitigations for project risks.

Reference: [REDACTED]**Cover Oregon Independent QA Project
Oregon Health Authority****Independent QA/IV&V Manager****2012 - 2015**

This project was the implementation of Oregon's HIE along with the integration and modernization of the legacy Medicaid system. John was responsible for:

- Developing the QA Plan including IV&V testing approach
- Conducting QA Assessments, QC deliverable reviews, and closing report
- Monitoring and reporting on QA measurements and metrics
- Conducting Security Assessment and federal attestations
- QC of all contracts, vendor deliverables, and project planning artifacts as required
- Monitoring project processes and project control methods
- Identifying risks and making mitigation recommendations
- Managing a team of 12 QA analysts, IV&V testers, a security analyst, and a test automation team.
- Meeting with the steering committee, project sponsor, and project manager on a regular basis

Reference: [REDACTED]**Behavioral Health Integration Project
Oregon State Hospital****Independent QA/IV&V Security Consultant****2012 - 2013**

This project was a full replacement of the State Hospital's legacy pharmacy, electronic health record, and dietary management systems. John:

- Assisted in developing the QMP
- Established QC checklists for vendor deliverables
- QC of vendor and project deliverables (e.g., review of vendor's system design deliverables, testing plans, etc.)
- Assisted in developing the IV&V Master Test Plan
- Developed and conducted security test cases

Reference: [REDACTED]**Laboratory Information Management System (LIMS) Project
Oregon State Public Health Labs****Independent QA Analyst****2012 - 2013**

This project was the implementation of a LIMS for the State testing labs. For this project, John:

- Developed the QMP and conducted monthly QA assessments
- Developed and monitored quality measurements and metrics
- Delivered QA monthly reports for the Agency and State oversight entities
- Met with and advised the steering committee, project sponsor, and project manager on a regular basis
- Reviewed and provided recommendations for project process improvements

- QC of project plans and vendor deliverables
- Produced and monitored project risks

Reference: [REDACTED]

HIE Project O-HITEC

Independent QA Analyst

2011 - 2012

This project was the public/private Meaning Use initiative focused on small to medium clinics and doctors' offices for the implementation of EHR systems across the State. John was responsible for:

- Developing Meaningful Use Assessment work packages for private Electronic Health Records systems
- Developing performance metrics
- Providing quality assessment reviews and analysis
- Producing program risk assessments
- Developing deliverable review checklist documents

Reference: [REDACTED]

MMIS Replacement Project Oregon Health Authority

QA Consultant

2006 - 2007

This project was a MMIS replacement of Oregon's legacy systems. John established an internal QA framework for the project and developed the project QMP.

Reference: [REDACTED]

Professional History

TEK Associates, Principal (2006 – Present)

JeffersonWells, Security Consultant (2003 – 2006)

Education

BA, Business Management, Eckerd College

Professional Affiliations/Certifications

Project Management Professional (PMP) Certification, Project Management Institute (PMI)

Zachman Certified Enterprise Architect (ZCEA), Zachman International

Certified Information Systems Security Professional (CISSP), International Information System Security Certification Consortium (ISC2)

Inactive - Certified Information Systems Auditor (CISA), Information System Audit and Control Association ISACA

STEPHEN LONG, PMP, CSM, ITIL, SECURITY+

IV&V Subject Matter Expert

Qualifications

- 13 years of experience supporting Arkansas DHS I
- 9 years of working with eligibility systems for state human services programs
- MAXIMUS Contingent Hire
- PMI-certified PMP

Experience

Information Systems Support Contract Arkansas DHS

Application Development Manager

2009 – 2018

Stephen managed a cross-functional team of 30 assisting DHS to implement new applications and enhancements as prioritized by DHS while maintaining legacy systems across multiple DHS divisions and offices. As Application Development Manager, he was responsible for setting the vision driving enterprise wide solutions and breaking down siloed applications for DHS, advising the agency's CIO and key IT staff, and coordinating with other business unit managers and Northrop program management. Stephen focused teams on business objectives and project deliverables and tracked progress to ensure milestones were completed on time, on budget and with the desired results, with specialized focus on the Division of Developmental Disabilities Services, Division of Child Care and Early Childhood Education, and the Division of Aging an Adult Services. Communicated effectively with stakeholders from field level staff to the CIO and division executive staff. In prior roles within the same project, Stephen had the following accomplishments:

- Project Manager for software development, implementation and support of applications for DCCECE. Planned, scheduled and implemented all stages of the software development lifecycle, as well as, team staffing. Monitored progress to meet deadlines and cost targets and stay within scope.
- Managed the KIDCare application including eligibility and benefit changes as directed by DCCECE, as well as, federal and State mandates in coordination with the CHRIS and ANSWER Project Teams.
- Moved between Agile and Waterfall approaches depending on project specifics and goals, created road maps, plans, schedules, WBS, and progress reports.
- Worked closely with clients and end users to understand business needs and manage expectations, issues and risks, and maintained high levels on customer satisfaction.
- Gathered requirements, designed, developed and tested software applications and reports in ASP.NET, C#, VB.NET and SSRS for DHS, as well as, performed ETL processes and API integration in SSIS.
- Participated in daily scrum meetings, and provided technical advice on bugs and enhancements, and resolved issues including going out to client sites.
- Spearheaded and encouraged team to adopt responsive web design and layered software architectures and consistent software design patterns.
- Supported QA to ensure optimal delivery and product stability for users.

Reference:

[Redacted Reference Information]

Arkansas Title XIX Information Support Contract Arkansas DHS/Arkansas Department of Health

Information Analyst

1996 - 2005

Technical Lead of a cross-functional and geographically diverse team of 10 for a project that delivered on-time new eligibility, service prior authorization and claims modules with the Arkansas Department of Health's BreastCare Program re-using components of the Arkansas Medicaid Program's MMIS eligibility and financial sub-systems. In addition, Stephen's accomplishments on this project included the following:

- Provided 24/7 daily support for batch claims and payment cycle for Arkansas MMIS, made CICS updates, and batch program changes in COBOL and JCL.
- Travelled to Chennai, India to train developers on HIPAA changes.
- Implemented new eligibility and claim functionality to the Provider Electronic Solutions (PES) desktop application built in PowerBuilder and deployed to service provider desktop PCs, as well as, provider VeriFone POS devices using the Automated Eligibility Verification and Claims Submission (AEVCS) System.
- Performed Y2K modifications on IBM mainframe and VeriFone POS client-server software for high-visibility products involving provider claims submission and payments.
- Championed use of Microsoft .NET for replacement of Microsoft Access and FoxPro.

Reference: [REDACTED]

Enerlex, Inc.

Technical Lead

2005 - 2009

- Worked trade show booths to assist in selling the company's products and services.
- Presented software development updates to project stakeholders in client meetings.
- Developed and tested applications and sophisticated reports for oil and gas contract management, e-commerce and healthcare.
- Responsible for maintaining the code repository, administering the database and web servers, and setting coding standards and best practices for the organization.

Reference: [REDACTED]

Professional History

Northrop Grumman, various positions (2009-2019)

Enerlex, Inc., Technical Lead (2005-2009)

EDS, Information Analyst, (1996-2005)

Education

BBA in Management Information Systems, Baylor University

Professional Affiliations/Certifications

PMP Certification, PMI

Certified Scrum Master (CSM), Scrum Alliance

ITIL Foundation, AXELOS

Security+ Certification, CompTIA

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DAN SISCO, PMP

IV&V Subject Matter Expert

Qualifications

- 30 years of professional experience in consulting and systems implementation
- 35 years of working with eligibility systems for state human services programs
- 20 years of IV&V experience
- 25 years of experience working for MAXIMUS
- 30 years of experience in IE, Medicaid/MMIS, CSE systems, and SACWIS systems consulting
- 4 years of IV&V experience working with Deloitte during the DDI of the ND IE system using NextGen Solution IEBM as the base system
- PMI-certified PMP

Experience

IV&V of the North Dakota Eligibility System Modernization Project North Dakota DHS

Project Manager

2015 - Present

MAXIMUS is providing IV&V services for the DHS for the SPACES. SPACES was developed using NextGen as the base solution. The system has two primary phases or releases. Release 1 addresses requirements of the ACA related to Medicaid eligibility and interacting with the FFM and was implemented February 8, 2016. Release 2 focuses on modernization of eligibility for the remaining Medicaid and Economic Assistance Programs (TANF, SNAP; Medicaid-Aged, Blind, and Disabled [ABD]; and LIHEAP). Dan participated in design JADs that provided information about the NextGen functionality and design. Dan provides independent reviews of critical project metrics and deliverables, attends project management meetings, attends Executive Steering Committee (ESC) meetings, and provides monthly assessment reports of key project processes. Dan is also responsible for development of the monthly assessment report, updates to the IV&V tasks included within the overall project schedule, and preparation of client invoices.

Reference: [REDACTED]

IV&V of the North Carolina MMIS+ Program North Carolina DHHS

Project Manager

2012 - 2015

MAXIMUS provided IV&V services for the NCMMS+ Program. As Project Manager, Dan managed IV&V activities including independent reviews and assessments of major deliverables and processes, reviewed and assessed all plans and schedules, and monitored and assessed execution of all plans and schedules based on defined and accepted criteria and protocols of the entire NCMMS+ Program. Dan focused on development, testing, deployment, and operations of the system(s). He performed assessments of all aspects of the project, identified risks and issues, and provided recommendations for remediation. Dan was responsible for developing weekly and monthly reports; presenting results of the assessments to the Executive Management Team; developing overall project status metrics; and maintaining the project budget, work plan, and invoices. Since Go-Live of the NCTracks system, MAXIMUS is responsible for IV&V of the ongoing ICD-10 project and readiness for CMS certification.

Reference: [REDACTED]

IV&V of the Louisiana MMIS Project Louisiana Department of Health and Hospitals (DHH)

Project Manager

2008 - 2011

MAXIMUS provided IV&V consultant services during the planning and procurement of a replacement MMIS system. Dan managed and participated in all work activities that resulted in an IAPD and Solicitation for Proposal (SFP) to procure the services of a Fiscal Intermediary to implement a MITA-compliant MMIS. The functionality included the MMIS, Decision Support System (DSS)/Data Warehouse (DW), and Pharmacy Benefits Management (PBM). The documents also addressed needs for the American Recovery and Reinvestment Act (ARRA) requirements, as well as HIX/HIT needs. To complete these documents, Dan:

- Managed and participated in the documentation of the MITA "As-Is" and "To-Be" business processes, desired levels of maturity, and MMIS requirements
- Managed and participated in the definition of "To-Be" process flows and BPR requirements, completed an Alternatives Analysis and Cost-Benefit Analysis, and recommended solutions to the DHH for achieving the desired MMIS functionality
- Managed and participated in the development of contractor responsibilities, system requirements, and contract terms and conditions to be included in the SFP
- Provided support during the federal approval process, procurement, proposal evaluation, and contract negotiations

Additionally, Dan attended project management meetings and participated in managing risks, issues, and change controls. He participated in ESC meetings and provided recommendations regarding project direction.

Reference: [REDACTED]

IV&V of the Louisiana "A Comprehensive Enterprise Social Services System (ACESS)" Project Louisiana DSS

Project Manager/Senior Systems Analyst

2004 - 2007

MAXIMUS provided QA and IV&V services to the Louisiana DSS in developing ACESS using a framework software approach to support the business activities of the Department. The primary focus was implementation of SACWIS functionality. As the Project Manager and Senior Systems Analyst, Dan's primary responsibilities included:

- Providing QA assessments regarding project management, requirements analysis, design, implementation, change readiness, and testing activities for implementation of child protection investigation functionality and the subsequent upgrade of the system from Cúram 3.0 to Cúram 4.5
- Attending facilitated work sessions and providing input and recommendations regarding processes used by the implementation vendor, proposed State business processes, and compliance with State and federal requirements
- Reviewing all project deliverables based on known contractual requirements, as well as compliance with IEEE standards
- Assisting with the development of the Increment 1 UAT Master Plan and ongoing assessments of the State's compliance with the approved plan
- Attending project management meetings
- Participating in the review of risks and development of mitigation strategies
- Participating as a member of the Change Control Board (CCB)
- Participating in ESC meetings and providing recommendations regarding project direction.

- Providing information to the State Project Director that was used to improve structure and outcomes of the facilitated design sessions, format and information provided in metrics from the developer, improvements in documentation, and better metrics of testing by State staff in UAT
- Providing input to improve the change control development, review, and approval process

Reference: [REDACTED]

New Jersey Information Systems Impact Study (ISIS)/CASS Preparation Project New Jersey DHS

Deputy Project Manager/Lead Functional Analyst

2003 - 2004

The purpose of this project was to identify alternatives for achieving an integrated eligibility system to support TANF, SNAP, Medicaid, Child Care, General Assistance, and LiHEAP Programs. MAXIMUS developed requirements, completed an Alternatives Analysis and CBA, and developed an IAPD and RFP.

As the Lead Functional Analyst, Dan was responsible for:

- Facilitating work sessions with county and State staff to identify current and future business and systems requirements for CASS
- Developing a significant part of the Requirements Document
- Leading the Alternatives Analysis and Feasibility Study tasks — alternatives explored included modifying an existing system, building a new system, leveraging enterprise framework, and transferring a system from another state
- Developing evaluation criteria, collecting data from various states, identifying risks for each alternative, and scoring each of the alternatives against the evaluation criteria
- Attending status meetings and preparing status reports as necessary, as Deputy Project Manager

Based on the evaluation, Dan and MAXIMUS recommended an approach using an enterprise framework solution. He contributed to the development of costs, completion of the Cost-Benefit Analysis, and development of the IAPD Update (IAPDU) for federal review. As Deputy Project Manager, Dan facilitated many of the requirements gathering sessions that were attended by a significant number of staff. He was able to maintain the structure of the sessions while developing requirements that addressed all the programs represented. His past experience with eligibility systems allowed Dan to ask questions that elicited responses and allowed development of better system requirements.

Reference: [REDACTED]

Eligibility Program Computer Information System (EPICS) Project Idaho Department of Health and Welfare

Project Manager

1993 - 1999

MAXIMUS was contracted to identify "As-Is" and "To-Be" business and system requirements for the Cash Assistance, Child Care, Food Stamps, Medicaid, Foster Care, and Employment and Training programs addressing Welfare Reform, increased use of child care, and other procedural changes. MAXIMUS also directed State staff in implementing specific system changes.

Using an information engineering approach, Dan was responsible for:

- Directing and facilitating JAD sessions to identify business changes resulting from welfare reform and other procedural requirements
- Directing the State's staff and participating in the assessment of the EPICS systems' file structure and its ability to support the reengineering effort

- Facilitating JAD sessions to complete functional and requirements analysis, data modeling, developing screen design, documenting user requirements
- Directing and facilitating the system design of three functional areas of the system using a prototyping approach
- Supervising the testing of the prototypes by State staff
- Directing and participating in the documentation of work session results, requirements analysis documents, design documents, technical survey to other states, long-term development and strategy plans, risk assessments, and various presentations to user groups

Dan was able to provide objective assessments of the business requirements and provide objective recommendations to the Department of prioritization of changes. Functional and entity relationship diagrams were created using Microsoft Visio to document the business requirements and identify system changes that would be required.

Reference: [REDACTED]

Maine Family Assistance Management Information System (FAMIS) QA Project Maine Agency

Project Manager

1995

MAXIMUS provided contract monitoring and QA services during the transfer, design, and development of the Maine FAMIS. As the Project Manager, Dan was responsible for:

- Monitoring project processes and providing the State Project Manager with recommendations for improvements
- Reviewing all development vendor deliverables and providing comments and recommendations for approval or disapproval
- Attending JAD sessions and providing input regarding processing needs as required
- Participating in the development and implementation of QA controls
- Participating in the preparation of IAPDUs and quarterly status reports
- Attending status meetings and providing monthly progress reports.
- During this effort, Dan was able to provide objective input regarding ongoing deficiencies in progress and deliverables that were used by the Department to terminate the contract with the development vendor.

Reference: [REDACTED]

Professional History

MAXIMUS Human Services, Inc.; Reston, Virginia; Director (1994-Present)

Kentucky Cabinet for Human Resources; Frankfort, Kentucky (1980–1994)

- Project Manager, Department for Social Insurance (1987–1994)
- Procedures Development Coordinator, Department for Social Insurance, Eligibility Services Branch (1983-1987)
- Senior Caseworker Specialist, Department for Social Insurance (1980–1983)

Education

Area of Concentration in Social Services, Morehead State University

Professional Affiliations/Certifications

PMP Certification, PMI

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ANDREW ZOVISTOSKI

IV&V Subject Matter Expert

Qualifications

- 12 years of human services system modernization experience across eight states
- 7 years of experience working for MAXIMUS
- 4 years of QA/IV&V experience

Experience

Child Support AIM PMO Project Illinois Department of Health and Family Services (DHFS)

Technical Analyst

2017 - Present

MAXIMUS currently serves as the PMO for the State of Illinois' effort to modernize its CSES. This included correcting an existing feasibility study that did not meet with federal approval and completing a BPR to identify how the State may adapt its business processes to match an incoming system. The work continues as the PMO prepares the RFPs, IAPD, and budgets for upcoming years. Andy assisted with the child support program BPR task and is providing technical planning assistance leading up the DDI phase.

Reference: [REDACTED]

Feasibility Study on Modernization of the Child Support Enforcement Agency (CSEA) Information System Hawaii CSEA

Technical Analyst

2017 - 2019

This was a project to provide the federally-required feasibility study for the replacement of the State CSES. Andy led the technical needs assessment for the CSSS, and the on-site evaluations of the donor transfer systems. He conducted the function point analysis of the donor transfer system alternatives, and developed the hardware and software cost estimates for the new system.

Reference: [REDACTED]

CSSS Modernization Planning Project Kansas DCF CSS

Technical Analyst

2016 - 2017

This was a project to provide the federally-required feasibility study for the replacement of the Kansas CSES. Andy assisted with the technical needs assessment for the CSSS, helped facilitate the on-site evaluation of the transfer system, and prepared the hardware and software cost estimates for the new system.

Reference: [REDACTED]

Provider Data Management System (PDMS) Project District of Columbia Agency

Technical Analyst

2016 - 2017

The District of Columbia's Medicaid Program contracted with MAXIMUS to implement a Medicaid provider screening and enrollment system. Andy assumed the lead technical role for the data conversion for the PDMS application and developed stored procedure code for the transformation and

loading of legacy data extracts. He prepared conversion data quality reports and developed routines for handling ongoing data refreshes to update the database from the legacy system.

Reference: [REDACTED]

**Data Reporting Assessment Project
California Department of Child Support Services (DCSS)**

Technical Analyst

2015 - 2016

MAXIMUS provided assessment and recommendations for the Department's organizational data analysis and reporting capabilities, and a dashboard for monitoring performance measures. Andy, designed and developed the dashboard using SQL Server Reporting Services. He was responsible for conducting an assessment and prepared recommendations for the Extract, Transform, and Load (ETL) procedures for the DCSS data analysis, and for the reporting unit.

Reference: [REDACTED]

**CSES Modernization/Replacement Feasibility Study
Nevada DHHS, DWSS**

Technical Analyst

2014 - 2014

MAXIMUS conducted a feasibility study to identify the best system replacement alternative and secure funding for a new CSES. Using our Multi-Step Assessment Approach to adhere closely to the Federal OCSE-approved procedure, the State selected the California system transfer and received OCSE approval. Andy provided technical expertise and conducted the function point analyses for the donor system transfer alternative and the "build from scratch" new development alternative. He led the State technical team with the requirements scoring exercises for the transfer system evaluation.

Reference: [REDACTED]

**Indiana Child Support Document Generation Project
Indiana DCS, Child Support Bureau**

Technical Analyst

2012 - 2014

MAXIMUS replaced the child support document generation system for Indiana's child support central office and 92 county offices. Andy served as primary contact with the State for all technical aspects of the project. He led the solution design, integrating the new DocGen system components with the State's legacy system and autonomous county offices. He supervised the development effort, guiding a diverse team of internal, subcontracted, and State developers. Andy developed the logical and physical data models for the new DocGen database and authored the system design documentation.

Reference: [REDACTED]
[REDACTED]

**Indiana Child Support License Suspension Project
Indiana DCS, Child Support Bureau**

Technical Analyst

2010 - 2011

This MAXIMUS proof-of-concept project demonstrated the utility of a Business Process Management Software (BPMS)/Workflow system for incremental system modernization. We developed a license suspension workflow application, and deployed it for statewide use in Indiana's child support central office and 92 county offices. Andy led this Lombardi BPMS project to develop a workflow application. He oversaw all aspects of the application design and build, using a DB2 database on a z/OS

mainframe for the supporting business data. He also developed the data model and stored procedures code to support the new application.

Reference: [REDACTED]

Data Warehouse Enhancement Project Vermont OCS

Technical Analyst

2010 - 2012

MAXIMUS upgraded the ETL routine for the child support data warehouse from Microsoft DTS to SQL Server Integration Services. Andy designed and supervised the development effort for the ETL conversion to SQL Server Integration Services. He assisted with the augmentation of the existing Business Objects universes with new reporting elements, and provided consultative support for the State DBA for all related SQL Server database management activities.

Reference: [REDACTED]

Electronic Benefits Transfer (EBT) Card Application Project Vermont DCF and New Hampshire DHHS

Project Manager/Technical Lead

2007 - 2008

MAXIMUS oversaw this joint project with Vermont and New Hampshire to develop a Windows user interface for use with EBT card printing machines. Andy designed and developed the supporting databases for the EBT application, and developed the data load routines for both the Oracle and SQL Server database platforms.

Reference: [REDACTED]

KEIKI Decision Support System Hawaii CSEA

Technical Analyst

2005 - 2008

MAXIMUS developed and implemented a DSS for the KEIKI CSE system. Andy installed and configured SQL Server 2000 on the CSEA State servers. He provided database administration and development support for the Agency's new data warehouse and configured the new database servers. Andy developed ETL routines using Business Objects Data Integrator. He assisted with the establishment of mainframe propagation processes to maintain synchronization between the legacy case management system and the data warehouse, and designed and established a backup and recovery plan for the SQL databases.

Reference: [REDACTED]

Catamount Development Project Vermont DHS

Programmer

2007

MAXIMUS analyzed, designed, and implemented changes to DHS' automated systems to accommodate a new health insurance initiative called Catamount Health. The initiative expanded health insurance coverage for Vermont residents by creating two new coverage groups. Andy provided programming support and developed new software and modified existing code in a Natural/ADABAS mainframe environment.

Reference: [REDACTED]

CSME Project
Vermont Agency of Human Services
Technical Analyst

2004 - 2006

For this data warehouse project, MAXIMUS consolidated Agency data from its various departments and offices. Andy designed and implemented the CSME development and production databases, and staging tables for all source system data feeds. He also developed the Business Objects Data Integrator scripts for transforming and loading the CSME databases.

Reference: [REDACTED]

Prior Experience

Vermont Department of Developmental and Mental Health Services

Various (see below)

1994-2004

Andy was employed in the following roles with the agency:

- **SQL Server Database Administrator and Developer:** Andy developed database routines for business functionality and reporting. He also:
 - Designed and developed processes for importing and exporting data to Department databases from a variety of external source
 - Gathered user data requirements
 - Assisted in the development of business workflow
 - Acted as the focal point for review and recommendations for Department database change requests
- **Research and Statistics Analyst:** Andy oversaw all facets of database design, administration, and maintenance of the Department's SPSS databases. He also:
 - Examined historical client and service utilization trends
 - Wrote SPSS routines to build, extract and summarize data for Department reports and studies

Reference: [REDACTED]

Professional History

MAXIMUS Human Services, Inc., Senior Engineer (2012–Present)

Policy Studies Inc. (PSI, acquired by MAXIMUS), Database Administrator/Software Developer (2004–2012)

Technical Assistance Collaborative, Inc., Independent Contractor (1998–2002)

Vermont Department of Developmental and Mental Health Services (1994–2004)

- SQL Server Database Administrator and Developer (1997–2004)
- Research and Statistics Analyst (1994–1997)

Education

Master of Public Administration, Rockefeller College of Public Affairs and Policy, State University of New York at Albany

B.A. in Political Science, Siena College

Professional Affiliations/Certifications

Microsoft Certified Professional - SQL Server 2012

NIEM Practical Implementer

8.3.2 Off-site Support

Provide justification for any team members who will support this project from remote offices and explain what methods of communication, travel, and oversight will ensure the remote employee(s) perform their roles effectively. (Sec 2.5.D)

MAXIMUS commits to having at least one of our IV&V team members on-site Monday through Friday during normal business hours of 8:30 a.m. to 5:00 p.m. At this time, we expect that both our IV&V SME, Stephen Long, will be on-site full time. When team members are not on-site they will work from their home offices and will be available by phone and/or email. Weekly internal project team meetings ensure that everyone on the MAXIMUS team is kept up-to-date on the week's objectives and milestones. Our IV&V Lead ensures that everyone, on-site and off-site, performs their roles effectively.

8.3.3 Additional IV&V Support

Describe how your company will support this project with additional IV&V team members as requested by DHS. (Sec 2.5, F)

MAXIMUS always tries to first fill a vacancy from the existing project team. Specifically, for the Arkansas IEBM IV&V Project, we have identified backup resources should the need arise. For example, should our IV&V Lead, Sanjai Natesan, become unavailable, either Jeromy Smith or Dan Sisco, two of our proposed IV&V SMEs, would fill that role. Should an IV&V SME unexpectedly leave the project, one of the other IV&V SMEs would assume those responsibilities. If the State requires additional assistance beyond what we estimate to be needed for the scope of work, MAXIMUS can call upon one of our other IV&V experts to provide additional assistance.

8.3.4 Organizational Profile

Provide a detailed organizational profile for this project which shall include, at a minimum, the following: (Sec 2.6.B)

- Company Name
- Name of Parent Company (if applicable)
- All Proposed Personnel by Job Title
- Lines of Supervision
- Number of Full Time Employees
- Number of Years in Business
- Number of Years Vendor (Prime) has been providing the type of services specified in the RFP
- Number of Employees providing the type of services specified in the RFP
- Headquarters in the USA
- Locations in the USA
- Office Servicing this account location

Exhibit 8.3-2: Organizational Profile details the information requested in RFP Section 2.6.B.

Requirement	MAXIMUS Response
Company Name	MAXIMUS Human Services, Inc.
Name of Parent Company	MAXIMUS, Inc.
All Proposed Personnel by Job Title	Jeromy Smith, PMP – Project Director/IV&V SME Sanjai Natesan – IV&V Lead John Cvetko – IV&V SME Stephen Long – IV&V SME Dan Sisco – IV&V SME Andrew Zovistoski – IV&V SME
Lines of Supervision	MAXIMUS uses a simple, yet effective approach to lines of authority on our projects. The IV&V Lead, TBD, reports directly to our Project Director, Jeromy Smith. All other members of our team report directly to the IV&V Lead. Our experience on similar projects has taught us that this staffing model promotes a clear command structure that fosters open communication and the collaborative distribution of knowledge and expertise.
Number of Full-Time Employees	“MAXIMUS, Inc. has established a wholly owned subsidiary MAXIMUS Services, LLC to employ its 30,000 employees. This was done to simplify payroll administration and tax filing requirements. These employees are allocated and shared by MAXIMUS and all of its affiliates as appropriate, including MAXIMUS Human Services, Inc. MAXIMUS Human Services, Inc. oversees 182 consultants, 765 child support experts, and 535 workforce services professionals.
Number of Years in Business	MAXIMUS Human Services, Inc. was formed as a wholly owned subsidiary of MAXIMUS, Inc. in 2006 (13 years). MAXIMUS, Inc. was established in 1975 (44 years).
Number of Years Vendor has been providing the types of services specified in the RFP	MAXIMUS began providing QA services more than 30 years ago. In 2000, we extended our portfolio to include IV&V services as states began adopting lessons learned from the Department of Defense (DoD) in applying a more rigorous software engineering discipline to their large-scale system implementation projects.
Number of Employees providing the type of services specified in the RFP	35
Headquarters in the USA	1891 Metro Center Drive Reston, VA 20190
Locations in the USA	MAXIMUS, Inc. and its subsidiaries lease offices for operations, management, and administrative functions of our services. As of December 2018, we maintained 133 offices in the United States), including one office in Little Rock.
Office Servicing this account location	1891 Metro Center Drive Reston, VA 20190

Exhibit 8.3-2: Organizational Profile.

8.3.5 Staff Continuity Plan

Provide a staff continuity plan outlining the Vendor's approach to maintain the level of staffing proposed. The plan shall include at a minimum the following: (Sec 2.7-D)

- Vendor's policies and plans for maintaining continuity of personnel assignments throughout the performance of any contract resulting from this RFP
- Vendor's contingency plans to avoid and minimize the impact of any unexpected personnel changes.
- Vendor's planned backup resources for key personnel

Clients are understandably concerned about the qualifications and continuity of the staff assigned to the project team. MAXIMUS has a highly successful history of attracting and retaining a talented, engaged, diverse, high performing workforce. In fact, our proposed project team members have been with MAXIMUS an average of 7.5 years.

Our experienced human resources experts and management staff know that there is no one thing that results in effective employee retention, it is a combination of things, from hiring the right staff, to giving them the right training, to supporting them in their current jobs, and helping them to grow. All of these things contribute to MAXIMUS ability to avoid and minimize the impact of any unexpected personnel changes.

8.3.6 Policies and Plans for Maintaining Personnel Continuity

On an annual basis, every MAXIMUS employee establishes goals that support individual, department, project, division/group, segment, and company goals, which are documented in the corporate performance management system. Establishing goals and objectives for the fiscal year gives every employee an opportunity to participate in the goal setting process and a chance to clearly understand management's expectations for his/her individual level of accomplishment for the fiscal year.

While supervisors discuss job performance goals with employees on an informal, day-to-day basis, the formal annual performance evaluation process is an opportunity to discuss achievement of goals, identify and correct weaknesses, encourage and recognize strengths; and discuss positive, purposeful approaches to meeting goals. The annual performance evaluation for each employee includes an assessment of the employee's adherence to the Standards of Conduct and MAXIMUS Compliance Policies and Procedures, and participation in applicable training and education programs and related activities. The results of the annual performance evaluation directly correlate to MAXIMUS annual bonus plan and merit increases.

To further support the retention of our staff, MAXIMUS focuses on the personal development of project staff. Along with the individual goals discussed above, we mentor employees and always look to promote staff from within before looking outside of the company. We offer a path for career progression — strong performers will be offered lead or supervisory positions should their performance warrant this promotion. Our career development matches internal employees to new opportunities, creating growth for our employees and a knowledgeable base for new contracts to build on.

To ensure that staff are ready for promotion, we communicate about available positions and help them build competencies so that when these opportunities present themselves, staff are ready to apply. Managers work closely with their staff so they know the skills they need to move up within the organization.

MAXIMUS also supports continuing education opportunities through a series of internal and external offerings. We utilize Workday Learning to offer courses on a variety of topics from project management to IT/digital and business skills; as well as our mandatory corporate compliance training. We also partner with Skillssoft to access their database of training for skill development.

For eligible employees who want to pursue an Associate's, Bachelor's, or Graduate degree, MAXIMUS offers tuition reimbursement. Eligible employees are classified as full time or part time (over 30 hours per week) and have completed one year of continuous employment with MAXIMUS. Staff must receive an A or B in the class in order to be reimbursed.

Furthermore, MAXIMUS strongly endorses professional licensing for staff positions that require certification by authorities in the relevant profession. We reimburse our employees for costs associated with receiving the certification; for example, we cover the costs associated with employees who earn the Project Management Professional (PMP) certification. Likewise, we encourage employee participation in professional and technical societies when essential to maintaining the company's core competence in various technical fields. Accordingly, all professional staff members are encouraged to join the technical or professional society most closely aligned to their primary specialization.

8.3.7 Contingency Plans for Unexpected Personnel Changes

Although some degree of staff turnover is inevitable on long-term projects, the State deserves to have any departing staff replaced with consultants equally or more qualified and knowledgeable. Should a project team member unexpectedly leave the project, we initially look to our existing team to fill the position. It is very common in our business that while some staff are assigned full time to projects, other individuals (because of their areas of expertise) are assigned to multiple projects. For those team members that are not on-site or full-time, we hold internal weekly project status meetings so all team members are constantly apprised of project status. Should one team member depart the project, that position can be immediately filled by an equally-skilled team member. In this way, we do not lose continuity or have to expend time bringing a new team member up to speed.

If we need to identify a new resource, we look within MAXIMUS first. With access to more than 30,000 employees, it is unlikely that we do not have a qualified resource for the position. However, should we need to do outside recruitment, we have an established process for quickly identifying and onboarding qualified staff as described below:

- **Determination of Appropriate Skillset and Experience:** We identify recruitment needs based on contractual details, performance requirements, detailed volumes by task, and quality goals. We analyze historic trends and projected performance needs to quantify our approach and determine our staffing needs.

MAXIMUS develops job descriptions that include qualification levels for each position and client and contractual requirements. Our job descriptions are based on success profiles that help us to identify staff that will thrive in each position.

- **Steps Taken for Screening and Hiring Process/Procedure:** We use traditional recruiting tools such as local job boards, online job search sites, and outside recruiting firms if necessary, and we involve our staff in recruitment. Apart from traditional recruiting methods,

our Employee Referral Program encourages MAXIMUS employees to refer qualified, external candidates for positions within our organization. We have found that current staff members are the best source of talent, and we reward them for helping us find new staff members who help us meet our project goals.

MAXIMUS develops success profiles and we use these profiles to rigorously screen all candidates and select only the highest quality personnel with the demonstrated skills and experience necessary to perform the work. For instance, the success profiles make certain that staff who interact with customers come to the project with experience in providing face-to-face customer service, experience with computers, and good interpersonal and communication skills.

- **Application Process:** MAXIMUS employment application process provides an online experience for applicants. Applicants create a profile that includes basic contact information, types of positions they are looking for, as well as a summary of their experience and skills. Once a profile is created, the applicant can search all MAXIMUS job openings, complete the application online, and upload their resume. The system also provides the option for applicants to receive notifications of new openings.
- **Interview Process:** Prior to conducting formal interviews, we ask applicants to complete pre-employment application packets. We will also conduct screening interviews to measure candidate aptitude skills. If appropriate, testing is performed to help verify potential candidates have the required skills.

In addition to undergoing pre-employment screening, all potential staff members participate in a formal interview process. We have a series of interviewing techniques and skills-based qualifications that help us find the right people.

- **Offer of Employment:** Once we interview and test candidates who meet the qualities we identify in our job descriptions and success profiles, and once they pass any testing and background checks, we make offers of employment to qualified candidates.

Regardless of whether we are utilizing an existing team member to fill a vacant role or hiring new staff, upon notification that a team member is no longer available, the MAXIMUS Independent Verification and Validation (IV&V) Lead will:

- Immediately notify the MAXIMUS Project Director of the identified issue.
- Work with the MAXIMUS Project Director to enable staff to prioritize the project work, clear competing commitments, and remove barriers to completing the work timely.
- Notify the Department of Human Services' (DHS) point of contact if it is anticipated the risk may become an issue and have an impact on the project schedule.
- Work with the MAXIMUS Project Director to identify staff with similar skills and experience to minimize the risk to the project should additional resources be required.
- Review the recommended resources with DHS to obtain approval before new staff begin work on the project.

