



State of Indiana

Indiana Department of Administration on behalf of
Family and Social Services Administration (FSSA)

**Optum response to
Enterprise Decision Support
Solutions (EDSS)**

Enterprise Data Warehouse (EDW)

Technical Proposal
Solicitation No.: 24-78424

Date
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RFP 24-78424 – Enterprise Decision Support Solutions (EDSS) – EDW Technical Proposal

Attachment F.1

Respondent:

Optum Government Solutions, Inc.

Instructions:

This Request for Proposal (RFP) is a solicitation by the State of Indiana in which organizations are invited to compete for contracts amongst other respondents in a formal evaluation process. This Technical Proposal is for the EDW Scope only. If you are bidding the CAE scope as well, you must submit a separate Technical Proposal response for that scope using Attachment F.2.

Please be aware that the evaluation of your organization's proposal will be completed by a team of State of Indiana staff and your organization's score will be reflective of that evaluation. The evaluation of a proposal can only be based on the information provided by the Respondent in its proposal submission. Therefore, a competitive proposal will thoroughly answer the questions listed.

Please carefully review the requirements in Attachment K – Scope of Work. Describe your relevant experience and explain how you propose to perform the work. For all areas in which subcontractors will be performing a portion of the work, clearly describe their roles and responsibilities, related qualifications and experience, and how you will maintain oversight of the subcontractors' activities.

Respondents must organize their proposal in the exact order of questions provided in this document followed by their answers. While text boxes have been provided below, the Respondent may respond in the format of their choosing provided their response maintains the order proposed in this template. A completed Technical Proposal is a requirement for proposal submission for this scope. Failure to complete and submit this form may impact your proposal's responsiveness. Your proposal should be labeled as Attachment F.1 – Technical Proposal.

1. Minimum Requirements: EDW Scope Respondent Requirements

Please detail how you meet the Respondent Minimum Requirements outlined in RFP Section 1.4.1 for this scope. The State reserves the right to remove from consideration any Respondent that does not meet the Minimum Requirements.

1.4.1 Minimum Requirements

EDW Respondents Requirements

The following represents the Prime Contractor qualifications of the Respondents to the EDW scope:

1. A minimum of five (5) years maintaining and operating a data warehouse platform similar in size to the EDW platform.

As your trusted partner since 2012, Optum has worked hand in hand with the State of Indiana (the State) Family and Social Services Administration (FSSA) to support deliberate health and social services system improvement. We have leveraged the experience of Optum leaders, current FSSA staff and stakeholders, and subject matter experts (SMEs) across the nation to support collaborative partnerships and bring together an enterprise data warehouse (EDW) solution that responds to the unique needs of the State. We have worked closely with you to drive cost efficiencies and develop processes that streamline the delivery of analytics that will drive program and policy improvement. Our team is eager and prepared to provide seamless and continued service to FSSA staff and stakeholders.

State government agencies have trusted Optum since 1994 to design, implement, maintain, operate, and improve intelligent, scalable data warehouse and analytics solutions that automate processes, enhance the end user experience, expand access, and enable better health outcomes. We understand what it takes to manage and provide modular solutions for Medicaid and social services programs. Our experience and flexibility in working with a diverse group of state agencies, contractors, and stakeholders has been paramount to help our customers successfully implement and operate modular solutions.

Figure 1 shows 10 current EDW customers, which include California and New York, 2 of the largest Medicaid programs in the nation, and Illinois where we have been maintaining and operating an EDW for more than 24 years. It is similar in scope to the Indiana EDW, as it includes both Medicaid and social services data. We use the same technologies, including Teradata, Informatica, and Tableau, among others.

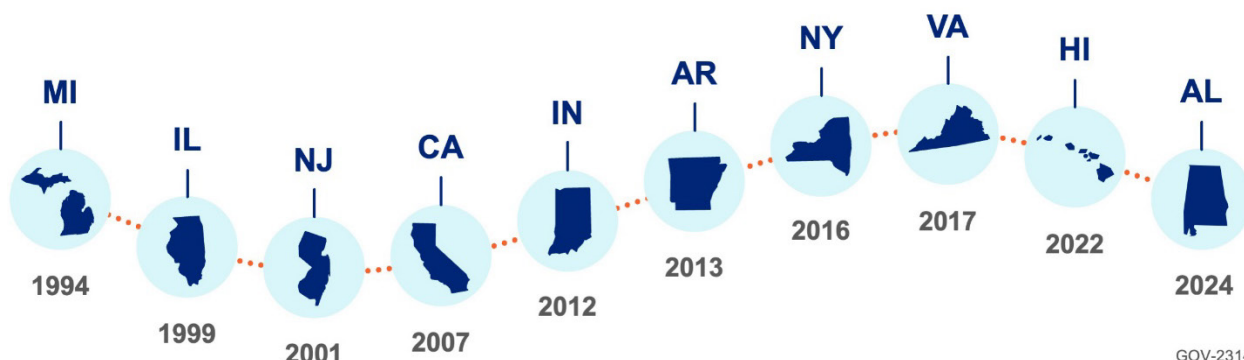


Figure 1: Current Optum EDW clients

State government agencies have trusted Optum since 1994 to design, implement, maintain, operate, and improve their EDW solutions

b. Demonstrated prior experience in maintaining:

- Teradata infrastructure (hardware and database) described in Attachment K Sections 2.4.1 and 3.6.1. Informatica ETL software described in Attachment K Section 2.4.1 and 3.6.1.2
- Experience in the other software in the EDW Technology Tool Set described in Attachment K Section 2.4.1 is preferred.

Teradata infrastructure (hardware and database) described in Attachment K Sections 2.4.1 and 3.6.1.

As your incumbent vendor, Optum has maintained and operated your Teradata environment for 12 years. In addition, we have delivered, maintained, and operated Teradata environments in both the public and private sectors for more than 29 years. We have an unmatched track record of deploying and maintaining Teradata Medicaid data warehouses for State Government clients. In fact, we deployed the first Teradata Medicaid data warehouse for Michigan in 1994 and have operated and maintained it for 30 years.

Indiana experience

Our project team has a proven record of working with FSSA on large migration projects and has worked with the FSSA Division of Healthcare Strategies & Technology (DST) to migrate the Teradata development and disaster recovery environments to our Azure cloud solution for improved resilience and scalability.

- **Cloud migration:** In 2021, we migrated the development/disaster recovery environment from on-premises to the Azure cloud. Then, in March 2024, we seamlessly migrated your production environment to the cloud on a compressed timeline, successfully responding to and absorbing procurement-related delays in the start date. With our strong project management and communication plans, we completed a transparent migration as part of maintenance operations without disruption (i.e., end users logged off one

Indiana EDW

Measurable improvement

"We have noticed that our tables are taking up far less space. Currently, we are using about 698 GB. We had been hovering around the 1,200 GB mark pretty consistently. Moreover, we have noticed that scripts seem to be running much faster recently."

--Health care data analyst, third-party consultant for FSSA

day and logged on the next, as if it were the same system).

- **Measurable improvements:** Since the migration, EDW performance and throughput have increased as evidenced by improved query and load times. Additional EDW customer data space has allowed users to retain and share additional data sets, and backup times have been reduced from 8 hours to less than 2 hours.
- **Partnership:** Through the migration project, we demonstrated that we are a proven and trusted partner. We worked closely with shareholders and vendors to achieve your objectives. We collaborated with the Indiana Office of Technology (IOT) to coordinate changes to peerings, routings, and firewalls, and coordinated testing and validation of data with your other vendor partners.

Highlighted state: Illinois

Our Illinois Healthcare and Family Services (HFS) EDW solution has many common features and services with your EDW. We have maintained and operated the Illinois EDW Teradata environment for 25 years and have continued to improve their operations and performance over time, as we have done for your EDW. Our Illinois Teradata experience includes the following essential attributes.

- **System maintenance:** We work closely with Teradata to review new certified Teradata maintenance release updates and patches and determine their applicability for installation. When Teradata issues patches to their software, we apply them in a timely fashion after consultation with our HFS customer and appropriate testing. We identify code and process changes that will be required because of the upgrade. We identify regression testing needed to confirm there are no issues introduced by the upgrade in terms of existing code and hardware compatibility. We also identify training, documentation, and help materials that will need to be updated to reflect the changes. We then discussed the advisability and timing of the upgrade with HFS and undergo the change management process for the upgrade, if desired. This collaboration allows the system to stay relevant and useable while taking advantage of new system features.
- **Performance monitoring and reporting:** We continuously monitor events and system performance with our extensive monitoring and logging capabilities in Teradata. Our solution performs with a balanced approach to fault tolerance and rapid response to workload fluctuations and component outages. While other database technologies aim for maximizing the performance of individual jobs or queries, Teradata manages system-wide resource allocation. This enables the system to support competing workloads simultaneously, such as data loads, large queries, web services, and ad hoc work. All workload types can coexist according to agreed-to metrics without completely dominating the others. We provide support 24/7 for operational use and problem resolution, including software patches, fixes, maintenance releases, as well as software implementation services for major system upgrades (e.g., the implementation of a new database version).
- **Teradata system upgrades:** In 2016 and 2023, we worked closely with HFS to successfully replace and upgrade their previous Teradata systems. We have performed similar work with successful results for many of our other state Teradata data warehouse clients. Our solution for the State of Illinois runs Teradata Vantage software and includes the IntelliFlex platforms for the on-premises production and dev/test environments, and backup and recovery (BAR) system.

- **Cloud disaster recovery:** In 2023, we successfully migrated from on-premises disaster recovery to cloud-based disaster recovery for all Teradata databases. Our Recovery Time Objective (RTO) greatly improved from 72 hours to less than 4 hours. With weekly cloud database backup to Azure BLOB Storage (instead of tape backup), we can quickly react to a disaster event to maintain system availability.



Other states for whom we have maintained Teradata environments for long periods include, Michigan for 30 years, Minnesota for 28 years, Illinois for 25 years, California for 17 years, and Virginia for 6 years. We also have experience managing Teradata deployed in the Azure Government Cloud, including Michigan and Illinois.

Informatica ETL software described in Attachment K Section 2.4.1 and 3.6.1.2

Optum has more than 12 years of Extract, Transform, and Load (ETL) experience using the Informatica suite. We employ the full range of Informatica ETL tools for multiple state Medicaid data warehouse solutions as listed next. We also have used Informatica products to build our on-prem product solutions for state and federal reporting (MARS) and Program Integrity services, which many states use today. Our deep Informatica expertise has enabled us to build a center of excellence of data engineers who support multiple solutions using common workflows and processes. We also have expanded into Informatica's newer cloud-based technology, the Informatica Intelligent Data Management Cloud (IDMC), which we deployed and now operate for our Arkansas Division of Medical Services client as described next.

Indiana experience

For Indiana, we have built a secure, extensible, multi-node Informatica platform that accommodates multiple teams in FSSA. Within the Dev/DR and Production environments, we have built individual repositories for each of the teams, and within those repositories are many subject area-focused folders that house the ETL objects and workflows. We have also implemented dozens of security roles within Informatica and work with ETL team leads to assign and maintain user memberships within those roles. The behind-the-scenes security as well as the individual repositories (and other services) make sure specific teams are working solely within their own virtual confines and that there are no security concerns from other teams.

Within your Informatica environments, we have implemented **automated processes** that streamline functions and promote a seamless environment. These processes enable us to:

- Continuously check the operational status of Informatica services
 - If we detect that an Informatica service is not running, the service will actively try to restart immediately.
- Continually check that network communications between the servers are functioning properly
- Automatically detect and alert specified users and administrators when disk space is getting low on any of the drives on our servers
- Automatically copy Informatica domain and service logs to a secure network location and then clean the local server directories, which saves disk space on your servers

We also routinely work with multiple IOT teams to replace server security certificates and SQL Server security certificates with newly signed certificates to enable Informatica to communicate with other resources and that those communications are secure. We have added functionality within the Informatica environments to use IOT's secure, encrypted mail relays, allowing you to send encrypted messages and attachments from within Informatica. In addition, we work with the ETL teams to create and maintain connections to external data sources. To accomplish this, we also work with IOT to open firewall communication from your servers to those data sources.

We have implemented multi-layer security and permissions for users. This means there are permissions at the very top level (domain level), at the repository level, at the individual folder level, and even down to the individual connection (to external data sources) level. We work with the ETL team leads to set and maintain this complex, yet highly secure implementation. We have also implemented LDAP security within Informatica in such a way that users are automatically removed from the environment and permissions revoked as soon as their LDAP account is disabled or removed.

The Optum team provides a stable environment and stays current with Informatica's new versions, vulnerability patches, emergency bug fixes, release notes, and support lifecycles for products. We apply any patches and bug fixes that are applicable to the environment. Optum will continue to provide you with this level of support and expertise.

Highlighted state: Arkansas Decision Support System

Optum has extensive experience working with Informatica for the State of Arkansas. Our experts have worked on PowerCenter for over a decade using it to develop transformation workflows on various file types. We recently converted to Informatica's cloud-native Intelligent Data Management Cloud (IDMC), which provided the experience to identify more efficient data management processes and leverage efficient cloud services. We remain tool agnostic and current on other ETL tools and emerging technologies; however, Informatica has been our primary ETL tool for a decade and our team members are experts on Informatica's PowerCenter, Data Quality, MDM, B2B, geocoding, and other tools.



Optum has extensive experience implementing, maintaining, and operating Informatica ETL software for EDW projects for Indiana, Arkansas, California, Illinois, Indiana, New Jersey, New York, and Virginia.

Experience in the other software in the EDW Technology Tool Set described in Attachment K Section 2.4.1

In our current role of maintaining and operating the Indiana EDW and Social Services Data Warehouse (SSDW), we have developed expertise, proficiency, and confidence with the full complement of technology tool sets described in Attachment K. Moreover, we have been providing health care information technology and data and analytics solutions in a dynamic, changing health care environment since 1994. Our technical staff has experience in many of the industry-standard products applicable to the health care data and analytics market. We use configurable, commercial-off-the-shelf (COTS)-based solutions that can evolve as the market changes.

The following shows how Optum has extensive experience providing the technology tools outlined in Attachment K to our EDW clients.

Arkansas DSS

Oracle EDW – Project inception: 2013 (10 years)

Tools used:

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California MIS/DSS

Teradata/Oracle EDW – Project inception: 2007 (17 years)

Tools used:

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Illinois EDW

Teradata EDW – Project inception: 1999 (25 years)

Tools used:

CONFIDENTIAL

Indiana EDW

Teradata EDW – Project inception: 2012 (12 years)

Tools used:

CONFIDENTIAL

Michigan EDW

Teradata EDW – Project inception: 1994 (29 years)

Tools used:

CONFIDENTIAL

New Jersey SDW

Oracle EDW – Project inception: 2001 (22 years)

Tools used:

CONFIDENTIAL

New York APD

Oracle EDW – Project inception: 2016 (8 years)

Tools used:

CONFIDENTIAL

Virginia EDWS

Teradata EDW – Project inception: 2017 (7 years)

Tools used:

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c. Provided applications maintenance and operations (M&O) services for a minimum of two (2) clients in the last five (5) years. M&O and enhancement services for a data warehouse system are highly preferred.

Client Example 1— Illinois Department of Healthcare and Family Services (HFS)

Attachment F—1. Minimum Requirements (RFP Section 1.4.1)

a. The entity served and type (e.g., government agency, private organization, etc.);

Illinois Department of Healthcare and Family Services (HFS), government agency

b. The scope of your services provided;

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Attachment F—1. Minimum Requirements (RFP Section 1.4.1)

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c. Contract start/end date;

CONFIDENTIAL

d. Number of users;

CONFIDENTIAL

e. Estimated number of staff required to execute Scope of Work;

CONFIDENTIAL

f. Was the project completed on time and on budget? If not, please explain;

CONFIDENTIAL

g. Detail any complications with the project; and

CONFIDENTIAL

Attachment F—1. Minimum Requirements (RFP Section 1.4.1)

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h. Explain which of the proposed staff for the EDW scope of work have worked on these projects and in what role.

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**Client Example 2—Arkansas Department of Human Services (DHS),
Division of Medical Services (DMS)**

Attachment F—1. Minimum Requirements (RFP Section 1.4.1)

a. The entity served and type (e.g., government agency, private organization, etc.);

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b. The scope of your services provided;

CONFIDENTIAL

Attachment F—1. Minimum Requirements (RFP Section 1.4.1)

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Attachment F—1. Minimum Requirements (RFP Section 1.4.1)

CONFIDENTIAL

c. Contract start/end date;

CONFIDENTIAL

d. Number of users;

CONFIDENTIAL

e. Estimated number of staff required to execute Scope of Work;

CONFIDENTIAL

f. Was the project completed on time and on budget? If not, please explain;

CONFIDENTIAL

g. Detail any complications with the project; and

CONFIDENTIAL

Attachment F—1. Minimum Requirements (RFP Section 1.4.1)

h. Explain which of the proposed staff for the EDW scope of work have worked on these projects and in what role.

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d. Supported the enhancement and M&O SDLC activities for at least one (1) data warehouse solution(s) of similar size, scope, and complexity as the EDW within the last five (5) years. This solution may have been for a city, county, state, or Federal health agency.

Client Example 3—Michigan Department of Health and Human Services (MDHHS)

Attachment F—1. Minimum Requirements (RFP Section 1.4.1)

a. The entity served and type (e.g., government agency, private organization, etc.);

CONFIDENTIAL

b. The scope of your services provided;

CONFIDENTIAL

Attachment F—1. Minimum Requirements (RFP Section 1.4.1)

CONFIDENTIAL

c. Contract start/end date;

CONFIDENTIAL

d. Number of users;

CONFIDENTIAL

e. Estimated number of staff required to execute Scope of Work;

CONFIDENTIAL

f. Was the project completed on time and on budget? If not, please explain;

CONFIDENTIAL

g. Detail any complications with the project; and

CONFIDENTIAL

h. Explain which of the proposed staff for the EDW scope of work have worked on these projects and in what role.

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e. Experience supporting Medicaid, SNAP, and TANF programs.

Optum data warehouse and decision support solutions integrate data from the Medicaid Management Information System (MMIS), Health Information Exchanges (HIEs), and other state and federal data, including Medicaid eligibility, public assistance programs, and social services.

Our Indiana EDW and business intelligence solution accesses data from Medicaid, the CHIP, waiver programs, Temporary Assistance for Needy Families (TANF), Women, Infants, Children (WIC), the Supplemental Nutrition Assistance Program (SNAP), and other programs. Automated processes for the Indiana EDW receive data from other State contractors, including eligibility data from Deloitte and Medicaid data from Gainwell.

For Arkansas's DSS, we integrated data from multiple sources across agencies, including Medicaid, CHIP, QHPs, adoption, and foster care programs. Our analytics, reporting, and dashboards enable outcomes-based improvements, payment reform, and program integrity.

Our Illinois EDW has a more extensive data model than many EDWs, which covers health and social services programs, such as Child Support and Integrated Eligibility data to provide a comprehensive view of programs. Data is integrated from more than 80 data feeds to support data-driven insights. This includes eligibility data from an integrated eligibility system, claims data from a State-managed Medicaid management information system, and Medicaid provider data from a provider enrollment module.

Michigan's comprehensive EDW covers data from more than 20 agencies across multiple state departments. We have worked with the State to expand the EDW databases and integrate Medicaid and human services program data from multiple programs and data sources, including TANF, SNAP, and WIC. The EDW also includes data from courts, licensing, wages, and taxes. These data feeds are integrated into a single environment.

The following table shows data sources from a sample of Optum state data warehouse solutions, including the Indiana EDW.

Programs, data sources, and data characteristics	State data warehouse							
	IN	AR	CA	IL	MI	NJ	NY	VA
SNAP	✓			✓	✓	✓		
Public assistance, including TANF	✓		✓	✓	✓	✓		
Medicaid, MAGI, or Non-MAGI	✓	✓	✓	✓	✓	✓	✓	✓
CHIP	✓	✓	✓	✓	✓	✓	✓	✓
Health Information Exchange/ACA coverage	✓	✓	✓	✓	✓		✓	✓
Tax Credits and QHP	✓	✓			✓		✓	
Child Support Services	✓		✓	✓	✓			
Adoption		✓	✓		✓			✓
Childcare services			✓	✓	✓	✓		✓
Foster care		✓	✓		✓			✓
Adult Protective Services					✓			

Programs, data sources, and data characteristics	State data warehouse							
	IN	AR	CA	IL	MI	NJ	NY	VA
Special Supplemental Nutrition Program for WIC	✓		✓	✓	✓			✓
Low Income Home Energy Assistance Program (LIHEAP)					✓			

f. Demonstrated prior experience for a minimum of two (2) public sector clients, specifically with city, county, state, or Federal health agencies.

Optum has an unmatched record in State Medicaid data warehousing and serves Medicaid agencies, health and social services programs, and other public sector entities to build secure, stable foundations for innovative programs in multi-vendor environments. These engagements involve programs and services, such as Medicaid, SNAP, TANF, finance, childcare, child welfare, child support, behavioral health, long-term services and support (LTSS), pharmacy, dental, vital statistics, public health programs and registries, and other vital programs and services. We understand the programmatic challenges and opportunities that state health and social services agencies face, as well as how they can use their data to enhance programs and improve health outcomes.

Health and social services agencies and other public sector clients for which we perform similar work are listed next.

Government health agency served	Optum engagement
Alaska Department of Health, Division of Health Care Services	Alaska Management and Administrative Reporting System (MARS) (Optum is a subcontractor for the project.)
Arkansas DHS and Division of Medical Services, Arkansas Office of Medicaid Inspector General (OMIG)	Arkansas DSS, Arkansas Fraud and Abuse Detection Services (FADS)
Arkansas Medicaid Enterprise (AME) Business Operations Support (BOS) and Division of Medical Services	Arkansas MARS/T-MSIS
California Department of Health Care Services (DHCS)	California Management Information System/ Decision Support System (MIS/DSS)
California DHCS, Audits, and Investigations	California Surveillance and Utilization Review Subsystem (SURS)/FADS
California DHCS, Health Information Management Division	California MARS Optum provides consulting to the State T-MSIS team in areas of data usage, project planning, CMS certifications, TPI/OBA prioritization, and more based on our expertise in managing the DSS.
Illinois HFS	Illinois EDW and MARS/T-MSIS
Indiana FSSA	Indiana EDW and MARS/T-MSIS

Government health agency served	Optum engagement
Michigan DHHS	Michigan EDW, T-MSIS, CareConnect360, Data Security Application (DSA), Waiver Support Application (WSA), Master Person Index (MPI), and Beneficiary Monitoring Program (BMP)
Missouri Department of Social Services Program Integrity Unit (PIU)	Missouri FADS (Optum is a subcontractor for the project.)
New Hampshire DHHS, PIU	New Hampshire FADS (Optum is a subcontractor for the project.)
New Hampshire DHHS	New Hampshire MARS (Optum is a subcontractor for the project.)
New Jersey Division of Medical Assistance and Health Services	New Jersey Shared Data Warehouse (SDW)
New Jersey Division of Medical Assistance and Health Services, Office of Program Integrity, Office of Investigations (OI)	New Jersey FADS
New Mexico Human Service Department, Medical Assistance Division, Office of Inspector General	New Mexico FADS (Optum is a subcontractor for the project.)
New York State Department of Health	New York All Payer Database (APD)
Virginia Department of Medical Assistance Services	Virginia EDWS and Virginia MARS/T-MSIS
Virginia Department of Medical Assistance Services, Program Integrity Department (PID)	Virginia FADS

g. Demonstrated good communications skills, sound judgment, integrity, reliability, and a professional reputation of providing high-quality services (this includes timely execution, compliance with approved requirements, and adherence to service level agreements). This will be evidenced by satisfactory references from three (3) clients with a minimum of two (2) city, county, state, or Federal government agencies.

For more than 29 years, federal and state agencies have trusted Optum to provide high-quality and reliable services with the highest levels of integrity and professionalism. Our track record for being awarded contract extensions and winning rebids is a statement to our reputation and consistent delivery quality. We help clients reduce inefficiencies, increase business performance, and solve their most pressing issues — all while enhancing their ability to manage the health and well-being of their members who are some of the most vulnerable of our population. Figure 2 below shows our commitment to supporting states' health and human services programs.



Figure 2: Our mission is to make health and social services work better for everyone

As your partner, Optum will continue to invest in services and solutions to serve health and social services programs for decades to come.

We have been brought in to take over and assist clients on large and challenging projects where other vendors have failed to deliver or provide effective support by overpromising and overextending themselves. This is how CMS engaged Optum to take over the prominent HealthCare.gov project for the first Patient Protection and Affordable Care Act (PPACA) open enrollment. We successfully completed the engagement with accolades and recognition, which brought us other exchange engagements.

Optum teams operate seamlessly in parallel work streams in multi-vendor, multi-agency environments every day as we serve customers in all 50 states, including direct partnerships with 34 states and the District of Columbia. Our Medicaid and social services contracts in these states involve working in close partnership with many vendors, including EDW, MMIS, Child Support, Child Welfare, Integrated Eligibility, MCE/MCOs, Pharmacy Benefit Managers (PBMs), Independent Validation and Verification (IV&V), external Project Management Office (PMO), Third-Party Liability, as well as other module vendors. We build strong, lasting relationships with our clients and their vendors by operating in a cohesive, collaborative manner that benefits each vendor and delivers success.

As further evidence of our professional reputation for delivering high-quality services, 3 of our state government clients have provided references. Each has submitted Attachment H Reference Check by email.

2. Executive Summary

Provide an executive summary of your proposed approach to deliver the scope of work, as well as your qualifications to conduct the work.

As your 12-year incumbent, Optum is proud of the close partnership we have developed with Indiana FSSA and the FSSA DST. Together, we have produced and maintained a sophisticated Teradata EDW to monitor FSSA's programs with ongoing operational and outcomes evaluation. We have been with you every step of the way, bringing the expertise, the processes, and the technologies to help you solve problems and achieve FSSA's vision of all Hoosiers living in fully engaged communities and reaching their greatest emotional, mental, and physical well-being.

Goal oriented partnership that has produced results

During this time, FSSA has undertaken numerous major initiatives that have transformed the delivery of Medicaid services in the State. For example, in 2021 FSSA focused on the Dual Eligibility Special Needs Plans (D-SNPs) population. To help with the assessment, Optum brought to Indiana an electronic data interchange (EDI) transaction-based encounter ingestion process developed for another state client to access the full scope of data for Indiana D-SNPs. Later, the insights derived from this approach and analysis informed what became **Pathways for Aging**, a Managed Long-Term Services and Support (mLTSS) that launched this year.



We collaborated with DST to develop 2 critical analytic dashboards to measure key performance indicators (KPIs), such as transitions in and out of the program, needed services, and predict capitation rates, among others. These dashboards also allow the State to plan capitation funding based on projected enrollment and manage budgets better.

In 2022, a help desk inquiry turned into a program for moms and babies that used integrated data and highly nuanced analytics to identify pregnant moms as early as possible to invite them to participate in the **My Healthy Baby** program. Today, the program continues to expand into new counties with over half participating at present.

While these are just a handful of hundreds of initiatives that have taken place since 2012, repeatedly, the Optum Hoosier team has brought their business expertise, process best practices, as well as their analytic and technical acumen to help you achieve your most ambitious goals. We have also been a responsive and supportive partner during good and lean budget years, flexing when needed to produce new ideas, and maintaining contracts, staff, and quality of work. Furthermore, we have consistently delivered on time, on budget, and with high-quality, strategic insights that have helped make a difference in FSSA's important work.



Bringing nationwide use cases to the State of Indiana

Indiana is a microcosm of the meaningful program support Optum has delivered to state governments for the last 30 years. Starting in 1994 in Michigan, we helped build what has become the nation's largest Medicaid and social services EDW with more than 10,000 daily users supporting 20 agencies. **Figure 3** shows our extensive background.

Optum Client	EDW	Teradata
AL	✓ <1 year	
AR	✓ 10 years	
CA	✓ 16 years	✓ 16 years
HI	✓ 1 year	
IL	✓ 24 years	✓ 24 years
IN	✓ 12 years	✓ 12 years
MI	✓ 30 years	✓ 30 years
MN	✓ 28 years	✓ 28 years
NJ	✓ 26 years	
NY	✓ 16 years	
VA	✓ 6 years	✓ 6 years

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Figure 3: Current Optum EDW and Teradata experience

State government agencies have trusted Optum since 1994 to design, implement, maintain, operate, and improve their EDW solutions, with 6 being Teradata data warehouses.

Today, we provide analytics and EDW services to 10 states, bringing best practices to the processes, the design, implementation, maintenance, operation, and modernization of these systems. We have built and maintained Teradata data warehouses for 6 state government clients, including multiple cloud deployments. We run highly efficient EDW environments with well-tested processes and procedures for project management, data governance, complex ETL and data conversions, as well as reporting and analysis for every population in state programs.

Many of these contracts have had multiple renewals because Optum brings the ability to connect, collaborate and communicate to our customers. We also bring relevant use cases from other State clients as ideas that can be leveraged as a springboard for your own analytic development. This is what we have done for DST, and this is what we will continue to do for you every single day to help your Division of Child Services (DCS) and FSSA along with its Division of Family Resources

“Throughout the years, Optum staff have demonstrated the highest standards of professionalism, knowledge, and orientation to our needs as the customer. Optum is an excellent partner that supports our goals and provides innovative ideas, concepts and solutions related to our use of the DSS.”

– State leader, Michigan EDW

(DFR), Office of Medicaid Policy & Planning (OMPP), DST and other major departments realize your future vision.



As DST shifts to focus on the future, Optum is fully prepared to help you realize your vision of a combined EDW for Medicaid and social services programs by unifying a team of highly accomplished experts knowledgeable of your data, data structures, systems and programs with time-tested best practices supporting DST's business structure and processes. Our approach streamlines the team structure, standardizes processes, and realizes cost efficiencies all without any sacrifices to quality delivery.



A unified team to achieve your future vision

To help you achieve your future visions, we seek to minimize disruption while accelerating the speed with which the State achieves cost efficiencies and quality improvements for FSSA and all stakeholders who rely on the EDW. Staffing is key. We have assembled a highly skilled team of experts from Optum and well-regarded subcontractor partners, who have more than 50 years of combined experience among the existing Office of Medicaid Policy and Planning (OMPP) and SSDW supported programs, policies, data, systems, and processes. Many of the names and faces of the proposed staff will be familiar to you. In fact, most of our team are Hoosiers, and work closely with DST and other FSSA vendors, both virtually and in your Government Center North and South buildings. By bringing the 2 existing teams together into one unified team, we've eliminated redundancies among roles and functions, moving resources into roles that support your future vision more effectively.



*Indiana Government Center North
Indianapolis, Indiana*

This unified team will be organized into 3 capabilities to align with your business functions: 1) Data Science and Engineering, 2) Analytic Services, and 3) Operations. They will work cross-functionally to reduce silos, increase efficiencies, and improve automation. The team will follow the existing hybrid Agile delivery model that will provide consistent delivery, clear lines of accountability, and successful delivery to all requirements in support of all work for FSSA, DST, DFR, Department of Child Services (DCS) and other stakeholders, such as the Department of Health (DOH).

Our Minority and Women Owned Business partners are critical to our proposed team. We will continue to partner with **CSpring** and **eSense**, who have been instrumental in providing high-performing consultants on the legacy EDW. We are also adding **Metamor Systems** and **RCR Technology**, who have supported the legacy SSDW vendor since 2008. This unified, "badge-less" team understands the State staff, programs, and culture. They know EDW best practices thoroughly and possess both OMPP and SSDW institutional knowledge, program expertise, and technological acumen.



RCR and Metamor have been dedicated to helping the DFR and DCS achieve their goals for decades. Metamor has been instrumental in helping develop programmatic reporting for DFR through the legacy SSDW vendor. For example, during the pandemic, the team worked with the prime contractor, DFR, Department of Education, EBT vendors and the Eligibility System vendor to accelerate support through the existing SNAP EBT process, which became the Summer EBT program.

Another example is developing, alongside the prime, DFR and DCS federal reporting for child support, county performance maps, and a self-service, on-demand reporting to track child support cases. Working with Child Welfare, they have provided state reporting on psychotropic drug use. They have also applied probabilistic matching to measure the effectiveness of prevention programs for Healthy Families Indiana. Metamor's program and analytics expertise will continue to be applied to the new combined EDW scope.

With a 27-year history of serving the State, RCR supported the legacy SSDW vendor and DFR to develop 1095B reporting to track minimal essential health care coverage and report to the IRS and clients for tax purposes. Because of their extensive knowledge and technical expertise, they developed key ETL processes for Work Activity and Work Participation to track subsidized and unsubsidized employment hours critical to determining eligibility. They also built the critical system interfaces for the Eligibility Systems, Workforce Management System, Call Center System, among others, as well as the data conversion rules for 27 state agency data files, facilitating cross-agency sharing. RCR's technical legacy and extensive program knowledge will continue to play a critical role in the new unified team.





An efficient transition to a unified EDW

The Optum unified team, with our incumbent status, provides a significant advantage as you eliminate the necessity for transitioning existing maintenance and operations of the EDW. Since we already bring the system, operations, and business knowledge for the legacy EDW, and we are supplementing our team's SSDW knowledge with experienced subcontractors, our existing relationships lead to minimal transition costs and a swift ramp-up time. Instead, our focus during transition will be partnering with you to confirm alignment on processes, while absorbing the legacy SSDW system, data, and other assets into the EDW and maintaining the level of service for all clients. With oversight by our Account Manager, **CONFIDENTIAL**, the team will be able to quickly turn focus on aligning processes to improve the level of service for legacy SSDW requirements, transitioning the newly combined EDW to the cloud, while also identifying opportunities for continuous improvement across the new EDW. DST will see minimal risk and the least disruption with the Optum unified team.

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CONFIDENTIAL, Account Manager, has nearly a decade of senior manager or director leadership that comprises:

- ✓ 7 years of executive experience, including the current oversight of the Indiana EDW project
- ✓ Partnering with the State on strategy and vision for solutions and operational excellence
- ✓ Serving as a case worker for the DCS



Common processes for operational excellence

In addition to reducing redundancies in staffing, we will increase efficiencies for DST and all stakeholders by instituting common processes for ongoing operations and management. We will expand our proven processes to fully support DCS programs, while moving aggressively to automate the SSDW workloads, provide more self-service options for SSDW users, and reduce cumbersome and human error-prone manual processes. The entire team will transition to the hybrid Agile approach; standardize processes for information management; ETL processes; data governance; state and federal program and operational reporting; as well as ad hoc queries and reporting. We will continue our excellent track record of automating processes to streamline every aspect of data flows, from ingestion to validation, quality audits, transformations, and extracts. Further, we will increase user self-service with data visualization to promote flexible business intelligence solutions and respond to data inquiries, where appropriate. The entire team will adopt a singular process for enhancements, to support required standards, safeguard data access and maintain system security. The approach aligns with best practices for effective data management and supports FSSA, DST, DFR, and DCS in maximizing the value of the operational data.



The future in the cloud

In March 2024, Optum accomplished your Teradata cloud transition on time and on budget. That same team will deliver the next phase of your transition to a cloud-native environment. We will deploy the EDW in IOT's Azure commercial cloud to provide the highest levels of transparency, security, availability, and recoverability while complying with federal and state compliance requirements and industry guidelines and regulations. We will move from Teradata to Snowflake, a revolutionary cloud native database that will dramatically

improve data sharing within the State and remove data silos. We will move your data integration capabilities from Informatica to Azure Data Factory, a flexible and economical cloud-native service.

Our proposed EDW analytics and reporting capabilities will operate on the foundation of Snowflake's Managed Data Warehouse Service for fast, reliable, secure, and cloud-native performance overseen and implemented by our Snowflake SnowPro-certified staff. We are veterans at implementing Snowflake and this database powers our own analytics at Optum. We use what we sell and believe in the capabilities and security of Snowflake. Snowflake is very flexible and provides capabilities that allow analytics across structured, semi-structured, and unstructured data formats. Importantly, for future roadmap considerations, our proposed architecture enables secure data sharing with researchers and is easily expandable into a data lake. This approach makes external or duplicative environments no longer necessary. Your EDW can now serve as a flexible and easy to use data lake for your data scientists to explore new data sources before they are modeled and loaded into the tables within your EDW.

Our proposed data management ETL components are cloud-native and highly scalable both horizontally and vertically. They will also improve overall uptime and flexibility. Optum will work with the software vendors to migrate Liferay, Cognos and Tableau to more cloud-native solutions. Other BI reporting and dashboards will be transitioned to the cloud-native environment from virtual machines. Other analytics tools can be added to the environment as you consider your future development roadmap. The realization of this cloud vision will set the State up for immediate and long-term benefits, as well as the flexibility to adjust as needs change and emerge.

Our work in state government and Indiana coupled with a simple, yet powerful strategy provides the unified Optum team with unparalleled ability to deliver on your vision. We're excited about what the future holds for Indiana and for our relationship together.

3. Background and Prior Experience

(Attachment K, Section 1.1, 2.4 and 3.1)

- a. Describe your company and proposed project staff's background and experience with data warehouse solutions. Include the information requested below, at a minimum. For relevant project experience, include the name of the client served, the scope of services covered, contract start and end dates, number of system users, and number of the Respondent's staff vendor staff on the project.

The 8 care divisions in FSSA along with the DCS are instrumental in administering services to more than 2 million Hoosiers. As part of your mission to compassionately serve a diverse community and dismantle long-standing, persistent inequity through deliberate health and social services system improvement, FSSA DST seeks to combine the EDW and SSDW responsibilities under one vendor. This will consolidate resources and enable you to provide quality care to the community at cost savings. Optum is a proven partner who will help you achieve your objectives.

Since 2012, we've worked with you to develop, implement, and operate your EDW solution as described in Attachment K: Scope of Work of the RFP. Our services help FSSA and DCS make decisions, reduce costs, and improve health outcomes for Medicaid and social services programs. The solution received CMS certification within 8 months of going live and features a platform for future expansion. We support approximately 125 unique individual users per month, and the solution provides data for one million low-income residents across the state. We will continue to effectively maintain and enhance your Teradata and Informatica warehousing platform's infrastructure, as well as provide maintenance and operations (M&O) support for your data warehouse solution. Our team will also partner with 2 vendors, RCR Technology and Metamor, who have substantial technical knowledge, subject matter expertise, and experience working with Indiana social services agencies. We will use their experience to support SSDW development and operations and strengthen our partnership with Indiana.

Our industry leadership in data services includes successfully developing, implementing, operating, and enhancing 10 Medicaid data warehouse and analytics solutions, including some of the largest, most complex health data repositories in the nation. We understand your vision that all Hoosiers reach their greatest emotional, mental, and physical well-being. Our experience working across agencies and programs to improve outcomes and the lives of vulnerable populations enables us to offer FSSA and DCS reliable services and proven expertise in Medicaid and social services data management, business intelligence, advanced analytics, and proactive improvements that improve health and enable value-based care while also improving daily living outcomes.

A health care and human services organization

Optum is a comprehensive health care and human services company. Data privacy, security, and health data insights are embedded in our culture, teams, and technology. Our people serve the entire health care system, providing health services, technology modernization, operational efficiencies, innovation, and thought leadership. With more than 310,000 employees, we offer unparalleled scale and experience to continue serving your program needs. Figure 4 shows our services and solutions that successfully support state government customers with innovative technology, repeatable processes, and frameworks we have refined for similar programs.

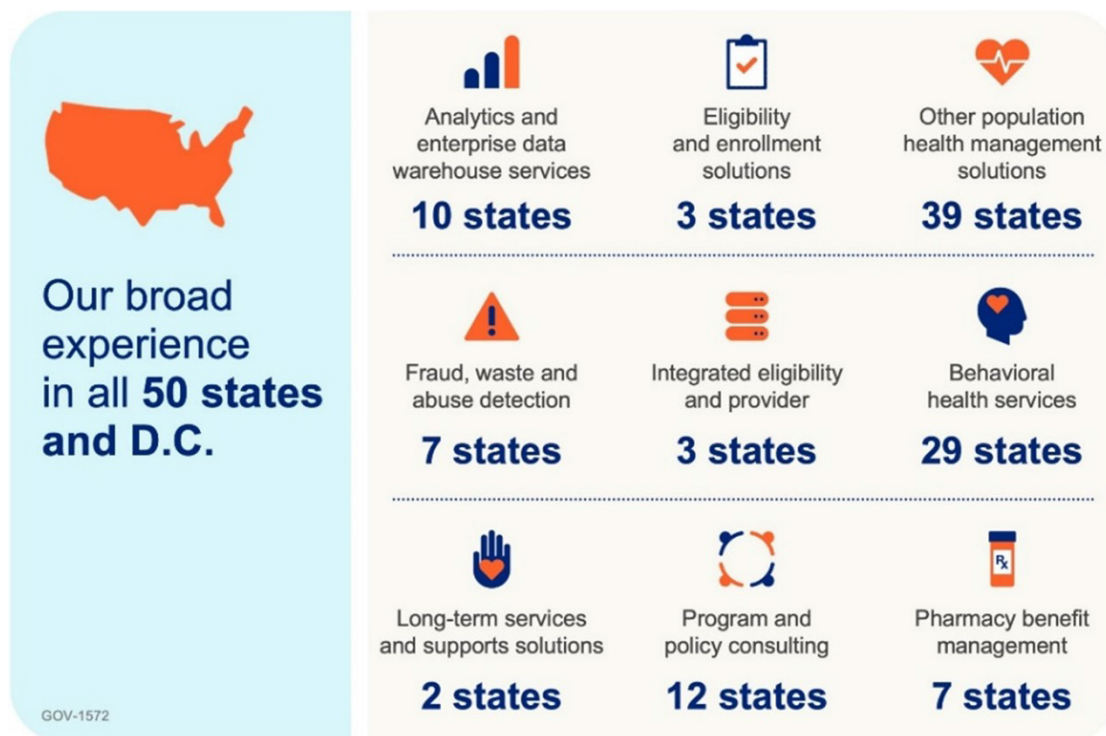


Figure 4: Optum solutions and services

Our solutions and services automate processes and improve programs to enable better outcomes.

We earn trust through our understanding of the entire health and human services system and by helping clients succeed in complex, multi-vendor environments. Our people – our most valuable resources – work as integrated teams to deliver industry and program knowledge and achieve customer objectives. The best evidence we can provide to demonstrate we possess the qualifications required in your RFP is by sharing the words of our clients as shown in Figure 5.

Partnerships built on performance – and trust



“Optum responds to requests and suggestions timely and offers solutions. They are considered a partner versus a vendor. They often change processes based on our concerns or suggestions. An example was implementing Six Sigma processes in the reporting creation [standard operating procedure]. Optum has started to spend more time onsite.... This face-to-face time removes barriers and improves relations and understanding.”

– **Client feedback, Arkansas DSS**

“Throughout the years Optum staff have demonstrated the highest standards of professionalism, knowledge, and orientation to our needs as the customer. Optum is an excellent partner that supports our goals and provides innovative ideas, concepts and solutions related to our use of the DSS.”

– **State leader, Michigan EDW**

“I want to take a moment to recognize [the Optum staff] for the hard work and also just understanding of this project... Your blend of enthusiasm, good nature, and leadership but also technical and business understanding are really essential to supporting and leading this project at this time.”

– **State leader, New York APD**

“Optum is one of the most appreciated vendors out of all other MES vendors at DMAS. Their leadership works closely with DMAS leadership and delivers the outcomes that DMAS needs.”

– **State leader, Virginia EDWS**

“Optum does well at listening to my needs and providing solutions to get me what I need as the vendor manager. Solutions and options are offered to help in my decision making.”

– **State leader, Indiana EDW**

“Optum goes over and beyond with their clients to provide excellent services. They are always striving to learn, be proactive, solution and grow as a vendor.”

– **2022 NPS Survey comments, Illinois EDW**

“The Optum SDW team is focused on solving problems at hand and delivering them on time and with high quality.”

– **Client feedback, New Jersey Shared Data Warehouse (SDW)**

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Figure 5: People, plans, and organizations Optum serves

We build long-term relationships with our clients as a skilled, experienced EDW partner and trusted advisor.

Our partnership with Indiana

We understand FSSA's goal to provide equal access to health and social services to help Hoosiers achieve their greatest emotional, mental, and physical well-being. Optum has been a responsive and supportive partner to FSSA during good and lean budget years, flexing when needed to maintain contracts, staff, and quality of work. We also understand DCS's goals, which include child safety, permanency, collaborative partnerships with foster and adoptive families, diversity, equity and inclusion, a culture of safety and transparency, and continuous improvement. With Optum and our partner team as your prime vendor for the EDW working collaboratively with DST, you will continue to have a proven partner with a deep commitment to Indiana and insights from similar projects to help achieve your objectives.

Optum presence in Indiana



More than **2,700 Optum employees** and **7 office locations** in Indiana



54,000 employee volunteer hours served in local communities

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Optum employees live and work in your community. We have participated in service projects in Indiana, logging **more than 54,000 employee volunteer hours** in local communities. In 2022, we volunteered with **Gleaners Food Bank of Indiana** to help distribute meals to those in need of food assistance through Gleaners' Community Action Relief Effort (CARE) Program mobile food pantries.

As the long-standing industry leader in data warehouse and analytics solutions, Optum will leverage the lessons learned and the skilled staff who are leaders in their fields to further support and enhance your EDW solution that enables improved health outcomes for Hoosiers. As a Fortune 5 leader in health care, social services, and technology solutions, we have the resources, solutions, and experience to support and enhance a modern, high-performing EDW that improves access, outcomes, and experiences for the people who depend on it.



Optum works closely with other vendors to support DST. We attend the weekly multi-vendor Change Control Board (CCB) meetings with the MMIS, PBM, prior authorization vendors, and the managed care entities. We discuss dependencies and potential change requests based on changes to other vendor systems that will impact the EDW. The multi-vendor coordination enables controlled, well-planned changes for FSSA and DCS.

Our experience with the Indiana EDW

In 2012, Optum was selected to build, maintain, operate, and continue to enhance a new, highly integrated Medicaid Enterprise EDW. The EDW replaced a fragmented reporting environment where FSSA relied on their MMIS vendor, Gainwell Technologies, and their actuarial vendor, Milliman, to produce required Medicaid reporting. Our role was to enact the State's vision for a flexible MITA-aligned solution that grows and evolves over time to adapt to changing business priorities.

The State envisioned an information landscape for integrating data sources to deliver unified analytic capabilities across the organization. Our team worked with you to create a trustworthy, reliable data store for State users to access quickly and efficiently to support effective program management and improved health outcomes. We designed the platform for future expansion, offering the ability to deliver operational business intelligence and add data from more sources, including other HHS agencies. The Indiana EDW enables data access, advanced analytics, and comprehensive reporting on vast amounts of data across the entire \$10 billion Medicaid and HHS spectrum to improve programs.

Indiana Family and Services Administration (FSSA) Enterprise Data Warehouse (EDW)

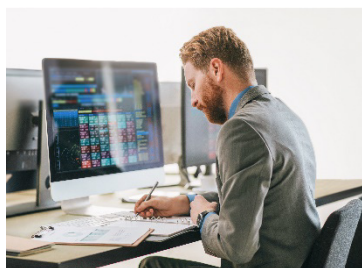
Scope of services

Our relevant scope of services includes EDW operations, services, and support; application server software maintenance; database management and maintenance; DDI for enhancements; data migration and conversion; data analytics and reporting; data governance; project management; performance monitoring; user support and training; security; and disaster recovery.

Contract start and end dates	June 2012 – present
Number of system users	135 users
Number of Optum staff on the project	38 staff

The phased implementation included acquiring current and historical data from multiple sources; defining ad hoc reporting, managed reporting, and data analytics (such as trending); and implementing the EDW as part of Phase 1. Phase 2 ran in parallel with Phase 1 and included deploying the Optum MARS module to support federal and state reporting, called IMAR. Our team completed the DDI of the EDW on time and within budget. The Indiana EDW received CMS certification within 8 months of going live.

The Indiana EDW receives source data from the MMIS and other systems, such as pharmacy data from the PBM and encounter data from MCEs. Ingesting pharmacy encounters directly into the EDW instead of receiving them from the MMIS saves the State time and resources, since the data is not processed through another system before entering the EDW. Data entering the EDW through file intake, batch, and other processes undergo a series of data quality checks to verify accuracy and completeness.



Optum helps you to get the most out of your data. Our Indiana EDW team works closely with **DST** to respond to your analytic and reporting needs. We stay in constant contact to determine how reporting can streamline program oversight and administration for the Indiana Medicaid and social services programs.

Indiana EDW project highlights

Project highlights for Indiana EDW include the following.

Indiana PathWays for Aging

Optum is working with the State to improve Hoosiers' access to elder care. Indiana PathWays for Aging is an mLTSS program for Indiana Medicaid members who are 60 years of age or older. The program coordinates LTSS Medicaid benefits with Medicare benefits and allows older participants to remain in their homes longer and out of nursing facilities. As the EDW vendor, Optum was responsible for many activities, including producing 2 dashboards to help the State operate the program: the PathWays Go-Live Dashboard and the PathWays Monitoring Dashboard. The Go-Live dashboard was implemented before program start in July 2024 for the State to understand the potential PathWays members and their movement in and out of the program during its early stages. With the Monitoring dashboard, users can track and trend the population that enrolled in the program, as well as manage program operations. The reporting of the dashboards will allow FSSA to measure:

- The number of members transitioning from a different managed care program to PathWays for Aging
- The number of members who have (and do not have) their Medicaid and Medicare D-SNP assignments in alignment
- The demographics of the members enrolled in the program, including the counties they reside in, which managed care entity (MCE) are they assigned to, and their level of care
- The number of individuals assigned to a specific capitation group, and whether MCEs are receiving their expected capitation amounts

The Optum team will use the data to help the State better coordinate Medicaid and Medicare benefits. For example, the data can help determine which counties in the State have a larger

Medicaid elderly population than others and where MCEs should concentrate their care coordination efforts. As the budget becomes increasingly more important, the dashboard can also display how the capitation funds might be paid based on projected enrollment.

Indiana mLTSS Dual Eligible Special Needs Plans (D-SNPs)

Late in 2021, OMPP began to work with the Optum Indiana EDW team on a cutting-edge project to expand our EDW to ingest Medicare encounter data from specialized Medicare Advantage plans called Dual Eligible Special Needs Plans (D-SNPs) in support of their larger efforts to move from a fee-for-service LTSS program to a managed care-based LTSS program (mLTSS). Since CMS requires D-SNPs to contract with the state's Medicaid authority to operate within that state, OMPP and Optum partnered on a project that would allow Indiana to look at the full scope of health care data for their dual-eligible members with Medicare data alongside already existing Medicaid data in the State's EDW. Following our approach, and in collaboration with the State and Medicare plans, we implemented the Indiana Medicare D-SNP data interface, which is EDI-transaction based and has automated feedback to the D-SNPs. This project has proven to be a useful model in fostering meaningful communication and partnership between a state and their D-SNP data partners. Indiana was one of the first states to implement this change.