8.3.8 Planned Backup Resources for Key Personnel

As discussed above, MAXIMUS always tries to first fill a vacancy from the existing project team. Specifically, for the Arkansas IEBM IV&V Project, we have identified backup resources should

the need arise. For example, should our IV&V Lead, Sanjai Natesan, become unavailable, either Jeromy Smith or Dan Sisco, two of our proposed IV&V SMEs, would fill that role. Should an IV&V SME unexpectedly leave the project, one of the other IV&V SMEs would assume those responsibilities. If the State requires additional assistance beyond what we estimate to be needed for the scope of work, MAXIMUS can call upon one of our other IV&V experts to provide additional assistance.

Appendix A. Sample CMS Quarterly Reports

Below, we provide two samples of MAXIMUS CMS Quarterly Reports. All identifying information has been removed in order to protect our clients' privacy.

PLEASE NOTE: These samples do not represent services or deliverables being offered under this proposal. All services and deliverables being offered are exclusively described in the proposal.

General Information

Instructions: This section includes the general information for the progress report. IV&V contractor is to fill out all sections of this IV&V tab. Please ensure information provided here matches with the Project Partnership Understanding (PPU). For all dates, please use MM/DD/YYYY format.

State/Territory		State Primary POC		Submitter Email		PPU Completed & Sent to CMS?	No
Project Name		State Primary POC Email		Submitter Phone		Date PPU Sent to CMS	
Program Name	E&E	Submitter Name		Submitter Company Name	MAXIMUS	Date IV&V on Board	
Progress Report Date		Submitter Title / Role	IV&V Project Manager			Next Progress Report Date	
Select Report Type	Quarterly Report						

Summary of Project Progress and Status

Instructions: Briefly summarize the state's status and its progress. The summary should cover entire project, not just the modules and/or phases which are planned to be reviewed during a milestone review.

This progress report is a summary of the Utah Medicaid Eligibility and Enrollment (ME&E) System project for the third quarter of FY [YEAR] and utilizes information as reported in the IV&V monthly reports for April-May, and [YEAR]. This project consists of two sub-projects: (1) Modernization - moving of the system from the Curam framework, to open source Spring framework; and (2) Maintenance and Operations. For the modernization effort, rather than do a full, one-time cutover from the Curam-based product to open source, the State has been pursuing a gradual shift strategy from one system to the other. Currently, there are two "partial" eREP systems running to form a full solution: [SYSTEM] and [SYSTEM] II. The Utah team estimates that 80% of the functionality is running on the new open source platform ([SYSTEM] II), with 20% remaining on Curam (SYSTEM). The eligibility staff (system users) have been trained to toggle between the systems as needed, being encouraged to do as much of their processing in [SYSTEM] II as possible. During the last quarter, the IV&V team conducted analysis within the following focus areas, as designated by the IV&V contract:

- Budget and Schedule
- Risk Management
- SDLC
- Standards and Conditions
- MITA State Self-Assessment
- MITA Goals
- Configuration Management
- Change Management
- Service Level Agreements
- Operations
- Architecture
- Design Interfaces
- Data Translation
- Traceability
- Security
- Testing

Budget & Schedule Metrics

Instructions: Provide budgetary and schedule measurements below.

- Earned Value metrics are the CMS-preferred metrics for budget and schedule. If the state uses Earned Value metrics, enter the information in row#23 for entire project.
- However, if the state does not use Earned Value metrics, please enter the metrics the state does use (not every row needs to be filled), variance against the state's expected or target value for each, and the most recent measurement for each state metric (rows # 27 and below)
- For each state metric listed, indicate whether that metric is for modules and/or phases or project as a whole.
- States are encouraged to discuss with their E&E analysts which metrics they intend to track so that the IV&V contractor can report them here.
- Example industry metrics are shown for reference.

Total Budget	\$17,388,018	Earned Value (EV)	6,781,327	Cost Variance (%)	5.5% Under	Schedule Variance (%)	5.5% Ahead
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Example Metrics for Considerations	Name of State Metric	Value	Variance Against Expected or Target Value	Name of the Applicable Module and/or Phase / E&E Project
Planned value				
Actual cost				
Return on Investment				
Cost performance index				
Cost of managing processes				
Planned hours of work vs actual				
Overdue project tasks				
Schedule performance index				
Percentage of missed milestones				
Percentage of tasks complete				

Comments	The information provided in this section is from the 5.31.19 [STATE] May [YEAR] Monthly E&E APD Update Dashboard.
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Life Cycle Status and Schedule

Instructions: This section aids CMS in planning milestone reviews. Dates are understood to be approximate and should be updated in future quarterly reports as state schedules become more refined. Start by selecting a Life Cycle Status from the drop-down menu.

-- If you select Life Cycle Status as "No plans for development," then the R1, R2, R3 date cells will become gray and you do not need to fill out any dates.

-- If a state is transitioning into a late phase of the MEELC and its CMS E&E analyst has stated that a particular milestone will not be necessary, then select the status dropdown that indicates that milestone as completed and leave the date column for that milestone review and any reviews leading up to that review blank. For example, if the CMS analyst has said that R1 and R2 are not necessary, select "R2: Operational M.R. Completed" and leave the R1 and R2 date cells blank. The anticipated R3 date should be filled in.

-- For all other cases, use the drop-down menu to indicate the current status of the module and/or phase. Enter the anticipated or actual dates for each milestone, including future milestone reviews. Do not enter a date range. For all dates, please use MM/DD/YYYY.

-- After a milestone review has actually occurred, be sure to update the entry to reflect the last date of the milestone review (as it may have changed from the anticipated date) and update the Life Cycle Status drop-down selection.

	Life Cycle Status	Target or Actual IAPD Approval Date	Target or Actual Development Start Date	Target or Actual Date for R1	Target or Actual Date for R2	Target or Actual Go-Live Date	Target or Actual Date for R3
Eligibility & Enrollment							

The [SYSTEM] system has been in production since [YEAR], and is therefore in maintenance and operations mode, with no history of R1 or R2 milestone reviews completed. The modernization activities in progress include a shift from the Curam framework for the [SYSTEM] eligibility system to Open Source "Spring" framework for the [SYSTEM] II system

<p>Comments</p>	<p>The modernization activities in progress include a shift from the Curam framework for the [SYSTEM] eligibility system, to Open Source Spring framework for the [SYSTEM] II system. While some enhancements to functionality continue to be introduced, the modernization activities are primarily technical in nature, including a shift from mainframe-based processing, to microservices processing.</p> <p>Since the system has been in existence for many years, the next milestone review is expected to be Post Operational (R3), but has not yet been scheduled. MITA SS-A completion is in progress, to be followed by PPU and milestone review.</p>
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Programmatic Checklist						
<p>Instructions: Review the state's compliance with each criterion and complete the IV&V columns. For all dates, please use MM/DD/YYYY format. If "Not Assessed" is selected from the Reviewer Assessment column, give a justification for this in the Reviewer Comments column. Due to Excel limitations, text box may not expand when filled with data beyond the size of the cell. Data will be captured even if not completely visible. If you need to review all data in a cell, double click the cell and use the down arrow from your keyboard to navigate.</p>						
Category	Ref #	Review Criteria	IV&V Columns			
			Review Date	Reviewer Name	Reviewer Assessment	Reviewer Comments
Governance	S&C.MS.15	The state uses an SDLC.			Meets	
Governance	S&C.MC.1	State Medicaid Agency (SMA) develops its MITA Roadmap and uses a completed MITA SS-A for evaluation of its As-Is and identification of its To-Be capabilities for Business, Information, and Technical Architectures and the Standards and Conditions for Medicaid IT.			Partially Meets	IV&V assessment is partially meets. The State is beginning the process for completing the MITA SS-A and consequently, its MITA Roadmap. The project complies with the 12 Standards and Conditions as described
Governance	IA.DMS.1	The SMA demonstrates adoption of governance process and structure to promote trusted data governance, data stewards, data owners, data policy, and controls redundancy within the intrastate.			Partially Meets	IV&V assessment is partially meets because the State did not provide a documented data governance approach. Project activities have demonstrated
Governance	IA.DS.3	The SMA documents information exchanges in trading partner agreements as specified in 45 CFR 162.915.			Partially Meets	IT's reports that for any trading partner, such as another State Agency who has a need to receive data from eREP, a memorandum of understanding is
Outreach & Support	S&C.BRC.2	The SMA communicates effectively with providers, members, and the public.			Meets	Although communication with Medicaid providers is not within scope of the eREP system, there is functionality that
Outreach & Support	S&C.BRC.9	The system of interest utilizes web-based person-centric system for outreach where providers, applicants, and members provide feedback and assessment of accessibility, ease of use, and appropriateness of decisions.			Meets	Although communication with Medicaid providers is not within scope of the eREP system, there is functionality that applies to the remaining criteria. For example, myCase has a feedback link, which allows users to write to the State
Outreach & Support	S&C.RC.3	The SMA demonstrates it provides timely information transaction processing, and ensures high availability and quick response to customer requests.			Meets	
Outreach & Support	S&C.RC.4	The SMA provides system decision logic and coding used by eligibility to the public.			Meets	
Outreach & Support	TA.FR.5	The system of interest provides online assistance to users to support effective use of data query, data analysis, and report formatting capabilities.			Partially Meets	IV&V assessment is partially meets. A set of reports is available with mostly predefined parameters and minimal online assistance, but with flexible date ranges provided for such queries. If the
Outreach & Support	TA.LG.3	The system of interest provides services that manage the delivery of event messages to several business services and people / roles / contexts interested in a condition and change of behavior of interest.			Meets	

Process	S&C.RC.5	The SMA has a process for identifying errors and promptly correcting them. The SMA is capable of producing audit trails of decisions.			Meets	
Process	TA.BPM.2	The SMA aligns business workflows for Medicaid and Exchange business operations and requirements using BPM standards (e.g. Business Process Execution Language (BPEL)).			Meets	
Process	TA.CM.1	The SMA implements software configuration management practices and identifies intrastate configuration items and baselines.			Meets	
Process	TA.CM.3	The SMA uses build management, process management, and environment management through the SDLC.			Meets	
Process	TA.DAM.6.1	The SMA performs data management storage optimization and consolidation techniques.			Meets	
Process	TA.UT.1	The system of interest introduces versioning, mediation, and distributed systems.			Meets	
Process	MES.PR.1	In preparation for a milestone review, SMA has provided all artifacts required for that review (see Required Artifact List in the toolkit). If the names of the artifacts differ from what they are named in the Required Artifacts List, the SMA has provided a mapping between the Required Artifacts and what the state calls the artifacts.			Not Assessed	There is no pending milestone review. Next MR will be determined following [SYSTEM] completion of the State Self-Assessment, and in collaboration with CMS.
Reuse	S&C.LC.1	SMA participates in a multi-state effort and shares (or provides a method to share) it's reusable components, to promote sharing, leverage, and reuse of Medicaid technology and systems.			Meets	
Reuse	S&C.LC.5	SMA identifies and evaluates commercial or open-source solutions and plans for cloud computing.			Meets	
Reuse	S&C.LC.8	SMA minimizes need for ground-up or customization solutions.			Meets	
RFP/Contract/ Acquisition	IA.DS.4	As Per SMM Part 11: State documents and follows RFP development process, contract development process, and proposal evaluation plan.			Not Assessed	RFP development, contract development, and proposal evaluation are not in scope of the system.
RFP/Contract/ Acquisition	S&C.BRC.1 2	The SMA has service level agreements (SLAs) in place and evaluates system and contractor performance against those SLAs. When SLAs are not met, the SMA creates and executes plans of action with milestones (POAMs).			Not Assessed	Contractor performance management is not within the scope of the system.
RFP/Contract/ Acquisition	S&C.MS.5	Modularity is adequately accounted for in the SMA acquisition process.			Meets	
RFP/Contract/ Acquisition	S&C.MS.6	RFP does not impose technology specific solutions and will allow for evolving requirements.			Meets	

Security	TA.SP.64	The system of interest conducts user authentication using public key infrastructure in conformance with MITA Framework, industry standards, and other nationally recognized standards.			Meets	
Security	TA.SP.65	For the system of interest's use of Public Key Infrastructure (PKI), the solution follows standard practices such as the use of accepted certification authorities, documented Certificate Policy (CP), and Certification Practice Statement (CPS), which includes key escrow strategy. The System of Interest's PKI implementation uses foundational technical standards such as X.509 Certificate format and Public Key Cryptography Standard (PKCS).			Meets	
Security	TA.SP.75	The system of interest employs malicious code protection mechanisms at IT system information system entry and exit points and at workstations, servers, or mobile computing devices on the network to detect and eradicate malicious code. The system of interest utilizes network scanning tools, intrusion detection and prevention systems, and end-point protections such as firewalls and host-based intrusion detection systems to identify and prevent the use of prohibited functions, ports, protocols, and services.			Meets	
Security	TA.SP.78	The system allows only authorized staff members to do manual deletes and overrides of alerts/edits.			Meets	

General Information					
<p>Instructions: CMS team members should fill out the General Information section. For all dates, please use MM/DD/YYYY format. CMS Comments are not required for regular quarterly reports. (An analyst should at least acknowledge to the IV&V contractor and state that they received the report.) Review Type, and cells D6 and E6 in row#6 are auto filled, based on the response from IV&V tab Review Type. Please enter date of your response in cell I6. If you have comments, enter them in the General Comments section. If the report was prepared for a milestone review, all sections should be filled out. Due to Excel limitations, text box may not expand when filled with data beyond the size of the cell. Data will be captured even if not completely visible. If you need to review all data in a cell, double click the cell and use the down arrow from your keyboard to navigate.</p>					
Review Type	Quarterly Report		Date		
Milestone Review Team					
<p>Instructions: Leave blank if this is not given in response to a milestone review (it will turn gray when quarterly report is selected above). Use drop-down menu (Role & Organization Columns) to select/update Milestone Review Team.</p>					
Role	Name	Organization	Role	Name	Organization
If "Other" was selected, please explain.		<Insert additional information here, if necessary.>			
CMS Comments					
<p>Instructions: This section can be used for both Quarterly Report responses and Milestone Review summaries. Provide any high-level CMS comments in the text box below. Your response should focus on potential risks and issues.</p>					
General Comments					
<p>Include general comments here. This may include CMS comments for project progress, and any risks and issues. Note: >> Delete these instructions prior to entering data. >> For copy and paste, first double click this cell and then paste. >> Due to Excel limitations, text box may not expand when filled with data beyond the size of the cell. Data will be captured even if not completely visible.</p>					

>> Due to Excel limitations, text box may not expand when filled with data beyond the size of the cell. Data will be captured even if not completely visible.
 >> If you need to review all data in this box, double click this box first and use the down arrow from your keyboard to navigate.

Instructions : The sections below are for milestone review responses regarding specific checklists.

>> Select the desired checklist in the blue cells, using the drop down menu, to provide Observations, Findings, Corrective Actions and Recommendations for that checklist.

Definitions:

>> **Observation** – A statement where the reviewer notes good practices by the state and/or opportunities for improvement.

>> **Finding** – This is a condition that requires attention by the state. There may or may not be findings. A finding may require the state to identify and implement a corrective action plan (CAP). A finding requires a response by the state, and in cases where a CAP is necessary, a timeline by which the CAP will be fully operational. In severe cases, the state may need to implement a workaround until the permanent CAP has been implemented.

>> **Corrective Action** – One or more steps intended to remedy findings. The reviewer should suggest types of actions needed to remedy the findings. (If there are findings, the state may need to propose a CAP, CMS will review and approve/disapprove the CAP, and once finalized, the state will execute the CAP.)

>> **Recommendation** – Advice offered by the reviewer to address weaknesses or to highlight opportunities for improvement.

Select the Desired Checklist Here with the Drop-Down Menu

Observations	<Enter CMS comments here for the item selected above, in blue>
Findings	<Enter CMS comments here for the item selected above, in blue>
Corrective Actions	<Enter CMS comments here for the item selected above, in blue>

Recommendations	<Enter CMS comments here for the item selected above, in blue>

Select the Desired Checklist Here with the Drop-Down Menu	
Observations	<Enter CMS comments here for the item selected above, in blue>
Findings	<Enter CMS comments here for the item selected above, in blue>
Corrective Actions	<Enter CMS comments here for the item selected above, in blue>
Recommendations	<Enter CMS comments here for the item selected above, in blue>
Select the Desired Checklist Here with the Drop-Down Menu	
Observations	<Enter CMS comments here for the item selected above, in blue>
Findings	<Enter CMS comments here for the item selected above, in blue>
Corrective Actions	<Enter CMS comments here for the item selected above, in blue>

Recommendations	<Enter CMS comments here for the item selected above, in blue>
Select the Desired Checklist Here with the Drop-Down Menu	
Observations	<Enter CMS comments here for the item selected above, in blue>
Findings	<Enter CMS comments here for the item selected above, in blue>
Corrective Actions	<Enter CMS comments here for the item selected above, in blue>
Recommendations	<Enter CMS comments here for the item selected above, in blue>

Select the Desired Checklist Here with the Drop-Down Menu	
Observations	<Enter CMS comments here for the item selected above, in blue>
Findings	<Enter CMS comments here for the item selected above, in blue>
Corrective Actions	<Enter CMS comments here for the item selected above, in blue>
Recommendations	<Enter CMS comments here for the item selected above, in blue>
Select the Desired Checklist Here with the Drop-Down Menu	
Observations	<Enter CMS comments here for the item selected above, in blue>
Findings	<Enter CMS comments here for the item selected above, in blue>

Corrective Actions	<Enter CMS comments here for the item selected above, in blue>
Recommendations	<Enter CMS comments here for the item selected above, in blue>

General Information

Instructions: This section includes the general information for the progress report. IV&V contractor is to fill out all sections of this IV&V tab. Please ensure information provided here matches with the Project Partnership Understanding (PPU). For all dates, please use MM/DD/YYYY format.

State/Territory		State Primary POC		Submitter Email		PPU Completed & Sent to CMS?	No
Project Name		State Primary POC Email		Submitter Phone		Date PPU Sent to CMS	
Program Name	E&E	Submitter Name		Submitter Company Name	MAXIMUS	Date IV&V on Board	
Progress Report Date		Submitter Title / Role	IV&V Project Manager			Next Progress Report Date	
Select Report Type	Quarterly Report						

Summary of Project Progress and Status

Instructions: Briefly summarize the state's status and its progress. The summary should cover entire project, not just the modules and/or phases which are planned to be reviewed during a milestone review.

This progress report is a summary of the [PROJECT NAME] project for the second quarter of [YEAR] and utilizes information as reported in the last three IV&V monthly reports (March [YEAR], April [YEAR], and May [YEAR]). During the last quarter; the IV&V team conducted analysis within the Project Management, Operating Environment (performance testing), Software Development, Quality Management, User Training, and System and Acceptance Testing focus areas. The information provided for the budget and schedule variances is as of June 11, [YEAR]. The overall project status is MEDIUM (Yellow) which remains the same as last quarter status.

In this quarter's reports, the IV&V team identified the following accomplishments of the Project.

- The State completed all six weeks of training for end-users. The training occurred in [CITY] and [CITY]. Training was well received with many indicating more hands-on exercises were very beneficial.
- The State and Deloitte completed development and walk-through of the cutover tasks required to implement Release 2 of [SYSTEM]. While issues were encountered during cutover weekend, the State and Deloitte worked together to resolve any issues.
- Release 2 of SPACES was implemented March 18, [YEAR] The implementation planning was key to a successful implementation. The Command Action Center (CAC) provided a central point for triage of issues reported, timely resolution, and communication of the system status to stakeholders. The detailed planning for conversion proved worth the effort.
- Deloitte and the State have worked closely to refine the processes related to defect triage, assignment of fix versions, and the build/deploy processes. At month-end, the processes appear to be working well.
- The Change Control Board (CCB) is reviewing the priority of the After Go-Live Change Requests (CRs) and scheduling the CRs for specific monthly builds. Some CRs are scheduled for weekly builds, as appropriate. The CCB process is working well.
- Management and operations (M&O) processes are working well after the refinements that occurred in April 2019. Defect triage, assignment of fix versions, build/deploy processes, and the approval processes for deployments are working well.
- Release 3 planning started in May [YEAR] with the finalization of the JAD schedule for JADs starting in June [YEAR] The Joint PMO made changes to the weekly project status report format and began to develop the overall Release 3 project schedule. A high-level schedule reflects a 12 ½ month timeline although that is subject to change. Joint Application Design (JAD) sessions for the Release 3 CRs is expected to begin June 3, [YEAR].

Despite these accomplishments, based on the IV&V findings included in the last three IV&V monthly reports and Release 2 Go-Live, IV&V has several concerns. First, the State continues UAT testing of delayed or deferred testing of interfaces and reports until after Go-Live. That testing, with the exception of general reports, is expected to end in June [YEAR] Freeing up resources to complete this testing is needed in some areas such as testing of the general reports. This work will be ongoing. Second, the System Support Development (SSD – Help Desk) continues to have a high backlog of logs/issues that have remained un-reviewed from week to week. [SYSTEM] defects may be hidden in this backlog and cannot be addressed until found. Staff have been working to prioritize the review of these logs/issues but the volume continues to be high. Third, the State continues to struggle with completing User Acceptance Testing (UAT) of the defects corrections and

Budget & Schedule Metrics

Instructions: Provide budgetary and schedule measurements below.

- Earned Value metrics are the CMS-preferred metrics for budget and schedule. If the state uses Earned Value metrics, enter the information in row#23 for entire project.
- However, if the state does not use Earned Value metrics, please enter the metrics the state does use (not every row needs to be filled), variance against the state's expected or target value for each, and the most recent measurement for each state metric (rows # 27 and below)
- For each state metric listed, indicate whether that metric is for modules and/or phases or project as a whole.
- States are encouraged to discuss with their E&E analysts which metrics they intend to track so that the IV&V contractor can report them here.
- Example industry metrics are shown for reference.

Total Budget	\$108,529,338	Earned Value (EV)	104,736,838	Cost Variance (%)	11.9% Under	Schedule Variance (%)	4.1% Behind
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Example Metrics for Considerations	Name of State Metric	Value	Variance Against Expected or Target Value	Name of the Applicable Module and/or Phase / E&E Project
Planned value				
Actual cost				
Return on Investment				
Cost performance index				
Cost of managing processes				
Planned hours of work vs actual				
Overdue project tasks				
Schedule performance index				
Percentage of missed milestones				
Percentage of tasks complete				

Comments	<p>The information provided in this section is from the R2 SPACES Variance Report as of 3/18/2019 the day R2 went live. The Total Budget figure includes R2 and R3, consistent with budget data reported in the APD. The Cost Variance has moved from 7.3% under on the March [YEAR] quarterly report to 11.9 % under for this report. The schedule is baselined for R2 only, so schedule variance is based only on R2. Although the schedule moved from 1.6% behind on the March [YEAR] quarterly report to 4.1% behind on this report, R2 went live on 3/18/[YEAR] and is proceeding well.</p>
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Life Cycle Status and Schedule

Instructions: This section aids CMS in planning milestone reviews. Dates are understood to be approximate and should be updated in future quarterly reports as state schedules become more refined. Start by selecting a Life Cycle Status from the drop-down menu.

-- If you select Life Cycle Status as "No plans for development," then the R1, R2, R3 date cells will become gray and you do not need to fill out any dates.

-- If a state is transitioning into a late phase of the MEELC and its CMS E&E analyst has stated that a particular milestone will not be necessary, then select the status dropdown that indicates that milestone as completed and leave the date column for that milestone review and any reviews leading up to that review blank. For example, if the CMS analyst has said that R1 and R2 are not necessary, select "R2: Operational M.R. Completed" and leave the R1 and R2 date cells blank. The anticipated R3 date should be filled in.

-- For all other cases, use the drop-down menu to indicate the current status of the module and/or phase. Enter the anticipated or actual dates for each milestone, including future milestone reviews. Do not enter a date range. For all dates, please use MM/DD/YYYY.

-- After a milestone review has actually occurred, be sure to update the entry to reflect the last date of the milestone review (as it may have changed from the anticipated date) and update the Life Cycle Status drop-down selection.

	Life Cycle Status	Target or Actual IAPD Approval Date	Target or Actual Development Start Date	Target or Actual Date for R1	Target or Actual Date for R2	Target or Actual Go-Live Date	Target or Actual Date for R3
Eligibility & Enrollment	R2: Operational M.R. Completed						

[SYSTEM] Release 1 went live in February [YEAR] and was reviewed under the prior "Gate Review" process. [SYSTEM] Release 2 began development 10/20/[YEAR] and went live on [YEAR]. Per CMS and State there will not be a CMS milestone review scheduled for Release 2, as its functionality

<p>Comments</p>	<p>[SYSTEM] Release 2 began development 10/20/[YEAR] and went live on [YEAR]. Per CMS and State there will not be a CMS milestone review scheduled for Release 2, as its functionality is focused on TANF, SNAP, Child Care, and the Affordable Care Act (ACA) related to Medicaid eligibility and interacting with the Federally Facilitated Marketplace (FFM)..</p> <p>[SYSTEM] Release 3 will include Medicaid ABD. The next anticipated milestone review will be for Release 3. The date is not finalized, but is expected to be an operational milestone review (R2) around April [YEAR]</p>
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Programmatic Checklist						
<p>Instructions: Review the state's compliance with each criterion and complete the IV&V columns. For all dates, please use MM/DD/YYYY format. If "Not Assessed" is selected from the Reviewer Assessment column, give a justification for this in the Reviewer Comments column. Due to Excel limitations, text box may not expand when filled with data beyond the size of the cell. Data will be captured even if not completely visible. If you need to review all data in a cell, double click the cell and use the down arrow from your keyboard to navigate.</p>						
Category	Ref #	Review Criteria	IV&V Columns			
			Review Date	Reviewer Name	Reviewer Assessment	Reviewer Comments
Governance	S&C.MS.15	The state uses an SDLC.			Meets	
Governance	S&C.MC.1	State Medicaid Agency (SMA) develops it's MITA Roadmap and uses a completed MITA SS-A for evaluation of its As-Is and identification of its To-Be capabilities for Business, Information, and Technical Architectures and the Standards and Conditions for Medicaid IT.			Partially Meets	Based on the latest self-assessment was conducted in [YEAR] The state is working on contracting out the self-assessment.
Governance	IA.DMS.1	The SMA demonstrates adoption of governance process and structure to promote trusted data governance, data stewards, data owners, data policy, and controls redundancy within the intrastate.			Partially Meets	IV&V assessment is partially meets because the State did not provide a documented data governance approach. Project activities for Release 2 design have demonstrated data governance
Governance	IA.DS.3	The SMA documents information exchanges in trading partner agreements as specified in 45 CFR 162.915.			Not Assessed	In discussions of the MEET pilot checklists with MITRE, it was confirmed that this criteria/requirement is not applicable to the ISYSTEM system.
Outreach & Support	S&C.BRC.2	The SMA communicates effectively with providers, members, and the public.			Partially Meets	Although communication with Medicaid providers is not within scope of SPACES system, there is functionality that applies
Outreach & Support	S&C.BRC.9	The system of interest utilizes web-based person-centric system for outreach where providers, applicants, and members provide feedback and assessment of accessibility, ease of use, and appropriateness of decisions.			Partially Meets	Although outreach with Medicaid providers is not within scope of [YEAR] system, there is functionality that applies to the remaining criteria.
Outreach & Support	S&C.RC.3	The SMA demonstrates it provides timely information transaction processing, and ensures high availability and quick response to customer requests.			Partially Meets	Performance Testing results identified transactions where the response time was not viable longterm because of a need for design changes.
Outreach & Support	S&C.RC.4	The SMA provides system decision logic and coding used by eligibility to the public.			Meets	
Outreach & Support	TA.FR.5	The system of interest provides online assistance to users to support effective use of data query, data analysis, and report formatting capabilities.			Meets	
Outreach & Support	TA.LG.3	The system of interest provides services that manage the delivery of event messages to several business services and people / roles / contexts interested in a condition and change of behavior of interest.			Meets	

Process	S&C.RC.5	The SMA has a process for identifying errors and promptly correcting them. The SMA is capable of producing audit trails of decisions.	6/26/2019	Tamara Nash	Meets	
Process	TA.BPM.2	The SMA aligns business workflows for Medicaid and Exchange business operations and requirements using BPM standards (e.g. Business Process Execution Language (BPEL)).			Meets	
Process	TA.CM.1	The SMA implements software configuration management practices and identifies intrastate configuration items and baselines.			Meets	Release 2 was implemented 3/18/[YEAR] and the configuration tools are in place and used.
Process	TA.CM.3	The SMA uses build management, process management, and environment management through the SDLC.			Meets	
Process	TA.DAM.6.1	The SMA performs data management storage optimization and consolidation techniques.			Meets	
Process	TA.UT.1	The system of interest introduces versioning, mediation, and distributed systems.			Meets	
Process	MES.PR.1	In preparation for a milestone review, SMA has provided all artifacts required for that review (see Required Artifact List in the toolkit). If the names of the artifacts differ from what they are named in the Required Artifacts List, the SMA has provided a mapping between the Required Artifacts and what the state calls the artifacts.			Not Assessed	The official OIR with CMS will occur near implementation of Release 3 in May/July [YEAR].
Reuse	S&C.LC.1	SMA participates in a multi-state effort and shares (or provides a method to share) it's reusable components, to promote sharing, leverage, and reuse of Medicaid technology and systems.			Meets	
Reuse	S&C.LC.5	SMA identifies and evaluates commercial or open-source solutions and plans for cloud computing.			Partially Meets	[YEAR] application has been designed with cloud-first approach, but it re-uses State's existing infrastructure setup
Reuse	S&C.LC.8	SMA minimizes need for ground-up or customization solutions.			Meets	
RFP/Contract/Acquisition	IA.DS.4	As Per SMM Part 11: State documents and follows RFP development process, contract development process, and proposal evaluation plan.			Not Assessed	RFP/Contract Acquisition is not within the scope of [YEAR] system.
RFP/Contract/Acquisition	S&C.BRC.12	The SMA has service level agreements (SLAs) in place and evaluates system and contractor performance against those SLAs. When SLAs are not met, the SMA creates and executes plans of action with milestones (POAMs).			Not Assessed	RFP/Contract Acquisition is not within the scope of [SYSTEM] system.
RFP/Contract/Acquisition	S&C.MS.5	Modularity is adequately accounted for in the SMA acquisition process.			Meets	

RFP/Contract/ Acquisition	S&C.MS.6	RFP does not impose technology specific solutions and will allow for evolving requirements.			Meets	
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Security	TA.SP.64	The system of interest conducts user authentication using public key infrastructure in conformance with MITA Framework, industry standards, and other nationally recognized standards.			Meets	
Security	TA.SP.65	For the system of interest's use of Public Key Infrastructure (PKI), the solution follows standard practices such as the use of accepted certification authorities, documented Certificate Policy (CP), and Certification Practice Statement (CPS), which includes key escrow strategy. The System of Interest's PKI implementation uses foundational technical standards such as X.509 Certificate format and Public Key Cryptography Standard (PKCS).			Meets	
Security	TA.SP.75	The system of interest employs malicious code protection mechanisms at IT system information system entry and exit points and at workstations, servers, or mobile computing devices on the network to detect and eradicate malicious code. The system of interest utilizes network scanning tools, intrusion detection and prevention systems, and end-point protections such as firewalls and host-based intrusion detection systems to identify and prevent the use of prohibited functions, ports, protocols, and services.			Meets	
Security	TA.SP.78	The system allows only authorized staff members to do manual deletes and overrides of alerts/edits.			Meets	

General Information

Instructions: CMS team members should fill out the General Information section. For all dates, please use MM/DD/YYYY format. CMS Comments are not required for regular quarterly reports. (An analyst should at least acknowledge to the IV&V contractor and state that they received the report.) Review Type, and cells D6 and E6 in row#6 are auto filled, based on the response from IV&V tab Review Type. Please enter date of your response in cell I6. If you have comments, enter them in the General Comments section. If the report was prepared for a milestone review, all sections should be filled out. Due to Excel limitations, text box may not expand when filled with data beyond the size of the cell. Data will be captured even if not completely visible. If you need to review all data in a cell, double click the cell and use the down arrow from your keyboard to navigate.

Review Type	Quarterly Report		Date	
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Milestone Review Team

Instructions: Leave blank if this is not given in response to a milestone review (it will turn gray when quarterly report is selected above). Use drop-down menu (Role & Organization Columns) to select/update Milestone Review Team.

Role	Name	Organization	Role	Name	Organization

If "Other" was selected, please explain.	<Insert additional information here, if necessary.>
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CMS Comments

Instructions: This section can be used for both Quarterly Report responses and Milestone Review summaries. Provide any high-level CMS comments in the text box below. Your response should focus on potential risks and issues.

General Comments

Include general comments here. This may include CMS comments for project progress, and any risks and issues.
 Note: >> Delete these instructions prior to entering data.
 >> For copy and paste, first double click this cell and then paste.
 >> Due to Excel limitations, text box may not expand when filled with data beyond the size of the cell. Data will be captured even if not completely visible.

>> Due to Excel limitations, text box may not expand when filled with data beyond the size of the cell. Data will be captured even if not completely visible.
 >> If you need to review all data in this box, double click this box first and use the down arrow from your keyboard to navigate.

Instructions : The sections below are for milestone review responses regarding specific checklists.
 >> Select the desired checklist in the blue cells, using the drop down menu, to provide Observations, Findings, Corrective Actions and Recommendations for that checklist.

Definitions:

>> **Observation** – A statement where the reviewer notes good practices by the state and/or opportunities for improvement.
 >> **Finding** – This is a condition that requires attention by the state. There may or may not be findings. A finding may require the state to identify and implement a corrective action plan (CAP). A finding requires a response by the state, and in cases where a CAP is necessary, a timeline by which the CAP will be fully operational. In severe cases, the state may need to implement a workaround until the permanent CAP has been implemented.
 >> **Corrective Action** – One or more steps intended to remedy findings. The reviewer should suggest types of actions needed to remedy the findings. (If there are findings, the state may need to propose a CAP, CMS will review and approve/disapprove the CAP, and once finalized, the state will execute the CAP.)
 >> **Recommendation** – Advice offered by the reviewer to address weaknesses or to highlight opportunities for improvement.

Select the Desired Checklist Here with the Drop-Down Menu	
Observations	<Enter CMS comments here for the item selected above, in blue>
Findings	<Enter CMS comments here for the item selected above, in blue>
Corrective Actions	<Enter CMS comments here for the item selected above, in blue>

Recommendations	<Enter CMS comments here for the item selected above, in blue>

Select the Desired Checklist Here with the Drop-Down Menu	
Observations	<Enter CMS comments here for the item selected above, in blue>
Findings	<Enter CMS comments here for the item selected above, in blue>
Corrective Actions	<Enter CMS comments here for the item selected above, in blue>
Recommendations	<Enter CMS comments here for the item selected above, in blue>
Select the Desired Checklist Here with the Drop-Down Menu	
Observations	<Enter CMS comments here for the item selected above, in blue>
Findings	<Enter CMS comments here for the item selected above, in blue>

Corrective Actions	<Enter CMS comments here for the item selected above, in blue>
Recommendations	<Enter CMS comments here for the item selected above, in blue>
Select the Desired Checklist Here with the Drop-Down Menu	
Observations	<Enter CMS comments here for the item selected above, in blue>
Findings	<Enter CMS comments here for the item selected above, in blue>
Corrective Actions	<Enter CMS comments here for the item selected above, in blue>
Recommendations	<Enter CMS comments here for the item selected above, in blue>

Select the Desired Checklist Here with the Drop-Down Menu	
Observations	<Enter CMS comments here for the item selected above, in blue>
Findings	<Enter CMS comments here for the item selected above, in blue>
Corrective Actions	<Enter CMS comments here for the item selected above, in blue>
Recommendations	<Enter CMS comments here for the item selected above, in blue>
Select the Desired Checklist Here with the Drop-Down Menu	
Observations	<Enter CMS comments here for the item selected above, in blue>
Findings	<Enter CMS comments here for the item selected above, in blue>

Corrective Actions	<Enter CMS comments here for the item selected above, in blue>
Recommendations	<Enter CMS comments here for the item selected above, in blue>

Appendix B. Sample IV&V Assessment Reports

Below, we provide two samples of MAXIMUS IV&V Assessment Reports. All identifying information has been removed in order to protect our clients' privacy.

PLEASE NOTE: These samples do not represent services or deliverables being offered under this proposal. All services and deliverables being offered are exclusively described in the proposal.



[REDACTED]
[REDACTED] ([REDACTED])

**Periodic Independent Verification and Validation
(IV&V)**

Assessment #35 Report

Assessment Period: July [REDACTED]

Dated: Aug 14, [REDACTED]

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SECTION 1: Introduction

The State of Department of Health and Human Services (DHHS) has undertaken a significant information systems modernization effort, known as the Program. is organized into the following Projects:

- Project 1: (P1) Global Case Management and Food and Nutrition Services (FNS)
- Project 2&6: (P2&6) Eligibility Information System (EIS)
- Part 1: Screening and Intake for Work First (TANF), Medicaid, Special Assistance and Refugee Assistance
- Part 2: Eligibility for Work First (TANF), Medicaid, Special Assistance and Refugee Assistance
- Project 3: (P3) Low Income Energy Assistance Program (LIEAP), Child Care, and Crisis Intervention Program (CIP)
- Project 4: (P4) Child Services
- Project 5: (P5) Aging and Adult Services
- Project 7: (P7) Federally-Facilitated Marketplace (FFM) Interoperability
- Project 8: (P8) Eastern Band of Cherokee Indians
- Project 9: (P9) Medicaid Self Service Portal and Program Integrity
- Project 10 (P10) Identity Proofing Feasibility
- Project 11 (P11) New Medicare Card (Social Security Number Removal Initiative (SSNRI)
- Project 12 (P12) Document Management
- Project 14 (P14) Medicaid Transformation Initiative 4.0 Managed Care Changes (MCC) and Medicaid Transformation Initiative 14.2 Improved Beneficiary Experience (IBE).

To support the Program, DHHS has engaged MAXIMUS Human Services Inc., to provide a variety of periodic, on-site Independent Verification and Validation (IV&V) services. The intention of these services is to provide the state, and its federal partners, with a comprehensive, independent assessment of the Program.

This document represents a Periodic IV&V Assessment Report of the Program. This report is a snapshot in time and is used as a periodic assessment, including IV&V findings, risks, and recommendations for the Program. Beginning in May, these IV&V Assessments are conducted monthly and will result in similar reports for the duration of the contract.

At the state's direction, MAXIMUS may also provide ad-hoc IV&V assessment services.

SECTION 2: Executive Summary

This document represents a Periodic MAXIMUS IV&V Assessment Report of the Program. This report is a snapshot in time and includes IV&V findings, risks, and recommendations for the Program over the identified time period. This report covers the period of July 1, – July 31, .

The scope of this IV&V assessment includes: Project 1, Project 2, Project 3, Project 6, Project 7, Project 9 EPI and Project 11 under Operations and Maintenance (O&M) and Project 4, Project 9 MSS, Project 12, P14 Initiative 4.0 Managed Care Changes (MCC) and P14.2 Improved Beneficiary Experience (IBE), No Touch MAGI and Improved Beneficiary User Experience, under Development. Projects that remain out of scope for this time period include Project 5 which has not started and Projects 8 & 10 which remain on hold.

Overall, the risk level for is MEDIUM (yellow).

IV&V is monitoring three significant risk areas which include: Process Quality, Project Estimating & Scheduling and Test Coverage. The following paragraphs provide a brief description of the risk areas listed above. Further detailed information is documented in Section 5: Detailed Quality Scorecards.

- **PROGRAM and PROCESS QUALITY:** Process Quality remains a concern for IV&V. IV&V continues to report on concerns that are symptomatic of a program-wide quality issue. During this assessment period, IV&V met with O&M Senior Management to review quality findings. One recommendation offered is to use Lean Six Sigma process improvement tools and techniques. It was also learned that resources may be available through DIT who may be able to help with undertaking this effort. While is working toward improving quality, it is clear that the efforts underway may take time to become realized.
- **PROJECT ESTIMATING & SCHEDULING:** IV&V remains concerned with the delivery schedules of several projects to include P14.2 IBE, P4 and P12:
 - Recent observations for staffing constraints in A&I continue to pose potential risk to the program as a whole. Until resources are found, the balance of the team is left to support the work effort associated with these unfilled roles. Some work has posted to the Jira Ticket (NFIS-4632) for integrating Clover, the test coverage tool, with TeamCity. However, this task is significantly past due, which continues to delay potential code quality improvements. If the team is continuously in a position to cover the work left by open positions, it will inherently impact delivery and efficiency.
 - State legislation and county reluctance to accept new P4 functionality continues to impact project schedule and scope. During this assessment period, prepared to submit new planning documents with the APDu for funding based on proposed changes. Due to the state budget approval being delayed, the APDu delivery will likely be delayed through the end of August. Additions to project scope and new implementation and training approach have impacted project budget and timeline. Pilot counties continue with Intake and Assessment efforts along with work continuing for Outcome Plan. Planning and development continues to move forward for the pilot counties and statewide rollout will proceed once a decision is delivered. IV&V will monitor the schedule given that staffing for Business Experts remain a risk.
 - P12 continues to experience schedule delays due to multiple issues with the system performance, hardware and test environments. Limited progress was realized this period. An experienced FileNet Developer remains a critical need for this effort.

- TESTING COVERAGE:** The Program continues with procurement of a new test automation tool. This is still in the beginning stages of IFB. Once a solution is put in place, is hopeful that automation of test scripts will be easier and than the current solution. has made progress with respect to test coverage, however overall test coverage may still be insufficient based on the number of defects (including regression defects) and change requests that continue to result during late stages of testing and subsequently in production. The lack of test automation remains a concern a due to the increasing number of manual test scripts added to the inventory each month. A growing backlog of test cases remain to be automated. The Automation Lead continues to work on improving automation efficiency.

IV&V has met with the O&M team to discuss more actionable recommendations for closure. The two teams will continue to meet to discuss steps to move forward.

2.1 Positive Notes

Although the overall Program risk is assessed as ‘medium’, there are many aspects of the Program that are going well. Examples of these include:

- The O&M Team is now reporting under the and will seek to expand performance and process improvement efforts going forward.
- P14 4.0 MCC continues to move forward on schedule with the Soft Launch and Residential Address Releases completed and Auto Assignment Release code merge with the O&M branch planned for 8/12/.
- O&M continues to meet for data review sessions with IV&V seeking collaboration to foster improved data collection and reporting opportunities.
- P14.2 IBE is in process of filling the test resource gaps with assistance from across organizations and remains on track toward meeting Release 1 targets.

Table 2.1: Overall Risk Levels

* Note: Quality Items not scheduled for review in a given month have no risk level assigned.

IV&V Oversight Area/ Quality Item	RISK RATING						
	Jan	Feb	Mar	Apr	May	Jun	Jul
Management Oversight							
Project Sponsorship (PS)	*	*	*	*	LOW	*	*
Management Assessment (MA)	MED	MED	MED	MED	MED	MED	MED
Project Management (PM)	*	LOW	LOW	LOW	LOW	LOW	*
Business Process Reengineering (BPR)	LOW	*	*	*	*	*	LOW
Risk Management (RM)	LOW	*	LOW	*	LOW	*	LOW
Change Management (CHG)	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH	HIGH
Communication Management (COM)	*	LOW	*	*	*	*	*
Configuration Management (CM)	MED	MED	MED	MED	MED	MED	MED
Project Estimating & Scheduling (PES)	MED	MED	MED	MED	MED	MED	MED

IV&V Oversight Area/ Quality Item	RISK RATING						
	Jan T	Feb T	Mar T	Apr T	May T	Jun T	Jul T
Project Personnel & Organization (PPO)	MED	MED	MED	MED	MED	LOW	*
Subcontractors & External Staff (SES)	LOW	LOW	LOW	LOW	*	LOW	*
Program Office (PO)	*	*	LOW	*	*	LOW	*
Quality Assurance (QA)	MED	MED	LOW	LOW	LOW	LOW	LOW
Process Definition and Product Standards (PDPS)	*	MED	MED	MED	MED	MED	MED
Requirements Management (RQM)	LOW	*	LOW	*	LOW	*	LOW
Security Requirements (SR)	*	LOW	*	LOW	*	LOW	*
Requirements Analysis (RA)	LOW	*	LOW	*	LOW	*	LOW
Interface Requirements (IR)	MED	MED	MED	MED	MED	LOW	*
Requirements Allocation and Specification (RAS)	*	LOW	*	*	LOW	*	*
Reverse Engineering (RE)	LOW	*	*	LOW	*	*	LOW
Development Oversight							
System Hardware (SH)	*	LOW	*	*	LOW	*	*
System Software (SS)	*	LOW	*	LOW	*	LOW	*
Database Software (DbS)	LOW	*	*	LOW	*	*	LOW
System Capacity (SC)	LOW	*	LOW	*	LOW	*	LOW
Development Hardware (DH)	LOW	*	LOW	*	LOW	*	LOW
Development Software (DS)	*	LOW	*	LOW	*	LOW	*
High Level Design (HLD)	MED	MED	MED	MED	MED	MED	MED
Detailed Design (DD)	MED	MED	MED	MED	MED	MED	MED
Job Control (JC)	MED	MED	MED	MED	MED	MED	MED
Code (CO)	LOW	LOW	LOW	LOW	LOW	LOW	LOW
Unit Test (UT)	LOW	LOW	LOW	LOW	LOW	LOW	LOW
Implementation Oversight							
System Integration Test (SIT)	LOW	LOW	LOW	LOW	*	LOW	*
Pilot Test (PT)	LOW	*	LOW	*	LOW	*	LOW
Interface Testing (IT)	*	LOW	*	LOW	*	LOW	*
Acceptance and Turnover (AT)	MED	MED	MED	MED	MED	LOW	LOW
Data Conversion (DC)	LOW	*	LOW	*	LOW	*	LOW
Database Design (DbD)	*	LOW	*	LOW	*	LOW	*
User Training & Documentation (UTD)	*	*	LOW	*	LOW	*	LOW
Developer Training and Documentation (DTD)	LOW	LOW	LOW	LOW	*	LOW	*
Operations Oversight							
Operational Change Tracking (OCT)	*	LOW	*	LOW	*	LOW	*
Customer & User Operational Satisfaction (CUOS)	*	LOW	*	*	LOW	*	*
Operational Goals (OG)	LOW	*	*	LOW	*	*	LOW

IV&V Oversight Area/ Quality Item	RISK RATING						
	Jan	Feb	Mar	Apr	May	Jun	Jul
Operational Documentation (OD)	*	*	*	*	*	LOW	*
Operational Processes and Activity (OPA)	*	LOW	*	LOW	*	LOW	*

The risk rating for each area was determined based on a review and assessment of across a variety of underlying “IV&V Risk Items”, as defined in the IV&V contract. Detailed observations for each Risk Item scheduled for review during this assessment period are provided in Section 5 of this report. Attachment C provides the review schedule, showing in which month(s) the quality areas represented in Table 2.1 will be reviewed.

Table 2.2 lists all Key Findings in IV&V recommended priority order (highest to lowest). This includes both findings made in this assessment, and key findings from prior assessments, which remain open. Each Key Finding includes the associated IV&V Oversight Area, as well as a brief description and status update of the finding. Additional information on each of these Key Findings is provided in Section 3 of this report.

Table 2.2: Key Findings

Priority	Finding Number and Description	IV&V Oversight Area	Status Update
1st	<p>F023 – Adherence to Change Management Process.</p> <p>Description: IV&V has observed through meetings and reports that the Change Management process is not consistently followed. Development work for Change Requests is often started and sometimes completed prior to obtaining CCB approval and approval from Executive Management.</p>	Management	<p>Status Update: IV&V rated this finding with a High-risk level effective with the January assessment report. The intent was to drive accountability toward a consistently enforced change process utilized across the program with specific regard to the submission of CRs to the CCB with development work fully completed. IV&V discussion on this subject has occurred and a new meeting will be scheduled in August to assess the ability to address this issue and bring it to closure. IV&V firmly asserts that submitting work with fully completed development puts the program at risk to potentially deploy defective code if it is not thoroughly assessed by CCB. Late submission can circumvent awareness and minimizes the control and monitoring ability of the CCB. IV&V will continue to monitor and update this QRC accordingly.</p>

<p>2nd</p>	<p>F003 – Project Scheduling and Scope</p> <p>Description: Based on the historical number of schedule and scope changes and the widespread reliance on overtime and weekend work to meet deadlines, concerns about the accuracy of schedule and labor estimates persist. In general, if [REDACTED] were analyzed using the Project Triple Constraint model, the project seeks to keep the schedule fixed, with scope flexible in order to maximize the return from spent resources at an acceptable level of quality. This is a reasonable project management approach that is consistent with industry best practice.</p>	<p>Management</p>	<p>Status Update: IV&V continues to observe impact to schedule and work delays. Staffing constraints in A&I continue to have a negative impact on the program. Three positions were noted as open in the previous assessment period and appear to remain open in A&I and may yet to be backfilled. There was an open requisition to fill one of these positions; however, the work previously fulfilled by the two remaining unfilled positions remains to be addressed. Work has been entered against a Jira Ticket (NFIS-4632) for integrating Clover, the test coverage tool, with TeamCity. This work is significantly past due, which delays potential code quality improvements. If the team is continuously in a position to cover the work left by open positions, it will inherently impact delivery and efficiency. P4 has prepared to submit the annual APDu to CMS based on expected responses for anticipated modifications from the State Legislature. The legislature has not passed the state budget and as such the APDu will be submitted later in August as discussed during the onsite meetings conducted the week of July 22 with the Federal Stakeholders. The P4 Pilot continues with its development efforts focused on planned activity pending outcome of final state legislation regarding future steps and based on impact from the House and Senate bills. Limited progress has occurred for P12. Environment issues continue to plague this effort. System performance issues continue to persist. At present, next steps for Datacap are under review and pending a decision. IV&V will continue to monitor all Project estimating and scheduling activities for Projects in development.</p>
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<p>3rd</p>	<p>F026 – Promoting Defects to Production</p> <p>Description: Each production release, while fixing some defects, may possibly introduce new defects, including high severity defects. Each new high severity defect must either have a business approved temporary process change or be deemed to have low business impact.</p>	<p>Management</p>	<p>Status Update: During this assessment period, IV&V has witnessed that the Program is making Quality a priority. Efforts include better monitoring of development and smoke test, ticket blitz – Tier 3 HD are working with developers to identify, reassign and/or close tickets, and updating TPC listing for both P4 and O&M. Ultimately, the Program aims to improve code quality which will have a positive impact on production with less defects. Toward that end, they are looking at promoting the “5 Whys” process for staff to understand what the root cause of issues may be.</p>
<p>4th</p>	<p>F025 – Production Defects Backlog</p> <p>Description: The exit criteria of system test for merging code into production is to allow High Severity defect into production if there is an approved Temporary Process Change or it is determined to be low impact by Business. Additionally, Low and Medium defects are allowed into production since they do not constitute a failed test script/case. IV&V is concerned about the current number of defects in production, particularly those of high severity. The defects cause additional work for the end users because of the Temporary Process Changes and result in reluctance by counties to accept</p>	<p>Management</p>	<p>Status Update: IV&V met with O&M Management to discuss efforts to address defect backlog, TPCs, blocked scripts and defects deployed into production each month. Both management and IV&V have agreed to work toward creating more “actionable” tasks in an effort to close these findings. The team discussed use of the “5 Whys” technique. The primary goal of the technique is to support determination of the root cause of a defect or problem by repeating the question “why” and driving to deeper levels, the root, of causation.</p>
<p>5th</p>	<p>F031 – Use of Patches</p> <p>Description: Although deploying patches is an acceptable practice to correct emergency production issues, sometimes uses patches to complete release functionality or correct defects found during System Integration Test that could not be corrected</p>	<p>Management</p>	<p>Status Update: IV&V reviewed the patch information available for the assessment period which included a total of three (3) patches as of the writing of this report on 7/30/. All of the patches deployed were related to Release 13.2.0. IV&V observed the overall number of issues this month decreased from the previous period.</p>

	in time for the release code cut-off.								
6th	<p>F033 – Blocked Test Scripts</p> <p>Description: Virtually all releases observed are approved for production having blocked test scripts. Recently, the Program has communicated a focus on addressing blocked scripts during test phases, however code continues to be promoted having blocked scripts. It should be noted that some blocked scripts have been known for some time and have not been prioritized by the Business for resolution.</p>	Management	<p>Status Update: According to Release 13.2.0, Test Status Report dated 7/12/ and marked FINAL, The July release was deployed having 15 blocked scripts. While the program is committed to improving quality, IV&V remains concerned that blocked scripts allow code to be deployed that is not fully tested. IV&V met with O&M Managers in an effort to identify ways to close Quality Findings. Work will continue on creating more actionable methods of closing these findings.</p>						
7th	<p>F032 – Test Automation Rate</p> <p>Description: The rate of new scripts being added to the regression set of scripts to be automated is greater than the rate of scripts being automated, so the number of scripts that must be run manually by the O&M Test Team is increasing with each release.</p>	Management	<p>Status Update: Twenty-one (21) new scripts were automated between June 26 – July 23, . Due to the deletion of test scripts that were duplications, there were 12 scripts removed from the regression set as of Pass 1 testing for R13.2 (July Release). July's numbers are an anomaly as it is more commonplace to add to the regression test set than take away. With significantly more test scripts being added to the regression test set than can be automated in a month, it could take years to complete. Test script automation discussions continue with regard to automation test tools.</p>						
8th	<p>F030 – Data Fix (DF) Controls</p> <p>Description: The most recent Daily_Data_Fix_Report, shows recurring DFs being executed, half are linked to defects, many of which are closed, and half have no linked defects. The OMP requires that DFs be retired when the associated defect is corrected. IV&V has met with Batch and DevOps staff to discuss the DF control issues</p>	Development	<p>Status Update: IV&V reviewed the July DF list that includes 57 total recurring DFs. Although there will likely be a continuing need for DFs, should strive to keep the list current by reducing the aged DFs shown below. Note that 61% of total DFs were initiated in or earlier.</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>DF Start Date</th> <th>July # DFs</th> <th>June # DFs</th> </tr> </thead> <tbody> <tr> <td>2001-</td> <td>19</td> <td>20</td> </tr> </tbody> </table>	DF Start Date	July # DFs	June # DFs	2001-	19	20
DF Start Date	July # DFs	June # DFs							
2001-	19	20							

	and following risks. It is worth noting that O&M staff have begun action to clean up the existing DF inventory and have in fact stopped accepting DFs without a defect # or other reason for the DF. DevOps is also looking to ensure that peer reviews and approvals are done at the appropriate level. This more specific finding is being opened to replace the more generalized finding F013, which is closed.)		<table> <tr> <td>█-█</td> <td>16</td> <td>16</td> </tr> <tr> <td>█</td> <td><u>22</u></td> <td><u>20</u></td> </tr> <tr> <td>Total</td> <td>57</td> <td>56</td> </tr> </table>	█-█	16	16	█	<u>22</u>	<u>20</u>	Total	57	56
█-█	16	16										
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Total	57	56										
9th	<p>F035- Design Documents and Templates Standardization</p> <p>Description: IV&V met with the Agile Enablement Team during the June assessment period to review the finding and recommendation for this design documentation topic and will continue to follow progress.</p>	Development	<p>Status Update: IV&V met with the Agile Enablement Team to discuss the finding and recommendation for design document standardization and will continue to follow progress.</p>									
10th	<p>F034- Design Documentation Approvals</p> <p>Description:</p> <p>IV&V has observed inconsistencies in design approvals, by the business and A&I representatives, between media such as the “Jira type = Detailed Design” issue and the “paper” Detailed Design document located in SharePoint. In some cases, the Jira design issue is approved by A&I and Business staff but the corresponding design document in SharePoint is not approved.</p>	Development	<p>Status Update: IV&V has discussed this Finding with the █ Agile Enablement Team, and will participate in that team’s corrective efforts, and report on status going forward.</p>									

<p>11th</p>	<p>F036- Requirements and design Quality Impacts</p> <p>Description: Root Cause Analysis of Production Defects, Release Exception Requests and Change Requests often points to Requirement and Design issues as a factor in quality related rework. In other words, developers and testers can produce per the requirements and design but the resulting code could still throw defects in production such as for scenarios not considered</p>	<p>Development</p>	<p>Status Update: IV&V has discussed this Finding with the Agile Enablement Team and will follow up on progress during August.</p>
<p>12th</p>	<p>F037- Participation in Design Activities</p> <p>Description: IV&V has determined that project design teams have varying levels of cross-functional representation and understanding of design roles and responsibilities. Some examples include:</p> <ul style="list-style-type: none"> • At times, business representation at design sessions, at checkpoints and in the approval process has been inconsistent. • Testers have generally not attended design sessions and such participation would be mutually beneficial. 	<p>Development</p>	<p>Status Update: IV&V will continue to meet with the AET to review the finding and IV&V recommendation for this design representation topic, and will follow progress.</p>

Attachment A provides a table of IV&V findings that were closed prior to this report, if any, along with a summary of why the finding was closed.

SECTION 3: IV&V Detailed Findings, Risks and Recommendations

This section provides a detailed description of any findings identified as part of this review or previous reviews. This include the finding title, initial date of the finding, status, detailed description, impact summary (risk) if finding is not addressed, priority (rating), mapping to applicable IV&V review tasks, current status, associated IV&V recommendations and the project's response to those recommendations.

3.1 Current and New Findings Scheduled for Assessment

This section addresses the current findings scheduled to be reviewed during this assessment. It includes IV&V status updates to the finding and the associated recommendations, as well as any additional new findings. will be responsible for providing program responses to findings in this section.

F003 – Project Scheduling and Scope

Status: Open

Initial Date of Finding: 03/27/17

IV&V Finding Description:

Based on the historical number of schedule and scope changes and the widespread reliance on overtime and weekend work to meet deadlines, concerns about the accuracy of schedule and labor estimates persist. In general, if were analyzed using the Project Triple Constraint model, the project seeks to keep the schedule fixed, with scope flexible in order to maximize the return from spent resources at an acceptable level of quality. This is a reasonable project management approach that is consistent with industry best practice.

Risk:

Rating: Medium

- Even though scope is considered flexible in the Program's Triple Constraint model, having continual scope reductions, some of which occur late in the release cycle, historically coupled with late schedule changes shows that the team is likely over-estimating the amount of scope it can accomplish in a release. Failure to achieve the release goals, especially when changes occur late in the release cycle can reduce team morale and cause a lack of confidence in the scope and schedule of future deliverables.
- Continuing to defer scope to later releases puts the end date for a project at risk.

IV&V Quality Rating Category Mapping:

Program Management (PM-05), Management Assessment (MA-03) and Project Estimating and Scheduling (PES-01, PES-02 & PES-03)

IV&V Status Update: IV&V continues to observe impact to schedule and work delays. Staffing constraints in A&I continue to have a negative impact on the program. Three positions were noted as open in the previous assessment period and appear to remain open in A&I and may yet to be backfilled. There was an open requisition to fill one of these positions; however, the work previously fulfilled by the two remaining unfilled positions remains to be addressed. Work has been entered against a Jira Ticket (NFIS-4632) for integrating Clover, the test coverage tool, with TeamCity. This work is significantly past due, which delays potential code quality improvements. If the team is continuously in a position to cover the work left by open positions, it will inherently impact delivery and efficiency. P4 has prepared to submit the annual APDu to CMS based on expected responses for anticipated modifications from the State Legislature. The legislature has not passed the state budget and as such the APDu will be submitted later in August as discussed during the onsite meetings conducted the week of July 22 with the Federal Stakeholders. The P4 Pilot continues with its development efforts focused on planned activity pending outcome of final state legislation regarding future steps and based on impact from the House and Senate bills. Limited progress has occurred for P12. Environment issues continue to plague this effort. System performance issues continue to persist. At present, next steps for Datacap are under review and pending

a decision. IV&V will continue to monitor all Project estimating and scheduling activities for Projects in development.

IV&V Recommendations:

1. Review estimates of future scope and schedule and assure that the teams are being realistic with respect to the amount of scope they are able to deliver, without extended reliance on weekend and overtime work.

IV&V Status: OPEN

IV&V Status Summary: IV&V has previously noted that project overtime is not an issue at this time and has been stable for several months; however, some projects continue to struggle with scheduling issues. With regard to schedule estimation, IV&V continues to note that while experience is a viable resource for planning purposes, the use of historical data can be equally useful and should be utilized as a primary analytical support tool for schedule planning. If used properly this data can validate accuracy or the lack of it, for planned efforts; it can identify specific process areas for improvement, and also lead to development opportunities for individuals and teams. IV&V will continue to monitor this effort.

Program Disposition: Agree

Program Response: P4 effort estimates are done by the Development Manager with input from the Technical Leads and developers who will perform the work. They take into consideration prior experience and actual hours for similar work, along with an assessment of the degree of clarity of the business requirement and the skill set and proficiency of the specific individual assigned to do the work. We feel that the root cause is not the accuracy of estimation, instead it is changing requirements, and prioritization driven by end user feedback and legislative direction. We will explore doing an analysis of estimated vs. actual development time of selected stories to identify whether estimation is attributable to any schedule delays.

2. Ensure accurate resource loaded work plan is adequate to support required program tasks (i.e. development, testing), without extended reliance on overtime and weekend work.

IV&V Status: OPEN

IV&V Status Summary: IV&V continues to witness specific Testing and Business SME roles are needed across multiple projects. Additionally, existing openings, unplanned time off, and attrition fuel the need in this recommendation. Staffing deficiencies continue to impact work efforts in A&I due to multiple openings remaining for backfill. Overtime remains under control based on team feedback and review of time reporting during this assessment period. IV&V will continue to monitor this recommendation until the staffing issue is addressed.

Program Disposition: Partially Agree - P4 agrees that a shortage of Business SMEs has been a persistent issue.

Program Response: P4 agrees that a shortage of Business SMEs has been a persistent issue. The open positions will be reposted as soon as possible in an attempt to fill them. For other projects resolution is also dependent on availability of qualified candidates.

F030 – Data Fix Controls

Status: Open

Initial Date of Finding: 11/7/18

IV&V Finding Description:

The most recent Daily_Data_Fix_Report, shows recurring DFs being executed, half are linked to defects, many of which are closed, and half have no linked defects. The OMP requires that DFs be retired when the associated defect is corrected. IV&V has met with Batch and DevOps staff to discuss the DF control issues and following risks. It is worth noting that O&M staff have begun action to clean up the existing DF inventory and have in fact stopped accepting DFs without a defect # or other reason for the DF. DevOps

is also looking to ensure that peer reviews and approvals are done at the appropriate level. (This more specific finding is being opened to replace the more generalized finding F013, which is being closed.)

Risk:

Rating: Medium

- The use of Data Fixes, past the time defects have been corrected, may cause extended run time to the nightly Data Fix batch processing.
- Data Fix developers, peer reviewers and approvers may not be following correct procedures since the Data Fix Guide has not been updated since.

IV&V Quality Rating Category Mapping:

Job Controls (JC-01 & JC-03)

IV&V Status Update: IV&V reviewed the July DF list that includes 57 total recurring DFs. Although there will likely be a continuing need for DFs, should strive to keep the list current by reducing the aged DFs shown below. Note that 61% of total DFs were initiated in or earlier.

DF Start Date	July # DFs	June # DFs
2001-	19	20
-	16	16
	<u>22</u>	<u>20</u>
Total	57	56

IV&V Recommendations:

1. DevOps and Batch Operations should retire or justify continuing the aged data fixes having associated closed defects (per the OMP) and associate data fixes to defects where none are currently linked.

IV&V Status: OPEN

IV&V Status Summary: Overall DFs remained level during July. It is worth noting that the older DFs do have defects associated with them and work posted in Jira indicates that corrective work is ongoing.

Program Disposition: Agree

Program Response: This is already a part of the O&M process. Each month the batch team sends out the list of data fixes that are run nightly or weekly to make sure they are linked to defects. When a defect is closed, analysis is performed to determine if the data fix can be pulled from the execution list. At last review, there are no remaining data fixes not linked to any defects. We continue to work on defects associated with data fixes and we will continue to monitor but does not see a time where data fixes will not be needed. The development staff will continue to review the process of data fixes linked to defects, putting more focus on older defects, and helping to escalate their priority to be resolved. O&M continues to track reoccurring data fixes and are labeling each to help identify the defects tied to each data fix. During prioritization the defects with this label are given more weight than ones without when compared to the same severity and level of impact to the case worker or client.

2. DevOps and Batch Operations should update the version of the Data Fix Guide that resides in the O&M Shared Documents Tab, Data Fix folder in SharePoint.

IV&V Status: CLOSED

IV&V Status Summary: IV&V has reviewed the updated/ approved PDF Data Fix Guide and verified that it includes required updates such as Jira references.

Program Disposition: Agree

Program Response: The Data Fix Guide has been updated for. It has been approved and resides in SharePoint.

F031 – Use of Patches

Status: Open

Initial Date of Finding: 11/7/

IV&V Finding Description:

Although deploying patches is an acceptable practice to correct emergency production issues, sometimes uses patches to complete release functionality or correct defects found during System Integration Test that could not be corrected in time for the release code cut-off.

Risk:

Rating: Medium

- Patching the production environment may have unexpected consequences since full regression testing is not done for all patches.
- Frequent patches disrupt the O&M testing effort, since production patches must also be inserted to the test environments.
- Frequent patches may become burdensome on the Deployment Team.
- Receiving multiple releases and patches every month may be cumbersome for the user community and foster negativity.

IV&V Quality Rating Category Mapping:

Configuration Management (CM-01 and CM-07)

IV&V Status Update: IV&V reviewed the patch information available for the assessment period which included a total of three (3) patches as of the writing of this report on 7/30/. All of the patches deployed were related to Release 13.2.0. IV&V observed the overall number of issues this month decreased from the previous period.

IV&V Recommendations:

1. Revisit the criteria for what may be considered a production emergency in the Operations and Maintenance Management Plan and update the Plan as needed. Assure that criteria do not allow code to be knowingly promoted to production in a monthly release that relies on a future patch in order to be complete or defect free.

IV&V Status: OPEN

IV&V Status Summary: No process updates were observed during the assessment period although data continues to be collected. IV&V will continue meeting with O&M during the next assessment period to review the relevant OMP sections regarding patches and other Release Exceptions.

Program Disposition: Agree

Program Response: O&M management has implemented an exception approval process. This process has been incorporated into a Jira task of type "Exception" that will be used to track the number of requests received. Part of the criteria required for the exception is to define the release type. The release type will be used to categorize the request. IV&V and O&M management met on 8/13/19 to discuss this further.

2. Conduct analysis of recent patches to determine the situation necessitating each patch in order to categorize causes of patches. Utilize this information to support correction of underlying issues and minimize the need for future patches.

IV&V Status: OPEN

IV&V Status Summary: IV&V discussed follow-up on plans for data analysis for patch reductions. The process remains immature with little consistent data to formulate any clear improvement efforts at this time. Additional discussions will be scheduled with O&M to identify further efforts to reduce the number of patches in each release. IV&V will continue to examine the categorization of Exception Requests in Jira to support analysis of recurrent issues.

Program Disposition: Agree

Program Response: The decision to patch the production system outside of a release is a business decision due to the impact to the case worker or client. Risk is weighed vs the resolution of the issue and a decision is made incorporating again the benefit of the update, the risk, the impact analysis of

the update within the functional area, and the testing complexity. conducted an assessment of the Exception requests for patching from January . The result was a list of preliminary categories for the reason for the patching.

3. To promote continuous quality improvement, immediately communicate to development teams the Program's priority to limit the use of patching, where possible.

IV&V Status: OPEN

IV&V Status Summary: IV&V did not observe analytical data regarding the root cause of patches this period; however, continues to communicate the importance of limiting the use of patches through improvement of code quality. While the introduction of the Exception Request process in Jira was a solid step to support this effort, data analysis is critical to identify the associated root cause of the need for patches. The intent of is to drive process improvement from this data analysis. IV&V will continue to monitor this effort.

Program Disposition: Agree

Program Response: This has always been communicated to the teams and project. O&M management has implemented an exception approval process for project teams to submit in order to make changes to planned releases. is considering the addition of a drop down justification field in JIRA to capture better analytics. is compiling a listing of categories from the Exception request assessment (from #2) to understand if adding this as a new dropdown selection from the exception form will be beneficial. is discussing the entries for the category list and will then discuss the addition of this new field.

F033 – Blocked Test Scripts

Status: Open

Initial Date of Finding: 11/7/

IV&V Finding Description:

Virtually all releases observed are approved for production having blocked test scripts. Recently, the Program has communicated a focus on addressing blocked scripts during test phases, however code continues to be promoted having blocked scripts. It should be noted that some blocked scripts have been known for some time and have not been prioritized by the Business for resolution.

Risk:

Rating: Medium

- Promoting code to production having blocked test scripts may have unpredictable effects, since all functionality has not been fully tested.
- Promoting code to production having blocked test scripts may result in production defects.

IV&V Quality Rating Category Mapping:

Quality Assurance (QA-01), Configuration Management (CM-01) and Acceptance and Turnover (AT-01)

IV&V Status Update: According to Release 13.2.0 Test Status Report dated 7/12/ and marked FINAL, the July release was deployed having 15 blocked scripts. While the program is committed to improving quality, IV&V remains concerned that blocked scripts allow code to be deployed that is not fully tested. IV&V met with O&M Managers in an effort to identify ways to close Quality Findings. Work will continue on creating more actionable methods of closing these findings.

IV&V Recommendations:

1. The program defines the regression set as its "critical path" functionality. Change the production release acceptance criteria to reject a release having blocked regression scripts in order to eliminate disruptions to the critical path.

IV&V Status: OPEN

IV&V Status Summary: IV&V met with Management to discuss how the quality findings can be closed. This effort is underway and is committed to improving all aspects of quality. IV&V will report on these efforts going forward.