Optum was able to de-risk this new data ingestion interface project by leveraging a proven process and the related source code from our New York All-Payer Database and Illinois ACE projects. This enabled us to quickly build out a new capability with very low defect rates while meeting and exceeding project schedule milestones.

T-MSIS

The Indiana EDW includes our Optum T-MSIS solution and support services, which has been very successful. The State has consistently operated in a blue status for the past 2 years. As part of the implementation using our proven processes for T-MSIS implementation, we worked in close collaboration with you to transform your data to CMS standards. Our understanding of the CMS valid values enables us to maintain the needed reference tables to check for new or invalid values. Optum has experience with MMIS source system changes in Indiana that preceded the CMS's large system enhancement designation. The transition involved CMS pre-operational readiness testing (PORT) and operational readiness testing (ORT). While the DDI, PORT/ORT phase was progressing with the new system, we maintained concurrency with monthly production T-MSIS reporting to provide FSSA with responsive support. Our thorough understanding of the CMS data quality rules, data omissions, and T-MSIS Priority Items (TPIs) and Outcome Based Assessments (OBAs) gives you comprehensive T-MSIS reporting using high-quality data from the EDW. We meet with DST regularly to further understand State processes that affect the T-MSIS extracts. Our close collaboration helps identify corrections and updates to resolve any TPIs and other data quality issues.



FSSA executive reporting

In late 2023, Indiana reported a state Medicaid budget deficit of close to \$1 billion. To gain better insight into the State's Medicaid expenditures, FSSA engaged the Optum team to reproduce key financial reports that have been historically owned by the actuarial vendor. After determining all the data required for the financial reports was currently housed within the EDW,

Optum had approximately 6 weeks to design and develop 126 financial and 44 enrollment metrics that together make up the FSSA Executive Report. The ability for both EDW analysts and DST embedded analysts to come together and work cohesively was pivotal in Optum delivering the initial report in mid-March 2024, successfully. Since then, we have continued enhancing the report with additional metrics and hierarchies to appeal to different audiences. This project truly showcased our flexibility and responsiveness to the State's needs.

Legislative dashboard reporting

At the end of 2022, the Optum team partnered with FSSA to create a public-facing dashboard to increase visibility for state legislators to the constituents in their district. Previous reporting struggled to provide both a segmented view by county along with a higher view of the entire legislative district. This dashboard provides valuable, actionable information on the Medicaid population enrollment counts and the percentage of change.

Figure 6 shows an example of the dashboard.

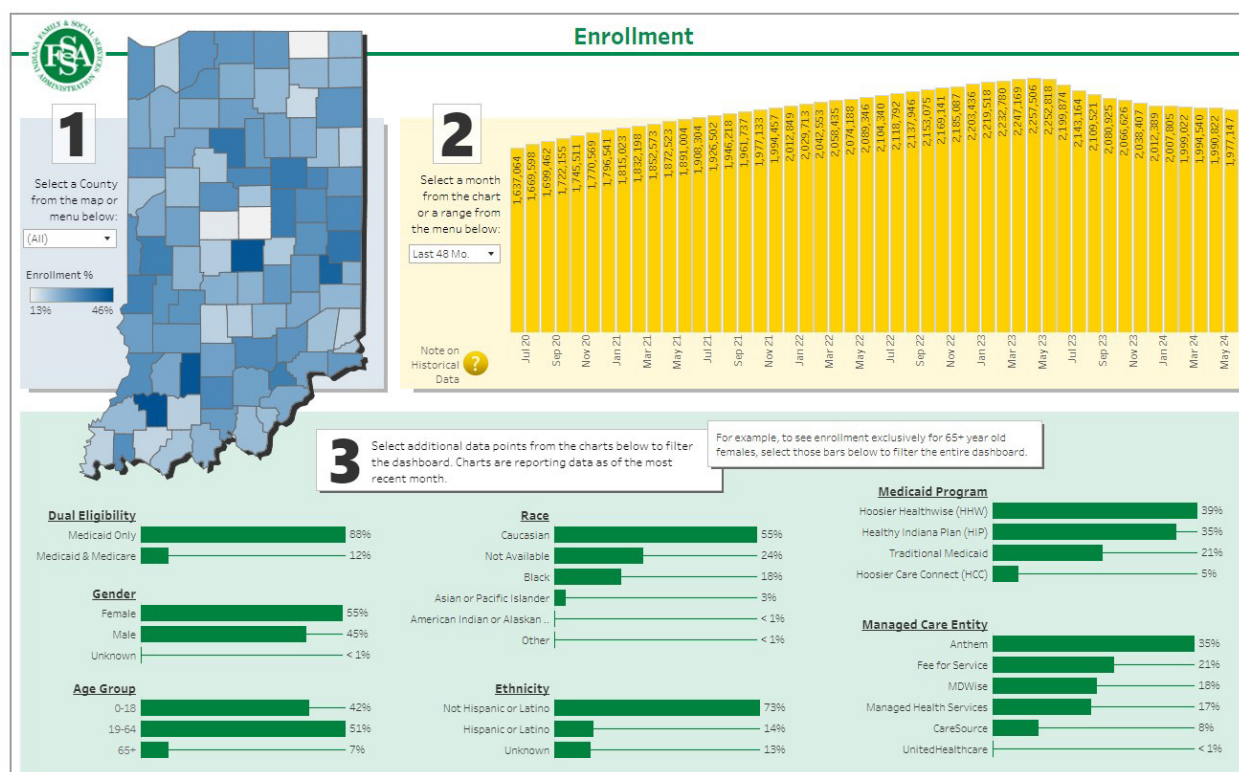


Figure 6: Indiana legislative dashboard

The public-facing dashboard gives legislators a view of Medicaid populations within the state by legislative district to support policy decisions.

We designed the dashboard to be easy to navigate and use from any device, including smart phones or tablets. This design makes the information readily accessible and available to legislators and their teams on the go. This dashboard has received positive feedback on its functionality and clarity.

My Healthy Baby data analytics and reporting

My Healthy Baby is a cross-agency, multi-stakeholder collaboration with FSSA, the Indiana Department of Health (IDOH), Indiana Health Information Exchange (IHIE), the Indiana DCS, and Managed Care Entities (MCEs). Optum provides data analytics and reporting for the program. The program provides outreach early in a woman's pregnancy to connect her with a family support provider in her community. Optum support for My Healthy Baby began as a help desk request to run an ad hoc query. FSSA sought to understand how they could identify women early in their pregnancies with the goal of pre-emptively improving infant health.

Over time the analytics and reporting have expanded to address broader needs. We developed a solution that integrated and deduplicated data from different source systems and work streams (e.g., Medicaid application data, claims data, eligibility data, aid categories, lab data). This complex project considered:

- Sensitivities such as miscarriages and mothers who became pregnant again following a miscarriage
- Data quality checks and balances so that women were not contacted more than once for the same pregnancy
- Adequate call center staffing
- MCE performance and validation of required outreach and enrollment
- Modifications to the identification process (The original report was set to run monthly/weekly but was modified to run daily. This increased the ability of the State to reach out to pregnant mothers early on.)
- Utilization of weighted percentages to prioritize data based on the source system (For example, the phone number a member provides to receive the results of recent lab testing is likely more current than a phone number from a provider the member visited last year.)

The My Healthy Baby program began as a humble ad hoc request and turned into a project that transformed the lives of Indiana residents. The unique cross-agency partnership also demonstrated what an incredible impact collaboration can have.



Since the program began, **more than 5,000 mothers have been added as participants in My Healthy Baby**. We identify 10 to 15 pregnant women a day. The State has implemented the program in more than half of Indiana's counties since 2020. We are working on enhancements to the analytics and reporting.

Project staff and background

The following vital personnel have been selected for their comprehensive business and technical expertise with the Indiana EDW. You know and work with these people. These qualified professionals have knowledge of and experience with Indiana Medicaid, the existing EDW environment, and the existing technical tools and development processes. Figure 7 shows our proposed vital personnel organization.

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The following are brief biographies for the 6 named vital personnel.

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- i. **A list of organizations for which you have delivered M&O support services for a data warehouse solution. Describe how that experience is relevant to the services in this RFP.**

Data warehouse solution maintenance and operations experience

Relevant organizations for which we have delivered M&O support services for data warehouse solutions are described below.

Arkansas Medicaid Enterprise (AME) Decision Support System (DSS)

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California Management Information System/Decision Support System (MIS/DSS)

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Illinois Enterprise Data Warehouse (EDW)

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Michigan Business Intelligence Services – MDHHS Data Warehouse Project

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New Jersey Shared Data Warehouse (SDW)

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- ii. A list of organizations for which you have designed, developed, and implemented, and/or supported a data warehouse solution and describe relevant experience to this RFP.

Data warehouse solution design, development, implementation, and support experience

Relevant organizations for which we have designed, developed, and implemented, and/or supported a data warehouse solution are described below.

Arkansas Medicaid Enterprise (AME) Decision Support System (DSS)

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Arkansas Medicaid Enterprise (AME) Decision Support System (DSS)

CONFIDENTIAL

California Management Information System/Decision Support System (MIS/DSS)

CONFIDENTIAL

Illinois Enterprise Data Warehouse (EDW)

CONFIDENTIAL

Illinois Enterprise Data Warehouse (EDW)

CONFIDENTIAL



Michigan Business Intelligence Services – MDHHS Data Warehouse Project

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New Jersey Shared Data Warehouse (SDW)

CONFIDENTIAL



New Jersey Shared Data Warehouse (SDW)

CONFIDENTIAL

- iii. **A description of your experience with public sector entities on projects similar to the scope of services described in this RFP. Clearly detail any past experience with county, state, or federal health and human services agencies.**

Optum has experience working with disparate, raw data spanning multiple state programs, including Medicaid, public health, social services, child and adult protective services, judiciary, foster care, and others. Through collaborative partnerships with our clients, we have integrated data from across state government enterprises. The following projects highlight a few of our experiences working with public sector entities.

Behavioral health – Virginia Enterprise Data Warehouse Solution (EDWS)

In 2022, Optum and Virginia EDWS partnered to create an efficient way to gather demographic data and utilization information on individuals who access behavioral health resources. Our joint mission was to improve the behavioral health system. Our Virginia EDWS team worked with the Commonwealth to develop a behavioral health analytic and reporting dashboard, which helps stakeholders by improving behavioral health services in Virginia in the following ways:

- Analysts further evaluate current utilization using member-level data and track trends.
- The dashboard helps SMEs answer critical questions about how services function, characteristics of those receiving services, how much is spent on services, and where the services are provided.
- The state legislature monitors the behavioral health program's service quality, outcomes, and associated expenditures. The dashboard facilitates decision-making for allocating state funding.
- Behavioral health service providers access the dashboard to help improve their services.

Virginia EDWS

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Virginia EDWS – Behavioral health

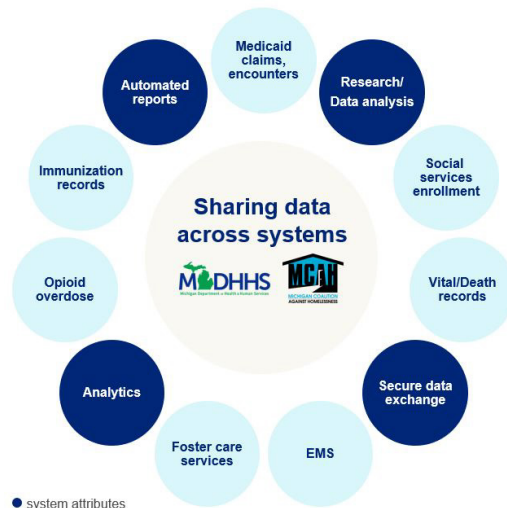
Analytics and reporting

“The fact that we have this information at our fingertips is amazing. It saves us time, but also shows our stakeholders that this information is important in understanding our current behavioral health system so we can continue to work toward making it better.”

— Senior Program Advisor, Commonwealth of Virginia

Improving care for homeless individuals in Michigan

In the fall of 2018, the Michigan Department of Health and Human Services (MDHHS) Bureau of Community Services (BCS) and the Michigan Coalition Against Homelessness, asked Optum to link BCS homelessness data with Medicaid data for specific analytical needs to address housing prioritization, expand access to services, and care coordination. This initiative has expanded to link a wider array of data sets, answering a broader range of questions around factors impacting homelessness, social needs, and opportunities to prevent homelessness.



The data is being used to:

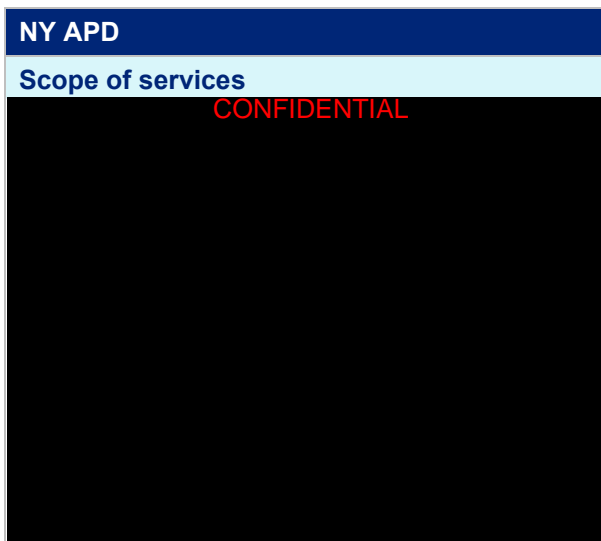
- Study the barriers to using social assistance programs, and the role of homelessness
- Capture SUD/behavioral health care not captured in claims and encounters
- Analyze access to MI Bridges, a web tool operated by MDHHS that allows people to apply for food assistance, health care coverage, child development and care, cash assistance, and State emergency relief
- Share cross-system information between housing and health care coordinators within the CareConnect 360 web-based application
- Capture emergency services and medical treatment received through EMS utilization that is not captured in claims and encounters
- Perform specific analyses of Medicaid data on a variety of conditions, trauma, and illnesses using claims and encounters, using Optum Symmetry, a tool designed for sophisticated analyses of the Medicaid, Medicare, and State employee health insurance claims
- Research cause of death for individuals experiencing homelessness using Vital Records
- Support research on preventing child abuse through stable housing
- Monitor Medicaid unwinding and loss of coverage for individuals experiencing homelessness
- Support study of relationship between Opioid overdoses and homelessness

Advanced analytics – New York All-Payer Database

Optum developed, implemented, maintains, operates, and enhances the New York All-Payer Database (NY APD), one of the largest public sector-managed health data repositories in the country, to support business intelligence and decision support for the NY Department of Health (DOH). We provide responsive support to the State for operations, analytics, and reporting.

The modular solution includes tools to validate intake, aggregate, and conduct comparative analysis using data from across the health system. To provide DOH policymakers, researchers, and consumers with the most comprehensive health database and analytics capabilities. Optum built the NY APD to include the following data enhancement tools:

- **Optum Symmetry** supports the reporting of medical diagnoses, medical costs, costs by health plan, health risk scores, and numerous other parameters.
- **Master Patient Index** links and manages patient data across numerous sources.
- **Master Data Management** creates golden records for both health plan customers and providers.



- **Address Cleansing and Geocoding:** Geocoding and geospatial analysis are used to understand the spatial distribution of health outcomes and how community factors may be related to these disparities.

The NY APD supports quality measurement, population health monitoring, value-based purchasing, research, and consumer information. It provides timely, accurate, and consistent analysis to meet both State and federal reporting needs.

Federal reporting – West Virginia Peoples Access to Help (PATH)

Optum was awarded the modernization, development, and implementation of a singular Integrated Eligibility solution, West Virginia's Peoples Access to Help (WV PATH). The objectives of this project are to modernize OSCAR, the DHHR's Child Support System, modernize their Child Welfare system, the FACTS application, implement our Integrated Eligibility Engine, and implement a client portal where the citizens of West Virginia can apply for benefits.

West Virginia PATH supports the federal, operational, management and analytical reporting requirements for the following West Virginia's Department of Health and Human Resources (WV DHHR) programs:

- Family Assistance - MAGI, Non-MAGI, SNAP, TANF, Emergency Assistance, School Clothing Allowances, LIEAP, and other seasonal programs
- Child Care
- Child Support
- Child Welfare

The PATH project required the full SDLC for 849 reports, 180 of which are federal and federal feeder reports. The table below summarizes the report counts by WV DHHR program and highlights the total Federal Reports, which map to FSSA RFP Attachment O and Attachment K, page 39, Section 3.2.3.5.4 Data Extracts of the Indiana FSSA RFP.

WV PATH reporting solution						
Program	Child Care	Child Support	Child Welfare	Integrated Eligibility	Other (M&O, Security, Administrative)	Grand total
Grand total recurring reports	44	214	205	340	46	849
Federal and federal feeder	8	59	52	61	--	180
Ad hoc reports	--	94	12	127	--	233

WV PATH
Scope of services
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Project highlights

Our goal for the PATH project is to create a consistent human-system interaction that is practical, effective, and valuable. Our solution maintains familiar functionality with a custom user interface configured to enhance usability and flexibility and decreases the amount of time it takes for a user to understand and use the system. Some of our project highlights include:

- **Streamlined technology and tools:** We assessed and merged/retired over 600 legacy DHHR Child Support, Family Assistance, Child Welfare, and Child Care system reports for the new PATH system. In addition, the PATH reporting solution streamlines the reporting technology and tools, thus eliminating the need for Mobius, FREDI, and Platinum Report Facility (PRF) reporting tools.
- **Uniformity/Standardization:** All PATH reports have a common look and feel, including color palate, headers and footers, naming conventions, report navigation, report titles, report identification, standard column headings, and field definitions.
- **Comprehensive report listing:** The PATH reporting solution presents a comprehensive, integrated Report Directory in Cognos for authorized users with a complete list of reports that can be viewed, generated, exported, and printed. The list of reports can be searched and filtered by report ID, report name, related program, related functionality, and data refresh frequency.
- **Accessibility/security:** All authorized DHHR PATH users and stakeholders can be granted secure access using the Cognos Administration module to generate, view and export all or selected Cognos reports. The same is true of the online screen export reports through the PATH Family Assistance screen roles and entitlements. Security entitlements are also extended to groups of reports or individual reports.
- **Uniform approach to accessing reports:** All PATH reports and online screen export reports will be accessed in a uniform way for authorized users through the PATH Report Directory in Cognos and/or from the PATH application system screens.
- **Expanded user filtering functionality:** Standard reports have enhanced capability with additional and uniform user entered prompts (e.g., data refresh period – date, week ending, month, quarter, year) and comparable in-report filters (e.g., region, county, supervisor, worker), all designed to enhance the user experience.
- **Enhanced viewing and export functionality:** Standard reports can be easily generated. When opened in a default sort order in HTML format, the user can dynamically sort and page up and down. Users can export the report to PDF, Excel, Excel Data, and CSV. Federal Tax Information (FTI) reports can also be exported to Excel. After export, the report data can be further analyzed and manipulated.
- **Enhanced ad hoc report generation:** Authorized users will have the capability to view ad hoc reports that were developed by selected DHHS users. The Family Assistance/Child Care Self-Service Environment includes all data warehouse data elements that will be available to ad hoc creator and ad hoc view users.
- **Enhanced maintainability:** All PATH Standard reports will be easy to enhance due to uniform functional and technical design documentation and coding standards.

PATH Reporting Solution

Technology and tools

The PATH Reporting Solution is developed using many of the same technologies and tools that FSSA is currently using, including:

- Oracle DB version: 19c Enterprise Edition Release 19.0
- ETL Informatica PowerCenter version: 10.5
- IBM Cognos Analytics version: 11.2
- Application Lifecycle Management (ALM) tool

Our partners' experience

Metamor

In addition to our experience, Metamor brings extensive knowledge and ability. Their staff have supported analysis and reporting for Medicaid, SNAP, and TANF for more than 2 decades. They have played vital roles in architecting, developing, and implementing solutions.

Metamor team members have worked on many projects for FSSA, DCS, and other agencies in the State, including creating reporting on training programs for SNAP recipients and developing a process for issuing benefits to children during the COVID-19 public health emergency (PHE).

Employment and Training Program Reporting (FNS SNAP E&T)

The FSSA IMPACT system maintains data on SNAP recipients, including training- and work-related activities, and data from the Department of Work and Development (DWD). Metamor worked closely with the State SNAP Policy Director to refine requirements for and implement reporting on the population of SNAP recipients who participated in training and used employment and wage metrics to study the effectiveness of the program.

Employment and Training Program Reporting (FNS SNAP E&T)

Scope of services

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Pandemic Electronic Benefit Transfer (PEBT)

During and after the COVID-19 PHE, the State's SNAP was responsible for distributing benefits to children who were eligible for the Free and Reduced Lunch Program. The project involved gathering data from Indiana Department of Education (IDOE) and children receiving SNAP. The Metamor team designed a solution that used the existing SNAP EBT process and developed a mechanism to issue benefits safely and quickly. They worked closely with the EBT card vendor and the Indiana Eligibility Determination Service System (IEDSS) vendor to refine requirements and implement the change without interrupting the existing processes.

PEBT

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RCR Technology

Our other partner, RCR Technology, has collaborated with the State's health and human services agencies for 27 years. RCR has worked on 55 state projects and gained extensive subject matter expertise and technical knowledge. In 1997, they designed, developed, and implemented the TANF data warehouse for the FSSA. Since 2010, RCR has been the prime contractor supporting all M&O workstreams for FSSA's DFR.

The RCR team currently supports the SSDW and provides business and technical expertise, data analysis, and eligibility systems knowledge. They have worked on many projects related to the Indiana EDW, including 1095-B reporting for the DFR and developing a dashboard for the Division of Mental Health and Addiction (DMHA).

1095 Reporting to IRS and Public Inquiry Site

The 1095-B is a report to the IRS of individuals who had minimal essential health care coverage during the tax year. The State providing this coverage through Medicaid must provide the individual proof that this reporting was done on their behalf and allow them to receive a printed copy of the 1095 form.

This project transitioned reporting from an outside vendor to the State. RCR initially provided business analysis and project management services. Later, they added technical support, including data and reporting analysis; system administration; Captiva development, IVR development, and Cognos development; and quality testing.

RCR made modifications to the FACTS benefits portal system, the Document Center to process incoming documents, and the IVR to handle calls from clients. They also worked with IEDSS and ICES because this update affected how FACTS interfaced with these respective systems. After the modifications were made, RCR developed the procedures to process the 1095-B forms monthly and reported the statistics to the State and the IRS.

1095-B Reporting to IRS and Public Inquiry Site

Scope of services

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DMHA Reporting and Dashboard

The DMHA needed a dashboard to display their Treatment Episode Data Set (TEDS) to the federal Substance Abuse and Mental Health Services Agency (SAMHSA). DMHA also requested reporting on the data for a block grant initiative (SABG) Treatment Utilization Matrix Report that details opioid use disorder factors, including admissions for treatment, race/ethnicity, pregnancy and dependent children, and injection.

RCR designed and developed a Tableau dashboard that includes 8 tabs reporting on factors, including substance, treatment, outcomes, and demographics. They also provided testing and rework support. In addition to the dashboard and reporting data, RCR developed a home page for ease of navigation and to improve user experience.

DMHA Reporting and Dashboard

Scope of services

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iv. A description of any previous experience transitioning an on-premise data warehouse solution to a cloud-based solution. Detail any challenges you faced during the process that the State should be mindful of, and outline how you would mitigate them during the State's transition.

Optum has had experience transitioning on-premise data warehouse solutions to cloud-based solutions for several states, including:

- Teradata on-premise to Teradata Cloud for Indiana and Michigan
- Oracle on-premise to Snowflake in the Cloud for Arkansas

Indiana EDW cloud migration

In 2021, we migrated the development and disaster recovery environment to the cloud. Then, in March 2024, we seamlessly migrated your production environment to the cloud on a compressed timeline, successfully responding to and absorbing procurement-related delays in the start date. Our strong project management and communication plan allowed us to complete a transparent migration as part of maintenance operations without disruption (i.e., end users logged off one day and logged on the next, as if it were the same system).

System performance improvement for the migration effort of moving from the on-premises Teradata 6800 to our Azure environment was noticed by several users and groups right away. Upon reviewing system logs before and after the migration Optum was able to better quantify the impact of migration to all groups based on sets of like queries running before and after the migration. Savings in the next table are displayed in runtime hours for a 2-month period after the migration was completed.

Indiana EDW

Production Teradata Cloud Migration

"Congratulations on getting this done ahead of schedule. I know it was a large effort from everyone involved and we had to make concessions all along the way to meet the deadline. I appreciate all the extra effort everyone put in and how the teams worked together to ensure we can continue serving Hoosiers across the state."

— DST Contract Manager
 State of Indiana

	Total query runtime savings during 2-month period after upgrade (hours)	Runtime before upgrade (hours)	Runtime after upgrade (hours)	Percent Improvement
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Michigan EDW cloud migration

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Arkansas DSS cloud migration

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- v. A description of both your last two data warehouse projects and any lessons learned from these projects in detail.

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“On the data quality front, we have the state kudos going to Arkansas, who has reporting on new TPIs issues in their upcoming monthly files through the data quality audit processes on the state side before submitting these files. The state team comes to their TAs with corrections that they already have in the pipeline for issues that haven’t even been loaded into the Data Quality System.”

Centers for Medicare & Medicaid Services

vi. A description of your company’s experience with the software detailed in the EDW Technology Tool Set listed in Attachment K, Section 2.4.1.