Program Disposition: Partially Agree - While the existence of blocked scripts is something that the program would like to eliminate, the business prioritizes defects to be resolved based on their overall impact to business continuity. The blocked scripts are also reviewed by all business stakeholders during the testing status meeting to understand the severity of the blocked script and the functionality it tests. The decision to hold a release remains an Executive Management decision reviewing the overall testing status along with performance testing. Blocked scripts alone will not determine the decision to stop a release from being deployed to production. More detail and review must be done to evaluate the script that was blocked and what functionality testing may have been blocked.

Program Response: We continue to work with the IV&V staff to resolve this finding. The plan for resolving a blocked script may be such that it is not resolved in the next release. The priority will be based on business feedback and the plan will be finalized from this feedback which may push the resolution beyond the next scheduled release. reviews the root cause of the blocked scripts daily during release testing. Blocked scripts alone will not determine the decision to stop a release from being deployed to production. is now tracking blocked scripts by program with the intent to prioritize those defects while working with the business.

2. Evaluate the removal of code for any new functionality having blocked scripts from production releases.

IV&V Status: OPEN

IV&V Status Summary: There are no changes with regard to new process/solution for release management. IV&V has not been advised of any new process in place with regard to removing offending code causing blocked test scripts. However, the following tools, once they are in place will be used for release management purposes: GIT, once in place, will serve as the CMDB/ Source code repository and version control. GIT is an open source version control system that may provide build times. The team continues to work on an integration between Jira and BITBucket via their trial version of BITBucket.

Program Disposition: Partially Agree – Once GIT and BITBucket are available, these tools will help to further assess the risk of removing code for a better decision.

Program Response: The O&M Leads, along with input from the testing team and project application team, currently evaluate the removal of code for this situation. Each instance is different, and decisions are made based on risk. In addition, the proof of concept for GIT continues.

F034 –Design Documentation Approvals

Status: NEW

Initial Date of Finding: July 8,

IV&V Finding Description:

IV&V has observed inconsistencies in design approvals, by the business and A&I representatives, between media such as the “Jira type = Detailed Design” issue and the “paper” Detailed Design document located in SharePoint. In some cases, the Jira design issue is approved by A&I and Business staff but the corresponding design document in SharePoint is not approved.

Risk:

Rating: Medium

- Inconsistent use of design media regarding design approvals may create confusion and misunderstanding whether timely approvals were done as required by the Agile Methodology Documents

IV&V Quality Rating Category Mapping:

High Level Design (HLD-03, HLD-04 & HLD-06) Detailed Design (DD-03, DD-04 & DD-06)

IV&V Status Update: IV&V has discussed this Finding with the **ST PROJECT** Agile Enablement Team and will participate in that team’s corrective efforts and report on status going forward.

IV&V Recommendation:

1. Ensure that design documents in SharePoint and their counterpart tasks in Jira are in sync with timely approvals. An initial work product for this recommendation could be an assertion that design documents have been reviewed and latest revision/changes to SharePoint documents are approved by A&I and Business representatives, where absent, and are in sync with corresponding Jira design approvals.

IV&V Status: NEW

IV&V Status Summary: IV&V plans to meet with the **ST PROJECT** Agile Enablement Team (AET) during August to determine the potential for projects and O&M to utilize Jira, exclusively, for A&I and Business design document approvals.

Program Disposition: Agree

Program Response: We will work to ensure that Jira and SharePoint are in sync. We will be investigating if there is any integration between SharePoint and Jira.

F035 –Design Documents and Templates Standardization

Status: NEW

Initial Date of Finding: July 8,

IV&V Finding Description:

During document reviews, IV&V has observed that does not utilize consistent/standard program level templates for Epic/FD and Detailed Design documentation across projects and O&M both in Jira and SharePoint based documents. Although design document content needs will vary among components, using standard templates with some sections marked “Not Applicable” will ensure that all sections were considered. This applies to design documents in SharePoint as well as Jira. It is worth noting that O&M has an initiative to standardize FD/DD templates for their use.

Risk:

Rating: Medium

- Inconsistent design templates and documentation may result in quality issues and confusion among staff regarding version/ issue.

IV&V Quality Rating Category Mapping:

High Level Design (HLD-01 & HLD-04) Detailed Design (DD-01 & DD-04)

IV&V Status Update:

IV&V met with the Agile Enablement Team to discuss the finding and recommendation for design document standardization and will continue to follow progress.

IV&V Recommendations:

1. The AET should lead an effort to standardize design templates across the program. This should be done in collaboration with the DevOps Process Improvement Team that has an open initiative in this area and apply that effort program wide. Standardization should cover SharePoint/“paper” and Jira issue documentation. The initial work product for this recommendation could be a documented action followed by regular status updates at the AET meetings.

IV&V Status: NEW

IV&V Status Summary: IV&V discussed this Finding and Recommendation with the Agile Enablement sessions team and will follow up during August. It is worth noting that the O&M DevOps Process Improvement initiative in [NFDO-47](#) mentions the existence of “Multiple versions of DD and

FDs for projects and O&M – staff aren't sure which location to use and what is considered the latest document.”

Program Disposition: Agree

Program Response: Program participants reviewed this topic during the Agile Enablement Team meeting on 5/30/19 and agree with the finding. We are currently reviewing the design templates used by the different project teams to identify opportunities to standardize it.

F036 – Requirements and Design Quality Impacts

Status: NEW

Initial Date of Finding: July 8,

IV&V Finding Description:

Root Cause Analysis of Production Defects, Release Exception Requests and Change Requests often points to Requirement and Design issues as a factor in quality related rework. In other words, developers and testers can produce per the requirements and design but the resulting code could still throw defects in production such as for scenarios not considered. Here are some examples:

- Some projects indicate in their FDs under Key Assumptions, Constraints and Dependencies, that “Screen Flow diagrams document the most common path through the Cúram application, but the navigation shown will not be comprehensive.” The common path referred to here is the Golden Path that will account for the majority of transactions; however, some transactions may have many conditions and it may be helpful to look at Silver and Bronze Paths as well.
- Here are a couple of defect examples related to requirements and design issues:
 - [NFRM-170](#), root cause states: “Implementation failed to identify the scenarios to correctly derive if UNCOLA logic needs to be applied when case is due recertification.”
 - [CW-16488](#), root cause states: “This was overlooked during initial design of rosters.”
 - [NFRM-293](#), root cause states “Missed requirement with FD/DD discussions.”
- IV&V has a list of additional missed “scenario” and other requirements/ design related issues.

Risk:

- Incomplete alternate path considerations and requirements may result in inadequate quality, seen in defects and change requests through missed scenarios, where development and test scripts were created only at the Golden Path level.

IV&V Quality Rating Category Mapping:

High Level Design (HLD-01 & HLD-04) Detailed Design (DD-01 & DD-04)

IV&V Status Update: IV&V has discussed this Finding with the Agile Enablement Team and will follow up on progress during August.

IV&V Recommendation:

1. should review Fit-Gap and other initial design processes to assure that alternate paths and associated requirements are considered and documented to avoid quality related rework later in the cycle. The work product of this effort could be documented in the FDs under the Key Assumptions, Constraints and Dependencies section.

IV&V Status: NEW

IV&V Status Summary: IV&V will participate in the bi-weekly AET sessions in August to better understand the Program Response that appears to be on a positive path.

Program Disposition: Agree

Program Response: is currently looking at this issue from two perspectives. The first is through the Agile Enablement Team discussing design updates as mentioned above. The second is the O&M Application Development team discussing changes in the way Change Requests and

New Development items are discussed and the teams involved from the beginning of the discussions. For example, in the past when a Change Request came in, the business team would review, and it would go directly to a Cúram Design Specialist to begin working on the FD. Our discussions have focused on bringing in additional teams such as the Testing team and the Developers to provide input before the FD is started to be able to voice ideas from a testing and development viewpoint. The next Agile Enablement team meeting is scheduled for 8/15/19.

F037 – Participation in Design Activities

Status: NEW

Initial Date of Finding: July 8, [REDACTED]

IV&V Finding Description:

IV&V has determined that project design teams have varying levels of cross-functional representation and understanding of design roles and responsibilities. Some examples include:

- At times, business representation at design sessions, at checkpoints and in the approval process has been inconsistent.
- Testers have generally not attended design sessions and such participation would be mutually beneficial.

Risk:

- Design processes and artifacts set the stage for quality results throughout the SDLC. Inadequate staff availability and participation at design sessions have the potential to create unnecessary downstream rework.

IV&V Quality Rating Category Mapping:

High Level Design (HLD-01 & HLD-04) Detailed Design (DD-01 & DD-04)

IV&V Status Update: IV&V will continue to meet with the AET to review the finding and recommendation for this design representation topic and will follow progress.

IV&V Recommendation:

1. Ensure that business resources, testers and appropriate staff are available and possess the required skills to represent end-users in the design process.

IV&V Status: NEW

IV&V Status Summary: IV&V will work with [REDACTED] to better understand the Program Response and to determine status of expanded design participation by mature projects.

Program Disposition: Partially Agree

Program Response: [REDACTED] understands there are some gaps in this area and the AET sessions are working on that. What this risk fails to address is the fact that new projects, developed under the Agile methodology are meeting with business, testing, and appropriate end user representatives to ensure as the functionality is being developed that the end users agree with the functionality and workflows being developed and produced. An example of this is the latest project introduced into the [REDACTED] system of Program Integrity. Newer projects around Managed Care are also following this process which produces a more quality product and requires little to no rework. We will work closely with IV&V.

3.2 Current Findings Not Scheduled for Assessment

This section addresses the current findings that are not scheduled to be reviewed during this assessment. IV&V will provide status updates to the finding and the associated recommendations. will not be responsible for providing program responses to finding in this section.

F023 – Adherence to Change Management Process

Status: Open

Initial Date of Finding: 9/10/18

IV&V Finding Description: IV&V has observed through meetings and reports that the Change Management process is not consistently followed. Development work for Change Requests is often started and sometimes completed prior to obtaining CCB approval and approval from Executive Management.

Risk:

Rating: High

- Work that is completed without acknowledgment from other areas of the project, from the test team for example, may result in untested functionality being released and ultimately leading to production defects.
- Work that is completed prior to CCB approval may not be approved resulting in wasted effort.

IV&V Quality Rating Category Mapping:

Process Definition and Product Standards (PDPS-02). Change Management (CHG-01, CHG-02). Detailed Design (DD-06).

IV&V Status Update: IV&V rated this finding with a High-risk level effective with the January assessment report. The intent was to drive accountability toward a consistently enforced change process utilized across the program with specific regard to the submission of CRs to the CCB with development work fully completed. IV&V discussion on this subject has occurred and a new meeting will be scheduled in August to assess the ability to address this issue and bring it to closure. IV&V firmly asserts that submitting work with fully completed development puts the program at risk to potentially deploy defective code if it is not thoroughly assessed by CCB. Late submission can circumvent awareness and minimizes the control and monitoring ability of the CCB. IV&V will continue to monitor and update this QRC accordingly.

IV&V Recommendations:

1. Strictly enforce the Change Management process to prohibit the start of Development tasks prior to Change Control Board approval. Should the Change Management process change, update appropriate Program Documentation to reflect the new process.

IV&V Status: OPEN

IV&V Status Summary: No change has occurred during this assessment period although previously a recent update of the Program and Project level plans related to the CCB process did occur but fell short of resolving the submission concerns of the finding. P4 did update its Agile Plan to reflect that “some” change could occur prior to submission to CCB for BSR related CRs, however CR’s have continue to be submitted with fully completed development, and some of those have not been BSR related. As such, the process should be clarified and/or documented in a manner that includes the acceptability of CRs being submitted with fully completed development if this is an acceptable practice. This documentation, if it comes to pass, should include the criteria necessary to warrant full development prior to submission to the CCB. The recommendation will remain open until the process is updated to reflect the reality of the process in practice. IV&V will continue to monitor.

Program Disposition: Agree

Program Response: The P4 Agile Methodology document with this revised process will be updated during the annual review process. The program level CMP will not be updated as this is a project

specific process. The definition of design adjustment will also be reviewed in the program level Agile Development Management Plan and updated accordingly to ensure project's understanding and usage of this type of activity. The team will work to ensure that CRs are documented in JIRA and processed in a timely fashion through the CCB process.

F025 – Production Defects Backlog

Status: Open

Initial Date of Finding: 11/7/

IV&V Finding Description:

The exit criteria of system test for merging code into production is to allow High Severity defects into production if there is an approved Temporary Process Change, or it is determined to be low impact by Business. Additionally, Low and Medium defects are allowed into production since they do not constitute a failed test script/case. IV&V is concerned about the current number of defects in production, particularly those of high severity. The defects cause additional work for the end users because of the Temporary Process Changes and result in reluctance by counties to accept.

Risk:

Rating: Medium

- Having a system with production defects may foster negativity among the user community.
- The cost of production defects includes the high cost to correct, as well as the cost to the user community in lower quality or decreased productivity.

IV&V Quality Rating Category Mapping:

Quality Assurance (QA-01)

IV&V Status Update: IV&V met with O&M Management to discuss efforts to address defect backlog, TPCs, blocked scripts and defects deployed into production each month. Both management and IV&V have agreed to work toward creating more “actionable” tasks in an effort to close these findings. The team discussed use of the “5 Whys” technique. The primary goal of the technique is to support determination of the root cause of a defect or problem by repeating the question “why” and driving to deeper levels, the root, of causation.

IV&V Recommendations:

1. Reduce the backlog of existing production defects. Consider setting interim goals to reduce the defect backlog and provide incentives to attain the goals.

IV&V Status: OPEN

IV&V Status Summary: During an interview, IV&V learned that O&M Management is reviewing the “5 Whys” to take a deeper dive into the root cause of defects in production. IV&V recommends that the “5 Whys” diagram be shown on the first floor TV monitors for awareness and that teams become educated to promote familiarity with the technique and its use. Doing so may begin to promote a greater awareness and participation in cause identification.

Program Disposition: Agree

Program Response: feels that the comment around exception requests doesn't seem to go with this particular finding. is looking at the backlog prioritization process and making sure that all the teams are following the same process. The SCRUM coordinators are leading this effort. Also, for awareness purposes, is going to put defect statistics on the first floor TV monitors for display. We are continuing to review the reports from the QA team on the defect backlog trends.

2. Include analysis of Low and Medium defects before promoting to production to assess impact to the production system and end users.

IV&V Status: OPEN

IV&V Status Summary: Starting in October will include ALL defects in the

percentage of pass of total. This will include Low and Medium defects. Currently, they only use high severity defects in their calculation.

Program Disposition: Agree

Program Response: Analysis of medium and low severity defects against release pass rates are already underway. confirmed that the current defect triage process identifies that defects found during testing do not need to wait for an upcoming triage meeting in order for O&M to begin evaluation of the defect or issue. In addition, daily defect reviews are occurring with the O&M release coordinators and all teams are notified of all defects regardless of severity under their purview. The testing team also sends out the test status sheet daily showing any defects found. Communication to all teams of the future pass rate criteria is occurring both during the biweekly O&M status meetings as well as during the final release test status meeting prior to going to production. As mentioned above the release team is holding daily meetings to discuss any new defects being created from testing to better understand the impact and to relay that information quickly to the development leads and developers. will be implementing the new testing exit criteria effective with the October release. The new criteria will consider defects of all severities and require a 90% pass rate by Program.

F026 – Promoting Known Defects to Production

Status: Open

Initial Date of Finding: 11/7/

IV&V Finding Description:

Each production release, while fixing some defects, may possibly introduce new defects, including high severity defects. Each new high severity defect must either have a business approved temporary process change or be deemed to have a low business impact.

Risk:

Rating: Medium

- The cost of correcting defects increases the later in the development lifecycle they are discovered and fixed. Thus, production defects are the most costly to correct.
- Workarounds for high severity defects, such as data fixes, forced eligibility, temporary process changes, etc. can negatively impact the project team and user productivity.

IV&V Quality Rating Category Mapping:

Quality Assurance (QA-01)

IV&V Status Update: During this assessment period, IV&V has witnessed that the Program is making Quality a priority. Efforts include better monitoring of development and smoke test, ticket blitz where the tier 3 helpdesk staff are working with developers to identify, reassign and/or close tickets and updating TPC listing for both P4 and O&M. Ultimately, the Program aims to improve code quality which will have a positive impact on production with less defects. Toward that end, they are looking at promoting the “5 Whys” process for staff to understand what the root cause of issues may be.

IV&V Recommendations:

1. In order to foster increased quality, change the criteria for merging code to production. In addition to allowing high severity defects to be promoted with a business approved temporary process change, require the development team to provide a plan for how the known defect will be corrected for inclusion in the next release.

IV&V Status: OPEN

IV&V Status Summary: With the creation of the TPC Report, TPCs that are identified can be prioritized for resolution. This Quality finding is in the process of review for refinement by IV&V and with the intent of identifying more actionable recommendations for proper closure of the finding.

Program Disposition: Partially Agree - the program does not agree that it is always feasible to back out all outstanding high severity defects when merging code to production.

Program Response: believes that they have implemented the recommendation. In early , the required pass rate for projects merging into O&M was increased from 90% to 95%. Starting with the February release, targeted resolution release dates are being identified for unresolved defects that may be introduced into production. O&M reviews the defects with project leads to estimate and plan when a defect will be resolved that is introduced in production from a release.

2. The program defines the regression set as its “critical path” functionality. Change the production release acceptance criteria so that no high severity regression defects may be promoted to production in order to eliminate disruptions to the critical path.

IV&V Status: OPEN

IV&V Status Summary: While the intent of this finding is to eliminate high severity regression defects, the program feels that temporary process changes alleviate any potential risk to the critical path. IV&V has organized bi-weekly reviews with O&M Management to discuss potential recommendations for closure of findings. They will work jointly with the intent of identifying more actionable recommendations for proper closure of the finding.

This Quality finding is in the process of review for refinement by IV&V and with the intent of identifying more actionable recommendations for proper closure of the finding.

Program Disposition: Agree in principle and the program is working to prioritize the backlog of regression defects with the business.

Program Response: The goal for releases is to always have zero regression defects being created from updates in a release. Each defect is assessed by business as to the impact to the end users. The regression test set gets reviewed with business every month to confirm accuracy, add new scenarios needed based on new functionality released and remove scenarios that may no longer be valid, etc. This review is performed after each release goes to production. Based on this process, testing of regression scripts must occur, at a minimum, in the following release. Afterwards, the goal will be to correct any new defects found in the second release following the addition of the new functionality.

added two new slides describing regression testing at the monthly review of the regression test scripts. IV&V is invited to this meeting. P4 does not review these items in a meeting but IV&V is included on the project emails that are sent out regarding regression test scripts.

has also started to label regression defects to bring more attention to them in prioritization meetings. This way business will know what issues are still impacting testing and the approved scripts for O&M regression testing. The QA team has also started to track regression defects by Program, to monitor progress.

Starting in June , the application developers have started to get input from Cúram Design Specialists and Business Analysts to create independent and varying test scenarios to help better plan testing requirements.

F032 – Test Automation Rate

Status: Open

Initial Date of Finding: 11/7/

IV&V Finding Description:

The rate of new scripts being added to the regression set of scripts to be automated is greater than the rate of scripts being automated, so the number of scripts that must be run manually by the O&M Test Team is increasing with each release.

Risk:

Rating: Medium

- If the number of scripts to be run manually continues to grow, eventually the O&M Test Team may not be able to run all regression scripts in the test window.
- If the manually tested regression set is too large to be completed in the test window, the size of the regression set may improperly become a factor in determining which scripts to include.

IV&V Quality Rating Category Mapping:
 System Integration Test (SIT-02)

IV&V Status Update: Twenty-one (21) new scripts were automated between June 26 – July 23, . Due to the deletion of test scripts that were duplications, there were 12 scripts removed from the regression set as of Pass 1 testing for R13.2 (July Release). July’s numbers are an anomaly as it is more commonplace to add to the regression test set than take away. With significantly more test scripts being added to the regression test set than can be automated in a month, it could take years to complete. Test script automation discussions continue with regard to automation test tools.

IV&V Recommendations:

1. In order to increase the rate of automation and close the gap between new test scripts and those needing automation, assure that automation efforts are adequately staffed at both the O&M and project levels.

IV&V Status: OPEN

IV&V Status Summary: During this assessment period, three staff were trained. Two moved to the P14.2 automation test team and one remains with the Automation Team in RTP. There are currently multiple absences due to extenuating circumstances. Four positions remain open for the State Automation positions.

Program Disposition: Agree

Program Response: Obtaining a more efficient automation tool is key to addressing this finding. The Invitation for Bid (IFB) to obtain a new tool was posted on May 7th and closed on May 28th. Procurement questions are being addressed but there are too many unknowns yet to set a target date for implementing a new tool. Regarding the 4 vacant automation tester positions, one was repurposed as an Assistant Test Lead to help drive the automation process. Management is considering filling the other 3 vacant positions since the tool procurement is taking longer than expected. O&M currently has 19 positions for automation testers, 15 positions are filled and 4 are vacant. In terms of projects, they are staffed as follows:

Project	# of Filled Positions	# of Vacant Positions	Comments
O&M	15	3	4 state positions on hold
P4	3	0	
P12	0	0	O&M staff working on P12 also.
P14.0	3	1	The interviews for the vacant position is going to be complete this week, but is going to be transferred to O&M instead of P14.
P14.2	6	2	The two vacant positions have been trained and moved onto P14.2

2. Prioritize completion of automation initiatives, such as process and tools changes, being undertaken to improve the efficiency of automation. Operate these initiatives like projects with task assignments and target completion dates.

IV&V Status: OPEN

IV&V Status Summary: There has been no change with regard to new automation tools and/or processes. Testing of new processes is underway but unfortunately is slow going due to unexpected outcomes. The team will continue to troubleshoot defects. A decision on a new Automation tool has not been made. A new IFB has yet to be created with updated requirements.

Program Disposition: Agree

Program Response: This recommendation is already underway by the automation team. The team is investigating automation of the batch runs, time shifts and the use of team city agents. Currently we have finished coding timeshifts and implemented them in TeamCity. As of March 31st the automation team has completed automation of batches. Setup for integrating timeshifts and batches, together, in TeamCity has been completed, however these have yet to be tested. The automation team is expecting completion of testing timeshifts and batches together by the end of July. Furthermore, we have implemented daily scrum meetings to obtain the automation team's status, give reminders on deadlines and policies, and keep the team informed about new and upcoming changes. Finally, to ensure the quality of our automation scripts we've implemented a peer review process for every script completed. In addition, management requested and received a proposal from Accenture to create a small blended team that will focus on accelerating automation, reducing the manual test footprint, create a sustainable automation framework, and increase speed and throughput. This proposal would use optional technical support hours and is currently under consideration.

SECTION 4: IV&V Review Methodology

The MAXIMUS IV&V Review Methodology has been updated to reflect the changes from bi-annual Periodic Assessments to the Monthly IV&V Assessments. At the start of the contract, a comprehensive IV&V Assessment Management Plan was drafted and delivered to for approval. This plan outlines overall approach and methodology to be used during the upcoming IV&V Assessments, including team organization and applicable IV&V checklists. Once approved, the IV&V Assessment effort was initiated. The MAXIMUS approach incorporates a variety of industry standards, including the Institute of Electrical and Electronic Engineers (IEEE) Standard for Software Verification and Validation (IEEE Std. 1012-), as appropriate.

The overall assessment methodology begins with the review of the previous IV&V Assessment Report, and the identification and analysis of ongoing risks that face the Program. The focus of each IV&V Assessment is listed in the IV&V Review Schedule, which is included as Attachment C. Additionally, areas within the Implementation Oversight Areas will be covered during periods of system implementation or Pilot Testing, even if not scheduled to be assessed.

Over the course of each IV&V assessment exercise, IV&V will attend meetings, review documentation and interview personnel. In this way, the IV&V Assessment provides a 360-degree view of the Program.

The information that is collected from these sources is analyzed and a set of findings, risks, and recommendations are identified. In order to assist the Program in prioritizing its immediate work, the key findings included in the Executive Summary of this document, are in IV&V suggested priority order.

SECTION 5: Detailed Quality Scorecards

The following sections include Detailed Quality Scorecards for each of the IV&V Oversight Areas. These tables provide the detailed observations for each of the Quality Rating Category, along with a Risk Rating and associated Findings from Section 3. Risk ratings are provided for the current IV&V review period as well as the previous review period in order to assist in recognizing trends from month to month.

“NA” indicates that this quality-rating category is not scheduled for assessment during this period. Please see Attachment C for the IV&V review schedule.

5.1 Management IV&V Oversight Area

Table 5.1, provides the detailed observations for the Management IV&V Oversight Area. Please note that this analysis is based on the accuracy and completeness of the information that was available to the MAXIMUS IV&V team at the time of the assessment.

Table 5.1: Detailed Quality Scorecard – Management IV&V Oversight Area

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
Management Oversight – Project Sponsorship (PS)				
(PS-01) Assess and recommend improvement to assure continuous executive stakeholder buy-in, participation, support, and commitment; and to assure that open pathways of communication exist among all stakeholders.	LOW	NA	NA	Observations: <ul style="list-style-type: none"> PS-01 not assessed this period. Associated Findings: None
(PS-02) Verify that executive sponsorship has bought-in to all changes, which impact project objectives, cost, or schedule.	LOW	NA	NA	Observations: <ul style="list-style-type: none"> PS-02 not assessed this period. Associated Findings: None
Management Oversight – Management Assessment (MA)				
(MA-01) The Vendor shall verify and assess program management and organization.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> MA-01 not assessed this period. Associated Findings: None

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(MA-02) Verify that lines of reporting and responsibility provide adequate technical and managerial oversight of the program.	NA	LOW	NA	<p>Observations:</p> <ul style="list-style-type: none"> MA-02 not assessed this period. <p>Associated Findings: None</p>
(MA-03) Evaluate program progress, resources, budget, schedules, work flow, and reporting.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> During this assessment period, Release 13.2.0 was deployed into Production. Major content included in this release are: <ul style="list-style-type: none"> Defects Release- targeted defects from all projects CRs Completed-Targeted CRs from all projects. P1-FNS & SNAP & EPASS P26- Income Support P79-Insurance Affordability P3-Child Care and Energy P4-Child Services P12-Document Management System P9-Program Integrity Staffing resources are a continued risk within the Program. The staffing concerns fall largely on the state side of the integrated team. The O&M Test Team is in need of 11 contract positions and 3 State positions. Based on the integrated Organization Chart dated 7/8/19 for the Program, staffing is at 86%. The areas with the most deficiency are Training, Business Expertise and while the percentage is not as high, the test team experiences consistent turnover. Legislation currently under review by the State Senate is still not approved. This adds to the delay of the Child Welfare Solution. IV&V learned through meeting attendance that county representatives from the Document Management Resource Group (DMRG) had conveyed their concern regarding the lack of documentation of an electronic document retention policy. While the Project 12 team is moving toward documenting the requirements for this effort, it was only initiated on the 29th of July. This is concerning to IV&V as this project has missed several critical requirements that have led the project to miss major milestones. P4 continues to be in a holding pattern due to the two bills that were introduced to the State Senate and House in March. In the interim, development continues however, rollout to the counties has been halted with the exception of the current counties in production.

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
				<ul style="list-style-type: none"> The risk level for this QRC remains at a medium level. While some tasks are completed on time, teams continue to miss major milestones. <p>Associated Findings: F003</p>
Management Oversight – Project Management (PM)				
(PM-01) Assess coordination, communication, and management to verify that agencies and departments are not working independently of one another and are following the Communication Plan.	NA	LOW	NA	<p>Observations:</p> <ul style="list-style-type: none"> PM-01 not assessed this period. <p>Associated Findings: None</p>
(PM-02) Verify that a Project Management Plan is created and being followed.	NA	LOW	NA	<p>Observations:</p> <ul style="list-style-type: none"> PM-02 not assessed this period. <p>Associated Findings: None</p>
(PM-03) Evaluate the Program Management Plans and procedures to verify that they are developed, communicated, implemented, monitored, and complete.	NA	LOW	NA	<p>Observations:</p> <ul style="list-style-type: none"> PM-03 not assessed this period. <p>Associated Findings: None</p>
(PM-04) Evaluate the Project Management Plan and actual program reports to verify that program status is accurately traced using program metrics.	NA	LOW	NA	<p>Observations:</p> <ul style="list-style-type: none"> PM-04 not assessed this period. <p>Associated Findings: None</p>

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(PM-05) Verify that milestones and completion dates are planned, monitored, and met.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> The P14 projects and several others have experienced multiple successes with delivering on planned milestones and completion dates however some team still struggle to deliver timely. P12 continues to struggle with deployment activity due to system performance, software and environment issues. Resources continue to meet to review and plan for next steps for P12 and efforts are being made to remediate the issues but delays continue to frustrate the team's progress. State legislation remains pending for P4. This delay continues to thwart team efforts to deliver, however the time is being well spent on planning and continued support of the counties presently using the child welfare processes available to them. P4 has prepared the annual APDu update and plans to submit as soon as the state budget is passed. This risk rating for this QRC remains at Medium until projects 12 and 4 are able to reign in the issues that impact their respective schedules and begin to consistently hit planned milestones. <p>Associated Findings: F003</p>
(PM-06) Verify the existence and institutionalization of an appropriate program issue tracking mechanism that documents issues as they arise, enables communication of issues to proper stakeholders, documents a mitigation strategy as appropriate, and tracks issues to closure. This shall include, but is not limited to, technical and development efforts.	NA	LOW	NA	<p>Observations:</p> <ul style="list-style-type: none"> PM-06 not assessed this period. <p>Associated Findings: None</p>

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(PM-07) Evaluate the system's planned life cycle development methodology or methodologies to see if they are appropriate for the system being developed.	NA	LOW	NA	<p>Observations:</p> <ul style="list-style-type: none"> PM-07 not assessed this period. <p>Associated Findings: None</p>
Management Oversight – Business Process Reengineering (BPR)				
(BPR-01) Evaluate the Program's ability and plans to redesign business systems to achieve improvements in critical measures of performance, such as cost, quality, service, and speed.	NA	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> continues to engage stakeholders to assess and update business processes. Multiple Joint Application Development (JAD) sessions have been conducted by the P4 team since the Business System Review (BSR) session was conducted in May. These sessions are utilized to review and validate requirements in an effort to support proper development and functionality. An Economic Benefits Business Process Improvement (EB BPI) effort was established and completed in. This effort was intended to discover and share successful, proven methods for service delivery. This initiative was a joint effort with counties focused to improve the provision, support and accuracy of benefit delivery for economic services programs. This initiative concluded in October of having implemented multiple best practices and also identified additional opportunities for future improvements. It is beneficial for to revisit and revalidate these recommendations in an effort to build on previous momentum. Further, would benefit from identifying an internal owner/lead to move forward with instituting formal and comprehensive process improvement initiatives. <p>Associated Findings: None</p>
(BPR-02) Verify that the reengineering plan has the strategy, management backing, resources, skills, and incentives necessary for effective change.	NA	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> remains in the deployment phase and as such, there is no reengineering plan in place. There is a robust change request process with weekly Change Control Board (CCB) meetings conducted to review new CRs for defects and enhancements. The Executive Advisory Committee (EAC) and Executive Advisory Subcommittee (EAS) serve as oversight bodies for all projects promoting communication and direction impact among stakeholders and counties. Meetings continue

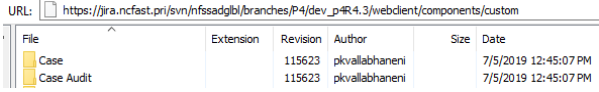
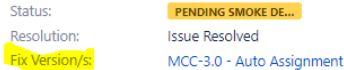
Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
				monthly. Associated Findings: None
(BPR-03) Verify that resistance to change is anticipated and prepared for by using principles of change management at each step (such as excellent communication, participation, incentives) and having the appropriate leadership (executive pressure, vision, and actions) throughout the reengineering process.	NA	NA	LOW	Observations: <ul style="list-style-type: none"> As noted in BPR-02, there is no documented re-engineering plan at this time. The program has experienced notable resistance to change at the county level, most significantly for P4. This has been most evident during JAD sessions and in recent months has escalated to the legislative level. In support of these issues, communications were reinforced and expanded to include call series, training opportunities, and meetings with state and senior leadership in an effort to solicit feedback and provide critical updates and information. The issues that have facilitated this situation stem from multiple complexities which include, but are not limited to the requirements elicitation processes used as well as the lack a of clear, specific and communicated vision mandating the use of a single state-wide system for all 100 counties. This QRC is trending toward a medium status which may be remediated through continued county interaction along with expanded communications and rollout strategy supporting improvement efforts. Associated Findings None
Management Oversight – Risk Management (RM)				
(RM-01) Verify that a Program Risk Management Plan is created and being followed.	LOW	NA	LOW	Observations: <ul style="list-style-type: none"> developed and follows a Risk and Issue Management Plan. The plan has been updated for the current year and has been approved and posted for use. The Risk Management process incorporates a monthly meeting and is conducted by the Risk Management Administrator (RMA). In this session, updates and closures are reviewed and documented. The RMA maintains the Risk and Issue Log and coordinates with Project Managers in all aspects of risk and issue tracking and reporting. Associated Findings: None

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(RM-02) Evaluate the Program's Risk Management Plans and procedures to verify that risks are identified and quantified and that mitigation plans are developed, communicated, implemented, monitored, and complete.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> Risks and issues are identified in all project status reports and are reviewed for mitigation plan(s) in weekly project status and monthly Risk Assessment meetings. All Program risks and issues are discussed and managed at the monthly Risk Management meeting. The defined risk management process does not consider risk acceptance as a valid risk response. All risks must be mitigated or eliminated through steps or activities to reduce the overall negative impact, or through specific business processes (controls) that affect the outcome, or produce anticipated results. No changes to the process were observed this period. IV&V will continue to monitor the Risk Management Plan and other elements of this finding. <p>Associated Findings: None</p>
Management Oversight – Change Management (CHG)				
(CHG-01) Verify that a Change Management Plan is created and being followed.	HIGH	HIGH	HIGH	<p>Observations:</p> <ul style="list-style-type: none"> No change has occurred with this QRC during the assessment period. IV&V noted previous, the completion of the annual review and update process for the program-level Change Management Plan along with concurrent updates within the project-level P4 Agile development plan. IV&V continues to assert concern regarding CCB submission activity related to this QRC with specific emphasis on those CR submissions to CCB with development work near or fully completed. While many of these submissions have been BSR related as noted in previous assessment reports, there have also been isolated instances of CR submission for non-BSR related development with work completed prior to submission. If logic can be identified to support full completion of development work prior to submission to the CCB, then the associated content should be expanded within the project and program-level plans to reflect such latitude. See Finding F023 in section three for further information. IV&V will continue to review for updates. Design Adjustments are another classification of Change Management, which if used appropriately,