As your incumbent provider for the current EDW solution, Optum is experienced, proficient, and confident with the full complement of technology toolsets described in Attachment K.

We have been providing health care information technology and specifically data and analytics solutions in a dynamic and changing health care environment since 1994. Our technical staff has experience in many of the industry-standard products applicable to the health care data and analytics market. Additionally, our focus is not on custom development, but on the use of configurable, COTS-based solutions that can evolve as the market evolves. Figure 9 shows tools that we have used in our EDW projects.

TERADATA	<ul style="list-style-type: none"> California Illinois Indiana Michigan Minnesota Virginia 	~30 years
Informatica	<ul style="list-style-type: none"> Arkansas Illinois Indiana New Jersey Virginia California 	~12 years
IBM COGNOS	<ul style="list-style-type: none"> Arkansas Indiana West Virginia California ► MARS* 	~12 years
+ a b l e a u	<ul style="list-style-type: none"> New York Virginia Indiana ► OTAAS** 	~7 years
Optum	<ul style="list-style-type: none"> Arkansas California Indiana Michigan New Jersey New York Virginia ► MARS* ► Symmetry ► OTAAS** 	~25 years

Figure 9: Optum experience with the State’s EDW technology tools

This table illustrates our years of experience using the tools required by the State for your EDW.

* Optum Management Administrative Reporting System
** Optum Triple Aim Analytics Services

For additional information, please see our response to Section 1, b, which outlines our experience with the tools described in Attachment K.

vii. A description of your company's experience providing Teradata infrastructure maintenance, operations, and enhancements.

In addition to our work in Indiana, we have delivered, maintained, and operated Teradata environments in both the public and private sectors for more than 29 years. We have an unmatched track record of deploying and maintaining Teradata Medicaid data warehouses for State Government clients. In fact, we deployed the first Teradata Medicaid data warehouse for Michigan in 1994 and have operated and maintained it for 30 years.

Indiana experience

Optum has maintained and operated your Teradata environment for 12 years. Highlights of this experience are provided in our response to Section 3, b. The following are examples of Teradata enhancements that Optum has made to the Indiana EDW.

- Optum focuses on providing the best user experience while allowing ETL processing to occur simultaneously, which is achieved by the implementation of **Teradata Active System Management (TASM)**. TASM is a comprehensive workload management solution. When implemented properly, TASM optimizes performance and resource utilization across multiple mixed workloads. Whether it be a tactical sub-second query or large ETL job, TASM allocates the proper resources to get the job done within defined SLAs. Optum has configured TASM for the best flexibility and flow of queries to run on the system concurrently without sacrificing performance.
- We have also configured **enhanced disaster recovery capabilities** between the development and production systems. All backups are scheduled through lead developer configurable tables within production, allowing them to delay backups or reschedule, depending on the availability of source files. When a backup is completed, there are processes in place that trigger restores to our development system keeping it as a near real-time copy of production for defined databases. Throughout the processes, notifications are emailed to defined recipients so they will be aware of completion of the processes.

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Other projects

The following examples are projects where we implemented and currently support Teradata.

Project	How Optum supports Teradata maintenance, operations, and enhancements
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viii. A description of any previous experience transitioning an on-premise data warehouse solution to a cloud-based solution of similar size and scope to Indiana FSSA.

Optum has had experience transitioning Teradata on-premises data warehouse solutions to cloud-based Teradata solutions for several state clients, including Indiana and Michigan. Description of these transitions are provided above in our response to Section 3, a, iv.

b. Disclose any formal corrective actions that your company has experienced under any previous contracts.

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c. Based on your experience, detail any best practices with respect to the scope of this RFP that you would like to share for the State's consideration. Note: your proposal should be based on the requirements outlined for the EDW scope in this RFP, and not on any assumptions that the State will accept any practices that are not in alignment with the scope.

Throughout our partnership, we have developed and refined best practices to meet the State's needs.

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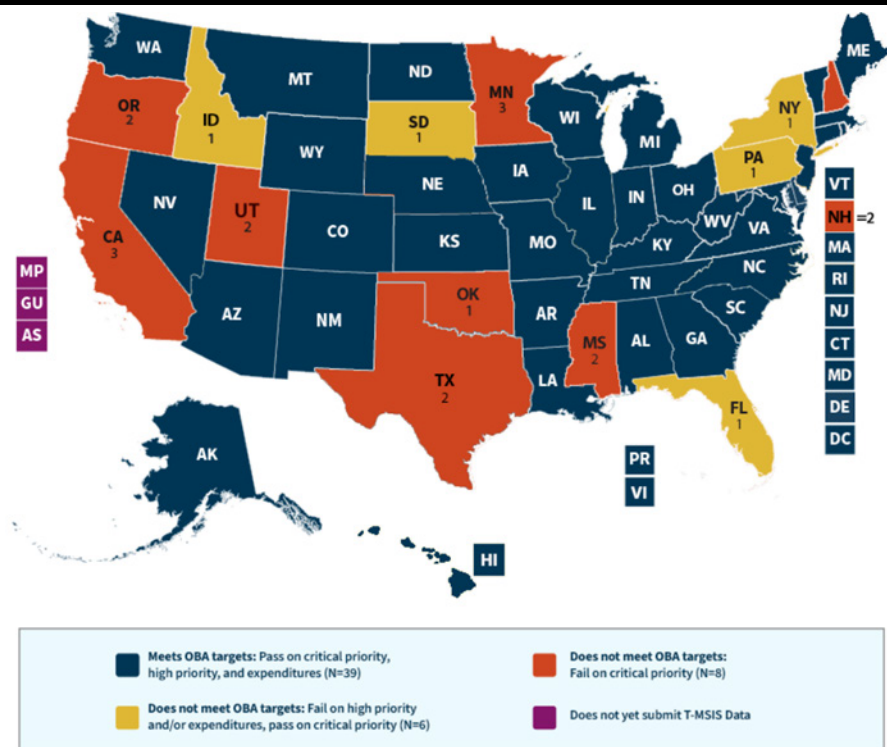


Figure 11: T-MSIS data quality progress for OBA as of 5/31/24 from CMS Medicaid.gov

Optum supports T-MSIS reporting for Indiana, Michigan, Illinois, Arkansas, and Virginia which are all in "Blue" status

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5. Enhancements

(Attachment K, Section 3.3)

Please explain how you propose to execute Section 3.3 in its entirety, including but not limited to the specific elements highlighted below.

- a. Your plan to develop and complete enhancements as requested by the State through the release management/change control process.**

Optum works closely with you to continually provide analytic support to key State initiatives for your Medicaid and social services programs. The relationships we have built are integral to our successful partnership and continuous innovation. Our deep knowledge across all aspects of Medicaid and social service programs has enabled us to tackle hundreds of enhancement projects annually with the State, and it gives us the full confidence that we can meet the requirements of Section 3.3 of your RFP.

At a very high level (and with details explained below), we will meet your Section 3.3 Enhancement requirements by:

1. Staffing the enhancement projects with experienced Optum data and analytics staff who know Indiana FSSA and DCS data and have skills and experience in the required tools sets at staffing levels consistent with the enhancement funding levels
2. Applying such staff to projects that are approved and prioritized via the Change Management Process
3. Executing our Agile and SDLC methodologies to gather requirements, design, develop, test, and implement enhancements
4. Reporting monthly on actual hours/dollars of enhancement pool funding consumed and plan for the remaining State fiscal year to remain within budget

Change Management Process

We worked together with you to develop a Change Management Process that has been the guide for hundreds of enhancement projects completed annually. This process is embedded in how we work together and is part of our everyday vernacular. All changes, enhancements, and updates to the EDW module components, workflows, and business processes undergo the same change control rigor. In this way, we enhance the implementation and operational success by recognizing system and process dependencies to remove potential negative impact to other module components.

During the project's life, the State or the State's vendors may need to request changes to the products or services associated with the work performed. Examples of changes include:

- Timing of deliverables
- Changes in requirements
- Changes in project scope
- Requests for additional equipment, commercial software, or other products or services

Client feedback on Optum Support Staff

Responsiveness

"Optum maintains a deep understanding of the warehouse and have the infrastructure in place to meet urgent requests. They always have additional resources on the bench to fill in as needed."

—Indiana EDW client feedback

The project Change Management Process provides a formal means to:

- Request a change
- Identify the impact of a change
- Confirm that the appropriate parties review, prioritize, and approve the change
- Manage the change
- Maintain a record of the change

Our Change Management Process and its steps are based on a continual dialogue with you. As leadership, needs, and economic environments change, we will continue to flex and follow your direction. Our ability to adjust and fine-tune the Change Management Processes and procedures is one of our greatest strengths. We act as a trusted advisor, making recommendations based on industry standards and best practices (such as the PMBOK) but we don't rigidly adhere to a corporate standard that doesn't work for you.

The Change Management Process and Optum Hybrid Model have enabled us to successfully deliver enhancement projects for the Indiana EDW environment for the past 11 years after completing the initial DDI project in 2013. We have successfully delivered your enhancement projects on time and on budget (frequently with very aggressive schedule constraints), while meeting or exceeding our expectations.

Figure 28 shows the high-level steps in the current Change Management Process. We will continue to coordinate our work on changes with you.



Figure 28: Change Management Process and roles

Our Change Management Process was created using a combination of FSSA and DST processes and guidelines, while infusing best practices based on our experience as your EDW vendor.

Some recent projects we have completed using the Change Management Process are:

- Pathways to Aging
 - InterRAI data extract for PathWays MCEs
 - Prospective Populations Report
- T-MSIS Data Quality Product
- Applications Processing Dashboard
- CMS 372 report update for TBI waiver
- Unwinding Dashboard Enhancements

Uniformity in the assessment information we require and the evaluation criteria we use increases the quality of our Change Management Plan, providing a high level of acceptance without rework.

Change evaluation criteria

The change evaluation criteria, in collaboration with the State, defines the boundaries, thresholds, or range within which change requests will be accepted, deferred, or rejected. The evaluation of change requests is a vital part of controlling changes. All change requests are evaluated, and the method in which change requests are evaluated will depend on their importance and urgency.

The following are typical change request (CR) evaluation and prioritization criteria:

Major changes

- Represent significant change to the approved scope
- Affect requirements or work items on the critical path, delaying significant milestones or the overall project end date by duration (e.g., 10 business days or more) or a certain time percentage (e.g., more than 3%)
- Require additional funding whether in dollars (e.g., \$50 thousand or more) or percentage of budget (e.g., more than 12%)
- Must be documented as a CR and go through the change control process

Minor changes

- Do not significantly affect the schedule; do not extend the completion date of milestones or tasks with project dependencies
- Have no negative financial impact; no project budget variance will occur as a result
- Cannot be documented as a CR

Questions to consider

- Does this change add to or alter the requirements?
- What local, state, or federal policies impact the change?
- Is there a workaround, or is this change necessary for the project's overall success?
- Does this change require an increase in funding?
- Will this delay the project end or enhancement release dates?
- Even though this change may have a negative impact on this project, does it result in significant business upside that makes it worthwhile?
- Does enacting this change now make more sense than delaying it? Will the delay cost more money in the end?
- Have all the affected stakeholders been considered, and do they endorse the change?
- Are there contractual ramifications to consider?

Change evaluation methods

- Initial review and evaluation of the newly submitted CR via Jira workflow and email
- Detailed review during a formal change board meeting of the updated CR, including team analyses, workaround plan, impacts, and sizing

Change management tool

We use the State's Jira instance to document and track change requests in complete transparency and collaboration with the State. Stakeholders have visibility into complete change requests information and version history, as Figure 29 shows, which is one of the views for change requests in Jira.

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We will use the FSSA SharePoint site to house EDW project documentation. Providing document upon completion and implementing the change or reports. This secure online site will be accessible by your staff and other authorized users.

We adhere to ITIL standards associated with change management activities.

Enterprise integration Change Management Process

Most of our EDW enhancements have also included enterprise-level coordination and change management across departments. This requires working closely and amicably with other FSSA staff, state agencies, contractors, processes, and systems. We will readily coordinate and participate as requested in your change management meetings.



We view open and transparent communication as the cornerstone of project success. We understand the need for a strategic and collaborative approach for managing multiple vendor projects.

Integration of key deliverables

We recommend that the distinct EDW deliverables include a section where impacts to or dependencies on other contractors or contracts can be identified. For example, a requirements traceability matrix for the EDW will likely include dependencies on MMIS requirements. Deliverables should be structured to accommodate these interactions.

Joint status reporting and review

Status reports and meetings should allow for focused analysis of issues or risks that affect EDW deliverables. We will provide weekly, biweekly, monthly, and annual reports for complete transparency with the State, including regular enhancement funding actuals versus forecast reviews.

i. Describe your company's overall release management and change control processes, where they differ from the State's approach.

We understand that the EDW project is one of many you are currently managing. We commit to working with you and any other vendors or stakeholders deemed necessary to provide successful completion of assigned project work. As we do today with the State's EDW project, we anticipate that our continued work will include aligning our project management processes and release schedules as much as possible to help streamline FSSA's review and approval gateways.

Optum uses the State's Jira Agile instance and tools to track the progress of the project, monitor and evaluate resource allocation and produce work plan reports. We will continue to produce and provide ongoing dashboards and reports to confirm that your team and ours receive updates on the overall project progress promoting prompt awareness of any areas where project schedule slippage may occur.

Our documentation will include capacity planning for future scope and releases stemming from evolving EDW requirements. Our Scope/Deliverable Management Plan and Release Management Plan deliverables will provide the information necessary for FSSA's ongoing review and assessment.

We will continue to send the State our updated Product Backlog and Sprint Backlog weekly, with highlights on new versus updated user stories from the previous week. We will review these updates with the State weekly. We will also continue to send the State our updated Product Backlog to review the month's updated project release schedule during the State's Enterprise Medicaid Changes weekly meeting.

At any point in the implementation of EDW Services, the State will have a transparent view into our project delivery through continuous access to and ongoing review of project artifacts, dashboards, and reports. Additionally, our Communication Management Plan will help drive collaboration and establish the communication methods for our team working with FSSA.

Our project management approach, complete with an integrated set of proven project management disciplines, has been adapted to meet your specific EDW project requirements and SDLC. Because our Optum Change Management Process and Optum Hybrid Model is based on industry standards, it readily integrates with the State's approach and project management methodologies.

b. Any experience you have using Agile and Scrum methodologies. Include experience, if any, with Sprints, Product Backlogs, Sprint Backlogs, Scrum Meetings, Sprint Planning, Sprint Reviews, Sprint Retrospectives, and Burndown Charts. Please provide example materials and timelines where applicable.

We transformed the Optum approach for the Indiana EDW project in December 2016, to use Agile Scrum development and testing methodology. This methodology was aligned with PMI process groups, and SDLC phases (i.e., Initial, Requirements, Analysis, Design, Coding, Testing, Implementation, and Post Implementation). We have utilized this process successfully for 7 years to implement the EDW CORE MMIS, T-MSIS, and M&O deliverables. This process has proven to be efficient and effective in delivering quality enhancements.

We have strong and long-term experience with all Agile Scrum roles, events, artifacts, and management, including but not limited to Product Backlog, User Story, Sprint Backlog, Sprints, Product Backlog Planning, Sprint Planning, Daily Scrum Call, Sprint Review, Sprint Retrospective, and Agile reports and Burndown Charts. This helps us to manage, control, and track all related work and activities, successfully. Two of our vital staff, Kristen Addison and Faz Naqvi, are CSMs.

The Agile Scrum model provides an iterative and proven system development methodology, a structure for managing project governance and activities, status assessment, validation quality, and integration with project management components and SDLC phases.

Using Agile Scrum, our team designs, develops, tests, and implements each release (product increment) according to the State's requests and requirements in collaboration with stakeholders. We continuously monitor and control the progress of all project activities in collaboration and coordination with the State. The Optum Hybrid Model and tools selected for this project will enable the production of reports, dashboards, metrics, schedules, and contract deliverables to show our continued performance is meeting the State's expectations.

We maintain complete transparency with you, making all our work available in Jira for review. User stories are updated regularly through each 2-week sprint and act as a source of truth for the work being conducted. Our team is well-experienced in using the Agile Scrum pillars: transparency, adaptation, and inspection. We operate using the standard Agile Scrum meetings, such as Daily Standups, Sprint Planning, Spring Reviews, and Sprint Retrospectives. The Product Backlog is maintained in conjunction with you, and regular meetings are held to review upcoming work.

Optum developed several online dashboards and views in Jira that helps the State stay up to date with the EDW project timeline, original and remaining time estimates, progress, releases, and statuses. These dashboards will help the State to check the progress and status of the EDW project at any time and from different angles. Optum can generate additional reports based on State requests. Figure 31 shows the Enhancement Pool usage so far in 2024, which helps in planning efforts.

Client feedback on Optum Support Staff **Customer Service**

"Optum does well at listening to my needs and providing solutions to get me what I need as the vendor manager. Solutions and options are offered to help in my decision making. Leadership is customer-service oriented."

—Indiana EDW client feedback

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c. Your proposed Hybrid Agile System Development Life Cycle (SDLC) approach. At a minimum, include answers for the following questions:

Scrum is our proven Agile SDLC methodology for COTS-based, services-based implementations, such as the Indiana EDW project. Our sprints are nested within traditional waterfall milestones, which prevents the common “sprinting to nowhere” phenomenon when Scrum teams push work from one sprint to another without any consequences or visibility to leadership. Our Optum Hybrid Model and processes provide early and continuous delivery of quality, fully tested software. Our SDLC methodology incorporates our experience, lessons learned, development tools, and templates from more than 20 HHS projects. The methodology provides a roadmap to produce a stable, sustainable system while reducing project risks that affect budget, schedule, and performance.

i. How is the iterative cycle of requirements/user stories, design, development, and testing conducted in your approach? What is the typical iteration (Sprint) length?

Along with Scrum, we integrate our Optum Change Management Process and Optum Hybrid Model with the PMI project phases of initiation, planning, execution, control, and close. Within the execution phase, we included the activities for configuring, developing, testing, and implementing the EDW solution iteratively.

Scrum offers the following key advantages for the State:

- Reduces delivery cycle time
- Raises the quality of developed solutions
- Improves the predictability and quality of the deployed releases
- Increases the productivity of overall development organization
- Provides transparency into our project health for the stakeholders
- Encourages higher resource engagement in the deployment process

As shown in Figure 32, we receive approved requirements, features, or change requests iteratively and refine user stories during the Product Backlog Planning Event as part of the SDLC-Project Planning and Execution.

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SDLC project initiation

During Initiation for each project, we will work with you iteratively and continuously to identify project objectives and document project charters. We will work with you to establish clear lines of accountability, lessons learned metrics, and quality assurance. In addition, we will work with you to identify one or more of the following project components: project features, requirements, master test plan, communication plan, configuration management plan, issue management plan, risk management plan, and MITA maturity improvement plan.

We use an iterative approach to work with your stakeholders to gather and review requirements. Our team documents requirements in the Jira Agile tool for complete integration and tracking with other Agile project components. Your stakeholders will review and approve each requirement to use as input for the Project Planning and Execution phase.

SDLC project planning and execution

The project planning and execution phases are combined because of the iterative nature of the Agile Scrum process.

During the Product Planning Event, the requirements and/or features will be transformed into Product Backlog user stories. The Product Backlog is a list of FSSA requirements written as a list of prioritized capabilities and features (user stories) defined by the product owners of Optum and FSSA. The Product Backlog is a single, definitive repository for all future work that will advance the product increments, otherwise known as a release. The product increments will be determined during Product Backlog and Sprint Planning Sessions with close coordination and cooperation between the Scrum product owners, Scrum team, and Scrum Master. **We recommend using fixed durations of 2-week sprints and monitoring all work activities as part of the Agile Sprint Board in Jira.** However, we know that some critical deliverables (e.g., urgent help desk tickets) may be required to be completed within 24 or 48 hours. Our Optum Hybrid Model is flexible enough to accommodate these urgent requests through continual planning and daily Scrum calls.

SDLC project control

We continuously monitor and control the progress of all project activities in collaboration and coordination with the State. Our Optum Hybrid Model and the tools we select for this project will allow us to produce reports, dashboards, metrics, schedules, and contract deliverables to show that we continue performing to FSSA expectations. Please refer to Section 11, Project Management, for more information about the Project Control phase.

SDLC project close

Project close is the final phase of the EDW project and comprises the activities at the end of the project. This can occur when the State decides to implement an entirely new solution, or transition to a new vendor to operate and maintain the EDW. Three months before conclusion of the contract, we will develop and submit a transition plan to assist you in continuing the collection of the data. We will cooperate fully with the incoming vendor that you select.

ii. What is your test approach? How do you conduct each level of testing (i.e. functional, integration, and user acceptance)?

Our testing approach will use our years of experience and the principles of Agile test-driven development. We walk through the system to confirm we have met the entry criteria for acceptance testing. Then, we will have you perform an acceptance test of the solution with our assistance throughout the process. In support of acceptance testing, we will commence operational support of each release as it is tested. We perform several test methods to verify quality results before and after production.

Our team understands the complexities of testing EDW solutions. We have extensive experience converting and testing MMIS historical data. We have also worked with several PBM and managed care companies, processing encounters, fee-for-service claims, performing data modeling, and testing.

Quality Assurance Measures are employed throughout the EDW project. The EDW Project Test Plan provides a basis for planning, performing, managing, monitoring, and measuring the quality of EDW testing activities. Optum provides comprehensive testing methods that will be coordinated with SDLC phases.

The Test Plan will summarize the following:

- Testing approach and goals
- Risks, issues, assumptions, dependencies, and constraints
- Testing types and test approach, including entry and exit criteria for each test type
- Defect severity and resolution timeliness based on the requirements and State SLA
- Test environments
- Roles and responsibilities (including Agency name and stakeholder participation)
- Quality controls and checkpoints
- Scrum triage process
- Test data management and security controls
- Test reporting, metrics, reviews, and approvals

The following table includes descriptions of Optum testing methods.

Indiana EDW

Testing approach

In 2021, we led an initiative to transition the transfer of D-SNP encounter data directly to the EDW (i.e., D-SNP 837P, 837I, and PDE encounters data). This project required collaboration between OMPP, 9 unique D-SNPs, and Optum. The aggressive timeline and collaboration with multiple partners, required strict adherence to project management processes and effective communication with partners.

A key component of our success was effective and efficient testing. We planned and implemented a phased approach to testing, which included:

- End-to-end testing
- Detailed test plans to cover all test scenarios
- Regular open communication of the test plan and testing results to the D-SNPs to confirm that all partners had achieved readiness

Agile Term	Description
Unit Testing	As the lowest testing level, Unit Testing verifies that the individual units of the software work properly. The objective of unit testing is to test the software's functionality and to confirm that the unit of software is structurally sound and able to respond appropriately in all conditions.
Integration Testing	<p>Integration Testing occurs when two or more units have been tested and are combined into a larger, single structure. Because our solution components routinely interact with other system components, integration testing tests the interfaces and interoperability between components. Integration Testing is used to identify and resolve defects before the more complex System Integration Testing. We define integration test objectives for each increment and before it starts. They include:</p> <ul style="list-style-type: none"> • Defining the integration testing scope • Describing the out-of-scope artifacts and activities • Documenting testing assumptions <p>Developers for a release cannot perform system or integration testing on their own release work. In situations where the application team is not large enough to staff roles separately, segregation of testing duties may be mitigated by dual sign-off for production migration. After Integration Testing is completed, the development team hands the system over to our quality assurance (QA) team.</p>
System Integration Testing (SIT)	Using converted, masked data, our testing team conducts System Integration Testing on the complete, integrated EDW product increment release to evaluate its compliance with state-specified functional requirements and to verify end-to-end reliability, security, and maintainability.
Interface Testing	This testing will verify the integrated solution and data flows for all EDW business partners. Through Interface Testing, we determine that providers, service centers, business partners, and other agencies can submit transactions over appropriate channels, and can send and receive proper acknowledgements and negative responses. For each type of transmission, we also test the time lag between transaction receipt by the EDW and notification of receipt to the data originator.
Regression Testing	Regression Testing is an activity conducted throughout all stages and releases. It is implemented to validate that existing, tested functionality is not negatively affected by the introduction of new functionality and that identified defects/bugs are satisfactorily corrected. This testing is conducted in a controlled environment with well-defined data management and code management practices unique to this testing.

Agile Term	Description
User Acceptance Testing (UAT)	<p>After successful completion of SIT, our testing team coordinates User Acceptance Testing (UAT) with DST and FSSA users (typically one or more business units) to validate the EDW against base lined business requirements and approved change requests. This occurs within a pseudo-production environment. The focus of UAT is to determine how well users can perform their jobs with the set of systems and business processes currently configured for the release. Through UAT, end users:</p> <ul style="list-style-type: none"> • Verify that the EDW and infrastructure perform according to the business requirements/constraints and related modifications • Validate that the solution meets the user's needs <p>The emphasis is on evaluating the system against normal business circumstances, but in a controlled testing environment. This environment will support UAT-related activities, such as training, defect logging, and resolution of other issues required prior to sign-off and release of all work products to production.</p> <p>Throughout our contract tenure, FSSA business users perform UAT to validate that the EDW and downstream enhancements/modifications meet requirements and function as designed.</p> <p>Our team will work closely with FSSA to provide the support needed during UAT.</p>
Stress/Performance Testing	<p>Stress/Performance Testing will include volume (load) and stress testing of the solution to determine that the release provides the intended functionality and meets performance requirements under production conditions. It also confirms that all aspects of the system architecture (technical, application, data, and network) can handle anticipated transactional volumes.</p> <p>This testing is followed by performance tuning as needed. Our team will design a strategy for applying load to the system. Test scenarios will include a combination of manual and automated tests.</p>
Operational Readiness Testing (ORT)	<p>Through ORT, FSSA verifies that the EDW has been installed and configured to successfully operate in the production environment and that end users have been satisfactorily trained to operate the system at go-live. Our team will work closely with FSSA to provide the support needed during ORT.</p>
Post Implementation Review Quality Assurance (PIR QA)	<p>After deploying the product increment to production, we will conduct PIR QA on the deployed production component with production data to verify results are correct and as expected based on requirements, change requests, user stories, and help desk tickets.</p>

iii. What is your approach to maintaining user manuals, training materials, and process documents?

The Optum Indiana EDW team will continue to review user manuals, training materials, and process documents on an ongoing basis to confirm documents are kept up to date. The order in which documents are reviewed is prioritized according to client business needs. For larger documents, such as the Operations Manual, the document is divided into sections and different sections are reviewed and updated each quarter.

The Optum Indiana EDW team will also continue to make ad hoc updates to the documentation based on program development following normal changes and enhancements. As part of our

normal Agile development process, when an update is planned for the program, a documentation task is created in Jira to notify the technical writer of the change. Process documents, user documents, and training documents are reviewed with SMEs and tested against the UI functionality being implemented. Documentation is written to communicate the functionality being implemented. The updated documentation is reviewed by designated SMEs, and the updated documents are released to coincide with system releases and updates.

When a program change requires training material updates, the instructional designer and SMEs meet to discuss which materials need to be updated. The updated training materials are reviewed by SMEs and posted to Data Central for user consumption.

iv. What is your approach to formal Production Readiness Reviews?

The Optum Indiana EDW team will continue to provide system and product deliverables, which are stable and ready for a successful launch. The Optum team reviews the implementation plan for production readiness with Indiana state stakeholders prior to production release. The Optum Indiana EDW team has previously implemented the approach below for production readiness and would plan to continue utilizing this process.

Preparation phase

- **Internal Review:** Confirming all functional, performance, security, operational, and business requirements are met.
- **Evaluation Criteria:** Complete the following:
 - Verification of functional requirements through comprehensive testing
 - UAT for product quality
 - Performance testing for system readiness
 - Validation of job schedules, system stability, data availability, and security
 - Operational readiness including monitoring, alerting, and backup/recovery plans
- **Documentation:** Verifying design specs, test plans, results, deployment guides, user manuals, and compliance reports are complete
- **Task Closure:** Confirming all Jira milestones, user stories, and tasks are closed before release

Review meeting

- **Stakeholder review:** Meeting with State stakeholders to review the product
- **Communication:** Informing stakeholders of any open issues, risks, and dependencies
- **Sign-off:** Obtain formal sign-off from key stakeholders for deployment

Deployment planning

- **Checklist creation:** Detailed deployment checklist for smooth rollout
- **Rollback plan:** Preparing rollback procedures for critical issues
- **Communication plan:** Informing stakeholders of deployment schedules and impacts
- **PIR QA testing:** Verifying correct implementation post-deployment

Continuous improvement

- **Post-deployment review:** Assessing launch success and identifying improvement areas
- **Feedback incorporation:** Using post-deployment feedback to enhance future processes

Following FSSA acceptance of the solution, we will promote the release functionality into the Production Environment. We will continue the operational support activities that we began during acceptance testing. If necessary, due to partial or full failure of the change rollout, we will execute a rollback to recover operations to a prior version. We will use Jira Release Log component, which will allow us to package user stories into a PI (Product Increment) release with version title, planned start and release dates and release notes. Using this approach, we can visually inspect the work progress of the user stories that are related to a release, as Figure 33 shows. From the Release Log, we can drill down to the details of included user stories for further tracking and reporting.

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Production readiness reviews

We will review with you the implementation plan of production readiness prior to production releases to verify releases are ready for deployments. We will update the Jira Release Log based on the outcome of the production readiness reviews, and hence update the status of the Release Log's related user stories, tasks, and other Jira tickets.

Post-implementation review (PIR)

Every User Story defined in the Product Backlog and assigned to a Sprint will go through PIR QA activities by the Scrum team after deploying its related artifacts to the State Production Environment. The User Story status will be PIR QA until we review the results with the State and Operational Verification & Validation Services (OV&V) for final approval. Then, the User Story status will progress to "CLOSED" status.

v. How do you manage multiple levels of testing? What is the typical iteration length?

We perform multiple levels of testing to ensure quality results before and after production releases. We conduct internal QA testing on every developed user story, including unit and integration, system, security, user acceptance, load, and performance tests. If the user story requires the State's UAT, we will deploy the user story output artifact (e.g., report) to the UAT environment, and will inform the State's project manager concerning the readiness to test the report. When we receive the UAT acceptance, we prepare the package to release to production

using Jira Release Management. Before go-live, we perform operational readiness reviews to verify that the EDW has been installed and configured in the Production Environment and end users have been satisfactorily trained to operate the system. After deploying to production, we will conduct PIR QA activities using production data to verify that the post-implementation production functionality meets approved requirements and there is no impact to existing production operations and data.

We will use our experience, knowledge, and proven processes to deliver fully tested and operational Indiana EDW enhancements. As included in our Optum Hybrid Model implementation approach, we conduct a progression of tests during specified implementation phases. The development phase for each release will contain multiple sprints.

Each sprint will be a **2-week period** with the flexibility to accommodate your specific requirements and testing iterations, as applicable. During these sprints, we conduct Unit and Integration Testing.

Each sprint contains multiple user stories. Our product team creates these user stories based upon your requirements, change requests, or helpdesk tickets. We will work with your Product Owner(s) to review, approve and assign specific user stories for each sprint prior to release starts. At the end of each sprint or group of sprints that comprise a product increment, we collaboratively review test results and obtain signoffs. We will capture any items that are not completed and assign them to a future sprint. User stories are documented and tracked using the Jira tool.

During the Testing Phase, we conduct the next stage of EDW testing, which includes System Integration Testing (SIT), Interface Testing, UAT, and Regression Testing as needed to address performance issues arising from these tests.

In the deployment phase, we conduct our final stages of testing, Stress/Performance Testing and ORT to verify the release is operationally ready for deployment into production.

vi. What is your experience working to MARS-E 2.2 security standards, including entrance and exit criteria?

The foundations of our solution architecture align with industry guidelines and regulations. This includes experience adopting, implementing, and applying the CMS MITA framework along with HIPAA, CMS Minimum Acceptable Risk Standards for Exchanges (MARS-E), National Institute of Standards and Technology (NIST) SP 800-53, the CURES Act, and Federal Information Processing Standard (FIPS) 140. We undergo multiple audit types for our state clients, including MARS-E audits, IRS 1075 audits, security control audits, certification reviews and state-specific security policy audits. We will work with the State to make sure we align on the control definitions and undergo security testing to make sure your data is secure as part of our Optum Hybrid Model process.

CMS created a framework to establish a consistent, repeatable CMS testing lifecycle process and a framework for business application and infrastructure testing functions. Our testing approach is closely aligned to the CMS framework. This methodical approach to testing promotes predictable testing actions and results. We are experienced and knowledgeable working with this testing framework and have implemented it across multiple state government implementations. We use framework-based templates for the test plan and scenarios to facilitate user acceptance and the client approval process. Entry criteria for MARS-E testing is determined as part of the control definition in the SSP. CMS creates testing guidelines for all MARS-E controls as part of the standard so testers and auditors have a well-defined baseline for evaluation.

We will use disciplined, repeatable processes during the execution of each testing method. Each security test case will have a documented scope, misuse conditions, and entrance and exit criteria. Security testing will be applied through each phase of design, development, and implementation (DDI). As some security controls are not implemented immediately, each test case will have an associated schedule as part of the project plan. We will document any required software and deliver test results to the State as part of the DDI efforts.

Each release will undergo testing and deployment independently of one another. This enables us to conduct more focused and controlled testing of smaller sets of security functions incrementally, rather than large-scale testing of the entire solution at the end of the project.

Our security officer, **CONFIDENTIAL** will provide oversight of our security and privacy controls are designed and implemented through a layered SOA model, addressing associated threats to each layer. Security controls are distributed across the environment to minimize unauthorized opportunistic access. Additionally, the control environment is designed to support technology and service interoperability, resulting in reduced technology sprawl and lower cost of ownership for control maintenance while maintaining the prescribed compliance posture. We will document testing plans for each layer of security as part of the System Security Plan.

Optum

Security Expertise

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d. Any concerns or alternative recommendations on the use of Scrum. If so, please explain.

We do not have any concerns or alternative recommendations regarding the use of Scrum. The Optum Hybrid Model is based on years of experience with SDLC phases and Agile Scrum methodologies. We have successfully delivered numerous EDW enhancement projects for the State using the Optum Hybrid Model.

e. Describe any applicable experience with the Waterfall SDLC methodology and your flexibility to use Waterfall if needed for specific enhancements.

We understand and fully support the idea that the State may require usage of a more traditional Waterfall SDLC type methodology for specific projects. We have utilized the Waterfall approach to deliver EDW DDI projects for other states, where its structured and sequential approach was essential to provide:

- Clear scope, objectives, and deliverables of the project are defined with all stakeholders
- Comprehensive technical specifications for developers to follow
- Comprehensive documentation, which may be essential for complex system integrations and regulatory audits
- Checkpoints where development of modules are completed before moving to the next phase
- Thorough testing (unit, integration, system, and acceptance testing) to verify the system meets all specified requirements

- Planning and execution for the system deployment, including user training and support
- Continuous maintenance and ongoing support post-deployment to address any issues and ensure system stability

We have combined the use of Waterfall, along with Scrum in a hybrid model while transitioning to Scrum methodology, the Optum Hybrid Model. This approach enables us to deliver Indiana EDW incrementally according to business needs while providing immediate value in data quality and critical enterprise reporting. Using our Optum Hybrid Model, we will implement multiple releases of the EDW in coordination with FSSA and DST. We will stagger the releases as required by FSSA to meet or exceed expectations. We will use Agile Scrum design and development for components of the EDW project. An iterative approach will allow the delivery of a waterfall methodology with the rapid deployment and functionality of agile methodologies. This approach will give FSSA the following advantages:

- Shorter configuration cycles
- Increased value as releases arrives more quickly
- Early stakeholder feedback
- Continuous improvement cycle that exposes defects more quickly

Our Optum Hybrid Model is designed to provide early and continuous delivery of quality features that are fully tested. The process incorporates our experience, lessons learned, development tools, and templates that span multiple Medicaid and health and human services projects. We will continue to adapt our work and tailor our methods to meet your requirements for making changes to the system.

f. Detail your proposed testing methods, specifically confirming how you plan to meet the responsibilities outlined in 3.3.2.3.5.
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A key component of our success is effective and efficient testing. We planned and implemented a phased approach to testing, including end-to-end testing. This testing approach supported a successful EDW implementation by confirming that all partners had achieved readiness. Project success was achieved because of our adherence to our proven testing approach; clear communication with stakeholders; and collaboration-building project management processes.

We will use our experience, knowledge, and proven processes to deliver fully tested and operational EDW services and enhancements. Guided by our Optum Hybrid Model implementation approach, we conduct a progression of tests during specified implementation phases. The development phase for each release will contain multiple sprints. Each sprint will be a two-week period with the flexibility to accommodate your specific requirements and testing iterations, as applicable. During these sprints, we conduct Unit and Integration Testing.

Each sprint contains multiple user stories. Our product team creates these user stories based upon your requirements, change requests, or helpdesk tickets. We will work with your Product Owner(s) to review, approve and assign specific user stories for each sprint prior to release starts. At the end of each sprint or group of sprints that comprise a product increment, we collaboratively review test results and obtain signoffs. We will capture any items that are not completed and assign them to a future sprint. User stories are documented and tracked using the Jira tool.

During the Testing Phase, we conduct the next stage of EDW testing, which includes System Integration Testing (SIT), Interface Testing, User Acceptance Testing (UAT), and Regression Testing as needed to address performance issues arising from these tests.

In the deployment phase, we conduct our final stages of testing, Stress/Performance Testing and ORT to verify the release is operationally ready for deployment into production. Figure 34 illustrates how our staged testing progression dovetails with our implementation approach.

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We will test and deliver your EDW Enhancements using a hybrid waterfall-Agile methodology that has proven to enhance speed-to-market of many health care and social services IT projects.

Test cases, scripts, and management tools

We will prepare test cases (positive and negative) and scripts for each test activity to be executed for a release. We will develop and deliver test cases and scripts in advance of each testing activity for approval by FSSA. Our test cases and scripts guide the execution of testing for state-specified EDW requirements and provide comprehensive testing for system business functionality, including rules execution, and the integration of the EDW with defined MMIS and external systems. Negative test cases are particularly important to determine that the EDW will respond appropriately by rejecting bad/invalid data.

We develop test scripts to demonstrate that all functional and non-functional requirements for a particular release (product increment) have been met. This will inherently address all data scenarios that the EDW is expected to process per requirements. The scripts provide step-by-step instructions for executing the tests and contain mechanisms for the testers to indicate when an unexpected outcome (defect) has been discovered at any time during the test effort. Test scripts can take the form of documented textual instructions executed manually or machine-readable instructions that drive our automated testing tools within Jira.

We create and document test cases and scripts. Each test case contains a summary of the test scenario, a test script that documents detailed instructions for each testing step, expected results and reference requirement number(s) (user stories).

g. Describe your company's overall data migration strategy, plan, and methodology. Include data extraction, cleansing, mapping, and conversion, and testing.

We employ a tailored Agile delivery methodology to deliver a data management process that aligns with your requirements. Our team starts with a central scope area, such as a particular claim type (e.g., professional), and runs iterative data engineering steps and tests that incorporate more claim types. Similarly, we work from small to large data volumes. We will convert, test, analyze, and repeat the conversion process as we progress in quality assurance and achieve the performance levels required for one-time conversions of historical data and the migration of your data to the EDW. We will leverage conversion designs across one-time and ongoing conversion functions so that common procedures and workflows can be accepted and implemented with minimal redundant steps. Figure 35 shows our data cleansing, mapping, and conversion process.

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By working in close collaboration with you following the conversion stages shown above, we will produce comprehensive data conversion deliverables that will serve as the foundation for the EDW data ingestion. The technical activities our team will perform are described below.

Source data review: Optum will review the source data structures, the source data dictionary, and layouts. With the input of your SMEs and users, this helps us determine the appropriate

data elements that will be available in the EDW. Our source data review includes contingency planning to mitigate risks or issues.

Data and network security: We will safeguard PHI and PII data elements as identified by security and privacy regulatory directives set by the State and federal organizations. We will encrypt information while in transit or at rest using FIPS 140-2 compliant encryption. Network links accessing data will use encryption for all data transfers using secure file transfer protocols (SFTP and/or HTTPS) and Transport Layer Security (TLS). The EDW platform will also be encrypted at rest with a key size of 2048 bits or larger.



Optum leverages the best available encryption. We will continue to keep abreast of the latest cyber security trends and encryption techniques to safeguard your data both at rest and in motion. Our team will work with you to periodically reassess the encryption techniques and upgrade them to stay aligned with industry standards.

Staging data: We will load data extract files in the staging area for further processing as well as profile and analyze the data for accuracy, formatting, and content. The results will be presented and discussed with you.

Data cleansing: Our team will share the profile analysis results. If necessary, we will participate in developing data cleansing rules for any data anomalies that do not agree with expected values. A data quality assessment will be conducted to highlight any data quality issues such as garbled content, invalid record relationships, data type redefinitions, and invalid content.

Data mapping: We will document the mapping required from the source system to the EDW. This will help us identify the data relationships that are part of data lineage analysis. Any approved data cleansing rules will be invoked as we perform data mapping including crosswalks. Data mapping activities will be documented in the Data Transfer and Conversion Plan.

Data transformation: Data will be transformed based on agreed-on specifications and exception reports produced as required. In addition to format migrations, we will add additional fields (e.g., indicators) to help with reporting. We will then create tables with business rules that create certain summarized data files for more efficient performance.

Testing and verification: The verification process will be continual and iterative. This is required to control the initial and ongoing data transformation and quality assessment processes. We will conduct unit testing through acceptance testing throughout the data transfer and conversion process. Before the final target loading, we will load and verify a subset of the data in a test database.

Final target loading: Final target loading will begin with an empty, clean production database with proven data transfer and conversion procedures. We will collect target audit statistics and verify them against source data statistics and expectations. The target database will load to the approved and tested model with tested, profiled, and transformed data.

Data validation occurs before and after loading. Managing the extraction, transmission, and loading of converted data files requires a strict regimen of controlling complex processes and keeping communications open between data source systems and vendors. To accurately reflect the status of the conversion load process, we keep source layouts for extraction and layouts for incoming converted data current. We track and document any changes to the layouts. We also document information such as load details, load issues, and load comments to track and report the results of the load process as part of the weekly status reports.

i. What roles / responsibilities will your company and the State play in data cleansing, mapping, and conversion?

We recognize the EDW project is a large, complex effort between Optum, FSSA, and other stakeholders. The Optum team is committed to working collaboratively and providing accurate and timely information to set and manage stakeholder expectations throughout the project. Optum will partner with the State in identifying stakeholder groups and individuals to define, review, and approve cleansing, mapping, and conversion rules for effective data management in EDW. Effective data management in EDW requires clear delineation of roles and responsibilities between Optum and the State. The following table outlines the roles and responsibilities.

Optum and State roles and responsibilities for data cleansing, data mapping, and data conversion

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In addition, we will assist in developing a communication matrix that will help make sure stakeholders receive frequent, consistent, applicable messages in a timely manner. Communication approaches and channels are as varied as the stakeholders for which they are intended.

Optum follows the data management roles for all new data added to EDW. Most recently, new data for EVV and Indiana Pathways program projects followed this process. Under the new contract, Optum will implement uniform standards for both EDW and SSDW that can significantly improve data consistency, quality, and usability across the State.

Optum personnel have successfully implemented 2 major data conversion projects, CoreMMIS and IEDSS, without disruption to the EDW users. Optum understands following a well-defined methodology and ensuring seamless integration are crucial for the success of such projects.

This achievement reflects the effectiveness of the processes and practices that were put in place.

We have documented the methodology that was utilized in these successful implementations to replicate these best practices in future projects. This can involve capturing the key steps, the tools and technologies used, the roles and responsibilities of the personnel involved, as well as any specific challenges faced and how they were addressed. By implementing these uniform data management standards and roles, the State can achieve a more cohesive, efficient, and effective EDW.

ii. **What expectations does your company have on the status / state of the data prior to the start of the project?**

Start of the project

Our Optum team possesses a deep experience and understanding of the data housed in the EDW and the current SSDW. We are attuned to where there are data quality issues that need to be considered as part of any downstream analytic or data sharing exercise. We will leverage this knowledge to continue our data quality efforts with DST and FSSA to close data quality gaps identified via T-MSIS or other Data Quality mechanism by continuing to work closely through your data governance process. We are also very interested in continuing to discuss how the Data Quality tool that we have built for our Arkansas DSS project can be leveraged and implemented for the Indiana EDW.

We are also bringing experienced staff with deep knowledge of the DCS and DFR-related data housed in the SSDW. Consistent with our process and efforts with OMPP, we will work closely with DST and their DCS and DFR stakeholders, including upstream data source owners, via the data governance process to surface and address data quality issues throughout the duration of the project.

Future enhancement: adding new data source

Before starting a new enhancement project, Optum typically expects a new source data to be in a certain state or condition for a smooth and efficient EDW implementation process. By confirming the data meets these expectations before the project start, we can set a solid foundation for the project's success and minimize potential risks and disruptions during implementation. Here are some common expectations regarding the data status before starting an enhancement project:

1. **Data Quality:** Optum expects the data to be of high quality, accurate, complete, and consistent. This includes confirming there are no duplicate records, missing values, or data errors that could impact the project's outcome.
2. **Data Integrity:** The integrity of the data should be maintained, with proper relationships between different data elements and entities. Data should be structured in a way that aligns with the project requirements and objectives discussed with Optum.
3. **Data Accessibility:** The data should be accessible to the Optum team members, for analysis, integration, or migration purposes. This includes having necessary permissions and controls in place to protect sensitive data.
4. **Data Documentation:** Comprehensive documentation of the data structures, definitions, and lineage should be available to provide insights into the data's origins and usage. This documentation helps Optum in understanding the data context and facilitates easier data analysis and manipulation.

IDQ provides us with the ability to automate profile data effectively and monitor data issues. Optum leverages features like data profiling, data quality scorecards, and data quality monitoring for data accuracy and to identify any anomalies or data issues. We configured data quality scorecards in IDQ to provide a comprehensive view of data quality metrics and help measure the health of data against defined rules or standards. These scorecards were used to assess the quality of data across various data quality dimensions, such as completeness, accuracy, consistency, and timeliness. By leveraging reusable rules, reference data, and processes for data migration, consolidation, enrichments, and governance projects, Optum maintain consistency and reliability in data management practices.

Flexibility and collaboration are key to overcoming data quality challenges and ensuring the success of projects. We understand that data as initially being provided by a new data source may not be perfect and when data quality expectations are not fully met, Optum will work closely with DST and FSSA stakeholders and data source owners to find practical solutions and make necessary adjustments. This collaborative effort has historically led to innovative problem-solving and ultimately drives projects toward achieving objectives.

Optum personnel have experience working in scenarios where expectations have been both met and not met. This adaptability and understanding are key factors in successfully navigating complex projects. Having a deep understanding of FSSA systems, their dependencies, and data integrations is invaluable in effectively innovating project activities without disrupting the source system activities and project go-live date. This level of expertise and collaboration ensures that projects can be carried out smoothly and efficiently, ultimately leading to successful outcomes for the State. Such capabilities mean that we can deliver high-quality results while maintaining a pragmatic customer-centric approach.

Client feedback on Optum Support Staff **Relationships**

“Optum does a very good job of seeing the entire picture and because of their Job knowledge they are able to point out gotcha's before they become a problem. I continue look to them for advice on issues we face every day.”

—Indiana EDW client feedback

Implementation of the Indiana Pathways and EVV projects are examples where despite challenges with test data accessibility for both the MMIS and EDW, Optum was able to adjust and meet project timelines effectively. During the onboarding of a new MCE for the Pathways project, it was discovered that the submitted encounter data files were not in the expected format and lacked essential data elements required for state and federal reporting. Identifying these issues early on, our team coordinated closely with the State and the MCE, and they made the necessary changes and conducted multiple tests, ensuring that the actual go-live date remained unaffected. This dedication to finding innovative solutions demonstrates our commitment to assisting FSSA in serving Hoosiers efficiently.

Optum has structured comprehensive activities to ensure that expectations are met and sets the stage for successful project implementation. These activities are essential for establishing a reliable and high-quality data foundation for the project. By conducting data profiling, cleansing, mapping, and security review, Optum takes proactive steps to address potential data issues, maintain data integrity, and ensure the security of sensitive information.

iii. Describe all aspects of data testing that will be used to confirm in-scope data has been completely and accurately migrated.

Optum understands that the goal of this RFP is to obtain services to take over maintenance, operations, and enhancement of the existing EDW and SSDW and while the initial takeover

does not require data migration, there may be individual enhancement projects undertaken during the M&O contract duration, which require data migration and testing services.

The goal of data testing as part of any data migration project is to verify that all data is migrated and updates to data are performed accurately as the data flows through the Optum data conversion framework. Data testing also confirms the accuracy of data after it is converted or translated from one format to another. The Optum team performs data testing within multiple testing environments and test phases, based on data conversion mappings. Optum will document data test results for all data conversion loads (including initial and incremental data conversion loads), in a State approved format.

Data conversion, which may also be required as part of enhancement projects, is more about translation and mapping to the desired solution. Testing verifies that conversion related updates to data are performed accurately as the data flows through our framework. It also confirms data is correct after it is converted or translated from one format to another. We will perform testing on converted data during multiple test stages based on functional changes to the system. The data verification process during data conversion will be continual and iterative. This is required to control the initial and ongoing data transformation and quality assessment processes. We will conduct unit testing through acceptance testing throughout the data conversion lifecycle. Before the final target loading, we will load and verify a subset of the data in a test database.

We identify all subtasks and deliverables related to testing in the work plan and address them in the Data Conversion Plan, which covers the following:

- Development and execution of unit and system testing for all conversion and load programs
- Quality check procedures
- Post-conversion data testing and auditing
- Objective pass/fail criteria or metrics, as appropriate
- CTR document

We perform data conversion testing during multiple test phases based on the functional changes to the system and create CTR document. The CTR document verifies that data that converts from one format to another is correct. It includes:

- Encountered error (issues) and its impact upon another table or file conversions
- Methods and action plan for resolving outstanding issues
- Pre-conversion and post-conversion versions of each converted file or table
- Pre-conversion and post-conversion versions of all interface partner files
- Data quality reports, reconciliation reports and auto-generated reports as required by FSSA to validate converted data
- Detailed summary and metrics for the status of the data conversions

Our Data Conversion Plan describes the levels of data verification activity. The plan defines the toolsets we use to track errors and error resolution. It also provides examples of error, balancing, and validation reports by functional area. The following table describes how we verify conversion data using various strategies.

Strategy	Description
Validation of conversion mapping specifications	Validates against the conversion crosswalk to verify programs comply with the specifications for conversion
Balancing and comparison	Compares the output of converted data with data in the source file at the macro and micro level
Testing target system functionality	Tests new system functionality using converted data, which will verify that the new system is processing data correctly and the converted data passes all editing or business rules

These 3 strategies will provide a thorough evaluation of the accuracy of the converted data at the macro and micro level. By validating the data against the conversion mapping document, the data conversion team will demonstrate the programs operate as designed.