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Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
				<p>can enhance the Change/CCB process. However, the current process documentation does not specify “change in scope” as permissible for design adjustments nor does the process define if scope incorporates code modifications. This process should be clarified for organizational adherence. Additionally, the use of design adjustments should be reviewed and monitored for conformance to the operational requirements. If the CCB process does not control design adjustments, it would, at minimum, be prudent to have insight into metrics supporting this type of change activity</p> <ul style="list-style-type: none"> The risk rating for this QRC remains HIGH due to the fundamental risk associated with code being placed into production without the benefit of a timely and uncompromised impartial review by the CCB. IV&V will continue to discuss and monitor this QRC for improvement. <p>Associated Findings: F023</p>
(CHG-02) Evaluate the Change Management Plans and procedures to verify they are developed, communicated, implemented, monitored, and complete.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> No change was observed during this assessment period. IV&V reviewed the Change Management Plan and while the plan is comprehensive and effective, some improvements should be considered. See CHG-01 for improvement suggestions. Change Control Board meetings continue to take place weekly. Change Requests are discussed and reviewed by the board approvers. The Change Management process allows for Emergency(ER) CR review to provide immediate approvals for needed system fixes which cannot wait for the scheduled CCB review process. All ER CRs must be approved by the Project Director or one of the Deputy Project Directors. The risk rating for this QRC remains at a medium risk-level due to a need for additional process update and clarification with regard to the appropriate and consistent use of Design Adjustments as well as CCB Submission practices. IV&V will continue to monitor the Change Management Plan. <p>Associated Findings: F023</p>

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(CHG-03) Evaluate that resistance to change is anticipated; and that preparations are made for meeting the resistance.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> CHG-03 not assessed this period. Associated Findings: None
Management Oversight – Communication Management (COM)				
(COM-01) Verify that a Communication Plan is created and being followed.	NA	NA	NA	Observations: <ul style="list-style-type: none"> COM-01 not assessed this period. Associated Findings: None
(COM-02) Evaluate the Communication Plans and strategies to verify that they support communications and work product sharing between all program stakeholders.	NA	NA	NA	Observations: <ul style="list-style-type: none"> COM-02 not assessed this period. Associated Findings: None
(COM-03) Assess whether Communication Plans and strategies are effective, implemented, monitored, and complete.	NA	NA	NA	Observations: <ul style="list-style-type: none"> COM-03 not assessed this period. Associated Findings: None
Management Oversight – Configuration Management (CM)				
(CM-01) Review and evaluate the Configuration Management (CM) Plans and procedures associated with the development process.	MED	MED	MED	Observations: <ul style="list-style-type: none"> The [REDACTED] developed Document Configuration Management Plan (DCMP), its associated amendments and the Software Configuration Management Plan (SCMP) were reviewed, found comprehensive and where applicable adhere to industry standard IEEE 828-2012. [REDACTED] releases code patches to address critical Change Requests and correct the defects released into production. The following patches were deployed during the month of July [REDACTED]. <ol style="list-style-type: none"> 13.2.0.1 July 19, [REDACTED] 13.2.0.2 July 22, [REDACTED] 13.2.0.3 July 25, [REDACTED] Code Releases are typically observed with blocked test scripts approved for production. It was noted that 15 blocked scripts were deployed into the July

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				<p>release (13.2.0). This is consistent with counts observed in June which may potentially signal a benefit from the Quality measures has been putting in place.</p> <ul style="list-style-type: none"> The risk rating for this QRC remains medium due to continued reliance on patches and for promotion of code to production having blocked test scripts. IV&V will continue to monitor the exception process and other elements of this finding. <p>Associated Findings: F031, F033</p>
(CM-02) Verify that all critical development documents are maintained under an appropriate level of control.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IV&V did not observe changes with respect to the control of critical development documents during this assessment period. The Document Configuration Management Plan, its associated amendments, and the Software Configuration Management Plan have been updated, approved. All documentation under configuration management control is maintained in SharePoint and each project is responsible to place their documentation in the appropriate SharePoint repository. <p>Associated Findings: None</p>
(CM-03) Verify that the processes and tools are in place to identify code versions and to rebuild system configurations from.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IV&V has verified that the Configuration/ Version Management tools (built around Tortoise/ Subversion, Team City and Eclipse) serve as the code repository from development through the build cycles and then for retention. Configuration Items (CIs) are obtained by using standard Subversion checkout procedures and recommended tools (Tortoise SVN, SVN Command line, Subclipse or via browser). is in the process of implementing a potential replacement for SVN, Bitbucket and working with a GIT POC – JIRA Integration. <p>Associated Findings: None</p>
(CM-04) Verify that appropriate source and object code libraries are maintained for training, testing, and production; and that	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> As described in CM-03, SVN is the current repository/ library for code that can be deployed through TeamCity builds to test environments, training sandboxes and then released to production. The following SVN screen shot shows project P4

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formal sign-off procedures are in place for approving deliverables.				branch SVN folders for custom code containers. Although IV&V does not have permissions to access code, it has verified its existence within these folders.  <ul style="list-style-type: none"> IV&V has verified that formal signoffs are required for all system changes throughout the software delivery cycle (SDLC) as further observed in CM-05. <p>Associated Findings: None</p>
(CM-05) Verify that appropriate processes and tools are in place to manage system changes, including formal logging of change requests and the review, prioritization, and timely scheduling of maintenance	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IV&V has verified existence and functioning of processes related to the Change Control Board (CCB) which logs, reviews and approves/ denies Change Requests to functionality. See the CHG QRCs for additional information. IV&V has verified existence and functioning of processes related to the Data Base Change Requests (DBCRs) that are logged in Jira and reviewed by the A&I organization. IV&V has verified existence and functioning of processes related to Maintenance and Release system changes such as scheduling and management by checklists. processes and tools appear to meet the requirements for systems change management. <p>Associated Findings: None</p>
(CM-06) Verify that mechanisms are in place to prevent unauthorized changes being made to the system and to prevent authorized changes from being made to the wrong version.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> All authorized functionality must be assigned to the appropriate Fix/Version in Jira prior to the change release as shown below for a P14 MCC defect.  Once the code has been committed and locked by O&M, only defects identified in system test and defects or other changes approved via the Exception Request process will be accepted for correction in the current release. Controls over system changes appear to address and internal control requirements. <p>Associated Findings: None</p>

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Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(CM-07) Review the use of CM information (such as the number and type of corrective maintenance actions over time) in program management.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> No changes were observed during this assessment period. Software patches are the primary corrective maintenance action for CM/ deployments utilized by . Patches can be deployed to correct defects and to add approved change requests and design adjustments into the system after a release. is using the Jira Exception Request process to obtain approval for deploying the corrective maintenance items after code cutoff and after release for patches. It remains unclear if this process is adding value to understanding and controlling patch volume and further analysis of data collected is warranted. This QRC will remain a Medium Risk until root causes for exception requests and patches are determined and then corrected by . <p>Associated Findings: F031</p>
Management Oversight – Project Estimating and Scheduling (PES)				
(PES-01) Evaluate and make recommendations on the estimation and scheduling process of the program to verify that the program budget and resources are adequate for the WBS and schedule.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> Based the annual APDu, the total budgeted expenditures are calculated at \$934,778,236.56 through 12/31/. Total actual expenditure as of June 30, are calculated at \$693,357,860.66 or 74.17% of the budget expended. P4, has prepared to submit the annual APDu to CMS based on expected responses for anticipated modifications from the State Legislature, however the legislature has not passed the state budget therefore the APDu will be submitted later in August as discussed with the Federal Stakeholders during the onsite meetings conducted the week of July 22. The P4 Pilot continues with development efforts focused on planned activity pending outcome of final state legislation regarding future steps based on impact from the House and Senate bills.

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Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
				<ul style="list-style-type: none"> Limited progress has occurred for P12 as environment issues continue to plague this effort. System performance issues also persist. At present, next steps for Datacap are under review and pending decision. The risk rating for this QRC remains medium due to both P4 and P12 estimation and schedule risks. IV&V will continue to observe the project schedules to identify additional risks as they arise. <p>Associated Findings: F003</p>
(PES-02) Review schedules to verify that adequate time and resources are assigned for planning, development, review, testing, and rework.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> P4 status reports continue to show their schedule at a medium-level risk. Inadequate staffing of P4 Business Experts has impacted project schedule and puts product quality at risk. IV&V has validated that a Senior FileNet Developer has not been hired in support of the P12 team. Lack of FileNet expertise has been impacting the quality and timeliness of process progress. The risk rating for this QRC remains medium due to both P4 and P12 estimation and schedule risks. IV&V will continue to observe the project schedules to identify additional risks as they arise. <p>Associated Findings: F003</p>

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Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(PES-03) Examine historical data to determine whether the project has accurately estimated the time, labor, and cost of software development efforts.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> P4 status reports continue to show their schedule at a medium-level risk. The team was impacted by legislation causing unplanned delay in statewide rollout activity. Pilot efforts continue until final direction is delivered. With specific regard to historical estimation, IV&V notes that changing, unknown or misinterpreted requirements and end user impact may be part of the root cause for schedule delay, however this type of information should be captured and analyzed as part of the historical record. This analysis would provide opportunity to explore, in advance of new planning and scheduling, the potential for repeated issues to occur. IV&V will continue to monitor progress. P12 continues to struggle with test environments and system performance this period. This will continue to facilitate delay but is being actively addressed. The risk rating for this QRC remains medium due to the impact of recent schedule changes for P12 and P4. IV&V will continue to monitor progress. <p>Associated Findings: F003</p>
Management Oversight – Project Personnel and Organization (PPO)				
(PPO-01) Examine the job assignments, skills, training, and experience of the personnel involved in program development to verify that they are adequate for the development task.	MED	LOW	NA	<p>Observations:</p> <ul style="list-style-type: none"> PPO-01 not assessed this period. <p>Associated Findings: None</p>
(PPO -02) Verify that lines of reporting and responsibility provide adequate technical and managerial oversight of the program.	NA	LOW	NA	<p>Observations:</p> <ul style="list-style-type: none"> PPO-02 not assessed this period. <p>Associated Findings: None</p>

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Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
PPO-03) Verify that the program's organizational structure supports training, process definition, independent QA, CM, product evaluation, and any other functions critical for the program's success.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> PPO-03 not assessed this period. Associated Findings: None
Management Oversight – Subcontractors and External Staff (SES)				
(SES-01) Evaluate the use of subcontractors or other external sources of program staff (such as IT staff from another State organization) in program development.	NA	LOW	NA	Observations: SES-01 not assessed this period.
(SES-02) Verify that the obligations of subcontractors and external staff (terms, conditions, statement of work, requirements, standards, development milestones, acceptance criteria, delivery dates) are clearly defined.	NA	LOW	NA	Observations: SES-02 not assessed this period.
(SES-03) Verify that the subcontractors' software development methodology and product standards are compatible with the system's standards and environment.	NA	LOW	NA	Observations: SES-03 not assessed this period.

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Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(SES-04) Verify that the subcontractor has and maintains the required skills, personnel, plans, resources, procedures and standards to meet their commitment.	MED	LOW	NA	<p>Observations: SES-04 not assessed this period.</p> <p>Associated Findings: None</p>
(SES-05) Examine the feasibility of any off-site support of the Program.	NA	LOW	NA	<p>Observations: SES-05 not assessed this period.</p> <p>Associated Findings: None</p>
(SES-06) Verify that any proprietary tools used by subcontractors do not restrict the future maintainability, portability, and reusability of the system.	NA	LOW	NA	<p>Observations: SES-06 not assessed this period.</p> <p>Associated Findings: None</p>
Management Oversight – Program Office (PO)				
(PO-01) Assess and monitor the practices of the Program Office to determine alignment with State and Federal standards and internal processes and procedures.	LOW	NA	LOW	<p>Observations: PO-01 not assessed this period.</p> <p>Associated Findings: None</p>
Management Oversight – Quality Assurance (QA)				

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(QA-01) Evaluate and make recommendations on the Program's QA Plans, procedures, and organization.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> • The QAMP focuses on monitoring and measuring Program performance against Program quality standards. • The Quality team has been working on the following: <ul style="list-style-type: none"> ○ Coordination of the sample audit right after the monthly release, the results for which have been shared with Management. ○ Monthly metrics after the release are being run and shared. ○ Attempts are being made to come up with some metrics for the APDu System quality action plan to measure success and some metrics/slides for display on the TV monitors in the development areas. ○ CR verification after each release is being worked on to verify that the number of CR's and defects in the release test report matches the Jira FixVersion. ○ Based on the O&M Executive Status Dashboard, there are currently 556 high severity defects open in production which is an increase of 15 defects from the prior month's report. • The Audit Coordinator Lead position remains unfilled • According to Release 13.2.0 Test Status Report dated 7/12/ and marked FINAL, the June release was deployed having 15 blocked scripts all of which were from Regression scripts. The majority (6) of these blocked scripts were in P4. • IV&V met with O&M Management to discuss efforts to address Quality Findings. Both management and IV&V have agreed to work toward creating more "actionable" tasks in an effort to close these findings. • The risk rating for this QRC remains medium due to the following: <ul style="list-style-type: none"> ○ The number of high severity defects in production. ○ The ongoing release of new high severity defects into the production environment. ○ Lack of reporting of medium and low severity defects. ○ Promotion of code to production having blocked test scripts. <p>Associated Findings: F025, F026, and F033</p>

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Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(QA-02) Verify that QA has an appropriate level of independence from program management.	NA	LOW	NA	<p>Observations: QA-02 not assessed this period.</p> <p>Associated Findings: None</p>
(QA-03) Verify that the QA organization monitors the fidelity of all defined processes in all phases of the projects in the program.	NA	LOW	NA	<p>Observations: QA-03 not assessed this period.</p> <p>Associated Findings: None</p>
(QA-04) Verify that the quality of all products produced by the program is monitored by formal reviews and approvals.	NA	LOW	NA	<p>Observations: QA-04 not assessed this period.</p> <p>Associated Findings: None</p>
(QA-05) Verify that program self-evaluations are performed and that measures are continually taken to improve the process.	NA	LOW	NA	<p>Observations: QA-05 not assessed this period.</p> <p>Associated Findings: None</p>
(QA-06) Monitor the performance of the QA Vendor by reviewing its processes and reports and performing spot checks of system documentation; assess findings and performance of the processes and reports.	NA	NA	NA	<p>Observations:</p> <ul style="list-style-type: none"> There is currently no vendor QA assigned at the program level. Based on this clarification, the risk level is Not Assessed (NA). <p>Associated Findings: None</p>

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Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(QA-07) Verify that QA has an appropriate level of independence; evaluate and make recommendations on the program's QA Plans, procedures, and organization.	NA	LOW	NA	<p>Observations: QA-07 not assessed this period.</p> <p>Associated Findings: None</p>
(QA-08) Verify that the QA Vendor provides periodic assessment of the CMM activities of the Program and that the Program takes action to reach and maintain CMM Level.	NA	NA	NA	<p>Observations:</p> <ul style="list-style-type: none"> Email dated 10/10/14 received from the state provided direction to MAXIMUS that this requirement is no longer applicable to the Program. <p>Associated Findings: None</p>
(QA-09) Evaluate whether appropriate mechanisms are in place for program self-evaluation and process improvement.	NA	LOW	NA	<p>Observations: QA-09 not assessed this period.</p> <p>Associated Findings: None</p>
Management Oversight – Process Definition and Product Standards (PDPS)				
(PDPS-01) Review and make recommendations on all defined processes and product standards associated with system development.	NA	NA	NA	<p>Observations:</p> <ul style="list-style-type: none"> PDPS-01 not assessed this period. <p>Associated Findings: None</p>
(PDPS-02) Verify that all major development processes are defined and that the defined and approved processes and	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> The Agile Development Management Plan (ADMP) outlines the strategy, schedule, procedures, and processes that will be used to manage development projects following an Agile methodology. Appendices are

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standards are followed in development.				Agile Methodology Documents that are Project Specific. <ul style="list-style-type: none"> Based on observations in meetings, interviews and stand up sessions, the ADMP and appendices are being followed with minor deviations that are spelled out by each project. IV&V has observed in meetings and through monitoring, a tendency to start (and often complete) development work that is not yet approved by CCB. At times, effort is questioned during CCB meetings due to the large amount of work to be completed with very little time in which to complete it, resulting in the awareness that work was in process or already complete. Effort expended may result in wasted effort that could otherwise be used toward development of in-scope functionality. Review CHG-01 for more information. This QRC remains at a medium level because of the staff's resistance to follow established processes. <p>Associated Findings: F023</p>
(PDPS-03) Verify that the processes and standards are compatible with each other and with the system development methodology.	NA	NA	NA	<p>Observations:</p> <ul style="list-style-type: none"> PDPS-03 not assessed this period. <p>Associated Findings: None</p>
(PDPS-04) Verify that all process definitions and standards are complete, clear, up-to-date, consistent in format, and easily available to Program personnel.	LOW	NA	NA	<p>Observations:</p> <ul style="list-style-type: none"> PDPS-04 not assessed this period. <p>Associated Findings: None</p>
Management Oversight – Requirements Management (RQM)				
(RQM-01) Evaluate and make recommendations on the Program's process and procedures for managing	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> There have been no changes with respect to requirements management during this assessment period. Requirements are managed using a separate Requirements Traceability Matrix (RTM) for each

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requirements.				<p>project.</p> <ul style="list-style-type: none"> The RTMs trace each requirement to related Functional Designs, Detailed Designs, and Test Cases. Requirements are being maintained in Jira for all Agile Projects going forward. User stories are used to define requirements. They describe a software feature from the end user's perspective. A high-level requirement management process is documented in the Agile Development Management Plan. The Agile Development Management Plan outlines the strategy, schedule, procedures, and processes that will be used to manage development projects following an Agile methodology. Documented requirements management processes are appropriate for Agile Methodology. Fit-gap sessions are held to confirm expectations for each requirement and to determine the approach to use to meet that requirement. <p>Associated Findings: None</p>
(RQM-02) Verify that system requirements are well- defined, understood, and documented.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> Business Managers are well versed on DHHS policies and procedures and continue to reinforce/refine adherence to established procedures. Business Managers have maintained an open line of communication between State subject matter experts and CMS to ensure proper guidance concerning new/changing requirements/business rules. Business Managers and Staff continue to utilize in-house subject matter experts to ensure all parties are aware of and fully understand the impact and utility of new/changing requirements and/or business rules. A Requirement Traceability Matrix (RTM) is used to manage new and changing requirements. The RTM spreadsheet maps a requirement from functional design to detailed/technical design, development and testing. In an effort to assess quality from all aspects, IV&V will take a deeper dive into Business Analysis for the various projects. The number of change requests occurring late in the process (during SIT, UAT and Pilot phases) suggest that requirements may be unclear or incomplete

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				Associated Findings: None
(RQM-03) Evaluate the allocation of system requirements to hardware and software requirements.	LOW	NA	LOW	Observations: <ul style="list-style-type: none"> No changes were made on the part of [REDACTED] with respect to the allocation of requirements, therefore there were no changes in observations. System requirements are allocated to hardware or software requirements in the functional (EPICs) and detailed designs. IV&V learned through meetings that EPICs are not always complete making approval of test scripts difficult, at best, for business. IV&V will monitor this closely as incomplete FDs could have negative consequences for SDLC. Please see HLD-06 for more information regarding incomplete documentation. Associated Findings: None
(RQM-04) Verify that software requirements can be traced through design, code, and test phases to verify that the system performs as intended and contains no unnecessary software elements.	LOW	NA	LOW	Observations: <ul style="list-style-type: none"> IV&V did not observe any changes with respect to requirements traceability during this assessment period. However, it has been observed that some EPICS and Detail Design documentation are not regularly updated. More information can be found in High Level Design (HLD) QRCs. RTMs trace each requirement to Epic/Functional Software Detail Design Document, Jira ID, Functional Design and Test Script ID. Traceability is also maintained using Jira where a user can trace BSF to Epics, User Stories, Test Scripts, Reviews, Code Commits and Detailed Sub Tasks. Associated Findings: None

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(RQM-05) Verify that requirements are under formal configuration control.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IV&V did not observe any changes with respect to configuration control process during this assessment period. For non-Agile projects, document versioning exists through SharePoint for requirements documents. For Agile projects, configuration control is maintained by Jira. <p>Associated Findings: None</p>
Management Oversight – Security Requirements (SR)				
(SR-01) Evaluate and make recommendations on Program policies and procedures for ensuring that the system is secure	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> SR-01 not assessed this period. <p>Associated Findings: None</p>
(SR-02) Evaluate the Program's restrictions on system and data access.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> SR-02 not assessed this period. <p>Associated Findings: None</p>
(SR-03) Evaluate the Program's security and risk analysis.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> SR-03 not assessed this period. <p>Associated Findings: None</p>
(SR-04) Verify that processes and equipment are in place to back-up client and program data and files and archive them safely at appropriate intervals.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> SR-04 not assessed this period. <p>Associated Findings: None</p>

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Management Oversight – Requirements Analysis (RA)				
(RA-01) Verify that an analysis of client, State, and Federal needs and objectives has been performed to verify that requirements of the system are well understood, well defined, and satisfy Federal regulations.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> Agile development projects that did not already have requirements (or Business System Functions (BSFs)) defined prior to the start of the project developed user stories to define requirements. A user story is a tool used in Agile software development to capture a description of a software feature from the end user's perspective. The user story describes the type of user, what they want, and why they want it. A user story breaks down complex system requirements into concise, simple statements that are easy to understand while still providing enough detail to describe the requirement. The scope of each story is described in the acceptance criteria portion of the story. The user stories are then tracked in the project's Requirements Traceability Matrix (RTM) to trace the stories through epic documents and test cases. JAD sessions are conducted as part of a Functional Design/JAD sprint. At the end of these sprints, Epic documents (functional designs) and user stories are created and entered into Jira. The Epic documents are made up of groups of BSFs. While this process appears to be followed, it has been reported that the participants in the sessions vary. For example, while representatives from county A may participate in fit-gap sessions, representatives from different counties may participate in JAD sessions for the same functions. This seems to be causing inconsistency with respect to requirements and change requests being made during the various stages of requirements elicitation and management. The shortage of business representatives, such as SMEs may also have contributed. In an effort to assess quality from all aspects, IV&V will take a deeper dive into Business Analysis for the various projects. <p>Associated Findings: None</p>

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Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(RA-02) Verify that all stakeholders have been consulted on the desired functionality of the system and that users have been involved in prototyping the user interface.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> Stakeholders are briefed on functionality via live demonstrations and webinars. Users are asked to provide feedback regarding the new functionality The P12 team performed their demo to stakeholders on July 10, Demos, both live and via webinar, are used to demonstrate various functionality to the users. Feedback is solicited. Stakeholders are consulted on the desired functionality of the system by participating in the following Agile Ceremonies: <ul style="list-style-type: none"> Product Backlog Refinement Meeting Sprint Planning Sprint Review Meetings System Demonstrations User Checkpoints <p>Associated Findings: None</p>
(RA-03) Verify that all stakeholders have agreed to all changes, which impact program objectives, cost, or schedule.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> Most Change Requests (CRs) are initiated by the stakeholders (CMS, Division of Social Services, counties), so the Change Request process naturally involves consulting with the stakeholders on the desired functionality. Executive Approval is also sought. The DHHS PMO functions as a key component helping to ensure that all relevant stakeholders are up to date with impactful changes and their associated costs. Any changes that may impact program objectives, cost or schedule are submitted to Touchdown where they are reviewed by the PMO, based on thresholds, for approval. Changes that have a direct impact on program objectives, cost, or schedule are also reviewed with Executive Advisory Committee (EAC) as required. <p>Associated Findings: None.</p>

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(RA-04) Verify that performance requirements (for example, timing, response time, and throughput) satisfy user needs.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> System performance is continually monitored using established tools and techniques. System performance requirements are documented in the O&M Service Level Agreement (SLA) in which Performance Metrics are documented. The five areas of system operations that are measured in the SLA are: <ul style="list-style-type: none"> Service Availability Service Timeliness Incident Response & Resolution System Responsiveness Help Desk Metrics. A Performance Test Plan exists and performance testing is performed on each release. This information is reported out at the weekly Project Status meetings as well as Program Management and at the monthly EAC meeting. Oracle Golden Gate 24X7 environment was not implemented in July and is not slated to be deployed in August. <p>Associated Findings: None</p>
(RA-05) Verify that user maintenance requirements for the system are completely specified.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IV&V did not observe any changes with respect to user maintenance requirements during this assessment period. User maintenance requirements are documented in the RTMs. Business Managers continue to work with the divisions and guide staff in determining the appropriate user access role they need. Currently, quarterly "security reviews" are performed to ensure user accounts in the system are appropriate and properly maintained. Management has proposed a monthly review. <p>Associated Findings: None</p>
Management Oversight – Interface Requirements (IR)				
(IR-01) Verify that all system interfaces are exactly described, by medium and by function, including input/output control codes, data format, polarity, range, units,	LOW	NA	NA	<p>Observations:</p> <ul style="list-style-type: none"> IR-01 not assessed this period. <p>Associated Findings: None</p>

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
and frequency.				
(IR-02) Verify that approved interface documents are available and that appropriate relationships (such as interface working groups) are in place with all agencies and organizations supporting the interfaces.	MED	LOW	NA	Observations: <ul style="list-style-type: none"> IR-02 not assessed this period. Associated Findings: None
Management Oversight – Requirements Allocation and Specification (RAS)				
(RAS-01) Verify that all system requirements have been allocated to either a software or hardware subsystem.	LOW	NA	NA	Observations: <ul style="list-style-type: none"> RAS-01 not assessed this period. Associated Findings: None
(RAS-02) Verify that requirements specifications have been developed for all hardware and software subsystems in a sufficient level of detail to verify successful implementation.	LOW	NA	NA	Observations: <ul style="list-style-type: none"> RAS-02 not assessed this period. Associated Findings: None
Management Oversight – Reverse Engineering (RE)				
(RE-01) If a legacy system or a transfer system is or will be used in development, the Vendor shall verify that a well-defined plan and process for reengineering the system is in place and is followed. The process, depending on the goals of the reuse/transfer, may include reverse engineering, code translation, re-documentation, restructuring, normalization, and re-targeting.	NA	NA	NA	Observations: <ul style="list-style-type: none"> The project does not have a requirement for reverse engineering. is built upon a Cúram/IBM commercial off the shelf (COTS) product. Any changes to the Cúram/IBM product, is processed through the defect reporting and Change Management process for Cúram/IBM to correct. Associated Findings: None

5.2 Development IV&V Oversight Area

Table 5.2, provides the detailed observations for the Development IV&V Oversight Area. Please note that this analysis is based on the accuracy and completeness of the information that was available to the MAXIMUS IV&V team at the time of the assessment.

Table 5.2: Detailed Quality Scorecard – Development IV&V Oversight Area


Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
Development Oversight – System Hardware (SH)				
(SH-01) Evaluate new and existing system hardware configurations to determine if their performance is adequate to meet existing and proposed system requirements	LOW	NA	NA	Observations: <ul style="list-style-type: none"> SH-01 not assessed this period. Associated Findings: None
(SH-02) Determine if hardware is compatible with the State's existing processing environment. This evaluation will include, but is not limited to, Central Processing Units (CPUs) and other processors, memory, network connections and bandwidth, communication controllers, telecommunications systems (LAN/WAN), terminals, printers, and storage devices.	LOW	NA	NA	Observations: <ul style="list-style-type: none"> SH-02 not assessed this period. Associated Findings: None
(SH-03) Determine if the hardware is maintainable, and if it is easily upgradeable. This evaluation will include, but is not limited to, CPUs and other processors, memory, network connections and	LOW	NA	NA	Observations: <ul style="list-style-type: none"> SH-03 not assessed this period. Associated Findings: None

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
bandwidth, communication controllers, telecommunications systems (LAN/WAN), terminals, printers, and storage devices.				
(SH-04) Evaluate current and projected vendor support of the hardware, as well as the State's Hardware Configuration Management Plans and procedures.	LOW	NA	NA	Observations: <ul style="list-style-type: none"> SH-04 not assessed this period. Associated Findings: None
Development Oversight – System Software (SS)				
(SS-01) Evaluate new and existing system software to determine if its capabilities are adequate to meet existing and proposed system requirements.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> SS-01 not assessed this period. Associated Findings: None
(SS-02) Determine if the software is compatible with the State's existing hardware and software environment, if it is maintainable, and if it is easily upgradeable. This evaluation will include, but is not limited to, operating systems, middleware, and network software including communications and file-sharing protocols.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> SS-02 not assessed this period. Associated Findings: None
(SS-03) Evaluate current and projected vendor support of the software.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> SS-03 not assessed this period. Associated Findings: None

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(SS-04) Evaluate the State's Software Acquisition Plans and procedures	NA	LOW	NA	Observations: <ul style="list-style-type: none"> SS-04 not assessed this period. Associated Findings: None
Development Oversight – Database Software (DbS)				
(DbS-01) Evaluate new and existing database products to determine if their capabilities are adequate to meet existing and proposed system requirements.	NA	NA	LOW	Observations: <ul style="list-style-type: none"> Oracle serves as the Database Management System (DBMS) for the Cúram system while Mongo is used for P4 mobility. has installed Oracle Golden Gate software for bi-directional data transfer (fail over) for the Extended Support (24X7) solution for Child Services and the P14 Medicaid Transformation projects. has upgraded database software to Oracle 12C Release 2 (12.2) for Cúram purposes. The database software appears to be adequate to meet requirements. Associated Findings: None
(DbS-02) Determine if the database's data format is easily convertible to other formats, if it supports the addition of new data items, if it is scalable, if it is compatible with the State's existing hardware and software, including any On-Line Transaction Processing (OLTP) environment.	NA	NA	LOW	Observations: <ul style="list-style-type: none"> uses the Data Base Change Request (DBCR) process to add to or modify production databases. DBCRs are reviewed by the data architects weekly and are tracked in Jira as a "type." For portability, the Oracle DBMS supports commands that enable converting a database to the format of a destination platform. The Oracle DBMS appears to be well supported, scalable, and is compatible with the State's existing hardware and software. Associated Findings: None

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(DbS-03) Evaluate any current and projected vendor support of the software.	NA	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> The DIT organization provides DBA support to for database environments in the eastern and western datacenters while development related databases are supported by the DBA team at RTP. The support organizations regularly apply Oracle patches to keep the software current. Oracle provides ongoing support to DIT and , through maintenance contracts with SLAs, regarding technical support levels and updates. has acquired additional IBM support for the Golden Gate implementation to non-prod and prod environments. It appears that has adequate vendor support agreements and SLAs to meet the program's DbS requirements. <p>Associated Findings: None</p>
(DbS-04) Evaluate the State's Software Acquisition Plans and procedures.	NA	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> Procurement processes are described at the program level in the Program Contract Administration Plan that is updated annually. The program and state procurement requirements appear to meet the program's needs for database software. <p>Associated Findings: None</p>
Development Oversight – System Capacity (SC)				
(SC-01) Evaluate the existing processing capacity of the system and verify that it is adequate for current statewide needs for both batch and on-line processing.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IV&V verified the adequacy of processing capacity through the program's published core CPU and Memory availability in the July 14, Frame inventory report. IV&V reviewed the system availability and average response times during this assessment period and determined that both were within the program SLA. appears to have adequate current systems capacity and monitoring resources to meet its operational needs. <p>Associated Findings: None</p>

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(SC-02) Evaluate the historic availability and reliability of the system.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> The system planned availability Vs 99% SLA for the past 12 months follows: <ul style="list-style-type: none"> June 99.5% for both CW & EB May 100% for both EB & CW April 100% for both EB & CW March 100% for both EB & CW February 100% for both EB and CW January 100% for both EB and CW December 100% for both EB & CW November 100% for both EB & CW October 100% for both EB & CW September 100% for both EB & CW August 100% for both EB & CW July 99.7% for EB and 100% for CW The historic system planned availability levels are within the DIT SLAs. <p>Associated Findings: None</p>
(SC-03) Evaluate the frequency and criticality of system failure.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> The Availability trends shown in SC-01 reflect the fact that has avoided critical outages over time. The infrastructure is built for resilience and redundancy. As part of its Infrastructure Modernization initiative, plans to deploy “Extended Support” (24X7) system availability for Child Welfare functionality in August. This will enable read and write during scheduled maintenance shutdowns for CW caseworkers approaching multiple 9’s availability. System responsiveness and availability appear to meet requirements. IV&V will follow the upcoming Extended Support (24X7) system availability deployment. <p>Associated Findings: None</p>
(SC-04) Evaluate the results of any volume testing or stress testing.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IV&V reviewed the July performance test results, cycle 2, for Release 13.2 Vs 13.1 that lists transaction performance deltas (increases/decreases) as shown below. Results show improvement in all areas tested:

Detailed Quality Standards Scorecard																																																																		
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations																																																														
				<p>Critical Transactions Response Time Summary (in Seconds):</p> <table border="1"> <thead> <tr> <th rowspan="2"></th> <th colspan="2">R13.1</th> <th colspan="2">R13.2</th> <th colspan="2">Delta</th> </tr> <tr> <th>Average</th> <th>Average</th> <th>Average</th> <th>90%</th> <th>Average</th> <th>90%</th> </tr> </thead> <tbody> <tr> <td>Person Registration</td> <td>4.57</td> <td>5.22</td> <td>4.06</td> <td>4.49</td> <td>-0.51</td> <td>-0.73</td> </tr> <tr> <td>Create (Save) Evidence</td> <td>1.63</td> <td>1.81</td> <td>1.58</td> <td>1.72</td> <td>-0.05</td> <td>-0.08</td> </tr> <tr> <td>Evidence Verification</td> <td>1.18</td> <td>1.32</td> <td>1.16</td> <td>1.25</td> <td>-0.02</td> <td>-0.07</td> </tr> <tr> <td>Apply Changes</td> <td>4.07</td> <td>4.64</td> <td>3.85</td> <td>4.25</td> <td>-0.22</td> <td>-0.39</td> </tr> <tr> <td>Check Eligibility</td> <td>2.25</td> <td>2.47</td> <td>2.17</td> <td>2.36</td> <td>-0.08</td> <td>-0.11</td> </tr> <tr> <td>Authorize Application</td> <td>5.25</td> <td>5.90</td> <td>5.05</td> <td>5.48</td> <td>-0.20</td> <td>-0.42</td> </tr> <tr> <td>Case Activation</td> <td>3.93</td> <td>4.42</td> <td>3.80</td> <td>4.17</td> <td>-0.13</td> <td>-0.24</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Current performance testing appears to be effective for in identifying potential production issues. <p>Associated Findings: None</p>		R13.1		R13.2		Delta		Average	Average	Average	90%	Average	90%	Person Registration	4.57	5.22	4.06	4.49	-0.51	-0.73	Create (Save) Evidence	1.63	1.81	1.58	1.72	-0.05	-0.08	Evidence Verification	1.18	1.32	1.16	1.25	-0.02	-0.07	Apply Changes	4.07	4.64	3.85	4.25	-0.22	-0.39	Check Eligibility	2.25	2.47	2.17	2.36	-0.08	-0.11	Authorize Application	5.25	5.90	5.05	5.48	-0.20	-0.42	Case Activation	3.93	4.42	3.80	4.17	-0.13	-0.24
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(SC-05) Evaluate any existing measurement and capacity-planning program.	LOW	NA		<p>Observations:</p> <ul style="list-style-type: none"> The following graph shows a July view of CPU and Memory utilization, for a frame and five LPARs, monitored for a high capacity application in the DIT data center that is performing inbounds.  <ul style="list-style-type: none"> Production server, performance test and Dynatrace monitoring usage measurements are also used by the Performance Team as a drill down point for identifying specific capacity planning issues or trends The Infrastructure organization has the tools, staff and future planning to build and benefit from a robust capacity management program. <p>Associated Findings: None</p>																																																														

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(SC-06) Evaluate the system's capacity to support future growth.	LOW	NA		<p>Observations:</p> <ul style="list-style-type: none"> has started an Infrastructure Modernization initiative to determine potential of basing software components in a cloud environment. IV&V will follow this, as it will favorably impact future capacity planning. While has a robust CPU and memory infrastructure, leadership has tasked the A&I organization with improving its data archiving capability for emerging needs. The A&I organization has built an archiving tool based on PL/SQL that is making a positive impact on managing data growth. appears to have strategies to manage and grow system capacity including the short term archiving effort and potential for longer term component migration to a cloud environment <p>Associated Findings: None</p>
(SC-07) Make recommendations on changes in processing hardware, storage, network systems, operating systems, COTS software, and software design to meet future growth and improve system performance.	LOW	NA		<p>Observations</p> <ul style="list-style-type: none"> has a Performance and Capacity Planning document that is aimed for managing data growth in all hardware and software environments. IV&V will review the new Infrastructure Modernization initiative with an eye toward system performance improvements. The Infrastructure organization, with improved infrastructure and plans to continuously improve system software performance, appears to be positioned to manage future growth. <p>Associated Findings: None</p>
Development Oversight – Development Hardware (DH)				
(DH-01) Evaluate new and existing development hardware configurations to determine if their performance is adequate to meet the needs of system development.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> development IBM AIX workstations and servers support the Integrated Development Environment (IDE) software such as Subversion. All project and O&M developers use the Java Virtual Machine (JVM) that is an abstract machine providing runtime environment in which java code can be executed. has recently deployed Pure Storage with NVMe (non-volatile memory express) drives, a flash based data storage solution for the high end VMs (heavy build usage). This should help reduce build durations that have been on the increase.