- Report issues encountered and their impact
- Methods and action plan for resolving issues
- Pre-conversion and post-conversion versions of each converted table and file
- Pre-conversion and post-conversion versions of all interface partner files
- Conversion reports – indicating adequate checks
- Conversion's status summary and metrics

Each execution of the data conversion test during the conversion process for a given set of tables within a component produces CTR which reports error (issues). These issue reports document data anomalies, inconsistencies, and errors encountered during the process. These reports can be broken down, by functional area, execution duration statistics, as well as information on valid and rejected counts. We review these reports to determine whether the conversion job was executed successfully. If the report indicates runtime issues, we will conduct additional analysis to determine if the issue is data-related or inherent in the conversion process design and its Impact upon other table or file conversions.

We review CTR which reports error (issues). Error reports are examined to determine the root cause of each error. If the review indicates design or conversion process errors, we make conversion job corrections and rerun the jobs. Our analyst corrects the conversion programs, rolls back the failed attempt, and re-executes the conversion run. If the review indicates problematic data, those data issues will be reported to FSSA and Optum SMEs for review. The SMEs will decide whether to correct the data in the source files (on the source system), allow the data to be converted as is, or alter the mapping specifications to accommodate the data.

After executing each file conversion attempt, we review CTR using specified guidelines. To evaluate the accuracy of converted data, we use varying levels of validation.

- **Data validation:** Actual data fields on post-conversion system tables are compared with the source data from the pre-conversion system tables. Corresponding records from replacement system tables are then selected. We compare each field to the source data using the mapping specifications found in the crosswalk. We prepare and retain documentation of this field-by-field comparison.
- **Parallel testing and data reconciliation:** Before the final conversion, the data conversion team performs trial conversions. The team conducts walkthroughs of completed file and table conversions for the functional area teams and submits these results for approval. In addition, the team conducts parallel system and component runs

to validate conversion tests results. They submit the results to the functional area teams for approval. If available, the functional area teams can compare the data displayed on legacy system screens to the converted data displayed on the corresponding solution application or portal Web page.

We will provide you with a status summary report for all testing activities, as required. The report will document any deviations, problems, issues, or outstanding items (e.g., blocked, failed), where applicable. The outstanding items will include documentation that explains why they are outstanding. It will also include the following:

- Reporting of processing statistics that includes load execution parameters and metrics.
- Reporting of the number of issues identified and addressed, issues conditions, volume, and severity of each issue and unexpected terminations.
- Metrics of the conversion process will be generated to measure the completeness of conversion, including record counts, and balancing for each major grouping of data elements from the legacy source systems (e.g., number of members, cases, claims, and claims paid).
- Status summary will be leveraged to obtain a sign-off that all conversion tasks are successfully completed, in accordance with the Data Conversion Plan.

iv. Provide examples of the error report(s) your company will provide as part of data conversion.

Our data conversion framework generates balancing, reconciliation, and quality reports to allow for the validation necessary to make sure that the solution seeded with the data it needs to function as expected. These reports are described in the following table.

Data conversion error reports

Conversion Reports	Description
Quality (Profiling) Reports	These conversion quality reports document the non-compliance of the incoming data with a pre-defined set of conversion validation rules. This report is generated for data quality check and reflect the results of the legacy system data profiling so that information can be used as input into the rest of the conversion functions.
Balancing Reports	These conversion balancing reports document the comparison completed of the output of converted data with data in the source file. Optum captures counts of records to assure the counts in the source file match the counts loaded to the solution. This confirm records are not lost or added during conversion.
Reconciliation Reports	These conversion reconciliation reports document aggregate information from the final converted data set, and the reconciliation of it with the same aggregate information from the legacy system. This custom-built set of reports is based upon metadata valuation of counts. It is used to compare custom aggregate information, generated for each target system functional area, with correlating source system aggregate information.
Auto-generated Reports	These reports can be generated as required by FSSA to validate converted data at detail and summary record levels, which include run dates and times, and are retrievable for a series of conversion activities.

v. What automation will be used as part of the data conversion and potentially data cleansing / correction?

We understand that automation is essential to reducing human errors and being good stewards of the FSSA budget by reducing extraneous staff that would be needed to operate manual processes. We have effectively automated the EDW workloads and look forward to doing the same for the SSDW. Automation is core to our data engineering philosophy, with a focus on streamlining every aspect of data flows, ranging from ingestion to validation, quality audits, transformations, and extracts. This comprehensive automation strategy not only enhances operational efficiency but also safeguards data integrity and reliability. The emphasis on transparency and communication within automated processes is key to building trust and confidence in data pipelines.

Optum utilizes the PowerCenter scheduler within Informatica PowerCenter to facilitate the scheduling and execution of data integration tasks and workflows. The scheduler allows Optum to set up and manage schedules for various tasks, workflows, and jobs within PowerCenter. This includes defining the frequency, timing, and recurrence of jobs based on specific requirements.

We have experience in handling data management for FSSA and are recognized for delivering data on time with great quality. Leveraging the capability to establish dependencies between different workflows or tasks in data integration processes is crucial for managing complexity and ensuring tasks are executed in the correct order.

By setting up dependencies, Optum was able to orchestrate the sequence of tasks to align with business requirements and process logic, ensuring that data flows seamlessly from one step to the next. This helps in managing complex data pipelines efficiently and trigger downstream tasks only after their upstream dependencies have been successfully completed.

Additionally, Optum leverages the ability to configure multiple tasks or workflows that can be executed concurrently, is valuable in optimizing performance and resource utilization. By determining the level of concurrency based on system capacity and workload requirements, Optum has streamlined data processing workflows to improve efficiency. This approach enabled parallel execution of tasks where feasible, leading to faster processing times and improved overall performance.

Optum parameterizes the workflows to enable dynamic configurations and automating data integration processes. Optum has configured the scheduler to send alerts and notifications to be triggered based on specific events or conditions, such as job completion, failure, or delays. This helps in monitoring and managing data integration processes effectively. Optum utilizes PowerCenter scheduler seamless integration capabilities with other Informatica tools and platforms, enabling us to orchestrate end-to-end data integration processes across different environments and systems.

With IDQ we can automate profiling of data effectively and monitor data issues. Optum leverages features like data profiling, data quality scorecards, and data quality monitoring for data accuracy and to identify any anomalies or data issues in real time. Optum has configured data quality scorecards in IDQ to continually provide a comprehensive view of data quality metrics and help measure the health of data against defined rules or standards.

The incorporation of automated rule sets within ETL and ELT processes results in improved data quality throughout the data lifecycle. This proactive approach minimizes data quality issues at each stage of data processing, ultimately contributing to data accuracy and meaningful insights.

vi. What specific experience does your company have when it comes to converting large quantities of data in different formats and locations?

Optum has extensive experience and a successful track record in data conversion, especially in the context of supporting and implementing large initiatives for FSSA. Our ability to successfully handle data conversion projects in states such as Arkansas, Indiana, and New Jersey underscore our expertise in this area.

We're experienced in handling large volumes and diverse formats of data, as demonstrated through the successful implementation of the D-SNP Encounter project to support the Indiana Pathways implementation. This project, which involved processing large volumes of Encounter data files submitted in an EDI format by 9 Medicare health plans, showcases our capability to manage and process significant amounts of data efficiently and effectively.

Handling large volumes of data, especially in formats like EDI which can be complex and structured, requires robust data processing capabilities, advanced data management tools, and a scalable infrastructure. We successfully processed the encounter data files, which indicates a strong understanding of data processing workflows, data validation processes, and data integration techniques.



Our solution for processing HL7 files to support enhanced analytics for Arkansas showcases our adaptability and expertise in overcoming data format challenges. While HL7 is an industry standard format for health care data exchange, encountering variances in data elements and formatting from different source entities has posed significant obstacles to using standard industry solutions libraries, such as Informatica's. We demonstrated our agility and technical proficiency by developing a customized solution using Java libraries to ingest the HL7 data into the EDW.

Our team has experience of implementing data conversion initiatives as part of CoreMMIS and IEDSS implementation is particularly noteworthy, as these are critical systems of FSSA's operations. We completed the implementation projects on time, within budget, and adhered to HIPAA-compliant data security guidelines. The mapping, converting, and migrating of multiple data source feeds from these systems is a complex process that requires careful coordination and attention to detail.

Data validation and migration, data archiving, and data management are crucial components of our data conversion framework. Our expertise in these areas demonstrates our ability to manage data efficiently and meet data quality standards at every stage of the process. The alignment with data standards is also critical, as it facilitates interoperability and data consistency, which is essential in data-dependent business processes.

The exchange of data services is a critical aspect of data conversion, and Optum can design and execute configurable interfaces to handle different data formats. We configured interfaces for you that are adaptable to structured and unstructured formats, can save time, and reduce complexity considerably. They are essential in managing large-scale data management initiatives successfully.

Optum is well-positioned to provide great value to FSSA by delivering solutions that can effectively convert large volumes of data, establish standard reporting mechanisms, and enable advanced analytics within the required timelines. The proven success in previous data conversion initiatives showcases our capacity to manage the intricacies of such projects and deliver solutions that align with the specific needs of FSSA.

Furthermore, leveraging the insights gained from successful data conversion projects in other states, Optum can bring best practices, tailored strategies, and a deep understanding of the complexities involved in such initiatives to further enhance FSSA's data management processes.

Our experience and expertise make us a reliable incumbent for continuing to support FSSA's data conversion needs. The successful track record in managing similar initiatives and delivering impactful solutions positions Optum as a valuable partner for FSSA's future data conversion endeavors.

vii. What are the key risks / issues that your company has faced with previous data conversions and what mitigation and contingencies did you identify and put in place?

Given our deep understanding of the business functions performed by Medicaid and social services systems and the resulting data produced by these systems, we successfully implemented data conversions for states, such as Arkansas, Indiana, and New Jersey. We applied best practices and lessons learned to reduce project risk. Some common key risks and potential mitigation strategies related to data conversions:

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Optum can assess these and other potential risks specific to data conversion projects and develop comprehensive mitigation and contingency plans to address them effectively. Each mitigation strategy should be tailored to the specific challenges and requirements of the data conversion initiative. Optum was able to identify these risks and mitigate them successfully for all data conversion projects we have performed on behalf of FSSA.

viii. Does your company recommend a unique, stand-alone environment for data conversion activities? Why or why not?

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ix. How will the State know if data migration progress is on track? How will progress be tracked and reported?

Optum will ensure open and transparent communication with the State team throughout the data migration progress. Clearly communicate any issues or deviations from the plan and the steps taken to address them. Optum has adopted the following approach for tracking and reporting progress on data migration for D-SNP and MMIS conversion projects:

- **Project Plan and Timeline:** Optum will develop a detailed project plan with milestones and deadlines for each phase of the data migration. Use project management tools (e.g., Microsoft Project, Jira) to monitor tasks, assign responsibilities, and track timelines.
- **Milestone Reviews:** Optum will conduct regular milestone reviews to evaluate progress against the plan. Key milestones may include data extraction, transformation, loading, and validation stages.

- **Daily/Weekly Status Updates:** Optum will provide daily or weekly status updates during touchpoint sessions. Also, status reports and Jira dashboards are used to communicate the status, including progress metrics, completed tasks, upcoming activities, leadership action items and any potential risks or issues. Optum implements real-time dashboards in Jira to provide a visual representation of the various projects including data migration progress.
- **Progress Metrics:** Optum will report KPIs to measure progress, such as:
 - Percentage of data migrated.
 - Number of records processed.
 - Data validation pass rates.
 - Issue resolution rates.
- **Issue and Risk Management:** Optum will maintain an issue and risk log to track all identified problems and risks. Optum will provide regular updates on the status of issues and the actions taken to resolve them. Optum will keep comprehensive documentation of all processes, decisions, and changes, share relevant documents with the State team to ensure they are informed about the project status and any modifications.

By implementing these tracking and reporting mechanisms, the State team will have a clear understanding of the data migration progress and can be assured that the project is on track.

h. Confirm your commitment to the State's Software Warranty policy outlined in Section 3.3.3.
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Optum confirms our commitment to the State's Software Warranty policy outlined in Section 3.3.3. We understand that routine changes made in the ordinary course of our provision of services defined within the scope of the contract, such as changes to operating procedures, schedules, equipment configurations, will be made at no additional cost to the State. We agree that examples of routine changes that are included in the routine maintenance of the EDW solution and are to be performed at no additional cost to the State. We discuss this further in the subsection No Cost Impact: Routine Changes and Software Warranty (Attachment C, 5.4.3) in Section 12, Project Management.

Scope Crossover Support

Optum will support temporary crossover support for CAE as the need arises. We have business and data knowledgeable staff and can also engage Optum resources who are knowledgeable of the specific technologies required for the crossover support.

6. Service Desk Management

(Attachment K, Section 3.4)

Please explain how you propose to execute Section 3.4 in its entirety, including but not limited to the specific elements highlighted below:

- a. How you will perform service desk management that triages all inquiries received at the dedicated email address and phone line per the requirements outlined in Section 3.4.

Service Desk Management



Frustrated users can quickly become a barrier to extracting the full capability out of the EDW. We also know that frustration can come either in not being able to solve an issue timely but also waiting for that issue to get resolved timely. With the advent of new technology, service desk management must adapt to meet the user's needs which can come at all hours. As such, we will be expanding our service desk support to 24 hours per day, 7 days a week. Further, we also know that the interaction your users have with the service desk must be excellent and that is why we have taken great care into that overall experience.

We will partner closely with our technology team and utilize our knowledge to continuously improve the user service. We look forward to bringing the same exemplary level of service to the SSDW as your users have experienced during our EDW tenure. Our expertise and experience of supporting the EDW solution for the State has helped us incorporate the lessons learned into driving process improvements relevant to ticket resolution, timely communication, and transparency around key issues. We have a deep understanding of the existing business processes, triage methods as well as tools used by the State (e.g., Jira). As we transition to the new contract requirements, we aim to provide you with enhanced service desk support through our centralized service desk. Our centralized service desk is a **Center of Excellence-based** technical support team that provides cost-conscious, scalable, and flexible solution to service desk operations to help support each of our customer's unique needs.

Our approach to service desk quality extends beyond merely setting standards and managing incidents. We regularly review performance standard metrics, knowledge base documentation, volume of tickets handled, and average response time by person and severity level.

We will proactively monitor the overall health of the system and build controls to prevent incidents. Our eyes-on-glass monitoring approach helps to reduce the time your solution is impacted when there is an event. Our goal is to:

- Provide a user-centric experience
- Restore normal service levels as quickly as possible
- Minimize the adverse impact on all users
- Make sure that agreed levels of service quality are maintained

“
Staff were very helpful
and responded very
quickly to calls and emails.

— Recent feedback from an Optum
provider call center caller

GOV-2164

Bringing unmatched capabilities

We understand the State's requirements and differentiate ourselves by tailoring our service desk model for your unique needs. We will be fully prepared on **Day One** of operations to provide service desk services that align with the way you operate, address the EDW solution needs, and meet the RFP requirements. We will bring the following service desk offerings under this contract to the State.

Our Service Desk Service Offerings for Indiana EDW

- **Centralized** service desk support model to provide quick response for Indiana EDW users requests
- **24/7 Coverage** for Indiana EDW users so that we are there when you need us the most
- **IT Infrastructure Library (ITIL)** best practices providing a mature approach to incident management, resolving incidents quickly
- **Eyes-on-glass** monitoring solutions help to reduce the time EDW solution is impacted when there is an event
- Knowledge-driven approach when assisting users by working to provide a resolution on the **First Call**
- Initiate **High Priority Teleconference Bridge** to engage all necessary personnel to restore critical or high priority incidents quickly
- **Knowledge Management** approach proactively building, maintaining, and updating key support knowledge in a searchable and easy-to-understand database, which includes FAQs, solutions to common issues, and key process documentation
- **Cross-trained Resources** with subject-matter knowledge of your systems and people

Central point of contact

We understand the importance of having a central point of contact for obtaining responses to concerns, issues, and requests related to the EDW solution. Our service desk will be your users' central point of contact when assistance related to the EDW solution is needed 24/7. We will provide support via a dedicated toll-free phone number and email that will be customized to your needs and gives users the most effective option to contact us. Our service desk also performs outreach as necessary, so the user receives timely follow-up on issues reported.

Service desk interface

At the State's request, we will use the State's Jira platform to provide service desk support. We have extensive experience using Jira, as well as other IT Service Management platforms like ServiceNow. Jira will serve as our platform for managing user requests and incidents. It provides comprehensive IT Service Management capabilities, including issue documentation, tracking, assignment, and direct email communication with users.

Service desk support process

Our service desk support process depicts our ticket handling process that effectively channelizes the flow of support service from the time a user raises a support request until it is resolved.

Steps	Description
Step 1. Triage	<ul style="list-style-type: none"> When a request comes from a user, our team performs core triage to learn about the issue and to determine the next steps. For issues that are related to the EDW solution and are within the service desk's scope, the service desk performs additional triage to determine the level of impact with a focus on the quickest resolution of the incident. Through the course of triage, if the issue is determined to have a greater impact on the solution, the analyst engages the high priority incident management process.
Step 2. Resolution / Routing	<ul style="list-style-type: none"> If the issue is related to the State support desk/customer service center, the service desk attempts its best effort to troubleshoot or answer questions. If the service desk is not able to resolve the issue, the analyst transfers the request to the appropriate State department's support desk or customer service center to provide the correct support. If the service desk analyst determines the issue is not of high impact, they then leverage our integrated knowledge base to find a solution. The goal of the service desk at this point is to resolve the issue as a First Call Resolution (FCR) whenever possible to minimize impact on the caller.
Step 3. Engaging Next Level for Resolution	<ul style="list-style-type: none"> If the analyst is not able to resolve the issue, the analyst will assess the priority of the situation. If it's a lower priority, they engage M&O team, which is our Level 2 support team, who then conducts advanced triage and troubleshooting. After engaging the M&O and Level 3 (development) teams, the service desk continues to remain the point of contact for users who need additional updates on the request status. Once the M&O team has resolved the issue the team will engage the service desk to perform customer outreach and confirm resolution. If an issue is determined to be of high priority, the service desk immediately engages and notifies the respective team. The team then leads the restoration activities, driving towards a swift resolution that minimizes system impact.

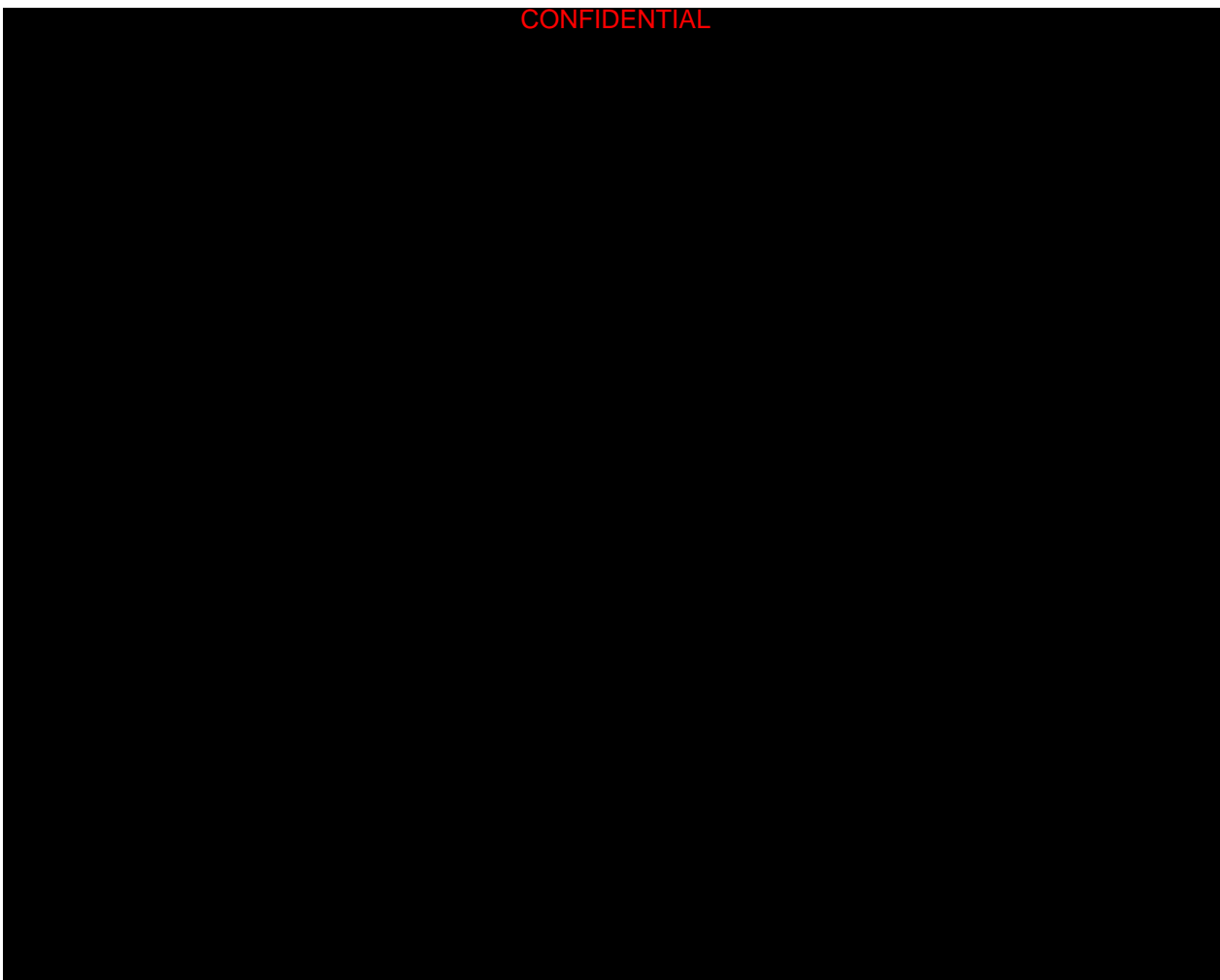
We agree to the definition of different incident priority levels, severity codes and recommended restoration goals given in the Attachment K – SOW of the RFP. We will work with you at the beginning of the contract to evaluate and memorialize these SLAs.

SLA	SLA Definition	Restoration Goal
Severity Level 1 - Critical	An incident has made a Critical function unusable or unavailable, and no workaround exists.	4 hours
Severity Level 2 - High	An incident has made a Critical function unusable or unavailable, but a workaround exists. An incident has made an Important function unusable or unavailable, and no workaround exists.	8 hours
Severity Level 3 - Medium	An incident has diminished Critical or Important functionality or performance, but the functionality still performs as specified in the user documentation.	4 calendar days
Severity Level 4 - Low	An incident has diminished Supportive functionality or performance.	20 calendar days

Service Desk Best Practices

Our service desk approach strives to provide a core set of standards that minimize downtimes, reduces operational costs, and continuously improves the user service. In support of this goal, we follow a defined set of best practices as shown in Figure 36. For the Indiana EDW program, we will leverage these best practices to create a support model tailored to your specific requirements.

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b. Process for documenting inquiries and inquiry resolutions

Inquiry Documentation

Our service desk team provides comprehensive support services to enhance the user experience, from the initial inquiry submission to issue resolution. The service desk will be available to support the authorized users of the EDW solution. Users can initiate support inquiries or requests through the dedicated phone number and email.

Whatever the method used to initiate an inquiry (e.g., email or telephone), the inquiry will be logged and tracked into the Jira system. Key information captured in the support ticket include:

- A complexity and severity level
- Automatic date and time stamp of the initial request, all responses, and any updates that take place

- Pre-filled user information, such as email address, telephone number, and unit based on the user's State ID if available
- All correspondence received. All email sent or received for a specific ticket will be readily available and all actions, any attachments, and all conversations will be documented. This provides a complete audit trail of the service desk ticket from inception to final resolution.



We will work collaboratively with the State to proactively monitor the solution and quickly identify issues and document them using Jira.

The service desk staff, including advanced-level support teams, respond to issues according to the order in which they are received, status, and the assigned severity level. Requests with critical severity level receive top priority for immediate support. Other requests are addressed according to the assigned severity level, the age of the issue, and required response times.

Our service desk team will provide status updates for open issues in accordance with the required response time SLAs based on severity codes. Status updates will be provided either through a reply within the service desk tracking system or via telephone, with contact details noted on the ticket.

Figure 37 is an example of a service request logged and tracked into the Jira system.

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c. Method for providing after hours support

After-hours support

We will provide after-hours support, defined by the State as 5:01 p.m. to 7:59 a.m. ET Monday through Friday, as well as full-day weekends and State holidays. If a high-priority critical incident occurs after hours, users can reach out to our service desk team through the toll-free number to report the issue. Service desk staff will triage the issue and work to resolve it as described above in the section **Service Desk Support Process**.

For lower priority issues, we will work with you to identify the best approach for providing service desk support after hours.

d. Plan to ensure help desk operators are trained sufficiently

Help desk staff training

Operating at a Center of Excellence, our team is trained from day one on key policies and procedures to help deliver a consistent and efficient experience. We draw from our experience and lessons learned to improve our operational approach, continuously developing our staff throughout the process. This helps to set a solid foundation for our team to support your EDW program. From there, we identify the unique nuances of your EDW program and work to develop training curriculum specific to how we will support your users. Prior to operations we cross-train all members of our staff to ensure they have the information at their fingertips to provide effective support day one of our M&O services.

We use a collaborative and multifaceted approach to training our delivery staff. We will conduct training for help desk staff specific to the Indiana EDW they are supporting, and issue job aids and scripts describing how to fix and escalate issues related to the Indiana EDW. Throughout the contract, we continue to up-train our staff to help improve their overall skillsets helping to advance their knowledge and abilities more generally and specifically for your EDW.

Knowledge database

We train our staff with all the information they need to properly record, triage, and either correct or escalate any user issues. We clearly detail our support documentation in our fully integrated and secure knowledge management system. Our knowledge management system is a centralized repository that captures answers to frequently asked questions and processes documentation in an easy-to-understand format. This allows our staff to be ready to support your users on day one, minimizing downtime and maximizing the users' overall experience. Figure 38 shows our knowledge management system that provides all the information to train our staff.



Figure 38: Optum knowledge management system

We continuously enhance our knowledge content to reduce the amount of time users are impacted.

We continuously look for ways to improve and enhance our knowledge content to increase the rate of First Call Resolution (FCR) and reduce the amount of time users are impacted. Our dedicated knowledge management team looks for ways to improve our support by getting feedback from our technical support analysts and our M&O teams. In addition, through the course of our knowledge management, we look for improved ways to enhance support, including improvements to our tools that can help improve our user's experience overall.

Experience and expertise

Our experience implementing and operating service desks for our EDW clients will help us provide service desk services that both assist and empower Indiana EDW users. For example, Optum has operated a 3-tiered operational service desk since 2009 for the California Medi-Cal MIS/DSS data warehouse that supports 490 users. The service desk serves the State, which includes audits, third-party liability, pharmacy, dental, managed care, eligibility, and the Department of Justice.

Our Medi-Cal MIS/DSS service desk staff members have the experience and expertise to assist power users with complex BusinessObjects, SAS, and Teradata SQL queries and reports. While these are not the same BI tools utilized for the Indiana EDW, our staff has the technical aptitude to quickly learn your Cognos and Tableau tools to provide the equivalent support for your EDW users. At the same time, our service desk staff members can help casual users with pre-defined templates and data extracts. For California, as with all our service desk clients, we provide experienced, responsive service desk personnel. They have the experience, expertise, and interpersonal skills to engage users and handle all manner of requests. We can rotate resources from other engagements onto this project, with the State's approval, to transfer best practices to the project team.

Customer Satisfaction

Medi-Cal EDW MIS/DSS Help Desk User Survey Comment

"Thank you as always. I appreciate your time and effort to investigate this situation, and to explain the processing logic behind it...Your work around code is greatly appreciated."

e. How your company monitors the entire solution, including the application layer, network, and data center

Solution monitoring

We follow well-defined processes for monitoring critical application activity, including load times, storage capacity, query times, downtimes, and peak load periods. We seek to detect early signs of issues and impactful trends. Our monitoring also serves to track performance towards SLAs.

Our monitoring process and best practices are based on the Open Systems Interconnection (OSI) model, which includes layers that range from physical monitoring to application monitoring.

Figure 39 shows the layers that we monitor.

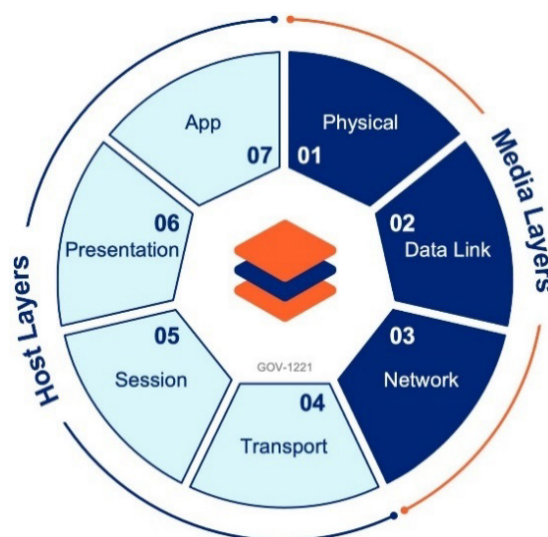


Figure 39: Monitoring Layers

We monitor multiple layers to report performance monitoring to you and our operational support teams.

Optum will monitor EDW solution components to make sure that they are available per the State requirements and in alignment with meeting applicable SLAs. This monitoring supports troubleshooting, security incident management, and service desk support.

Our EDW project manager will coordinate our team's responsibilities for data and application components with counterparts in the EDW and with State stakeholders. We view the following as critical success factors:

- We will coordinate with the EDW infrastructure monitoring team in monitoring and reporting on the use of the infrastructure and alerting our collective teams of problems and potential issues. We use the alerting and escalation features of the software to make sure the proper individuals from both of our teams remain apprised of any bottlenecks or service failures.
- We will continuously monitor the security of the EDW and the related BI applications and report any anomalies to your DST contract manager or designated resource.
- In the event of unplanned downtime, we will notify your designated contact as quickly as possible. If any performance or functionality issue has a negative impact to users, we will notify the State and other pertinent stakeholders as soon as practical, no more than one business day of its occurrence. For anticipated downtime, we will notify you at least 72 hours ahead of time.
- We take a very active approach to managing our monitoring which includes emphasis around continuous process improvement and root-cause analysis processes. In the event that we uncover gaps in our monitoring, we work quickly and aggressively to close the gaps and improve our overall monitoring posture. We are also able to leverage lessons learned around monitoring gaps identified in our other EDW states.
- We will track SLA compliance through comprehensive monitoring and reporting. Using our EDW tools and techniques, administrators will have both a global system view and the capability to drill down to individual components. This provides efficient management of large, distributed systems so we may extend their value to new stakeholders seeking to leverage the EDW.

As noted for our EDW support role, we work to address issues that may negatively affect users during scheduled maintenance periods or off-hours to minimize business disruptions. In the event of critical issues, we will immediately notify impacted users and your designated contacts. Such notification will occur within the first hour of our awareness of the event.

We employ multiple views across the overall system to facilitate early recognition of and rapid response to performance and functionality issues. Our infrastructure monitoring continually watches network, server, database, and communications elements. The incident triage and problem management processes identify less obvious performance or functionality issues. These enable our integrated staff of clinical, business, and technical experts to mine service requests for indicators of potential problems.

The technical service desk will oversee triage and ticket assignments to effectively track and provide timely, accurate responses that meet your service level requirements and expectations. We will leverage Jira for triage, prioritization, resolution, and generating reports on response time for all user requests, incidents, and defects.

In all these situations, timely assessment and determination of the appropriate way forward will drive prioritization and assignment of resources. Besides those issues that require immediate notification, for any other problem, we will notify you promptly and always within one business day of identifying the occurrence.

f. Your company's escalation process. If there is a problem, what escalation procedures do you have in place? Are there tiered layers? If so, describe what happens at each stage.

Escalation Process and Procedures

Our issue escalation process includes defined lines of communication, roles and responsibilities, and span-of-control parameters. Our issue escalation procedures define when and how to escalate the issue to the next level. When necessary, we will involve Optum and State executive management to expedite the resolution of mission-critical issues. As a standard process, we use the following service desk escalation process for coordinating responses to requests from State or federal legislators, the Governor, the FSSA Secretary, the news media, or other high-profile entities, as directed by you. Figure 40 shows our proposed issue escalation process.

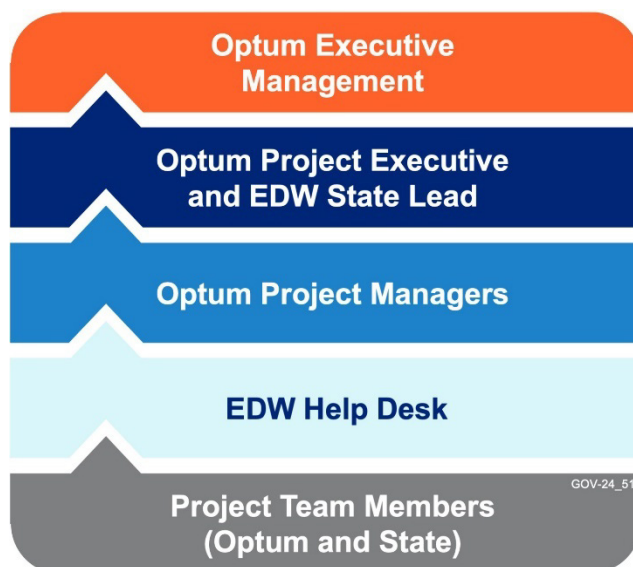


Figure 40: Issue Escalation Process

Our issue management approach mandates timely communication and proactive monitoring until each issue is resolved.

We will partner with you to customize this escalation process as needed, then invoke the process when conditions and severity of the complaint warrant escalation.

7. Service Request, Incident and Problem Management

(Attachment K, Section 3.5)

Please explain how you propose to execute Section 3.5 in its entirety, including but not limited to the specific elements highlighted below. As part of your response, please describe the methodology used to notify previous government clients of the items addressed below where applicable, including:

a. Performing tasks in a manner consistent with minimizing and avoiding issues.

The success of your EDW and our partnership in supporting you hinges on how well we respond to unexpected events and how effectively we manage change. We operate in an environment of inherent risk, and we understand that one of our primary roles is to protect and maintain the integrity and performance of your systems. To that end, we adhere to an incident and problem management solution that provides more than just a process for tracking issues. Prevention, proactivity, and urgent response define the character of our Optum team and approach.

Our mature solution has been continually adapted and improved through the support of your EDW since 2012 and on dozens of other successful state Medicaid and social services EDW and analytics projects. In the same way that you use data-informed knowledge to improve the health and well-being of Hoosiers, we apply the knowledge gained from system performance and user feedback data to maintain and continuously improve the effectiveness of your EDW. We emphasize clear communication and urgent response to promote a shared focus on service request and incident and problem management.

Our Experience and Approach

The fundamental advantage of our approach to Maintenance and Operations (M&O) is the experience of our EDW team. We have delivered stable operations through sound technical and business support and decisions centered on incident management and implementing preventive actions. Across all our EDW projects, we have instilled a foundation of staff awareness for the unique attributes that are critical to the success of maintaining and operating EDW systems. We have a track record of success in supporting some of the largest Medicaid EDW systems in the United States.

Process to Minimize and avoid Problems and Incidents

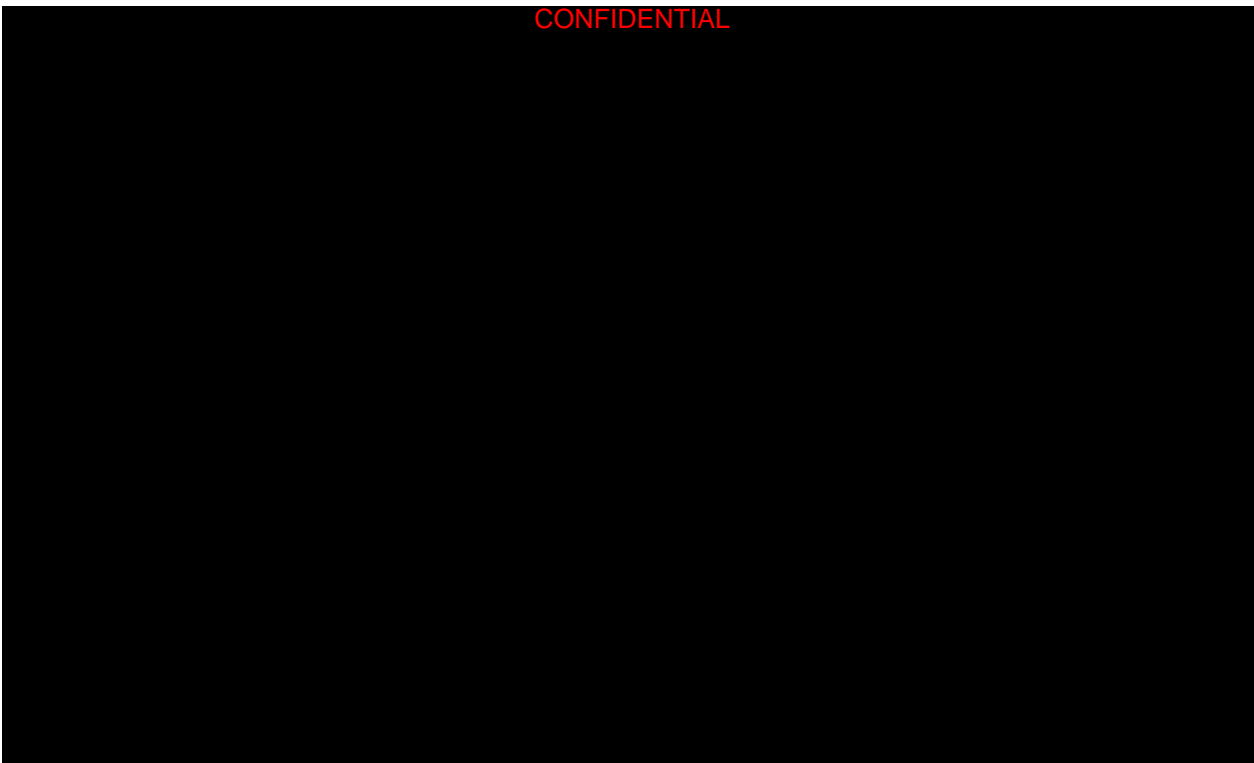
We follow a comprehensive set of processes and procedures to minimize problems and establish predictable performance for the EDW. The technical foundation begins with managing your EDW applications through software releases and applying security updates. We actively monitor EDW applications for updates. Then, we apply the updates by following thorough testing and release management processes as defined in the mutually supported change control process. We use peer reviews extensively to bring a second set of eyes to changes, test results, and quality assurance (QA) tasks.

Fundamentally, incidents are reduced by our experienced staff who follow consistent, proven testing and release processes and by quickly identifying problems or incidents, whether they have already occurred or are likely to occur again.

When a Service Desk Request for an Incident or Problem is triggered, our experience with your EDW data and processes enables us to quickly identify problems and begin root-cause analysis (RCA). Effective RCA depends on a collaborative effort across our analysts, ETL team, the EDW users, DST, and potentially IOT to identify the source of the problem and assess

alternative repair approaches. With support from our help desk coordinator, **CONFIDENTIAL**, we identify the most appropriate fix or resolution, and we consider short and long-term solutions and review these alternatives with you. We incorporate your priorities to mutually determine the most appropriate response. System and user data helps us determine where to potentially incur the greatest value when responding to problems or incidents.

For example, our year-end assessment of EDW help desk activity for calendar 2023 is summarized in the Figure 41. For the 1,189 help desk requests received and handled during 2023. Knowledge Transfer represented the highest call volume and the potential to realize the greatest value through a training action versus an application change.



The EDW Service Desk staff will continue to look for areas of improvement in communication, education, and timeliness to best serve the EDW user community. Effectively, every person on our team serves the Help Desk function. This provides greater capacity to respond to inquiries and it helps us to understand the reporting and data needs of the agencies who use the EDW as well as provide broad access across the enterprise. With this, we gain the ability to track EDW use and leverage the system resources to attain ever-increasing return on the State's investment in the enterprise system.

- b. Monitoring events and system performance with the goal of taking proactive actions to avoid problems.**

Monitoring Events

The EDW and its supporting infrastructure are complex systems that require continuous monitoring for early detection of problems and early recognition of impactful trends. Early detection and rapid triage to resolution are essential to sustain uninterrupted operation. We place similar importance on anticipating the impact of legislative, policy, or business-driven changes as well as the potential impact of adding groups of new users, new data sources, or new tools.

Monitoring EDW System Performance

We follow various processes for monitoring critical EDW activity, including load times, storage capacity, query times, down times, and peak load periods. We seek to detect early signs of issues and impactful trends. Our monitoring also serves to track performance toward service level agreements (SLAs). Our project manager coordinates our team's responsibilities for EDW components with counterparts in IOT for Data Center and Network Operations. We view the following as critical success factors:

- To monitor and report on the utilization of the infrastructure and alert our collective staff members of problems, we propose to continue to use automated processes to track loads and detect failures in the EDW infrastructure. Collectively, we have configured the alerting and escalation features of the processes to make sure the proper staff members are apprised of any CPU and network bottlenecks or service failures.
- As part of operations, we continuously monitor the security of the EDW and infrastructure and report any anomalies to the State contract manager.
- Rapid and effective communications: In the event of unplanned downtime, we notify your designated contact as quickly as possible. If any performance or functionality issue may negatively affect users, we notify the FSSA data warehouse team and other pertinent stakeholders within one business day of the occurrence. For anticipated downtime, we notify you at least 72 hours ahead of time.
- We track SLA compliance through comprehensive monitoring and reporting. Using Teradata's sophisticated hardware and software monitors (the System WorkStation and Viewpoint), our administrators have both a global system view and the capability to drill down to individual components. This provides efficient management of large, distributed systems so that we may extend their value to new stakeholders seeking to leverage the EDW.

As part of our Transition efforts, we will evaluate all existing EDW and SSDW components critically to understand where improvements in monitoring and early detection can be achieved.

EDW System Maintenance

The EDW has many layers and moving parts. Our overall approach to system maintenance is tracked in aggregate, but it is maintained and performed in detail by relevant technical team members, such as **CONFIDENTIAL**, and others. Management will provide the leadership and communication necessary to keep these activities visible to DST and IOT per the requirements of the EDW contract.

In maintaining the EDW, we will continue to update the inventory and documentation of every aspect of the system in a timely manner. We assign every aspect of the system to the appropriate specialist who is responsible for monitoring the performance of the given components, verifying that components are supported and up to date, and recommending and executing remedial action as needed.

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Our team of database, system, network, and security maintenance personnel will maintain the physical environment. Our staff will work closely with you to provide round-the-clock coverage supporting system functions and availability. Because some of the supporting EDW hardware is in the State's data centers, we coordinate all activities with appropriate DST and IOT personnel, business owners, and affected users. This responsibility includes tracking, monitoring, and maintaining the following EDW components:

- We will keep the EDW application server hardware that powers your analytics and database functions under maintenance and perform all necessary break-fix operations. In addition, we will maintain the currency of the operating systems, virus protection, intrusion prevention, and monitoring software that run on these servers.
- The business intelligence (BI), database, statistics, and geographic information system (GIS), as well as other software in the EDW are commercial-off-the-shelf (COTS) products. We will monitor each COTS vendor for updates. In coordination with DST, IOT and FSSA personnel, we will apply updates as recommended and necessary.
- We will continue to document and maintain all records surrounding the system architecture. This helps appropriate DST and IOT personnel to quickly understand the overall and detailed makeup of the system.
- Monitoring system performance and availability is essential for providing a uniform and acceptable user experience. This aggregate experience is driven by the performance and availability of individual components. Our technical team members will monitor multiple levels of the technology stack so that any resource contention, outage, or other potential problem is identified before users are affected.
- For data input, we will monitor all inbound and outbound interfaces. We will also retain and store data according to contract and regulatory requirements.
- We will apply our expertise in protecting Hoosier data with security measures, such as data access restrictions, role-based access control, data classifications, and encryption.
- Capacity planning is an ongoing and active responsibility for our technical staff. We will monitor system function and resource utilization to verify that the system is growing according to forecasts. We will identify, research, and communicate variances. We will propose remedial actions and document any revisions in capacity estimates.

EDW System Operations

As described previously, we understand operations as the outcome-oriented execution of procedures and schedules to keep the system in an expected state of readiness and to support users in their missions. As such:

- The most formal measurement of operational outcomes is found in the SLAs. We acknowledge the importance of these measurements and understand that they are the most direct means to clarifying and meeting client priorities. We realize that performance measures, such as system uptime, query performance, and incident resolution time reflect the overall user experience. We will continue to collect and provide accurate input data to support such SLA measurements.
- Our system operations processes are the anchor point to making the EDW relevant for users. Our procedures point back to one or more requirements and are governed by SLAs or other statements of State priorities. We will facilitate continuous operations across any transition through our well-documented operational procedures.

Data Management and Usability

As part of our operational procedures, we will also continue to monitor the use of the EDW data to assist users in efficiently meeting their data analysis goals. These monitoring activities include:

- We will monitor data quality and integrity for data feeds when uploaded—this information is part of the overall data governance process, and an important part of building and maintaining a foundation of trust with users.
- We will provide a secure platform for limited access data sources such as the hospital discharge files so authorized super users can analyze them.

Maintaining Currency

We will also continue to monitor the dynamic landscapes of your business so we are prepared to act on the potential changes that may incur. In relation to the EDW, this includes data source systems controlled by FSSA, DCS, and those from outside entities. Also included are controlling changes from government and emerging developments in the health care industry and associated data. Your Optum EDW team, supported by our experts across the country, monitor volatile Medicaid and social services topics such as the following:

- State and federal policy and legislation often directly affect the management and use of health care data. Our account team monitors developments and consults with experts in HIPAA, HITECH, ACA, and other bodies of law and administrative rules.
- Our local account team has the advantage of consulting with our OEM representatives for cost, quality, and access tools as well as the libraries of codes that we develop, resell, or provide. As research analytics and presentation advances, our account teams remain informed and in turn, they will keep the State informed.
- As our references show, we do similar work in other states. Whenever we deem that another use of the state government data is applicable to Indiana, we will facilitate sharing of approved ideas and methods with DST, assisting DST and FSSA with further alignment to the MITA initiatives of information sharing and data process reuse.

We will continue to maintain the EDW so that it can reliably manage future data, new sources, and increasing amounts of historical data. We will maintain system readiness to support your growing analytics and presentation requirements as well. We will do this by constantly monitoring State and federal policy and legislation, technology standards, and EDW source systems and data definitions, both within the FSSA and DCS programs and in the larger health informatics ecosystem.

Keeping the system updated with new releases and new data structures is only one critical part of maintaining system compatibility with the larger technology environment in which our clients operate. All changes to the systems we maintain are carefully planned and coordinated with our business partners. For example, updates to applications that depend on specific certificates or desktop applications are communicated and synchronized with State enterprise information technology managers and end-user support services.

Our Value Proposition

The proposed Optum team represents the **best M&O value** for the State given 1) our approach and experience with your current EDW, including its Medicaid and social services components and 2) our experience and knowledge gained in managing similar EDW implementations with

numerous other states. We bring understanding and experience from maintaining and operating your EDW since 2012. We offer you the **lowest level of risk** and the highest level of confidence for your EDW M&O services.

From keeping the EDW performance high and data current, to working with FSSA to plan and implement new data sources, M&O requires staff to know the technology and the business. In all our Medicaid and state government enterprise data warehouse engagements, our clients know our staff to be fluent in the technology that comprises the solution, and in the business processes that are embedded in the data.

c. Prioritizing and communicating tasks associated with incidents and service requests.

Successful operation of a data warehouse lies in the communication between the data warehouse users and service desk staff. Just having knowledge is not enough; transferring that knowledge to users to help them better leverage the EDW is what is important. We recognize the importance of knowing and understanding what the users are really trying to accomplish from a business perspective when they report a problem, ask a question, have difficulty using solution tools, or have problems understanding data and data context.

We understand that task prioritization, monitoring, and resolution, along with consistent stakeholder communication, are of vital importance to minimize production issues. Effective communication is critical for making sure key stakeholders are informed on the progress of resolution activities. We will provide a timely status update on tasks, adhering to the response time SLAs defined in this RFP, Attachment K, Section 3.5.

Our communication process for high-impact incidents has evolved over the years to ensure that relevant information reaches the appropriate individuals based on preferred frequency and timing. In our current role supporting the EDW, we have achieved success by following established incident and problem management procedures. These practices include our testing methodology, transparent communication with stakeholders, and collaborative project management. We will continue to adhere to these established incident and problem management procedures.

As incidents or problems arise, we will work with you to resolve them in a timely manner, following the governance plan and your priorities. Additionally, we will keep all relevant stakeholders informed about the progress of each release.

Our Communication Processes Facilitate:

- Alerting users about impactful incidents
- Collaboration between Optum and affected stakeholders to determine priorities and evaluate alternative resolution approaches
- Notifying users about planned changes being implemented

For the EDW project, we will report tracking of incidents, problems, trends, and progress on enhancements in scheduled standard reports. We will provide task status reports to the State as per the SLA defined in the RFP Attachment K Section 8.2.1. The task status reports will cover, at minimum:

- Number of items (incidents/problem/service request) logged
- Number of items resolved
- Number of open items

- Approach to resolution of each item
- Average length of time taken to resolve each item
- Amount of time originally estimated for each item's resolution

d. Prioritizing and completing issue resolutions in accordance with variable timelines in relation to issue severity.

We will prioritize and complete issue resolutions in accordance with the timelines defined in the RFP Attachment K 3.5. We will adhere to the required response time SLAs by severity code and phase for all issues.

The objective of the issue management process is to provide a systematic approach to identify, analyze, resolve, and report issues that may impact user support. Optum defines an issue as an existing problem that, if not addressed, may impact schedule, quality, cost, direction, or other aspects of the contract. We perform the following activities as part of issue management:

- **Identify issues:** We will determine and document situations that might impact the EDW solution and its users. We will then further categorize the issue under Technology, Resource, Skills, Business, Environment, or Dependency issue.
- **Analyze issues:** We will assess and classify the issue based on the severity codes defined in the RFP Attachment K 3.5. Timely assessment of the issue and determination of the appropriate way forward will drive resource prioritization and assignment.
- **Plan issue resolution:** We will evaluate options that can be taken, determine the best course of action, and assign responsibility for executing those actions.
- **Resolve issues:** We will execute the action plan to completion in coordination with other teams and other relevant stakeholders.
- **Report issue status:** We will provide periodic updates and information about the issues to appropriate stakeholders.