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
				<ul style="list-style-type: none"> development hardware appears to meet the program's requirements. <p>Associated Findings: None</p>
(DH-02) Determine if hardware is maintainable, easily upgradeable, and compatible with the State's existing development and processing environment. This evaluation will include, but is not limited to CPUs and other processors, memory, network connections and bandwidth, communication controllers, telecommunications systems (LAN/WAN), terminals, printers, and storage devices.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> The A&I organization is currently conducting a VM Engineering Review that includes a potential hardware refresh and software renewal. IV&V will follow that activity and provide updates in this space. IV&V notes that the organization is continuously provisioning and upgrading VMs and servers as requested for new and existing staff. The IBM development hardware environment at RTP mirrors the quality attributes of maintainability as described in the Production System Hardware (SH-03 QRC) at DIT and appears to provide suitable platforms for development requirements. <p>Associated Findings: None</p>
(DH-03) Evaluate current and projected vendor support of the hardware, as well as the State's Hardware Configuration Management Plans and procedures.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> The A&I support team provides timely notifications to VM users regarding maintenance slots for development servers and VMs. Support requests are entered into the Infrastructure Support as NFIS issues within Jira. , along with IBM, appears to provide the required support levels. <p>Associated Findings: None</p>
Development Oversight – Development Software (DS)				
(DS-01) Evaluate new and existing development software to determine if its capabilities are adequate to meet system development	NA	LOW	NA	<p>Observations:</p> <ul style="list-style-type: none"> DS-01 not assessed this period. <p>Associated Findings: None</p>

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
requirements.				
(DS-02) Determine if the software is maintainable, easily upgradeable, and compatible with the State's existing hardware and software environment.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> DS-02 not assessed this period. Associated Findings: None
(DS-03) Evaluate the environment as a whole to see if it shows a degree of integration compatible with good development. This evaluation will include, but is not limited to, operating systems, network software, Computer-Aided Software Engineering (CASE) tools, program management software, configuration management software, compilers, cross- compilers, linkers, loaders, debuggers, editors, and reporting software.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> DS-03 not assessed this period. Associated Findings: None
(DS-04) Evaluate language and compiler selection with regard to portability and reusability (ANSI standard language, non-standard extensions, etc.).	NA	LOW	NA	Observations: <ul style="list-style-type: none"> DS-04 not assessed this period. Associated Findings: None

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(DS-05) Evaluate current and projected vendor support of the software, as well as the State's software acquisition plans and procedures.	NA	LOW	NA	<p>Observations: DS-05 not assessed this period.</p> <p>Associated Findings: None</p>
Development Oversight – High Level Design (HLD)				
(HLD-01) Evaluate and make recommendations on existing high-level design products to verify the design is workable, efficient, and satisfies all system and system interface requirements.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> During document reviews, IV&V has observed that FDs often include the statement "Screen Flow diagrams document the most common path through the Cúram application but the navigation shown will not be comprehensive." [REDACTED] should consider adding discussion of alternate paths to the Fit Gap/ JAD and Design Sessions and the Agile Enablement Team is looking into options. Limiting screen flows to the Golden Path could result in edge and boundary cases not being considered, ultimately leading to quality rework such as defects and CRs. IV&V has observed that Root Causes documented in Jira for defects and other rework issues often refer to missed scenarios and requirements. The risk level for this QRC remains medium across the program pending further efforts to improve HLD processes and tools including identification of edge and boundary cases not accounted for in current design process flows. <p>Associated Findings: F034, F035, F036, F037</p>
(HLD-02) Evaluate the design products for adherence to the program design methodology and standards.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> IV&V has observed that there does not appear to be a set program methodology as design template content will vary across the program. However, most HLDs contain key sections such as work, process and screen flows, rules, traceability and interfaces that should be called out for standardization across the program. The DevOps process Improvement team in Jira issue NFDO-47, has initiated an effort to

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
				standardize design documents. The Agile Enablement Team plans to collaborate with DevOps on this. <ul style="list-style-type: none"> The HLD-02 continues as medium to account for the confirmed lack of program level design templates. <p>Associated Findings: F034, F035, F036, F037</p>
(HLD-03) Evaluate the design and analysis process used to develop the design and make recommendations for improvements.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> IV&V has determined that project design teams have varying levels of cross-functional representation and understanding of design roles and responsibilities. The Staffing QRCs and the recent Root Cause Analysis study have noted that [REDACTED] has a short supply of knowledgeable Business Resources that are ultimately accountable for representing the end user in design activities. This QRC remains at a medium rating for this assessment pending further activity toward review and improvement of design staff availability and participation. <p>Associated Findings: F034, F035, F036, F037</p>
(HLD-04) Evaluate design standards, methodology, and CASE tools used and make recommendations.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> [REDACTED] project and O&M design teams only use a few design CASE management tools such as Visio for process, architecture and data flows and Jira for documenting Design tasks. As mentioned in HLD-02, there does not appear to be program wide design standards and templates. However, [REDACTED] expects to see design improvements from the Agile Enablement Team and DevOps initiatives. Although some progress is being made in Design Standards, the risk level will remain Medium until more concrete steps are taken. <p>Associated Findings: F034, F035, F036, F037</p>
(HLD-05) Verify that design requirements can be traced back to	LOW	LOW	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IV&V assesses RTM completeness in [REDACTED] [REDACTED] design documents each month. During


Detailed Quality Standards Scorecard												
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations								
system requirements.				<p>this assessment period, IV&V reviewed the P14 4.0 MCC RTM that appears to meet traceability requirements as shown below:</p> <table border="1"> <thead> <tr> <th>User Story ID</th> <th>Description</th> <th>Ref Src</th> <th>BSF ID</th> </tr> </thead> <tbody> <tr> <td>MCC-8</td> <td>Validate if beneficiary is not eligible for Managed Care, so that a PHP is not populated in the IE segment for the duration the beneficiary is not eligible for Managed Care in the recipient file.</td> <td>2.</td> <td>DHRME 988, DHRME 1900, DHRME 409.</td> </tr> </tbody> </table> <ul style="list-style-type: none"> projects appear to be conducting, documenting and updating the RTM in such a way as to satisfy this QRC. <p>Associated Findings: None</p>	User Story ID	Description	Ref Src	BSF ID	MCC-8	Validate if beneficiary is not eligible for Managed Care, so that a PHP is not populated in the IE segment for the duration the beneficiary is not eligible for Managed Care in the recipient file.	2.	DHRME 988, DHRME 1900, DHRME 409.
User Story ID	Description	Ref Src	BSF ID									
MCC-8	Validate if beneficiary is not eligible for Managed Care, so that a PHP is not populated in the IE segment for the duration the beneficiary is not eligible for Managed Care in the recipient file.	2.	DHRME 988, DHRME 1900, DHRME 409.									
(HLD-06) Verify that all design products are under configuration control and formally approved before detailed design begins.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> IV&V has observed inconsistencies in design approval timing among the projects and O&M. Although the Agile Methodology Plans require formal design approval before merging functionality to production, that target is often missed. IV&V has confirmed that design documents are under configuration/ version control in SharePoint and in Jira such as the P14 MCC Managed Care Status Determination FD reviewed this period. The risk rating for this QRC remains medium due to approval inconsistencies and timing. <p>Associated Findings: F034, F035, F036, F037</p>								
Development Oversight – Detailed Design (DD)												
(DD-01) Evaluate and make recommendations on existing detailed design products to verify that the design is workable, efficient, and satisfies all high-level design requirements.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> During this assessment period, IV&V reviewed the P14-DD-PHP Auto Assignment-BRMS Technical Design document and noted that the content was detailed and well organized. In previous reviews, IV&V has observed that DDs vary in terms of section completeness and consistency of content. The risk level for this category remains medium pending further development of improved DD processes and tools across the program <p>Associated Findings: F020</p>								


Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(DD-02) Evaluate the design products for adherence to the Program design methodology and standards.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> system Detailed Designs are technical in nature as they are more focused toward modules and their implementations. DDs define the logical structure of each module and their interfaces to communicate with other modules. IV&V has observed that there does not appear to be a set program methodology as project design template content varies due to a number of circumstances. The Agile Enablement Team is reviewing program standardization options and IV&V will report on progress. The DD-02 risk remains medium to account for the confirmed lack of program level detailed design templates. <p>Associated Findings: F034, F035, F036, F037</p>
(DD-03) Evaluate the design and analysis process used to develop the design and recommend improvements.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> IV&V has determined that project design teams have varying levels of cross-functional representation and understanding of design roles and responsibilities. The Staffing QRCs have noted that has a short supply of knowledgeable Business Resources that are ultimately accountable for representing the end user in design activities. This QRC remains at a medium rating for this assessment pending further activity toward review and improvement of design staff participation. <p>Associated Findings: F034, F035, F036, F037</p>

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(DD-04) Evaluate design standards, methodology, and CASE tools used and make recommendations.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> IBM/Cúram provides design standards that [REDACTED] PROJECT can use to develop custom applications to complement the standard IBM Cúram Social Program Management system. CASE management tools such as Visio are used for process, architecture and data flows and Jira is used for documenting Design tasks. However, as mentioned in DD-02, there does not appear to be program wide detailed design document content standards and templates. However, [REDACTED] expects to see design improvements from the Agile Enablement Team and DevOps design initiatives. Due to deficiencies with the design templates and lack of progress to address them, the risk rating for this QRC remains medium. <p>Associated Findings: F034, F035, F036, F037</p>
(DD-05) Verify that design requirements can be traced back to system requirements and high-level design.	LOW	LOW	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IV&V reviewed the P14 MCC DD-PHP Auto Assignment-BRMS Technical Design during this assessment period and verified the existence and completeness of the RTM in Section 3.0 of the document. [REDACTED] projects appear to be conducting, documenting and updating the RTM in such a way as to satisfy this QRC. <p>Associated Findings: None</p>
(DD-06) Verify that all design products are under configuration control and formally approved before coding begins.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> IV&V has observed inconsistencies in design approval timing among the projects and O&M. IV&V confirms that design products are under configuration/version control in SharePoint and in Jira. The risk rating for this QRC remains medium due to Design Document approval inconsistencies. <p>Associated Findings: F034, F035, F036, F037</p>


Detailed Quality Standards Scorecard										
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations						
Development Oversight – Job Control (JC)										
(JC-01) Perform an evaluation and make recommendations on existing job control and on the process for designing job control.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> Job Controls are primarily overnight multi-tasking batch operations. IV&V has reviewed and maintains a list of batch job controls for historical purposes. New or revised batch job controls are included in the development design processes with batch staff participation. IV&V continues to observe that some recurring Data Fixes (DFs) are being executed with batches well beyond the dates that associated defects are closed (The OMP requires that DFs be retired when the associated defect is closed). This adds unnecessary time to the batch cycle and is the main reason that this QRC remains to be a Medium Risk. <p>Associated Findings: F030</p>						
(JC-02) Evaluate the system's division between batch and on-line processing with regard to system performance and data integrity.	LOW	LOW	LOW	<p>Observations:</p> <ul style="list-style-type: none"> batch vs. on-line processing decisions are made as part of the software design process and depend on such factors as job size and degree of user interaction required as shown in this diagram: <p>Batch vs. Real Time Processing</p> <table border="1"> <thead> <tr> <th>Batch Processing</th> <th>Real-Time Processing</th> </tr> </thead> <tbody> <tr> <td>The collection and storage of data, for processing at a scheduled time when a sufficient amount of data has been accumulated</td> <td>The immediate processing of data after the transaction occurs, with the database being updated at the time of the event</td> </tr> <tr> <td> </td> <td> </td> </tr> </tbody> </table> <ul style="list-style-type: none"> consistently records 100% against the 95% SLA for critical overnight batch duration times as required by the SLA. These metrics are reported in the monthly O&M Performance Metrics Report. The processing decision variables appear to meet the program's requirements for handling repetitive, long running processes with high performance. <p>Associated Findings: None</p>	Batch Processing	Real-Time Processing	The collection and storage of data, for processing at a scheduled time when a sufficient amount of data has been accumulated	The immediate processing of data after the transaction occurs, with the database being updated at the time of the event		
Batch Processing	Real-Time Processing									
The collection and storage of data, for processing at a scheduled time when a sufficient amount of data has been accumulated	The immediate processing of data after the transaction occurs, with the database being updated at the time of the event									

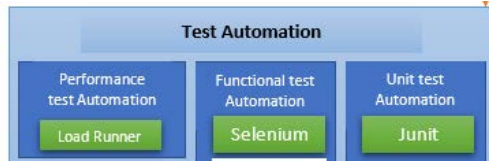
Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(JC-03) Evaluate batch jobs for appropriate scheduling, timing, and internal and external dependencies.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> Although critical overnight batches are meeting duration SLAs, O&M continues to execute unnecessary recurring DFs that add additional workload for batch operations staff. A review of the July Data Fix report indicates that 57 recurring defects are being executed with 35 of them initiated in or earlier. This QRC remains at a Medium Risk due to unnecessary data fixes adding additional time to the batch execution schedule. <p>Associated Finding F030</p>
(JC-04) Evaluate the appropriate use of Operating System (OS) scheduling software.	LOW	LOW	LOW	<p>Observations:</p> <ul style="list-style-type: none"> has assembled and integrated an effective set of batch operations software and other tools including the Job Scheduler, the Batch Execution Guide and Websphere ESB/MQFTE. These tools plus Cúram processes allow parallel batch processing that provides schedule flexibility. ESB/MQFTE and other Batch related software receive updates through Jira issues scheduled for non-Cúram branch deployments. The batch processing systems appear to satisfy requirements for scheduling and running batch jobs. <p>Associated Findings: None</p>
(JC-05) Verify that job control language scripts are under an appropriate level of configuration control.	LOW	LOW	LOW	<p>Observations:</p> <ul style="list-style-type: none"> ANT Job control shell scripts and batch tool software updates such as Job Scheduler are checked into and maintained under configuration/ version control in the Subversion repository as non-Cúram items. IV&V has verified that the JCL scripts/ Batch Configuration Items (CIs) are present as shown in the following snip from SVN. <pre> > jobscheduler v scripts ant > awk > db > dtd > lib > runbook > shell </pre>

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
				<ul style="list-style-type: none"> job control scripts appear to be well managed within the version control system as non-prod CIs. <p>Associated Findings: None</p>
Development Oversight – Code (CO)				
(CO-01) Evaluate and make recommendations on the standards and processes currently in place for code development.	LOW	LOW	LOW	<p>Observations:</p> <ul style="list-style-type: none"> utilizes IBM/Cúram coding guides and standards as well as a developer wiki, all on SharePoint, that cover development and naming standards. The Development Peer/Code Review (PR) process mandates that reviewers verify that required standards and rules were followed during code development and as shown in #2 in the snip below from the peer review checklist. <p>Peer Review Checklist <i>Code Review</i> 2: Were NC FAST coding standards followed? http://ia0dw001/DevelopmentTeam/Lists/Development%20Standards/Flat.aspx?RootFolder=/DevelopmentTeam%20Lists%20Development%20Standards%20Java%20Coding%20Standards&FolderCTID=0x01200200D07A2E8CFE4E5140A18B8F9CD9CDE3FF</p> <ul style="list-style-type: none"> The O&M DevOps process improvement initiative plans to roll out a Development Standards Presentation for all projects to improve developer awareness and obtain feedback for improvements. Details are in Jira at: <div style="border: 1px solid #ccc; padding: 5px; margin: 5px 0;">  </div> <ul style="list-style-type: none"> The development standards and processes appear to meet Cúram and good Java coding practices. <p>Associated Findings: None</p>
(CO-02) Evaluate the existing code base for portability and maintainability, taking software metrics including but not limited to modularity, complexity, and source and object size.	LOW	LOW	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IV&V has observed that the code base satisfies the QRC elements by adhering to the federal Medicare Information Technology Architecture (MITA) requirements based on IEEE Std. 1061 and ISO/IEC 9126, both having to do with software quality attributes described in the QRC. development teams use metrics to categorize customizations by effort (Low/Med/ Hi) as shown below from a Jira Story Issue:

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
				 <ul style="list-style-type: none"> The [REDACTED] Cúram code base appears to meet IEEE Std. 1061 and ISO/ IEC 9126 having to do with the software quality attributes mentioned in the QRC. <p>Associated Findings: None</p>
(CO-03) Evaluate code documentation for quality, completeness (including maintenance history) and accessibility.	LOW	LOW	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IV&V has reviewed [REDACTED] code documentation that is integral to the code as well as documentation traceable to the code. Some examples include: <ul style="list-style-type: none"> [REDACTED] Integral code documentation refers to comments or instructions found in/ with the code such as JDocs that are on the Peer Review Checklist as below: Peer Review Checklist <i>Code Review</i> 3: Have JavaDoc comments been created for all classes and methods? [REDACTED] Traceable code documentation refers to artifacts such as requirements, design documents and Change Requests. The majority of these code documentation items maintain internal version control or controls provided by Subversion, SharePoint or Jira. [REDACTED] Code documentation quality appears to be adequate for development and O&M purposes. <p>Associated Findings: None</p>
(CO-04) Evaluate the coding standards and guidelines. This evaluation shall include, but is not limited to, structure, documentation, modularity, naming conventions, and format.	LOW	LOW	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IV&V has verified that development leads are required to sign off on standards used in the Peer Review Checklist. Please see #2 in the Peer Review snip in CM-01 above for references and a link to [REDACTED] development standards. Coding standards/guidelines are located on SharePoint and are updated as needed such as the recently updated development standards required to be compatible with the Golden Gate, 24X7, solution. [REDACTED] provides additional guidelines in the Peer Review process such as the new requirement for documenting use of Findbugs.

Detailed Quality Standards Scorecard												
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations								
				<p>21: Findbugs</p> <p>Has the modified code or newly introduced added new findbugs error or warning? No</p> <ul style="list-style-type: none"> in NFDO-68, Process Improvements, has emphasized standards for custom SQL reviews that have created performance issues, during the Peer Review Process. <p>14. Is there any custom SQL, dynamic evidence, or entity updates in the changes under review?</p> <ul style="list-style-type: none"> IV&V has reviewed and maintains a record of the and IBM/Cúram standard documentation and observes that development leads indicate that they are fit for coding purposes. <p>Associated Findings: None</p>								
(CO-05) Verify that developed code is kept under appropriate configuration control and is easily accessible by developers.	LOW	LOW	LOW	<p>Observations:</p> <ul style="list-style-type: none"> As mentioned and verified in the CM- 03-07 QRCS, code repository access and version control are maintained in the Subversion (SVN) Configuration Management Data Base. IV&V staff noted SVN code CIs for P14.2 IBE shown in svn snip below: <p>URL: https://jira.ncfast.pri/svn/hfssadgbl/branches/P14.2/R1_No_Touch_No_Income</p> <table border="1"> <thead> <tr> <th>File</th> <th>Extension</th> <th>Revision</th> <th>Aut</th> </tr> </thead> <tbody> <tr> <td>AddToCase</td> <td></td> <td>92836</td> <td>cbk</td> </tr> </tbody> </table> <ul style="list-style-type: none"> Developers have access to their code components and check code out of SVN (update) to their VM work spaces and publish (commit) the code when changes are complete and any conflicts are resolved. It appears that has adequate controls over developed code within SVN that is accessible by developers. <p>Associated Findings: None</p>	File	Extension	Revision	Aut	AddToCase		92836	cbk
File	Extension	Revision	Aut									
AddToCase		92836	cbk									
(CO-06) Evaluate the program's use of software metrics in management and QA.	LOW	LOW	LOW	<p>Observations:</p> <ul style="list-style-type: none"> has access to software metrics that can help gauge the overall quality of the code including the following: <ul style="list-style-type: none"> Change and Design Adjustment Requests Defect metrics reported by Quality Assurance Software performance metrics Workaround metrics including TPCs and data fixes 								

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
				<ul style="list-style-type: none"> MAXIMUS has delivered a separate Quality Root Cause Analysis (RCA) report to [REDACTED]. IV&V is working with the [REDACTED] QA team to flesh out a comprehensive set of metrics to enable deeper Root Cause analysis and trending. IV&V regularly reviews/evaluates these metrics as part of other QRCs in this assessment such as the CHG & SC components. It appears that the program uses software metrics to its benefit. <p>Associated Findings: None</p>
Development Oversight – Unit Test (UT)				
(UT-01) Evaluate the plans, requirements, environment, tools, and procedures used for unit testing system modules.	LOW	LOW	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IV&V staff have reviewed the [REDACTED] Unit Test plan, <i>JUnit Tests for Curam</i> document in SharePoint, which spells out the test procedures and fit in TeamCity. IV&V staff have met with development leads during July to review results of JUnits as shown below from TeamCity for the P4 project:  <ul style="list-style-type: none"> [REDACTED] JUnit/JMock Unit tests appear to meet program needs for verifying that the smallest parts of a story function properly in isolation. <p>Associated Findings: None</p>
(UT-02) Evaluate the level of test automation, interactive testing, and interactive debugging available in the test environment.	LOW	LOW	LOW	<p>Observations:</p> <ul style="list-style-type: none"> As shown above, within TeamCity, [REDACTED] developers create code, check it in to Svn, and run automated tests, as part of the development build, to ensure that the changes do not create issues with existing unit tests. The DevOps Process Improvement initiative is working toward automation in all testing processes and recognizes the current JUnit test as an existing automated process as shown below:

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
				 <ul style="list-style-type: none"> • Developers are trained in a process to debug in a running TeamCity environment using break or pause points in the code. • Current unit testing automation and debugging appears to meet requirements. <p>Associated Findings: None</p>
(UT-03) Verify that an appropriate level of test coverage is achieved by the test process, that test results are verified, that the correct code configuration has been tested, and that the tests are appropriately documented.	LOW	LOW	LOW	<p>Observations:</p> <ul style="list-style-type: none"> • JUnit test documentation indicates a minimum coverage level expectation of 80%. However, designs may not cover flows for edge or alternate path cases and just present the happy path. • The revised Peer Review form includes efforts to expand coverage of code via attention to additional scenarios as shown in the following requirement from the Peer Review checklist: <p><i>Testing</i> 12: Check if there are any additional scenarios that should be unit tested.</p> <ul style="list-style-type: none"> • plans to improve coverage through use of the Clover code coverage tool that can easily be integrated into the Cúram build environment and run in TeamCity with each new code commit. DevOps planned the Clover rollout during Q2 but has been hampered by lack of infrastructure resources to configure Clover in TeamCity • Although is performing unit testing per its stated specifications, the Clover tool mentioned above will provide additional certainty regarding code coverage being tested. <p>Associated Findings: None</p>

5.3 Implementation IV&V Oversight Area

Table 5.3, provides the detailed observations for the Implementation IV&V Oversight Area. Please note that this analysis is based on the accuracy and completeness of the information that was available to the MAXIMUS IV&V team at the time of the assessment.

Table 5.3: Detailed Quality Scorecard – Implementation IV&V Oversight Area

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
Implementation Oversight – System Integration Test (SIT)				
(SIT-01) Evaluate the plans, requirements, environment, tools, and procedures used for integration testing of system modules.	NA	LOW	NA	<p>Observations:</p> <ul style="list-style-type: none"> SIT-01 not assessed this period. <p>Associated Findings: None</p>
(SIT-02) Evaluate the level of automation and the availability of the system test environment.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> Starting in October [REDACTED] will include ALL defects in the percentage of pass of total. This will include Low and Medium defects. Currently, they only use high severity defects in their calculation. If a percentage of pass of total calculation falls below 90%, the team will attempt to revert code back or analyze the impact on users for decision-making. Much like automation testing, defects and CRs are continuously added to the backlog. Some of the CRs and defects go back several years. IV&V recommends that the program assign a resource(s) to review the backlog for corrected and/or no longer necessary CRs and defects. Discussions continue regarding upgrading the automation framework to allow for more modularity. Ultimately, this could lead to test script automation by staff outside of the automation team. Twenty-one (21) new scripts were automated between June 26 – July 23, [REDACTED]. As of 7/23/19, 45% of the test scripts from O&M have yet to be automated. Thirteen (13) test scripts were deleted from the regression test set as of pass1 testing for R13.2 (July Release). Business worked hard over the last release to lean down P12 scripts to remove duplicates. This resulted in an overall drop in regression scripts. The same has been attempted in P4. Due to IV&V's continued concern over the rate of automation, compared to the rate at which new scripts are added to the regression set, the risk rating for this QRC remains medium. IV&V will continue to monitor the rate of script automation

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
				and the potential risk to the ability of the Test Team to adequately perform regression testing. Associated Findings: F032
(SIT-03) Verify that an appropriate level of test coverage is achieved by the test process, that test results are verified, that the correct code configuration has been tested, and that the tests are appropriately documented, including formal logging of errors found in testing.	NA	LOW	NA	Observations: • SIT-03 not assessed this period. Associated Findings: None
(SIT-04) Verify that the test organization has an appropriate level of independence from the development organization.	NA	LOW	NA	Observations: • SIT-04 not assessed this period. Associated Findings: None
Implementation Oversight – Pilot Test (PT)				
(PT-01) Evaluate the plans, requirements, environment, tools, and procedures for pilot testing the system.	LOW	NA	LOW	Observations: <ul style="list-style-type: none"> There have been no changes with respect to Pilot Test since the last time this QRC was assessed. P14- Managed Care Changes released functionality to regions 2 and 4. The following information summarizes steps taken to prepare the counties and Division of Health Benefits users for roll out: <ul style="list-style-type: none"> Regular information sharing County Readiness Webinars County Readiness Assessment Checklists Web -based training, Videos, Job Aids Soft Launch Production Support. Soft Launch for Managed Care Launch 1 (MCL1) occurred on June 28, typically conducts a phased implementation approach. The first phase of implementation is referred to as the pilot. Pilot counties receive training, legacy data conversion and end user support, and are the first counties to implement any new functionality. Pilot implementation for is conducted in the Production environment, as per

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
				the normal process according to implementation documents. <ul style="list-style-type: none"> Various staff coordinate and monitor Pilot Testing: Training & Communications Support Manager, Project Readiness Lead and County Readiness Specialist, - the P4 statewide rollout remains in a pending status until a decision is made by the legislature. More information regarding schedule can found in the PES QRC's. Associated Findings: None
(PT-02) Verify that a sufficient number and type of case scenarios are used to verify comprehensive but manageable testing and that tests are run in a realistic, time environment.	LOW	NA	LOW	Observations: <ul style="list-style-type: none"> There have been no changes with respect to Pilot Test since the last time this QRC was assessed. Pursuant to procedures, the pilot implementation is a full implementation for the participating counties. Thus, any production scenario that arises, and only those scenarios, are included in the pilot test. There is some risk that when conducted this way, not all potential production scenarios will be covered during the pilot period. Associated Findings: None
(PT-03) Verify that test scripts are complete, with step-by-step procedures, required preexisting events or triggers, and expected results.	LOW	NA	LOW	Observations: <ul style="list-style-type: none"> There have been no changes with respect to Pilot Test since the last time this QRC was assessed. Test scripts are not documented for Pilot implementations, since any production scenario that arises will be input. These scenarios are not documented outside of the case files themselves. The plans for Pilot Testing for all projects in development are consistent with the above. Associated Findings: None
(PT-04) Verify that test results are verified, that the correct code configuration has been used, and that the tests runs are appropriately documented, including formal logging of errors found in testing.	LOW	NA	LOW	Observations: <ul style="list-style-type: none"> There have been no changes with respect to result verification, code base, or documentations during this assessment period. releases are managed and documented within Subversion. Pilot testing is conducted in the production environment, so the risk of using the incorrect code configuration is limited to that associated with the production environment. Any defects noted during the pilot phase are logged into HP QC and then synched to Jira where they can be tracked and managed,

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
				<p>pursuant to the Program's defect management process.</p> <p>Associated Findings: None</p>
(PT-05) Verify that the test organization has an appropriate level of independence from the development organization.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IV&V has observed that there is an appropriate level of independence between the test team and the development team as seen in the different forms of testing. Developers complete Junit/JMock and Unit testing in their own virtual environment, while the QA Test Team creates test scripts in HPQC to run in the QA environment(s), Defects are reported from the test team to the development team via HPQC and Jira. <p>Associated Findings: None</p>
Implementation Oversight – Interface Testing (IT)				
(IT-01) The Vendor shall evaluate interface testing plans and procedures for compliance with industry standards.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IT-01 not assessed this period. <p>Associated Findings: None</p>
Implementation Oversight – Acceptance and Turnover (AT)				
(AT-01) Acceptance procedures and acceptance criteria for each product must be defined, reviewed, and approved prior to test and the results of the test must be documented.	MED	MED	MED	<p>Observations:</p> <ul style="list-style-type: none"> No State and County User Testing was observed for the month of July. According to Release 13.2.0 Test Status Report dated 7/12/19 and marked Final, in July, there were a total of 15 blocked scripts that were introduced to production. This is a decrease of one from June. Acceptance criteria for blocked scripts requires that blocked scripts are reviewed as part of the Testing Release Meeting and the finalized report listing the blocked scripts and their defects is included in the Release Approval email. For virtually every release, code is promoted to production having blocked scripts. Finding F033 has been raised to address this issue. Refer to QA-01 for detailed observations. It was reported to IV&V that at times, reverting code could have a higher risk for creating defects due to the connection to other pieces of functionality. IV&V is in the process of working

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
				with the Program to make recommendations more actionable. This activity continues. The risk rating for this QRC continues to be medium due to promotion of code to production having blocked scripts. Associated Findings: F033
(AT-02) Acceptance procedures must address the process by which any software product that does not pass acceptance testing will be corrected.	MED	LOW	LOW	Observations: <ul style="list-style-type: none"> During this assessment period, there were no changes to State and County User Testing (SCUT) acceptance procedures. The program continues to rely on Temporary Process Changes (TPCs). The O&M TPC Tracking list has been updated to include all of the user-facing, high severity defects in production for all projects with the exception of 3 that are outstanding. This report can be found on the Help. An alternate report for P4 TPCs can be found on the Learning Gateway. Both of these reports are sent out to the user community, as new TPCs are added or retired. The TPC report has been updated to include 70 TPCs. There are approximately 3 more to be added. Associated Findings: None
(AT-03) The Vendor shall verify that appropriate acceptance testing based on the defined acceptance criteria is performed satisfactorily before acceptance of software products.	LOW	NA	LOW	Observations: <ul style="list-style-type: none"> No changes with respect to the appropriateness of acceptance tests were observed during the assessment period. Associated Findings: None

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(AT-04) The Vendor shall verify that the acceptance test organization has an appropriate level of independence from the subcontractor.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IV&V did not observe any changes with respect to the level of the appropriate independence between the UAT team and the Program. Each project creates their own Test Plans. The User Test Plan is created by the State UAT Coordinator with approval from Test Lead and Director for the Program. Documented in the UAT Testing Plan are the following: <ul style="list-style-type: none"> Scope Approach Assumptions Roles and Responsibilities Environment Schedule Execution Validation (Entry and Exit Criteria) The appropriate level of independence exists between the UAT team and the Program. State and county representatives participate in SCUT and are completely independent from the development team. The exit criteria for SCUT includes a sign-off meeting with the state and signature from SCUT testers noting the completion of SCUT. SCUT for P4 will occur in April, <p>Associated Findings: None</p>
(AT-05) The Vendor shall verify that training for contractor-supplied software is ongoing throughout the development process, especially if the software is to be turned over to State staff for operation.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IV&V did not observe any changes with respect to transition plans during this assessment period. The State staff continues to work collaboratively with the vendor team during all phases of the program, all projects and O&M. This collaboration helps support knowledge transfer. There have been no changes with respect to Transition Plans. O&M leadership has stated that the ideal lead-time for project transition is four months, but three months is acceptable. <p>Associated Findings: None</p>

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(AT-06) The Vendor shall review and evaluate the Implementation Plan.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> There have been no change with respect to Implementation Plans. The program develops an Implementation Plan for each project, based on the Transition Plan template. No new or updated transition plans were introduced during the assessment period. <p>Associated Findings: None</p>
Implementation Oversight – Data Conversion (DC)				
(DC-01) Evaluate the State's existing and proposed plans, procedures, and software for data conversion.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> The Conversion Lead for P4 has been off-boarded. An experienced staff member has been chosen as his replacement. P4 - Conversion Activities: <ul style="list-style-type: none"> Adoption Assistance: <ul style="list-style-type: none"> Current Status: Ready for Testing Open Items: <ul style="list-style-type: none"> Test Script Development Test Execution Resource Estimate: 2 Testers for 6 weeks ICPC: <ul style="list-style-type: none"> Current Status: Defect resolution and testing in progress Mock Conversion #1: Complete Preparing for Mock Conversion #2 Legacy Data Gathering: <ul style="list-style-type: none"> Status for Pilot: Complete Status for Non-Pilot: In Progress; not started - pending application design completion P12 - Conversion Activities: During this assessment period, an additional 8K documents have been migrated into DMS for Richmond. This brings their total number of documents up to 12K. Performance issues have not improved since our last reporting of this activity. Migration numbers remain at 2K documents per hour. <p>Associated Findings: None</p>
(DC-02) Verify that procedures are in place and are being followed to review the completed data for	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> No changes have been observed with respect to conversion procedures during this assessment period. For all conversions, testing is done after each mock. Defects are tracked in Jira and

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
completeness and accuracy and to perform data clean-up as required.				managed using the Program's Defect Management Plan. Associated Findings: None
(DC-03) Determine conversion error rates and whether the error rates are manageable.	LOW	NA	LOW	Observations: <ul style="list-style-type: none"> At this time, data conversion reporting processes remain as previously documented. The data conversion reporting process includes: <ul style="list-style-type: none"> Conversion progress reporting - Jira is used to communicate defect resolution and data quality status to the conversion stakeholders. Conversion Reconciliation Reporting - Assess the accuracy of each Mock Conversion. Associated Findings: None
(DC-04) Make recommendations to make the conversion process more efficient and to maintain the integrity of data during conversion.	LOW	NA	LOW	Observations: <ul style="list-style-type: none"> At this time, conversion plan processes remain as previously reported. A Data Conversion and Migration Plan (DCMP) is completed for each project. Mock conversions using live data, as are done by all projects. This is the best method to identify conversion issues in advance of conversion. The more mock conversions that can be run, the better. Associated Findings: None
Implementation Oversight – Database Design (DbD)				
(DbD-01) Evaluate new and existing database designs to determine whether they meet existing and proposed system requirements.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> DbD-01 not assessed this period. Associated Findings: None
(DbD-02) Recommend improvements to existing designs to improve data integrity and system performance.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> DbD-02 not assessed this period. Associated Findings: None

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(DbD-03) Evaluate the design for maintainability, scalability, refreshability, concurrence, normalization (where appropriate), and any other factors affecting performance and data integrity.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> DbD-03 not assessed this period. Associated Findings: None
(DbD-04) Evaluate the Program's process for administering the database, including backup, recovery, performance analysis, and control of data item creation.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> DbD-04 not assessed this period. Associated Findings: None
Implementation Oversight – User Training and Documentation (UTD)				
(UTD-01) Review and make recommendations on the training provided to system users.	LOW	NA	LOW	Observations: <ul style="list-style-type: none"> During the current assessment period, the following training efforts occurred: <ul style="list-style-type: none"> P4 CS <ul style="list-style-type: none"> Due to the pause in roll out efforts, there have been no training offered for users. Pre-Service training development is underway. Mobile assessment - curriculum updates, Train the trainer Curriculum development for Intake and Adoption. Current challenges in planning work priorities for completion with staff reduction. P14 4.0 MCC – <ul style="list-style-type: none"> Auto-Assignment Training is in week 8 of the 12-week engagement. Some Phase 2 counties are delaying training until closer to their Soft Launch June FAQs is complete July Fact Sheet is in progress. P12 DMS <ul style="list-style-type: none"> Updates to job aids continues. Associated Findings: None

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(UTD-02) Verify sufficient knowledge transfer for maintenance and operation of the new system.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> IV&V did not observe any changes with regard to Knowledge Transfer for O&M of the new system. State resources continue to work side-by-side with the vendor team and participate actively in development and support tasks for all projects. These activities are part of the 'on-the-job' transition phase of the Transition Plan. For detailed observations regarding transition activities, refer to QRCs in Acceptance and Turnover (AT). Both project staff and the solution transition to O&M. <p>Associated Findings: None</p>
(UTD-03) Verify that training for users is instructor-led, hands-on, and is directly related to the business processes and required job skills.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> Training in the counties continues to be minimal for P4. On-site training can be requested through the Learning Gateway. Training offerings are listed on the Learning Gateway. The project Training Content Development Teams continually update the training materials based on feedback from users, the Help Desk, and others. <p>Associated Findings: None</p>
(UTD-04) Verify that user-friendly training materials and help desk services are easily available to all users.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> No changes with respect to the availability of training materials and help desk services were observed during this assessment period. The Learning Gateway provides a web-based portal of training resources that end users can access at any time. The site also provides access to Job Aids and contact information for Help Desk support and policy support. According to current policy, if any county needs training, they will send a request through an email. A process is in place to manage such requests. The user manual is available from within the application via 'Help'. The Help Desk is available during working hours Monday – Friday and have extended hours during new release periods. In addition, the Child Welfare Help Desk has extended hours. <p>Associated Findings: None</p>

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(UTD-05) Verify that all necessary policy, process, and standards documentation is easily available to users.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> No changes with respect to the availability of policy, process and standards documentation occurred during the assessment period. The Help online repository of user documentation, procedures, training materials and job aids are available for users and maintained by the training team. Note that the system is being developed to assist users in administering Agency policy. User training done by the team is centered on using the system. It does not focus on policy itself. Policy training is conducted by Operations Support. Likewise, policy documentation is provided by Operations Support. <p>Associated Findings: None</p>
(UTD-06) Verify that all training is given on-time and is evaluated and monitored for effectiveness, with additional training provided as needed.	LOW	NA	LOW	<p>Observations:</p> <ul style="list-style-type: none"> No changes with respect to the training process were observed during the assessment period. The training team is involved during project planning phases so that they are in the loop throughout the process and fully prepared to develop training materials. Survey Monkey is used by the Training Team and Help Desk to assess user satisfaction. Quizzes and knowledge checks are included in web-based trainings. The results of the quizzes and knowledge checks can be analyzed and reported through the Learning Management System. Future improvements to the program's training efforts are driven by feedback from participants <p>Associated Findings: None</p>
Implementation Oversight – Developer Training and Documentation (DTD)				
(DTD-01) Review and make recommendations on the training provided to system developers.	NA	LOW	NA	<p>Observations:</p> <ul style="list-style-type: none"> DTD-01 not assessed this period. <p>Associated Findings: None</p>

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
(DTD-02) Verify that developer training is technically adequate, appropriate for the development phase, and available at appropriate times.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> DTD-02 not assessed this period. Associated Findings: None
(DTD-03) Verify that all necessary policy, process, and standards documentation is easily available to developers.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> DTD-03 not assessed this period. Associated Findings: None
(DTD-04) Verify that all training is given on-time and is evaluated and monitored for effectiveness, with additional training provided as needed.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> DTD-04 not assessed this period. Associated Findings: None

5.4 Operations IV&V Oversight Area

Table 5.4, provides the detailed observations for the Implementation IV&V Oversight Area. Please note that this analysis is based on the accuracy and completeness of the information that was available to the MAXIMUS IV&V team at the time of the assessment.

Table 5.4: Detailed Quality Scorecard – Operations IV&V Oversight Area

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
Operations Oversight - Operational Change Tracking (OCT)				
(OCT-01) Evaluate the statewide system's change request and defect tracking processes.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> OCT-01 not assessed this period. Associated Findings: None
(OCT-02) Evaluate the implementation of the process activities and request documentation to determine if processes are effective and are being followed.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> OCT-02 not assessed this period. Associated Findings: None
Operations Oversight – Customer and User Operational Satisfaction (CUOS)				
(CUOS-01) The Vendor shall evaluate user satisfaction to identify areas for improvement.	LOW	NA	NA	Observations: <ul style="list-style-type: none"> COUS-01 not assessed this period. Associated Findings: None
Operations Oversight – Operational Goals (OG)				
(OG-01) The Vendor shall evaluate the impact of the system on program goals and performance standards.	NA	NA	LOW	Observations: <ul style="list-style-type: none"> During this assessment period the [REDACTED] program had a site visit from ACF and CMS. During this visit, county users, directors and [REDACTED] staff were interviewed for updates regarding the project. It is anticipated and expected that [REDACTED] will work toward rectifying the issues that were discussed during this visit. The [REDACTED] Program Management Plan identifies the program objectives from both the DHHS stand point and the [REDACTED] standpoint. The [REDACTED] overall goal is to provide [REDACTED] er service and reduce current error rate within the system. P4 rollout continues to be on hold due to concerns by the counties.

Detailed Quality Standards Scorecard				
Quality Rating Category	Risk Rating May	Risk Rating Jun	Risk Rating Jul	IV&V Observations
				Associated Findings: None
Operations Oversight – Operational Documentation (OD)				
(OD-01) The Vendor shall evaluate operational plans and processes.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> OD-01 not assessed this period. Associated Findings: None
Operations Oversight – Operational Processes and Activity (OPA)				
(OPA-01) The Vendor shall evaluate implementation of the process activities including backup, disaster recovery, and daily operations to verify that the processes are being followed.	NA	LOW	NA	Observations: <ul style="list-style-type: none"> OPA-01 not assessed this period. Associated Findings: None

ATTACHMENT A: Closed Findings





The following table provides a summary of closed IV&V findings. IV&V findings closed prior to this report are included in this table but not included within Section 2 of the report.

IV&V Previously Closed Findings				
Finding Title	Initial Rating	Month Opened	Month Closed	Closure Rationale Description
F001 – Staffing of Open ██████ Positions	MED	Mar ██████	Jul ██████	██████████ has mitigation plans in place for staffing. They maintain a 6-month rolling staffing plan. Finding 010 was opened to specifically address the independent QA resources to perform additional QA work, including deliverable reviews and testing.
F002 – Quality Assurance and Process Documentation	MED	Mar ██████	Apr ██████	The PMP, QAMP and PMAP have all be updated with the appropriate information regarding decision points as they pertain to Agile Methodology.
F004 – Help Desk Tickets	MED	Mar ██████	Apr ██████	All recommendations have been closed. The Help Desk Team has made significant progress in addressing the ticket backlog and has put procedures in place to address issues as they arise.
F005 – Misaligned ██████ Security Documentation	MED	Mar ██████	Apr ██████	IV&V reviewed the ██████ ██████ ██████ SMP, which satisfies the remaining open recommendation.

<p>F006 – ██████████ Security Disaster Recovery (DR) and Continuity of Operation Plan (COOP)</p>	<p>MED</p>	<p>Mar ██████</p>	<p>Apr ██████</p>	<p>For ██████, ██████ conducted a big bang hardware upgrade in the Eastern Data Center and used this process as a simulated full-scale DR test. ██████ plans to conduct a Table Top DR exercise during ██████. The DR recommendations are now closed. However, the COOP document was revised but as previously mentioned, was not tested as planned during ██████. Testing is now scheduled for Q2 ██████ and ██████ has held planning sessions with staff. To properly reflect this mix of results, IV&V will open a new finding, F017, for the COOP TT&E recommendations.</p>
<p>F007 – Back-up and Recovery of Critical Support Systems, such as Jira</p>	<p>MED</p>	<p>Jun ██████</p>	<p>Nov ██████</p>	<p>████████ has identified and documented all critical tools and support systems requiring backup and recovery procedures and completed a test of the backup and recovery procedure for each critical tool and support system.</p>
<p>F008 – Succession Planning for Key ██████████ Staff Members</p>	<p>MED</p>	<p>Jun ██████</p>	<p>Apr ██████</p>	<p>The Roles Responsibilities Authorities Plan was approved during this assessment period. The Program added an outline of responsibilities for key ██████████ positions, which provides the ██████████ Program with a defined plan of succession in the event key management personnel leave or are unavailable for an extended period of time. This outline covers management and key lead roles represented on the ██████████ Organization Chart, as well as some key specialized roles</p>
<p>F009 - System Integration Testing (SIT) – Regression Testing</p>	<p>MED</p>	<p>Jul ██████</p>	<p>Mar ██████</p>	<p>The Project Teams have reported results of their critical path analyses.</p>

F016 –Process Definition and Product Standards	MED	May ██████	Jun ██████	It appears that the Change Management (CM) process is being followed, as the IV&V Team has not observed development work being completed in advance of Change Request approval.
F010 – Independent Quality Review	MED	Aug ██████	Jul ██████	The new QA Resource has completed DHHS Orientation. This resource attends Program Meetings including Project Status, Risk Review, Change Control Board and Program Management Meetings. This resource is currently performing an internal review of Jira.
F011 – Defect Tracking for Operations & Maintenance (O&M)	MED	Nov ██████	Jul ██████	Defects are being traced in Jira for projects with requirements Jira.
F017 – ██████████ Continuity of Operation Plan (COOP) TT&E	MED	May ██████	Jul ██████	The DHHS PSO led the TT&E exercise, which was completed on 6/30/██████. Results have been documented and provided to IV&V.
F012 – Staffing for Business Representation	MED	Nov ██████	Aug ██████	██████████ has done what they can to alleviate the issue, particularly with respect to the assignment of CWOs for P4.
F013 – ██████████ System Quality	MED	Dec ██████	Oct ██████	This finding is being closed and replaced by more detailed findings: F025, F026, F027, F028, F029, F030 and F031.
F014 - Test Automation	MED	Dec ██████	Oct ██████	This finding is being closed. It is being replaced by finding F032 which covers the automation rate.
F015 – SIT Test Acceptance Criteria	MED	Jan ██████	Oct ██████	This finding is being closed and replaced by finding F033 which focuses on blocked test scripts.
F027 – Reporting of Medium and Low Severity Defects	MED	Nov ██████	Jan ██████	This finding is being closed since the program is now tracking Medium and Low severity defects on the final Release Test Status Results along with the number of scripts passed and the percentage pass of total.

F024 - QA Independence from Program	MED	Oct [REDACTED]	Mar [REDACTED]	This finding is being closed and reduced to a rating of LOW due to the restructuring of the Quality Assurance and Auditing Lead position. The responsibility is being divided into two positions with the QA Lead now reporting to the Director of [REDACTED].
F018 – Temporary Staff Skills and Knowledge.	MED	Jun [REDACTED]	Apr [REDACTED]	This finding is being closed due to the data showing SCRUM study Fundamentals Training Completion for all CWOs.
F019 – Design Processes	MED	June [REDACTED]	June [REDACTED]	This finding was closed and replaced by findings F034, F035, F036 and F037 in order to give credit for work completed to date and to make current recommendations more actionable
F020 - Design Documents and Templates	MED	June [REDACTED]	June [REDACTED]	This finding was closed and replaced by findings F034, F035, F036 and F037 in order to give credit for work completed to date and to make current recommendations more actionable
F021 – Lack of Interface Inventory	MED	June [REDACTED]	June [REDACTED]	This finding was closed due to satisfaction of the inventory documentation completed and the annual process update policy documentation.
F022 – Agile Training and Tracking	MED	July [REDACTED]	June [REDACTED]	This finding was closed due the loading of staff completion tracking being loaded to the LMS and because a process/policy was documented supporting the training of new hires within a 30-day period to include Agile Training.

<p>F028 – Use of Temporary Process Changes</p>	<p>MED</p>	<p>Nov </p>	<p>June </p>	<p>This finding is being closed due to the creation of the Temporary Process Change (TPC) Report. The TPC Report includes: date published, date updated, date retired, affiliated program and the information regarding the TPC. This information has been relayed to the user community in weekly communications and will also be sent out as an individual communication for further reinforcement.</p>
<p>F029 – Tracking of Temporary Process Changes</p>	<p>MED</p>	<p>Nov </p>	<p>June </p>	<p>This finding is being closed due to the creation of the Temporary Process Change (TPC) Report. The TPC Report includes: date published, date updated, date retired, affiliated program and the information regarding the TPC. This information has been relayed to the user community in weekly communications and will also be sent out as an individual communication for further reinforcement.</p>

ATTACHMENT B: Probability and Impact Criteria

Each IV&V quality-rating category was assigned a risk level of either high (red), medium (yellow), or low (green). These risk ratings were determined by the following criteria:

Probability

H	Probable/eminent Occurrence	If the risk is probable or eminent based on the information available, the probability rating was considered High (red).
M	Possible/likely Occurrence	If the risk is likely to occur based on the information available, the probability rating was considered Medium (yellow).
L	Possible/unlikely Occurrence	If the risk is possible, but unlikely to occur based on the information available, the probability rating was considered Low (green).

Impact

H	High Impact	If the risk is considered to significantly affect the schedule, cost, resources, or quality of the Program, the impact rating was considered High (red). Note: Multiple medium ratings that are found in similar areas can result in an aggregate rating of high impact.
M	Medium Impact	If the risk is considered to moderately affect the schedule, cost, resources, or quality of the Program, the impact rating was considered Medium (yellow). Note: Multiple low impact ratings that are found in similar areas can result in an aggregate rating of medium impact.
L	Low Impact	If the risk is considered to minimally affect schedule, cost, resources, or quality of the Program, the impact rating was considered Low (green).

Overall Risk Rating

Probability	H			
	M			
	L			
		L	M	H
		Impact		

ATTACHMENT C: Review Schedule

The table below provides the review schedule for Quality Items, as defined in the IV&V Amendment Contract.

Note that the order of the Review Areas may vary from the order presented in the report.

¹ The Vendor shall perform Implementation Oversight Reviews once each month during each Project's Implementation and Rollout (including both Pilot rollout and Statewide rollout), notwithstanding the schedule shown above.

Review Schedule												
	Month											
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th
Review Areas	April	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
Management Oversight												
Project Management	x		x		x		x		x		x	
Risk Management		x		x		x		x		x		x
Change Management	x		x		x		x		x		x	
Configuration Management		x		x		x		x		x		x
Project Estimating and Scheduling		x		x		x		x		x		x
Quality Assurance	x		x		x		x		x		x	
Requirements Management		x		x		x		x		x		x
Security Requirements	x		x		x		x		x		x	
Requirements Analysis		x		x		x		x		x		x
Project Personnel and Organization			x			x			x			x
Subcontractors and External Staff			x			x			x			x
██████████ Program Office			x			x			x			x
Interface Requirements		x			x			x			x	
Requirements Allocation and Specification		x			x			x			x	
Reverse Engineering	x			x			x			x		
Project Sponsorship		x						x				

Management Assessment			x						x			
Business Process Reengineering				x						x		
Communication Management					x						x	
Process Definition and Product Standards	x						x					
Development Oversight												
System Software	x		x		x		x		x		x	
System Capacity		x		x		x		x		x		x
Development Hardware		x		x		x		x		x		x
Development Software	x		x		x		x		x		x	
High Level Design	x	x	x	x	x	x	x	x	x	x	x	x
Detailed Design	x	x	x	x	x	x	x	x	x	x	x	x
Job Control	x	x	x	x	x	x	x	x	x	x	x	x
Code	x	x	x	x	x	x	x	x	x	x	x	x
Unit Test	x	x	x	x	x	x	x	x	x	x	x	x
System Hardware		x			x			x			x	
Database Software	x			x			x			x		
Implementation Oversight ¹												
System Integration Test	x		x		x		x		x		x	
Pilot Test		x		x		x		x		x		x
Interface Testing	x		x		x		x		x		x	
Acceptance and Turnover		x		x		x		x		x		x
Data Conversion		x		x		x		x		x		x
Database Design	x		x		x		x		x		x	
User Training and Documentation		x		x		x		x		x		x
Developer Training and Documentation	x		x		x		x		x		x	
Operations Oversight												
Operational Change Tracking	x		x		x		x		x		x	
Operational Processes and Activity	x		x		x		x		x		x	

Customer & User Operational Satisfaction		x			x			x			x	
Operational Goals	x			x			x			x		
Operational Documentation			x						x			

1 The Vendor shall perform Implementation Oversight Reviews once each month during each Project's Implementation and Rollout (including both Pilot rollout and Statewide rollout)

ATTACHMENT D: Enrollment & Eligibility Checklist Progress Report

The Enrollment and Eligibility Checklist Progress Report is provided as a separate deliverable, quarterly.



 IV&V

Monthly IV&V Assessment Report

Prepared By: MAXIMUS

Deliverable #16.47

Version 2.0


August 22, 

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1. Document History

This section provides a chronological history of all revisions made to the document.

VERSION	DATE	AUTHORS	STATUS	NOTES
1.0	8/12/	MAXIMUS	1 st Submission	
2.0	8/22/	MAXIMUS	2 nd Submission	Updated Section 5.2 to reflect comments from the State. Other sections updates as needed to reflect changes to Section 5.2.

2. Executive Summary

The ██████████ (██████) Project has four primary phases or releases. Release 1 of the project addressed requirements of the Affordable Care Act (ACA) related to Medicaid eligibility and interacting with the Federally Facilitated Marketplace (FFM). The State and ██████████ implemented Release 1 on February 8, ██████████. The programs addressed in Release 2, which went live on March 18, ██████████, are Temporary Assistance for Needy Families (TANF), Supplemental Nutrition Assistance Program (SNAP), and Child Care. Release 3 addresses the Medicaid Aged Blind Disabled (ABD) program and Release 4 includes the Low Income Home Energy Assistance Program (LIHEAP). The new system is named Self-Service Portal and Consolidated Eligibility System (SPACES).

██████████ formally assumed the role of the State’s implementation vendor on April 15, ██████████, replacing the State Information Technology Department (ITD) in this lead role. This change significantly altered the approach and pace of the project, and as a result, since September ██████████, MAXIMUS has provided a more intensive level of IV&V services including monthly IV&V reporting. In ██████████, the State added the completion of the Centers for Medicare and Medicaid Services (CMS) MEET Quarterly Project Reports to the enhanced services. The current contract ended on June 30, ██████████. A Letter of Intent was fully executed June 14, ██████████ recognizing the State’s and MAXIMUS’ intent to enter into a contract amendment that recognizes the cost and schedule impact for continuing IV&V services due to the project extension. The contract amendment is subject to approval by the Executive Steering Committee (ESC) and CMS. The contract is currently at CMS for review and approval. IV&V services continue into August ██████████ pending ESC and CMS approval of the contract amendment.

Summary of Current Project Status

Exhibit 2-1: Executive Summary Status Scorecard provides a high-level overview of the current project status for project activities as of the end of July ██████████. In some activity areas (such as Analysis and Design), the State and ██████████ have distinct roles for which the project assigns status separately in weekly status reporting. In others (such as Communications), status is reported jointly. In all cases, IV&V assigns a status based on the overall activity area. We provide further detail on the activities completed in the month and the basis of IV&V’s evaluation in *Section 4: Status of the ██████████ Project*.

EXECUTIVE SUMMARY STATUS SCORECARD				
WORK AREA	PROJECT ASSIGNED STATUS		IV&V ASSIGNED STATUS	IV&V STATUS CHANGE
	OWNER	STATUS		
Project Estimation and Scheduling	██████████/State	●	●	=
Analysis and Design	██████████	●	●	=
Construction/ Development	██████████	●	●	=
System Integration Testing	██████████	●	●	=

Exhibit 2-1: Executive Summary Status Scorecard. This table presents the Project Assigned and IV&V Assigned Status for activity across the project.

Summary of Key Findings and Recommendations

During each IV&V assessment period, the IV&V team conducts analysis in selected focus areas/task items outlined in the IV&V contract. During this assessment period, IV&V reviewed selected task items within the Project Management, Development Environment, Software Development, and System and Acceptance Testing focus areas. For the specific task items examined in this assessment, refer to *Section 5: IV&V Detailed Scorecard*.

During our assessment, The IV&V team identified **accomplishments** of the [REDACTED] Project.

- [REDACTED] completed all planned joint application design sessions (JADs) for the 10 CRs scheduled for July [REDACTED] with one exception (CR1016). [REDACTED] and the State determined another JAD sessions was needed to complete the design for the CR. During the JAD, the attendees identified a need for additional time to complete the JAD. Overall, the JAD schedule is being managed by the Joint PMP and appears on track.
- [REDACTED] initiated development and SIT for the eight CRs included in Iteration 1. There has been some movement of CRs across the three iterations for Release 3 but there is no impact to the overall project schedule.

Despite the above accomplishments, the IV&V team noted the following **concerns** during this assessment.

- The State continued to exceed the two-day approval window for design documentation. In July [REDACTED], four of 10 CRs were approved later than two-days. [REDACTED] has been able to absorb the delays into the development and SIT schedule. IV&V is concerned delays could cause more impacts as the project moves further into the development and SIT timeline.
- The Joint project management office (PMO) continues to develop the Release 3 project schedule into August [REDACTED]. There continues to be State tasks to be loaded to the plan. In the meantime, there are tasks completed or in progress where actual metrics have not been captured. The validity of the actual metrics comes into question the longer it takes to collect the data and update the project schedule. Project staff continues to work tasks where the durations and predecessors have not been baselined.
- In developing this monthly report, IV&V found inconsistencies in information reported in the State/[REDACTED] prepared weekly project status reports or maintained on SharePoint, JIRA, or JAMA. There is a need to reconcile the differences in information.

Exhibit 2-2: Executive Summary Quality Scorecard identifies the risk level and key recommendations for the mitigation of risks identified concerning the focus areas included in this assessment. For more details, refer to *Section 5: IV&V Detailed Scorecard* of this report.

EXECUTIVE SUMMARY QUALITY SCORECARD		
FOCUS AREA	RISK LEVEL	KEY RECOMMENDATIONS
Project Management	MED	<ul style="list-style-type: none"> • KEY – The [REDACTED] PMO should provide the draft Release 3 PMP for review by the Joint PMO during August [REDACTED]. The Joint PMO should review and identify any further changes to processes

EXECUTIVE SUMMARY QUALITY SCORECARD		
		<p>necessary. Once the PMP is final, obtain Project Sponsor approval. Implement changes to processes as required.</p> <ul style="list-style-type: none"> • KEY – The Joint PMO should conduct a meeting to identify risks that address the overall project life cycle. Risks identified for Release 2 can be used as a guide. Once the risks are identified, begin development of mitigation plans for the high and medium priority risks. • KEY - CCB must continue to assess CRs identified for Release 3 and determine their need for the Release 3 Go-Live. Explore ability to exchange CRs or the cost and schedule impacts should the CR(s) be so critical for Go-Live. • Key – The Joint PMO must continue to monitor the completion of the CR JADs and the subsequent approval of design documentation. Quickly assess action required by the State or [REDACTED] to obtain the State approval. [REDACTED] should ensure the CR JAD process can result in design documentation that has been mostly reviewed prior to submission for approval. If significant delays in approval, determine impact to the project schedule. • Key – The Joint PMO should finalize a project schedule that includes [REDACTED], State, and IV&V tasks. During development, continue to update the working project schedule with actual metrics against tasks completed or in progress. Upload the schedule to PMC as quickly as possible to allow entry of actual metrics by project managers and team leads.
Software Development	MED	<ul style="list-style-type: none"> • KEY – [REDACTED] and the State should continue efforts to decrease the number of CRs requiring more than two-days to approve design documentation. [REDACTED] should ensure JAD processes are consistent across the CRs and result in documentation that has been reviewed and updated prior to completion of the JAD. The State must ensure JAD attendees prioritize their work such that design documentation can be reviewed as quickly as possible. The State should provide BA support as needed in the JADs or in the review of the design documentation. • KEY – [REDACTED] should work with JAD facilitators and scribes to ensure accuracy and completeness of the meeting minutes before posting for State review. [REDACTED] should ensure minutes are posted timely after each JAD. [REDACTED] should ensure scribes are in attendance at JAD and that emails are sent to all JAD participants when meeting minutes are posted to SharePoint. • KEY - The State should take steps to ensure JAD attendees review meeting minutes as posted to SharePoint. IV&V continues to recommend the State use the “R3 Approved” status on SharePoint to indicate the State review is complete. If there are comments, [REDACTED] should update the minutes before the final status is applied. • KEY – [REDACTED] must take steps to ensure status reporting for CRs is correct and consistent across the Functional Design Plan, project schedule, and JIRA. [REDACTED] must ensure the CRs have been assigned to the correct iterations and progress against start and finish dates are tracked and reported.

EXECUTIVE SUMMARY QUALITY SCORECARD		
System and Acceptance Testing	MED	<ul style="list-style-type: none">No Key Recommendations Identified.

Exhibit 2-2: Executive Summary Quality Scorecard. *This table presents key recommendations for those Focus Areas included in the assessment.*

3. Methodology and Approach

This section outlines the methodology and approach used to document the IV&V Assessment findings in this report. For the project metrics provided in *Appendix A: Key Historical Project Metrics*, IV&V describes the source and approach in the section in which the analysis is presented.

This assessment was conducted pursuant to the Independent Verification and Validation (IV&V) Process Steps documented in the State-approved [REDACTED] ([REDACTED]) Project IV&V Services Project Plan (IV&V Deliverable #1). This plan documents the approach and methodology — including the IV&V process steps, detailed activities and standards — used during IV&V Assessments.

MAXIMUS bases the assessment on the following:

- **Meeting Observations:** The IV&V Team participates in project meetings on an ongoing basis, including routinely occurring status meetings, governance meetings, and some meetings specifically targeting the topics included in the assessment.
- **Document and Artifact Review:** The IV&V Team relies primarily on project documentation included in the Project SharePoint site; although in some cases, data, documents, and reports may be requested of the persons interviewed, or through the Project Management team.
- **Interviews:** In some cases, the IV&V Team may conduct interviews to collect additional information needed for our assessment. For these interviews, an interview guide is developed to assist the IV&V Team in determining which topics to address in the interview. Interviews were relied upon on a more limited basis for monthly assessments versus other types of assessments. In place of interviews, the IV&V team used email questions to project team members to gather some information.

Risk Rating

The IV&V team analyzes the information collected from these sources and identifies a set of findings, risks, and recommendations for the focus areas included in the assessment. In our assessments, a risk rating criteria is used, which included an evaluation of the probability or likelihood of the risk occurring and the impact of the risk if it were to materialize.

Exhibit 3-1: Risk Rating Criteria provides an overview of the criteria.

Probability

H	Probable/Imminent Occurrence	If the risk is probable or imminent then it is rated High Probability.
M	Possible/Likely Occurrence	If the risk is possible or likely to occur then it is rated Medium Probability.
L	Possible/Unlikely Occurrence	If the risk is possible, but unlikely to occur then it is rated Low Probability.

Impact

H	High Impact	If the risk is considered to significantly affect the schedule, cost, security, project organization, or significantly affect the success of meeting the project goals then it is rated High Impact.
M	Medium Impact	If the risk is considered to somewhat affect the schedule, cost, security, project organization, or generally affect the success of meeting the project goals then it is rated Medium Impact. Note: Multiple Medium ratings that are found in similar areas can result in an aggregate rating of High Impact.
L	Low Impact	If the risk is considered to minimally affect schedule, cost, security, project organization, or marginally affect the success of meeting the project goals then it is rated Low Impact. Note: Multiple Low ratings that are found in similar areas can result in an aggregate rating of Medium Impact.

Overall Risk Rating

The overall rating of a risk is the combination of the probability of occurrence and the impact of the risk to project. See rating chart below:




PROBABILITY	IMPACT		
		Low	Med
High	MED	HIGH	HIGH
Med	LOW	MED	HIGH
Low	LOW	LOW	MED

Exhibit 3-1: Risk Rating Criteria.

4. Status of the Project

This section provides the State with the status of the project by work area. This summary is based on information gathered through participation in project meetings and review of status reports, meeting minutes, risks/issues logs, documented project decisions, project deliverables, and other project artifacts available in case tools used by the project (for example, SharePoint, JIRA, and JAMA).

For each area, IV&V provides a summary of the status as reported by the project in the most recent weekly status report prior to the end of the reporting period, as well as IV&V evaluation of the same work areas, classified as follows:

-  Work area significantly off track based on baseline schedule and/or IV&V expectations
-  Work somewhat on track based on baseline schedule and/or IV&V expectations
-  Work primarily on track based on baseline schedule and/or IV&V expectations

In addition, IV&V will provides a Trend indicator as follows:




-  IV&V Assigned Status is improving compared to last reporting period
-  IV&V Assigned Status is the same compared to last reporting period
-  IV&V Assigned Status is worsening compared to last reporting period

Exhibit 4-1: Detailed Status Scorecard below describes activities and progress this month for each work area, as well as the project assigned status, IV&V status, and the trend in the IV&V status.

DETAILED STATUS SCORECARD					
WORK AREA	PROGRESS THIS MONTH AND IV&V COMMENTS	PROJECT ASSIGNED STATUS		IV&V ASSIGNED STATUS	IV&V STATUS CHANGE
		Owner	Status		
Project Estimation and Scheduling	<ul style="list-style-type: none"> Delays in State design approval has potential for delays in development and SIT. Development of the project schedule continues while project tasks are in progress. 	██████████ / State	●	●	=
Analysis and Design	<ul style="list-style-type: none"> All but one JAD planned through July ██████████ completed. Delays in State approval of design documentaton continued. IV&V has concerns regarding State review of meeting minutes. 	██████████	●	●	=
Construction/ Development	<ul style="list-style-type: none"> Iteration 1 development by ██████████ initiated. Work appears on track. IV&V has minor concerns with reporting of development status. 	██████████	●	●	=
System Acceptance Testing	<ul style="list-style-type: none"> Iteration 1 SIT initiated with work appearing on track. ██████████ initiated test case design for Iterations 2 and 3. Inconsistencies found in status reporting and JAMA. 	State	●	●	=

Table 4-1: Detailed Status Scorecard.

5. IV&V Detailed Scorecard

This section provides the State with specific, actionable, and independent information from IV&V upon which they can make informed decisions to manage the risks of the Project. IV&V based this information on the performance of both the State and [REDACTED] in comparison to industry standards and best practices.

For the month of July [REDACTED], IV&V examined selected task items included in Attachment 2 of the contract. IV&V reviewed the following topics this month.

Project Management

- PM-1 Project Management
- PM-2 Project Estimation and Scheduling
- PM-9 Action Item Management

Software Development

- SD-11 Detailed Design
- SD-25 Code - Metrics

System and Acceptance Testing

- ST-1 System Integration Test

IV&V chose the above topics because of an expectation of the work for the month of July [REDACTED]. For Release 3, the project was expected to continue planning (project schedule, project management plan (PMP)) and design JADs while initiating development and SIT for Iteration 1 CRs.

Please note in the detailed scorecards below, some recommendations are labeled as “Key”, while other recommendations are not. The recommendations labeled “Key” are those recommendations IV&V considers to have the most impact to the project if not implemented. Other recommendations, have less of an impact to the project if not implemented.

5.1 Detailed Quality Scorecard – Project Management

Table 5-1: *Detailed Quality Scorecard – Project Management* below presents detailed findings, risks, and recommendations from the Project Management portion of the assessment.

TABLE 5-1: DETAILED QUALITY SCORECARD – PROJECT MANAGEMENT

TASK #	TASK NAME	RISK LEVEL	RISK ASSESSMENT FINDING, RISKS, AND RECOMMENDATIONS
PM-1	Project Management		<p>Findings:</p> <ul style="list-style-type: none"> • The Joint PMO has not developed and finalized the Release 3 Project Management Plan (PMP). ██████████ has the lead for developing the PMP and indicated throughout July ██████████ a review and discussion of the draft PMP would occur in August ██████████. IV&V would have expected the PMP to be completed at this point in the project. <ul style="list-style-type: none"> ○ While the Release 2 PMP is the basis for development, the Joint PMP anticipated there would be changes required to plans included within the PMP (for example, communications). At month-end, IV&V could not find a draft version of the Release 3 PMP on the State SharePoint site. • The Joint PMO has not identified the overall risks for Release 3 and developed mitigation strategies for those risks. The management team discussed the need for such a meeting but had not scheduled a meeting. IV&V is concerned that without early identification of risks and development of mitigation strategies, issues are occurring before a risk is identified and a mitigation strategy initiated. <ul style="list-style-type: none"> ○ At month-end, there were only two Release 3 risks created in JIRA. One risk is closed while the other risk remains in open status (██████████ 135275). The open risk is related to use of legacy data for Release 3 testing and has a low priority status. ○ Six Release 3 issues can be found in JIRA. At month-end, three of the issues remained in an active status. Of the six issues, three of the issues started as issues instead of transitioning from a risk the Joint PMO was mitigating. • The project continues to enter action items and decisions using JIRA. At month-end, there was one Release 3 decision and 79 action items (AIs) entered by ██████████ and the State. The status of AIs are reviewed weekly during the Joint PMO planning meeting and the weekly project status meeting. Project staff actively work the action items during the design JADs or other meetings. Please see below in this section for more information on the status of AIs. • The Change Control Board (CCB) continues to consider Release 3 change requests (CRs). Effective management of the Release 3 CRs is necessary given no time or budget for additional CRs is included in the pending contract amendment with ██████████. <ul style="list-style-type: none"> ○ If the CCB determines a CR is needed before Release 3 Go-Live, the CCB would need to exchange an original CR for the new CR. The exchange of the CR is only possible if design/development has not already started on the original CR. The window for exchanging a CR is narrowing as design and development continues for the approved

TABLE 5-1: DETAILED QUALITY SCORECARD – PROJECT MANAGEMENT

TASK #	TASK NAME	RISK LEVEL	RISK ASSESSMENT FINDING, RISKS, AND RECOMMENDATIONS
			<p>CRs.</p> <ul style="list-style-type: none"> ○ At month-end, the CCB had approved two CRs to replace two CRs no longer required. The CCB is managing a list of 68 CRs that are potential candidates for any additional exchanges or by adding with additional costs and schedule impacts. The State has started the prioritization of the potential 68 CRs for implementation. • The Joint PMO continues to conduct the weekly planning, project status, and schedule meetings. The State conducts a bi-weekly meeting with the Executive Steering Committee (ESC) as necessary. For July, ESC meetings were cancelled as the project waits for Federal approval of the Implementation Advance Planning Document (IAPD) and the ██████████ and MAXIMUS contract amendments. <p>Risks:</p> <ul style="list-style-type: none"> • The delay in producing the Release 3 PMP could delay implementation of process changes should they be identified. • Failure to identify overall risks for the project prevents development of mitigation strategies that could prevent issues later in the project. • Identification and approval of additional CRs for Release 3 could affect the overall schedule and budget. <p>Recommendations:</p> <ul style="list-style-type: none"> • KEY – The ██████████ PMO should provide the draft Release 3 PMP for review by the Joint PMO during August ██████████. The Joint PMO should review and identify any further changes to processes necessary. Once the PMP is final, obtain Project Sponsor approval. Implement changes to processes as required. • KEY – The Joint PMO should conduct a meeting to identify risks that address the overall project life cycle. Risks identified for Release 2 can be used as a guide. Once the risks are identified, begin development of mitigation plans for the high and medium priority risks. • KEY - CCB must continue to assess CRs identified for Release 3 and determine their need for the Release 3 Go-Live. Explore ability to exchange CRs or the cost and schedule impacts should the CR(s) be so critical for Go-Live.

TABLE 5-1: DETAILED QUALITY SCORECARD – PROJECT MANAGEMENT

TASK #	TASK NAME	RISK LEVEL	RISK ASSESSMENT FINDING, RISKS, AND RECOMMENDATIONS
PM-2	Project Estimation and Scheduling	MED	<p>Findings:</p> <ul style="list-style-type: none"> • The Release 3 Iteration 1 development and SIT execution are at low risk status at month-end. Development is complete for five of the eight CR in Iteration 1. SIT is complete for two CRs and in progress for one CR. The draft project schedule reflects an August 16, ██████ finish date for development; September 3, ██████ for SIT. IV&V also used information from JIRA and the weekly project status report dated August 5, ██████. • The State continued to exceed the two-day window for approval of design documentation following completion of the CR JADs. Approval of design documentation for five of the 10 CRs planned for July ██████ exceeded the agreed upon two-day window. ██████ has been able to absorb delays in the design approval into the development cycle. • The Joint PMO has not completed building the R3 project schedule. The State continued to identify tasks, planned start/finish dates, and dependencies for areas such as NDIT CR development and SIT, data refresh, UAT, general reporting, and implementation. There is no formal process for capturing actual metrics without a complete project schedule. <ul style="list-style-type: none"> ○ A draft version was posted to the State’s SharePoint on July 10, ██████. The ██████ PMO continued to update the project schedule as tasks, planned start/finish dated, and predecessors were identified. ○ ██████ reported entry of actual metrics into the project schedule. However, IV&V found tasks in progress or completed that did not have actual metrics entered. For example, the test case design for Iteration 1 CRs reflects zero percent progress although ██████ has reported in status reports that work is complete. The same is true for development and SIT of Iteration 1 CRs. These tasks are in progress or complete based on other project reporting. ○ There is no formal process for capture of actual metrics against the known tasks in the project schedule. The longer it takes to compete the project schedule the less accurate actual metrics may be when captured. The Joint PMO plans to continue the use of ██████’s Project Management Control (PMC) tool to capture actual metrics once a completed project schedule can be uploaded to the tool. ○ The project continues to rely on project status reports or other plans (for example, Functional JAD Plan on the State SharePoint) to obtain status information. JIRA and JAMA also provide information that can indicate the status of tasks. <p>Risks:</p>

TABLE 5-1: DETAILED QUALITY SCORECARD – PROJECT MANAGEMENT

TASK #	TASK NAME	RISK LEVEL	RISK ASSESSMENT FINDING, RISKS, AND RECOMMENDATIONS
			<ul style="list-style-type: none"> Delays in approving design documentation may cause delays in development and SIT for specific CRs. The impact increases if the design documentation approval delays continue through August and September ██████. Without a fully loaded project schedule, there is no one baselined document for use in determining the impact work completed or in progress has on downstream tasks or the overall timeline and costs. The reliable capture of actual metrics against tasks is decreased with no formal process to capture status of ██████, State, and IV&V tasks. <p>Recommendations:</p> <ul style="list-style-type: none"> Key – The Joint PMO must continue to monitor the completion of the CR JADs and the subsequent approval of design documentation. Quickly assess action required by the State or ██████ to obtain the State approval. ██████ should ensure the CR JAD process can result in design documentation that has been mostly reviewed prior to submission for approval. If significant delays in approval, determine impact to the project schedule. Key – The Joint PMO should finalize a project schedule that includes ██████, State, and IV&V tasks. During development, continue to update the working project schedule with actual metrics against tasks completed or in progress. Upload the schedule to PMC as quickly as possible to allow entry of actual metrics by project managers and team leads.
PM-7	Action Item Management	Low	<p>Findings:</p> <ul style="list-style-type: none"> During July ██████, ██████ and the State managed the AIs to where there were no active AIs in a past due status. IV&V has no concerns regarding the status or management of the AIs. <ul style="list-style-type: none"> At month-end, the project had identified 79 Release 3 AIs. Thirty-three of the AIs were created during July ██████. Fifty-eight of the 79 AIs are closed or ready to close (one AI in approved status). Twenty-two of the AIs were resolved after the assigned due date. All but three AIs were resolved within seven days of the assigned due date. Three AIs are in approval requested status pending approval by the owner of the AI and then closure. All three AIs are ready for approval well ahead of the assigned due date. Eighteen AIs are in open or in progress statuses. None of these AIs are past due based on the assigned due date. Eight of the AIs have an assigned due date on or before August 16, ██████.

TABLE 5-1: DETAILED QUALITY SCORECARD – PROJECT MANAGEMENT

TASK #	TASK NAME	RISK LEVEL	RISK ASSESSMENT FINDING, RISKS, AND RECOMMENDATIONS
			<p>Risks:</p> <ul style="list-style-type: none"> • None Identified. <p>Recommendation</p> <ul style="list-style-type: none"> • ██████████ and the State should continue to manage AIs to ensure resolution of the AIs occur on or before the assigned due date. For those AIs that go past due, take action to ensure AIs are resolved as quickly as possible. Continue to review the status in the weekly planning and project status meetings.

5.2 Detailed Quality Scorecard – Software Development

Table 5-2: *Detailed Quality Scorecard – Software Development* below presents detailed findings, risks, and recommendations from the System and Acceptance Testing portion of the assessment.

TABLE 5-2: DETAILED QUALITY SCORECARD – SOFTWARE DEVELOPMENT			
TASK #	TASK NAME	RISK LEVEL	RISK ASSESSMENT FINDING, RISKS, AND RECOMMENDATIONS
SD-11	Detailed Design	Medium	<p>Findings:</p> <ul style="list-style-type: none"> • ██████████ completed JADs for 10 additional CRs during July ██████████ as planned. Design is now complete for 22 of 26 planned CRs through July ██████████. Design completion is pending for four CRs at month-end – two pending design documentation approval (CRs 981, 982); one pending an additional day for JAD (CR 1016); and one pending internal State discussions (CR 533). <ul style="list-style-type: none"> ○ The State improved the percentage of CRs where design documentation approval occurred within two days of the JADs. Sixty (60 percent) of the 10 CRs with JADs during July ██████████ had documentation approved within the two-days following the JAD(s). The remaining four CRs were pending approval of the design documentation at the end of July ██████████ and the approval period had already exceeded two-days. In June, that percentage of CRs approved within two-days was 13 percent. State staff reviewing the design documentation indicate the two-day timeline takes longer without business analysts (BAs - State IT staff) in the JADs. The BAs are supporting Release 2 operations and are not readily available to attend Release 3 design JADs. State staff do ask for BA assistance outside the JADs when reviewing more technical aspects of the design documentation when the BAs are available. ○ At month-end, there are 16 CRs where JADs have not started. The total CRs currently identified for Release implementation is 46. • IV&V review of design cover documents, design artifacts (storyboards, decision tables, and code and/or reference tables), and meeting minutes continue to find areas of concern in documentation and process. The concerns include the following: <ul style="list-style-type: none"> ○ Design Cover Documents – Documentation of training needs improved in July ██████████ with all cover documents including text that at least indicates the topic was considered. However, for testing, only the cover document for one CR out of 10 indicated SIT or UAT testing needs were considered. IV&V would expect that some text would be included in the cover documents to indicate testing and training are not applicable to the CR(s) or

TABLE 5-2: DETAILED QUALITY SCORECARD – SOFTWARE DEVELOPMENT



TASK #	TASK NAME	RISK LEVEL	RISK ASSESSMENT FINDING, RISKS, AND RECOMMENDATIONS
			<p>include information related to testing and training considerations.</p> <ul style="list-style-type: none"> ○ Overall, approved cover documents for four of the 22 CRS failed to include text that indicated training/implementation requirements were discussed during the JADs. Cover documents for 14 of the 22 CRs failed to include text that indicates testing requirements were discussed. IV&V would have expected to see some words indicate the topics were discussed and no requirements were identified. For training, when information is included, there are variances in the level of detail provided across the cover documents. ○ Meeting Minutes – ██████████ has uploaded meeting minutes corresponding to each of CRs where JADs have occurred. In most instances, minutes for all CR JAD sessions are included in one document that is updated over time. IV&V has found that one document is best for finding all the meeting minutes in one place. <ul style="list-style-type: none"> ▪ ██████████ advises that JAD attendees continue to receive emails when meeting minutes are ready for their review. The State has indicated there have been instances where the emails were not received at all or only by a small part of the persons who attended the JAD. Since IV&V is not a part of the email distribution list, IV&V could not independently validate the issue. ▪ The State has expressed concerns with the completeness of the minutes, and accuracy of the titles or other details for the meeting minutes. <ul style="list-style-type: none"> • IV&V has found minutes with titles referencing CR(s) where the minute's content address other CR(s). IV&V has identified instances where the dates on the minutes are not correct. IV&V has alerted ██████████ of these issues when found. • IV&V has observed minutes where the notes were very limited in their content or were cryptic. The State expressed concern the minutes are sometimes not readable. ▪ IV&V found five instances of JADS in July ██████████ where the posting of meeting minutes occurred more than two days following the date of a JAD. IV&V used version history on SharePoint to determine when the minutes were uploaded or edited. The acceptable timeline would be the same day or at least the next day. IV&V could not determine if there was an agreed upon timeline established for Release 3. ▪ IV&V found one instance where the meeting minutes were not posted until after five JADs had occurred for a functional area. IV&V would have expected meeting

TABLE 5-2: DETAILED QUALITY SCORECARD – SOFTWARE DEVELOPMENT

TASK #	TASK NAME	RISK LEVEL	RISK ASSESSMENT FINDING, RISKS, AND RECOMMENDATIONS
			<p style="text-align: center;">minutes posted after each JAD for State review. .</p> <ul style="list-style-type: none"> ○ IV&V recommended in our last monthly report the State should consider entering an approval status on SharePoint to indicate the minutes have been reviewed, The State advises staff have had issues with editing the minutes and/or changing the status of the minutes. <p>Risks:</p> <ul style="list-style-type: none"> • Ongoing approval of design documentation outside the two-day window for approval can impact ██████████'s ability to timely complete development and SIT for the related CRs. • Failure to discuss and document training or testing requirements during design JADs may cause requirements to be missed during planning and execution of training and testing. • Issues with accuracy, completeness, and timeliness of ██████████ prepared meeting minutes can limit the State's ability to review, edit, and approve meeting minutes timely. This could result in incorrect facts/statements in the meeting minutes affecting the design and/or development for a CR with incorrect outcomes. <p>Recommendations:</p> <ul style="list-style-type: none"> • KEY – ██████████ and the State should continue efforts to decrease the number of CRs requiring more than two-days to approve design documentation. ██████████ should ensure JAD processes are consistent across the CRs and result in documentation that has been reviewed and updated prior to completion of the JAD. The State must ensure JAD attendees prioritize their work such that design documentation can be reviewed as quickly as possible. The State should provide BA support as needed in the JADs or in the review of the design documentation. • KEY – ██████████ should work with JAD facilitators and scribes to ensure accuracy and completeness of the meeting minutes before posting for State review. ██████████ should ensure minutes are posted timely after each JAD. ██████████ should ensure scribes are in attendance at JAD and that emails are sent to all JAD participants when meeting minutes are posted to SharePoint. • KEY - The State should take steps to ensure JAD attendees review meeting minutes as posted to SharePoint. IV&V continues to recommend the State use the "R3 Approved" status on SharePoint to indicate the State review is complete. If there are comments, ██████████ should update the minutes before the final status is applied.

TABLE 5-2: DETAILED QUALITY SCORECARD – SOFTWARE DEVELOPMENT

TASK #	TASK NAME	RISK LEVEL	RISK ASSESSMENT FINDING, RISKS, AND RECOMMENDATIONS
			<ul style="list-style-type: none"> █████████ should include entries in the design cover documents that indicate testing and training needs have been addressed. If training and/or testing is not applicable, the cover document should indicate the finding.
SD-25	Code – Metrics	Low	<p>Findings:</p> <ul style="list-style-type: none"> At month-end, ██████████ reported development was on track to complete development of the eight CRs included in Increment 1. ██████████ reported, at a high-level, development is complete for three CRs (941, 1019, and 1197). Data integration testing is in progress for four CRs (602, 856, 944, and 956). For CR 602, a design change was identified after development started, but development of the design change is in progress. <ul style="list-style-type: none"> The development status presented in the weekly project status meeting does not provide enough detail to reflect progress toward meeting planned completion dates for development of a specific CR or when the CR must be ready for SIT testing. The working project schedule dated August 6, ██████████ does not provide updated “percentage complete” metrics for development of the CRs and Iteration 1 also includes more CRs than is reported in the weekly project status report. Without an updated baselined project schedule, IV&V could not validate the development progress against the planned completion. █████████ uses JIRA structure to track the status of development work for CRs. However, IV&V could see no metrics that would indicate the status of development against planned dates. IV&V could see that structure has been established for design, development, SIT design, and SIT execution. The Functional JAD Plan maintained by ██████████ on the State SharePoint is inconsistent with information reported in the weekly project status report and in the working project schedule. There are inconsistencies in the CRs listed and the assigned Iterations. █████████ indicates development for three of 15 Iteration 2 CRs has started (1307, 1487, and 554). CR 554 was originally scheduled for Iteration 1 but moved to Iteration 2. The working project schedule reflects a start date for Iteration 2 development as August 16, ██████████. <p>Risks:</p> <ul style="list-style-type: none"> Failure to maintain consistent information across multiple documents used to track the status of CRs could cause CRs to be missed or inaccurate status reporting. <p>Recommendations:</p>



TABLE 5-2: DETAILED QUALITY SCORECARD – SOFTWARE DEVELOPMENT			
TASK #	TASK NAME	RISK LEVEL	RISK ASSESSMENT FINDING, RISKS, AND RECOMMENDATIONS
			<ul style="list-style-type: none"> KEY –  must take steps to ensure status reporting for CRs is correct and consistent across the Functional Design Plan, project schedule, and JIRA.  must ensure the CRs have been assigned to the correct Iterations and progress against start and finish dates are tracked and reported.

5.3 Detailed Quality Scorecard – System and Acceptance Testing

Table 5-3: *Detailed Quality Scorecard – System and Acceptance Testing* below presents detailed findings, risks, and recommendations from the System and Acceptance Testing portion of the assessment.

TABLE 5-3: DETAILED QUALITY SCORECARD – SYSTEM AND ACCEPTANCE TESTING			
TASK#	TASK NAME	RISK LEVEL	RISK ASSESSMENT FINDING, RISKS, AND RECOMMENDATIONS
ST-2	System Integration Test	Low	<p>Findings:</p> <ul style="list-style-type: none"> • ██████ started SIT execution for Iteration 1 CRs during the month and appears on schedule at this time. SIT is complete for two CRs (941 and 1197) and revalidation is in progress for CR 1019. SIT execution for the remaining five CRs is scheduled to complete between August 26 and September 6, ██████. <ul style="list-style-type: none"> ○ ██████ created and executed 24 test cases while testing CRs 941 and 1197. ██████ reported in the weekly project status report dated August 6, ██████ that the test execution pass percentage for the two CRs was 100 percent. There are no failed test cases. These metrics are consistent with the test cases and test runs maintained in JAMA (official repository for SIT and UAT test results). ○ ██████ reports 24 test cases were created and executed for CR 1019. Nineteen of the test cases had passed (execution pass percentage of 79 percent) and five test cases failed. The numbers reported in the weekly project status report are inconsistent with the test cases (23) that reside on JAMA for this CR. JAMA reflects 19 test cases were executed and passed prior to August 1, ██████ (cutoff for August 6, ██████ status reporting) and four test cases were in failed status. ○ No test case executions have occurred for CRs 602, 626, 856, 944, and 956. IV&V did find inconsistencies in the number of test cases reported in the weekly project status report (64) and those maintained in JAMA (61). It appears the difference is associated with CRs 602 and 626. • Overall, ██████ reports 42 percent of test cases have been executed and the overall pass percentage (including all test cases) is 38 percent. These percentage may vary slightly once inconsistencies in numbers between JAMA and the status report are addressed. The execution pass percentage for test cases executed is 89 percent.

TABLE 5-3: DETAILED QUALITY SCORECARD – SYSTEM AND ACCEPTANCE TESTING

TASK#	TASK NAME	RISK LEVEL	RISK ASSESSMENT FINDING, RISKS, AND RECOMMENDATIONS
			<p>Risks:</p> <ul style="list-style-type: none"> Failure to use JAMA as the official source for data reported in the weekly project status report can result in inaccurate reporting of SIT status for each of the iterations. <p>Recommendations:</p> <ul style="list-style-type: none">  should address the inconsistencies in reporting in the weekly project status report dated August 6,  and the metrics maintained in JAMA. Carrying over decisions from Release 2, the metrics displayed in JAMA should be the official metrics used for status reporting including the total number of test cases created and executed.

6. Updated 60 Day IV&V Assessment Plan

IV&V provides the focus areas/task items for review during the upcoming two (2) months based on activities or events scheduled to occur during those months. Prior to starting the IV&V assessments for a specific month, IV&V re-evaluates the planned focus areas/task items to address any changes in the project schedule or plans. IV&V adjusts the focus areas/task items accordingly. The following table provides the planned focus areas/task items IV&V plans to assess during designated months:

Exhibit 5-1: 60 Day Assessment Plan identifies the planned focus areas and task items for the next two months.

	August	September
Planned Topics	<p>Project Management</p> <ul style="list-style-type: none"> PM-2 Project Estimation and Scheduling PM-8 Integrated Change Control Management <p>Software Development</p> <ul style="list-style-type: none"> SD-11 Detailed Design SD-25 Code - Metrics <p>System and Acceptance Testing</p> <ul style="list-style-type: none"> ST-1 System Integration Test 	<p>Project Management</p> <ul style="list-style-type: none"> PM-2 Project Estimation and Scheduling PM-8 Project Staffing <p>Software Development</p> <ul style="list-style-type: none"> SD-11 Detailed Design SD-25 Code - Metrics <p>System and Acceptance Testing</p> <p>ST-1 System Integration Test</p> <p>ST-7 Acceptance and Turnover – UAT Planning</p>

Exhibit 6-1: 60 Day Assessment Plan. The focus areas and task items selected are based on expected events to be occurring on the project during the assessment period. Appendix A: Key Historical Project Metrics

7. Appendix A: Key Historical Project Metrics

This section provides historical tracking of key project metrics such as [redacted] project status, change requests, defects, risks, or issues. For Release 2, IV&V will continue to assess the data provided in the [redacted] weekly project status reports and add more key historical metrics as the format and/or content become more stable to allow long-term tracking of detail.

7.1 A-1: [redacted] Assigned Overall Project Status by Week

The following chart provides a summary of Overall Project Status over time as reported in [redacted] weekly status reports. The date indicated is the date the weekly status report was presented; weekly status reports are generally reporting status for the prior week's activities. Please note there were no status reports submitted on December 25, [redacted], and January 1, [redacted]. Beginning with the status report dated May 21, [redacted], the project transitioned to reporting Release 3 status.

		Overall Status																																					
Category	4-Dec	11-Dec	18-Dec	25-Dec	1-Jan	8-Jan	15-Jan	22-Jan	29-Jan	5-Feb	12-Feb	19-Feb	26-Feb	5-Mar	12-Mar	19-Mar	26-Mar	2-Apr	9-Apr	16-Apr	23-Apr	30-Apr	7-May	14-May	21-May	28-May	4-Jun	11-Jun	18-Jun	25-Jun	2-Jul	9-Jul	16-Jul	23-Jul	30-Jul	6-Aug			
Scope	G	G	G			G	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	G	G	G	G	G	G	G	G	G	G	G	G	G	G
Schedule	Y	R	R			R	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	G	G	G	G	G	Y	Y	Y	Y	Y	Y	Y	Y	Y
Staffing	G	G	G			G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
Quality	Y	Y	Y			G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
Overall Health	Y	R	R			R	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	G	G	G	G	G	Y	Y	Y	Y	Y	Y	Y	Y	Y

8. Appendix B: Acronym List

Any acronyms used in the report are included in this table.

ACRONYM	DEFINITION
ACA	Affordable Care Act
ABD	Medicaid Aged Blind Disabled
ADA	Americans with Disabilities Act
AI	Action Item
Als	Action Items
AR	Architecture Review
AR	Application Received
BA	Business Analyst
BV	Base Validation Testing
CAC	Command Action Center
CBT	Computer Based Training
CCB	Change Control Board
CMS	Centers for Medicare and Medicaid Services
CTC	County Training Champion
CRs	Change Requests
CTC	County Training Champion
DC	Data Collection
DED	Deliverable Expectation Document
DFF	Deliverable Feedback Form
DHS	Department of Human Services
E&E	Eligibility and Enrollment
EMP	
EPMO	ITD Enterprise Project Management Office
ESC	Executive Steering Committee
ETL	Extract, Transform, Load
EV	Earned Value
FACSES	Federal Automated Child Support Enforcement System
FDDR	Final Detailed Design Review
FFM	Federally Funded Marketplace
FNS	Food and Nutrition Service
FTE	Full-Time Equivalent
FES	Fundamental Eligibility System
IES	Integrated Eligibility System
IRS	Internal Revenue Service
ITD	Information Technology Department
IA	Impact Analysis

ACRONYM	DEFINITION
IV&V	Independent Verification and Validation
JAD	Joint Application Design
LC	Legacy Changes
LDS	Legacy Data Service
LCIS	Legacy Client Inquiry System
LIHEAP	Low Income Home Energy Assistance Program
LPOA	Large Project Oversight Analyst
LOI	Letter of Intent
MCI	Master Client Index
M&O	Maintenance and Operations
MEC	Medicaid Eligibility Check
MMIS	Medicaid Management Information System
██████	██████ ██████████ (Project)
██████	██████████
NFR	Non-Functional Requirements
OCM	Organizational Change Management
PAG	Project Advisory Group
PBR	Project Baseline Review
PPM	Primary Project Manager
PM	Project Manager
PMs	Project Managers
PMC	Project Management Control (scheduling tool)
PMP	Project Management Plan
PMO	Project Management Office
POA&M	Plan of Action and Milestones
PBR	Project Baseline Review
PV	Planned Value
QA	Quality Assurance
QC	Quality Control
QS	Quality Support
RFP	Request for Proposals
RTM	Requirements Traceability Matrix
SIT	System Integration Testing
SLA	Service Level Agreement
SME	Subject Matter Expert
SNAP	Supplemental Nutrition Assistance Program
SPACES	Self-Service Portal And Consolidated Eligibility System
SPI	Schedule Performance Index
SSA	Shared Services Agreement
SSP	Self Service Portal
SSD	System Support Development

ACRONYM	DEFINITION
SV	Schedule Variance
TANF	Temporary Assistance for Needy Families
UAT	User Acceptance Testing
UI	User Interface
UPA	Unreimbursed Public Assistance
WBS	Work Breakdown Structure

Appendix C. Sample Risk Report and Issue Log

Below, we provide a sample of Risk Report and Issue Log. All identifying information has been removed in order to protect our clients' privacy.

PLEASE NOTE: These samples do not represent services or deliverables being offered under this proposal. All services and deliverables being offered are exclusively described in the proposal.

RISK REGISTER

ID	Area	Risk Description	Probability	Impact	Risk Score	Positive Negative	Open Date	Assigned To (Risk Owner)	Risk Strategy	Status Update	Close Date
1.2	Stakeholders	Interfaces / Data Sharing Agreements	2	3	6	N			Working with partner agencies re requirements	reviewed interfaces with assistance of State. Interface Metadata DED edited and now approved by PMT. to send updates re Interfaces.	
1.3	RFP	extensive procurement governance structure may cause timelines to be extended.	3	3	9	N			Engaged vendor to assist in drafting RFP. Communicate early with Procurement Office. Identify the right people for the procurement team, including inviting a member of the Procurement Office to participate to the maximum extent allowable.	Master Schedule has been adjusted to account for procurement process. However delays in procurement may require change control for schedule. Revision pending completion of OPM review and approval.	

ID	Area	Risk Description	Probability	Impact	Risk Score	Positive Negative	Open Date	Assigned To (Risk Owner)	Risk Strategy	Status Update	Close Date
1.4	Schedule	Inaccurate schedule	2	2	4	N			Monitor and control execution; iterative estimation of longer term activities and timelines	Management Team has reviewed and approved Master Schedule. Schedule estimates have been generally accurate to date - iterative WBS elaboration expected. Critical path is now in jeopardy due to delays in procurement steps. Decision to update Master Schedule for add-on/prep activities rather than continue to wait on OPM process. Clarification Request draft to be submitted to PMT this week.	
1.6	Deliverable Review	State reviewers do not complete deliverable reviews timely	1	2	2	N			Continual communications and adherences to deadlines.	Reviews have been timely, with few exceptions	

ID	Area	Risk Description	Probability	Impact	Risk Score	Positive Negative	Open Date	Assigned To (Risk Owner)	Risk Strategy	Status Update	Close Date
1.7	Deliverable Review	MAXIMUS does not submit deliverables for State review in a timely manner	1	2	2	N			Monitor and adhere to deadlines	Submissions have been timely, with few exceptions	
1.8	Staffing Mgmt.	Failure to Dedicate State resources to support the DDI effort	3	3	9	N			Planning	The plan for State Resources has been revised and approved by DCSS. review of evaluation Teams completed. Role descriptions for PMO Staff now completed and reviewed by the State at Quarterly Review Session. PMO recruitment of Lead BA position continues. State plans/strategies will be reviewed at Quarterly review session.	

ID	Area	Risk Description	Probability	Impact	Risk Score	Positive Negative	Open Date	Assigned To (Risk Owner)	Risk Strategy	Status Update	Close Date
1.9	Conversion	Existing [REDACTED] staff may not have technical expertise to handle conversion issues	3	3	9	N	[REDACTED]	[REDACTED]	Mitigate with Augmentation Staff or by having DDI vendor provide service?	Brought to [REDACTED] and [REDACTED] attention. [REDACTED] resources in support of Project are vital to its success. Because of low probability of obtaining sufficient internal resources, decision to maximize the DDI and QA RFP/quotes to include technical augmentation resources to make up for internal state resources wherever possible.	
2.3	BPR/OCM	Mis-managing Organizational Change of Duties brought on by new system	3	3	9	N	[REDACTED]	[REDACTED]	Dedicated MAXIMUS and [REDACTED] lead resources and MAXIMUS capacity during procurement precludes the need to hire an OCM vendor	Regional Meetings with [REDACTED] went well. Initial Central Office group completed. Second conference call with [REDACTED]	

ID	Area	Risk Description	Probability	Impact	Risk Score	Positive Negative	Open Date	Assigned To (Risk Owner)	Risk Strategy	Status Update	Close Date
										<p>██████████ and ██████████ leaders proved valuable for OA. Draft Organizational Analysis Report outline reviewed and approved by PMT.</p>	
2.3	SDU	SDU is not prepared for transition to new system and change in scope of responsibilities	3	3	9	N	██████████	██████████	Develop and Execute SDU Change Management Plan (██████████) with ██████████) with State and SDU Vendor representatives	On 5/30/██████████, Dan provided Christine an analysis of the existing contract between ██████████ and the SDU Vendor, identifying areas where the contractual duties may be required by the conversion to EPIC. Christine reviewed and provided comment by 7/1/2019.	
2.4	Clerks	Clerks are not prepared to transition responsibilities, processes and to new system.	3	2	6	N	██████████	██████████	Develop and Execute Clerk's Change Management Plan (Plan tasks, timelines and resources to Develop and	Meeting held with ██████████, ██████████, and ██████████ to review before and after duties and details of	

ID	Area	Risk Description	Probability	Impact	Risk Score	Positive Negative	Open Date	Assigned To (Risk Owner)	Risk Strategy	Status Update	Close Date
									Execute Changes in Clerk's responsibilities and processes; Develop New Interagency Agreement)	mitigation plan. [REDACTED] completed DED and WBS for a mini-BPR [REDACTED] to own and now begin to execute plan. Clerk's BPR has kicked off. [REDACTED] and [REDACTED] facilitated on-site the week of July 15th. As-Is Clerks Process is due end of week and is first deliverable to be submitted to workgroup and the PMT.	
4.1	IAPD	Novices at developing IAPD	1	1	1	N	[REDACTED]	[REDACTED]	Hired vendors/experts (MAXIMUS) to draft IAPD	IAPD review with PMT and revisions completed. IAPD reflects pilot approach (hybrid) and procurement decisions. IAPD submitted to OCSE.	

ID	Area	Risk Description	Probability	Impact	Risk Score	Positive Negative	Open Date	Assigned To (Risk Owner)	Risk Strategy	Status Update	Close Date
	RFP	Potential delay in obtaining Hosting services in turn negatively impacting DDI vendor and critical path	2	2	4	N			Understand DoIT Procurement Requirements early in the process - and establishing point (s) of contact. Timely WBS/scheduling, drafting and review of Hosting Services RFP.	Existing Master Services Contract to be used for Hosting Services. All four RFPs posted and under OPM Review. Impact probability increased for this risk to level 3.	

CLOSED RISKS

ID	Area	Risk Description	Probability	Impact	Risk Score	Positive Negative	Open Date	Assigned To (Risk Owner)	Risk Strategy	Status Update	Close Date
1.1	Stakeholders	IES / IV-D system incompatibility	2	3	6	N			During IES Phase 3 need dual / Leads; gap analysis addressing certain interface options	Monitor for start of Phase 3. IES Status Updates to be provided by - during next risk register review. Monitor for feasibility of adding to our system requirements. Add to Interfaces within Technical Requirements.	
1.5	PAPD	OCSE Rejects PAPD	1	3	3	N			Communications with federal Representatives	IAPD submission scheduled for 2019 per OCSE. Work begins this month and will incorporate Hosting Services and O&M decisions.	
2.1	BPR	Potential that Feasibility Study discussions or other planning activities uncover concerns that cause reconsideration of the proposal to transfer the	2	3	6	-			Be alert for significant issues that may arise. Maintain frequent and substantive IL leadership review of all aspects of the planning phase. Empower SMEs	Virtual Site Visit did not prompt reconsideration of the transfer system. Risk Response Plan set aside. Status Meeting on - 12 20 - K1 given direction to close risk	

ID	Area	Risk Description	Probability	Impact	Risk Score	Positive Negative	Open Date	Assigned To (Risk Owner)	Risk Strategy	Status Update	Close Date
		██████ system.							and leadership and vendor PMO staff to raise concerns in a safe space. Document concerns and resolutions as they arise. If the potential for reconsideration of the transfer model appears imminent, notify ██████ and ██████ leadership and include in discussions.		
2.2	BPR	State reviewers do not complete deliverable reviews timely	1	2	2	-	██████	██████	Communication with staff	Significant resistance has not been found. Serious questions raised however. Reviews completed successfully.	██████
3.1	Feasibility Study	OCSE leadership changes since initial review	3	3	9	+	██████	██████	Engaged vendor to assist State with revision and resubmission. ██████ ██████ communicated with OCSE	Updated communication to OCSE submitted by Tracy. OCSE Site Review completed and corrective actions being taken per OCSE initial directions.	██████

ID	Area	Risk Description	Probability	Impact	Risk Score	Positive Negative	Open Date	Assigned To (Risk Owner)	Risk Strategy	Status Update	Close Date
									leadership prior to resubmission of FS.	Reevaluate Risk Score.	
3.2	Feasibility Study	Change in OCSE Reviewers	3	2	6	+			Engaged vendor to assist State with revision and resubmission. Communicate with appropriate OCSE staff prior to resubmission of FS.	communicated with OCSE Commissioner about forthcoming revised FS. Sean and John and others have worked diligently to complete the revision to be submitted within days/upon Director's signature.	
3.3	Feasibility Study	Potential for multiple resubmissions of Feasibility or outright rejection of Feasibility Study	1	3	3	+			Engaged vendor to assist State with revision and resubmission. Communicate with OCSE leadership and other appropriate OCSE staff prior to resubmission of FS. Consult with other states who submitted Feasibility Studies prior to	Formal letter of approval received - we can now close this risk	

ID	Area	Risk Description	Probability	Impact	Risk Score	Positive Negative	Open Date	Assigned To (Risk Owner)	Risk Strategy	Status Update	Close Date
									[REDACTED] submission. If it appears there is a potential for rejection, identify additional partners in [REDACTED] government who may be able to intercede.		

KEY FOR SCORING

	Probability	Impact	
High	3	3	High
Medium	2	2	Medium
Low	1	1	Low