We will monitor the progress of corrective actions until the deficiency has been resolved. As we address an issue or problem, we will update the ticket in Jira. The automated workflow and reporting capabilities will route, monitor, and track tickets. Users will be able to review progress and resolution information about requests and incident reports. The reporting features will enable us to share information with State on the status and disposition of tickets.

Benefits of Optum Issue Resolution Approach

	Meaningful metrics for consistent benchmarks and standards compliance
	Talented and EDW Experienced staff with in-depth management expertise to facilitate quicker resolution of operational issues
	Streamlined processes for rapid detection and response to incident and problem correction including enhancement releases
	Continual process improvement and disciplined optimization methods to support user productivity

To make sure users maintain consistent access to the EDW system, we will provide comprehensive, personalized service desk support for users as described in **Section 6. Service Desk Management**. Our help desk staff members will offer assistance and timely issue resolution that promotes user confidence and efficiency with the EDW system. Our user support model is anchored by our mission of effective, responsive maintenance and operations to minimize the impact to stakeholders caused by problems, incidents, or issues.

e. Ensuring a minimum of 99.9% uptime against a 24 hour per day, 7 day per week operating schedule, excluding scheduled downtime.

Optum designed and will continue to maintain the EDW system for high availability against a 24-hour day, seven days per week operation, except for scheduled downtime. We will continue to strive to meet the required system uptime and SLA of 99.99% or better.

Your EDW is a mission-critical system for your organization. We designed the solution to perform as such with a balanced approach to fault-tolerance and rapid response to workload fluctuations and component outages. We have met the system uptime requirement and SLA for the twelve years since go-live and we will continue to maintain our reliable performance. The underlying Teradata database has strong workload management capabilities. While other database technologies aim for maximizing the performance of individual jobs or queries, Teradata manages system-wide resource allocation. This enables the system to support competing workloads simultaneously, such as data loads, large queries, Web services, and ad hoc work. All workload types can coexist according to agreed-to metrics, without any one of the workload types completely dominating the others.

In addition, our experience in data modeling enables us to anticipate the most common data uses in the given marts, whether the data consumers are using canned reports, ad hoc queries, Web services, or planned extracts. Our physical data models reflect anticipated usage and eliminate the need for resource-intensive joins and execution plans. When we implement enhancements that change the data model and its expected use, we will change the operations schedule to accommodate those changes.

Teradata and Informatica contain processes for monitoring the various EDW components, including load times, storage capacity, query times, down-time, and peak load periods. Our customer-focused approach to operations includes mentoring, ongoing training, and support. We also publish a wide range of dashboards and operational reports appropriate for the intended audiences. Administrative reports generated include:

- System Space Usage
- Archival and Recovery
- User Access Permissions

Teradata databases are also hard wired for transactional integrity. Partial and/or uncommitted transactions are not visible to other users. This protects users from incomplete or inconsistent data manipulation. This is also important, as we will perform backup and replication activities around the clock. In meeting your availability SLAs, we will not propagate the results of incomplete modules or uncommitted transactions. Our recovery from system failure will start from a well-defined set of initial conditions, which will enable precise operational resumption. Whether it is a recovery entirely handled in the production site, or picked up from disaster recovery, the EDW will remain in a consistent state as it appeared prior to the interruption (as specified by SLA).

Further adding to reliability is our ability to handle errors, ones that arise from input data issues, environment failures, human factors, and many others. We build and configure the system to mitigate or eliminate the net effect of something going wrong. It is likely that we will obtain bad data and our processes are built to handle such occurrences. Less likely scenarios, but still possible, include the power or air conditioner failing, redundant components failing at the same time, or a defect surfacing. In all such cases, we rely on the modularity of our solution to provide proportional protection against errors.

Informatica PowerCenter gives us a whole range of responses to data outside of tolerances, ranging from the rejection of entire files, individual records, or conforming fields. We have set up automatic processes that back out errors, alert responsible individuals so they can take remedial action, and restart jobs. In other cases, bad records will be moved to an area for less urgent manual work. Most importantly, we will publish data only after it has been remediated, and we will do so in a manner that preserves their ties to Indiana external benchmarks (e.g., payment amount balancing). We discuss our use of Informatica further in Section 4, Systems Support and Reporting.

We currently measure and report on this KPI monthly. Figure 42 shows a snippet of the “May 2024 Monthly Operations Report” which shows the EDW operated at 100% uptime for the month.

2 Service Level Agreement Dashboard April 2024

SLA #	Key Service Level Agreement	Threshold for Compliance (Reported Monthly)	EDW Achieved	EDW Breached	Percentage of compliance
1	System uptime. Maintain system uptime against a 24-hours per day, 7 days per week operating schedule, excluding maintenance time. Note: Any maintenance exceptions should be either for a standing window (such as 2 a.m. to 4 a.m. on Sundays) or require written pre-approval from the State.	99.99% uptime other than scheduled maintenance time	720 hrs	0	100.00%

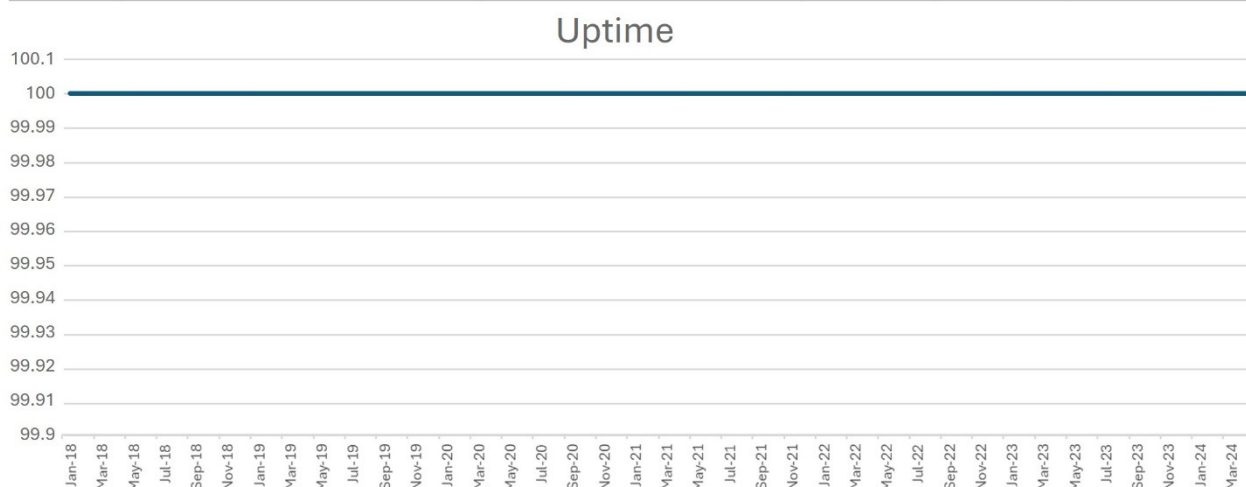


Figure 42: Optum Monthly Operations Report – System Uptime
We have operated the EDW at 100% uptime since 2018.

We provide full visibility to EDW uptime and your other KPIs so there is a clear understanding of how our performance complies with promised SLAs. We also identify and respond to any problems early to prevent user impacts, as described further in this section.

f. Notifying the State within one (1) hour of unplanned system downtime.

We agree to notify the State within one hour of unplanned system downtime identification.

We will apply our operational processes and best practices to make certain that the EDW system is available 24 hours per day, 7 days a week, excluding scheduled downtime. We use end-to-end system monitoring to verify the EDW remains available according to your stated SLAs.

Our primary goal for system availability will be to eliminate possible causes of unexpected downtime and mitigate service disruptions as soon as possible.

Our monitoring approach includes procedures and tools for rapid remediation of system performance issues as well. Automated alerting enables us to identify issues which trigger an incident in our trouble reporting system. Thus, if any element of the EDW goes down or is identified as under-performing, you will have full visibility and traceability for its tracking and resolution.

When alerts generated from monitoring tools indicate the incident may cause downtime, our technical support team will review the incident and notify the stakeholders. Depending on the business impact and system area affected, we will escalate the issue to the appropriate technical level where responsible resources have the knowledge and experience to quickly restore the system. Please refer to question #6 Service Desk Management for details about our Center of Excellence-based technical support. multi-level support to ensure that unplanned downtime does not occur.

**Customer
Satisfaction**

Optum has not had an unplanned outage in the past six years.

g. Notifying the State within one (1) business day of any system performance or functionality issues.

We agree to notify the State within one business day of any identified system performance or functionality issues.

An effective performance management approach will be essential to the EDW project's success. Performance management is a critical function that requires agreed-on processes for measurement, analysis, action, and reporting.

Our performance management system combines methodologies and metrics that optimize outcomes. We perform proactive issue identification using standard industry tools. We analyze processing capacity, memory and disk usage, database clustering, and network utilization as part of our process. We log deviations from quality as an incident and notify the appropriate group. During our initial run, we will prepare a first-time use list for newly implemented functionalities and closely monitor existing issues.



Our process and experience in performance management will provide the State with a comprehensive view and awareness of system and operational performance to perform project activities in compliance with your SLAs. Our team will bring best practices in SLA and performance management from supporting similar engagements in states that include Arkansas, Illinois, and Virginia.

We consider performance management as an essential mechanism for transparent systems management during operations. We measure and manage ongoing performance against the KPIs and defined SLAs, so the EDW consistently meets your expectations. Our goal is to provide you with a comprehensive view of system and operational performance, utilizing the most effective means available.

h. Providing an accurate monthly report on User Requests, Incidents, Defects, and Problems in accordance with the requirements in section 3.5.2.

We will provide monthly reporting on user requests, incidents, defects, and problems in accordance with the requirements in section 3.5.2. Our monthly reporting technology creates visual reports and communication data points as well as historical trends for measured metrics.

Figure 43 is an example of a monthly report that can help visualize the status of project components.

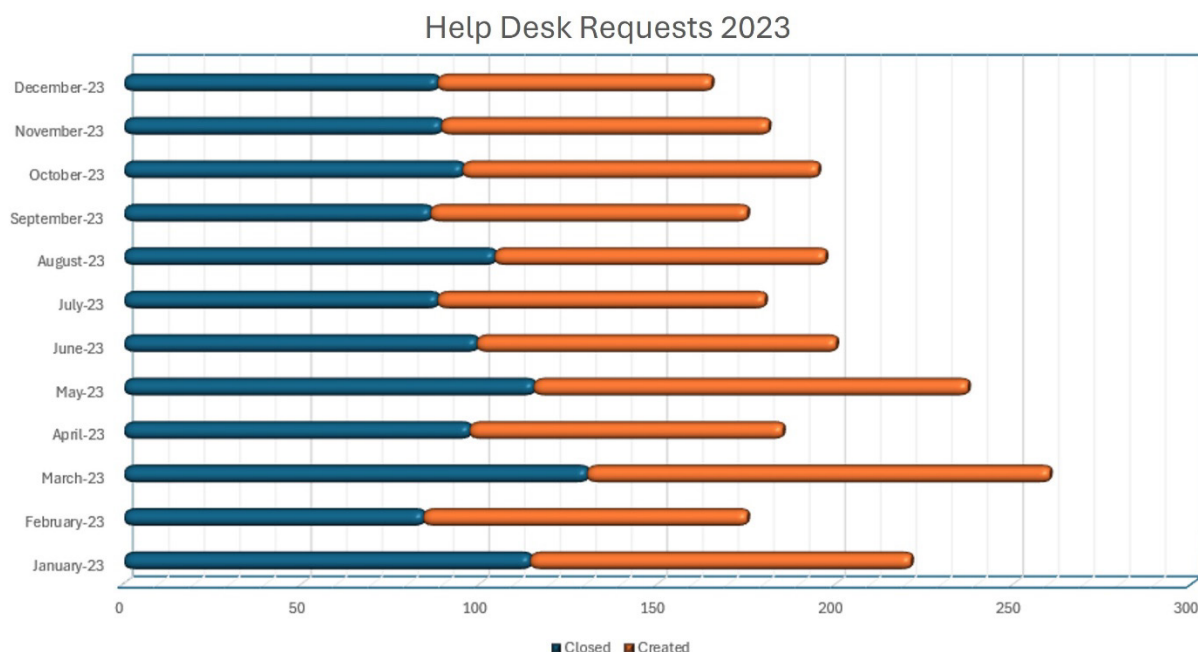


Figure 43: Help Desk Monthly Report Example

We produce reports that help the State more clearly understand status as well as trends over time and provide visual communication of agreed-upon metrics and SLAs. This report shows a 1:1 close to create ticket rate with approximately 100 tickets created and closed per month.

Optum will prepare and submit a monthly SLA status report to communicate performance and SLA adherence. The report will be comprehensive of agreed-on SLAs, including pertinent system generated metrics and manually collected metrics.

The Monthly SLA Report will include the following information:

- **SLA Performance:** We monitor SLA performance using a dashboard available to the State, and report on SLA performance monthly.
- **SLA Result:** An easy-to-read color coding of performance; for example: green—performance has achieved the SLA goal; red—performance has violated the SLA goal; yellow—performance is at risk of violating the SLA goal.
- **Risks:** An explanation of forecasted risks that may impact future performance.
- **Corrective Action Plan Status:** An indicator that the SLA has an active corrective action plan.

i. Explaining if the Respondent (Prime Contractor) or a subcontractor is providing support services to the State.

Optum will continue to provide support services to the State for the EDW program as a prime contractor. As the prime contractor, we will ultimately be held accountable for the success of this project. Our Optum Help Desk and M&O teams will work hand in hand and will be available 24 hours a day, 7 days a week. We will support the EDW system with a continued focus on customer service, cost-containment, and continuous improvement. Our commitment includes providing consistent service to your users, assisting in solution enhancement, and ensuring the right-sized staff for operational services. Throughout this process, we will maintain our dedication to customer service excellence and operational efficiency.

While Optum will be the Prime contractor for the project, we will also work closely with all of our software suppliers to as part of our overall support services. These suppliers include Teradata and Informatica. Below is a summary of each of our suppliers.

Support Services Provided by Software Suppliers

Informatica – Informatics Software and Software Support Services

Informatica was founded in 1993 and is one of the largest and most successful players in the data management market. They are the world's No. 1 provider of data management solutions, in the cloud, on-premises or in a hybrid environment. More than 7,000 organizations around the world turn to Informatica for data solutions that power their businesses.

As a supplier to Optum, Informatica will provide Informatica software support for the existing Informatica software supporting the EDW and Informatica software licenses and related software support for any additional Informatica products that the State might elect to order from Optum.

Optum has worked with Informatica for more than 12 years. Informatica provides similar products and services for each of our state implementations where we use Informatica solutions (e.g., New Jersey, California, Illinois, New York, Virginia). Optum is a reseller of Informatica products and services. Informatica has been an Optum supplier on the current EDW project since the contract's inception 6 years ago. As Informatica is the manufacturer of Informatica products, they are highly qualified to provide the Informatica products and support services for the State's Informatica licenses.

Teradata – Teradata Hardware, Software, Professional Services and Software Support and Hardware Maintenance Services

Teradata Corporation is a global leader in analytics solutions and services. Their goal is to empower companies to achieve high-impact business outcomes through analytics at scale, enabled by their technology. Their corporate strategy is to deliver business value by being the best analytical partner to the world's leading firms across a broad set of industries who have high-priority and complex analytical needs.

Teradata's solutions include software and hardware technology components such as data warehousing, big data, and tools for data integration, data discovery, and business intelligence. Their services help companies architect, manage, and integrate their complex and ever-changing analytic ecosystem. Teradata currently has more than 1,400 clients.

As a supplier to Optum, Teradata will provide hardware, software, professional services-hardening services, and software support and hardware maintenance (via the Azure Cloud) in support of the existing Teradata systems.

Optum has worked with Teradata for more than 25 years and Teradata provides similar products and services for each of our state Teradata solutions. Optum has been a reseller of Teradata products and services since 2000. Teradata has been an Optum supplier on the current EDW project since the contract's inception 12 years ago. As Teradata architects and provides engineering support of the Teradata solutions, they are qualified to provide the related services for the State's Teradata solutions.

Other Software Supplier Services

We have specifically highlighted Informatica and Teradata above given the critical nature their software products and related services play in the overall EDW solution. We also have critical software support, maintenance, and subscription services which are provided by the following vendors, where these services are provided directly through Optum as your single point of contact:

- IBM – Cognos Software
- Protegrity – Protegrity Software
- BSP Software - Metadata Manager Software
- Liferay – DXP Portal Software

Optum will engage our support services suppliers as part of our critical and non-critical Issue Management process to restore service as quickly as possible.

Providing support to operate and maintain the EDW requires a deep understanding of how the users use the system, the compliance it administers, the functionality it supports, the systems it interfaces with, and the technologies it utilizes. Based on our experience as an incumbent performing support services for the State EDW project, we have developed best practices based on lessons learned. In turn, this experience has helped shape and refine our processes for effectively coordinating and managing our support teams. Our proven organizational approach will provide a sound framework for a continued low-risk support services model. Below Figure 44 shows our overall support operations services.

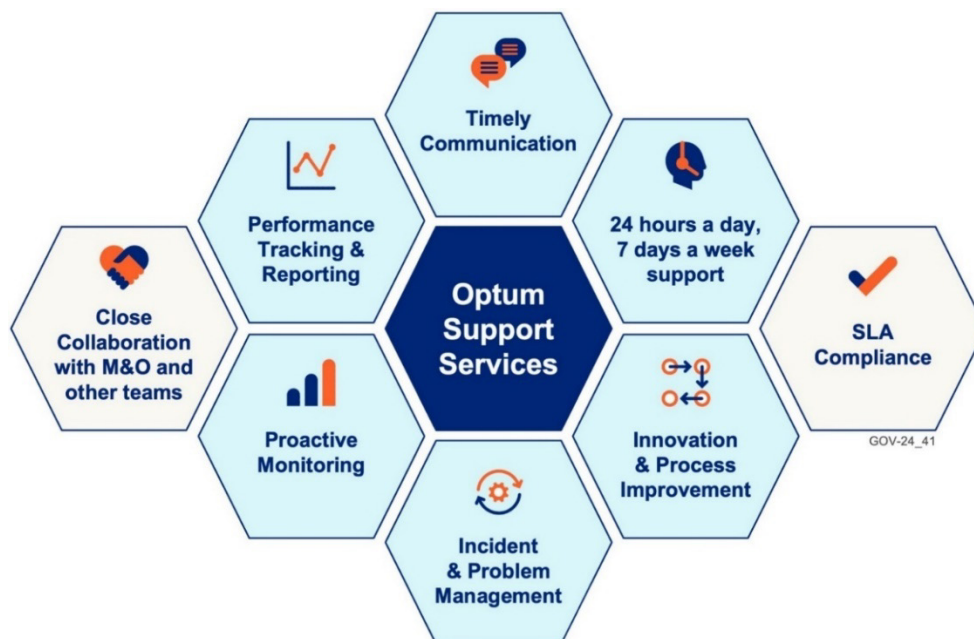


Figure 44: Optum Support Services

Our Center of Excellence support team provides a centralized approach to IT Service Management.

8. Infrastructure/Application Management

(Attachment K, Section 3.6)

Please explain how you propose to execute Section 3.6 in its entirety, including but not limited to the specific elements highlighted below:

a. Your plan to maintain and operate the EDW's infrastructure as described in section 3.6.1.

Optum implemented the initial EDW Teradata infrastructure in 2013 and has continued to maintain and update it. We have a longstanding working relationship with Teradata that encompasses our solution for several states beyond Indiana. We are their valued customer so when we call, they answer. We will continue maintenance contracts with them for the Teradata infrastructure in the same manner as we have done since first implementing your current EDW solution. When Teradata issues patches (that is, bug fixes) to their software, we will apply those patches in a timely fashion after consultation with you and appropriate testing. We will then update the configuration management system.



Optum migrated the Teradata and Protegrity solution components from the State data center-based hardware to the MS Azure Government Cloud successfully for both your development and production EDW environments as part of our previous contract. We contained migration-related costs and reduced technical risk to the State by leveraging our Optum Teradata and Protegrity expertise for configuration, setup, and data migration to the new MS Azure Cloud environment. These migrations were both completed transparently and with no impact for the EDW end users.

When Teradata issues major upgrades, we will analyze the change in functionality and impact on the existing solution. We define a major upgrade as a new version of software with changed and presumably improved functionality. Often the announcement of new versions is coupled with declaration of end of life and support for earlier versions. Because such upgrades have been known to have compatibility issues with existing code and hardware, we perform regression testing to confirm no issues will ensue. In addition, new versions often have user interface changes, which call for updated training material and help documentation. We will then discuss the advisability and timing of the upgrade with you and engage the Change Management Process for the upgrade if you decide to proceed.

We have been operating the Teradata, Informatica, and Cognos infrastructure underlying the data warehouse for twelve years. Under the close watchful eye of our Platform administrator **CONFIDENTIAL**, we will continue to maintain and operate these environments as required by this RFP. Optum will also continue to be a liaison to Teradata, Informatica, IBM (Cognos's owner) and the other relevant software vendors. We handle reported problems through our incident management process with support from the associated vendor to solve the problem. Optum

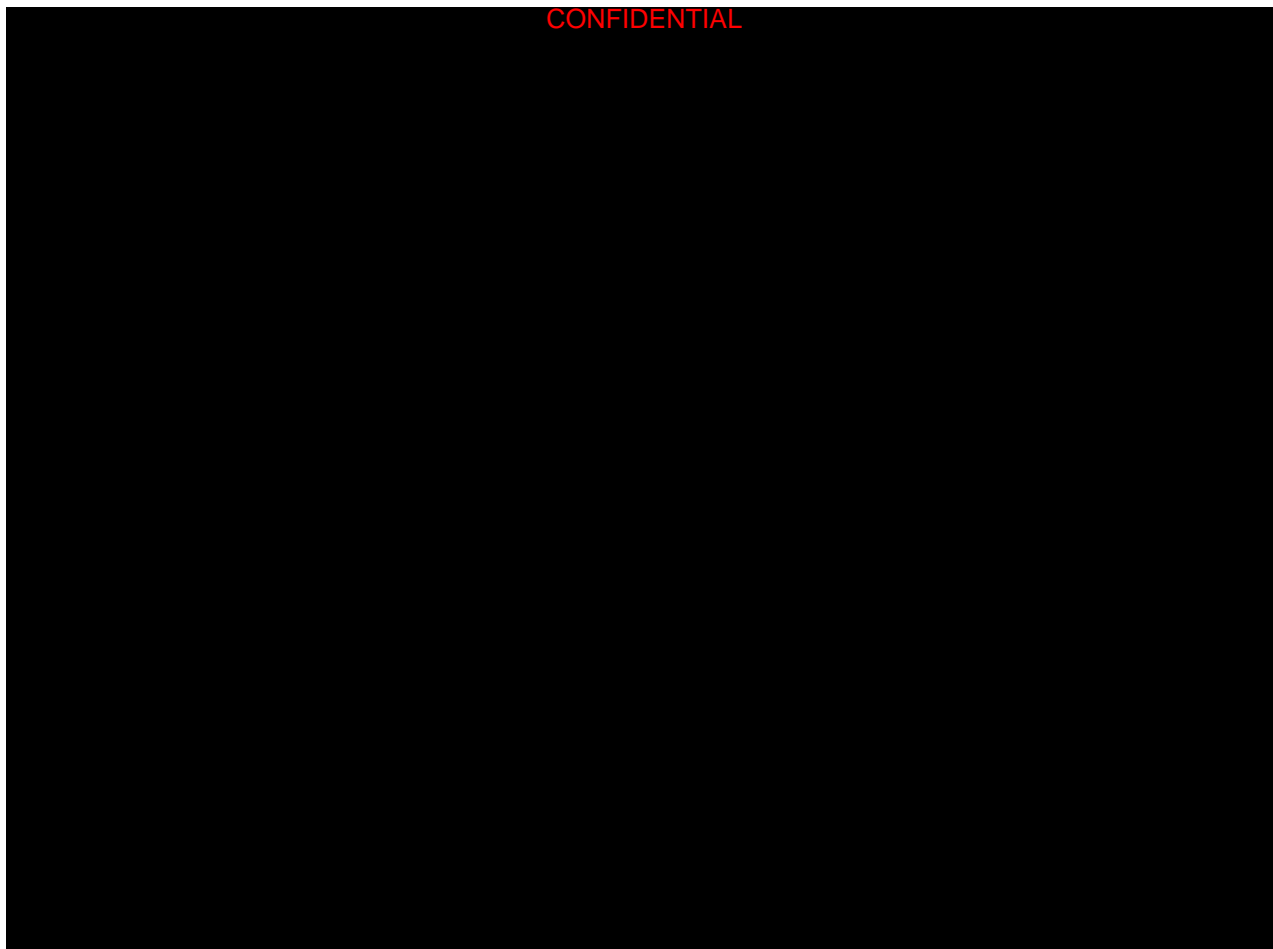
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CONFIDENTIAL, Platform Administrator, has more than 17 years of Teradata expertise that includes:

- ✓ 9 years of direct Indiana platform and administration
- ✓ Azure Teradata cloud migration
- ✓ Liferay, Protegrity, and SSDW Teradata support

supports the State and IOT through routine upgrades on IOT hosted infrastructure through redeployment of application environments or simply providing testing support.

Optum will continue to operate the system consistent with avoiding problems and learning from the ones we do not avoid. We continuously monitor events and system performance with our extensive monitoring and logging capabilities in Teradata, Informatica, and Cognos. Figure 45 shows the workload monitoring application, which tracks all currently running jobs.



We configure all our jobs to be modular, from the ETL for the operational data store to the value-add processing in the furthest downstream data mart. When we conform data, you will see the before and after fields so that upstream remedial action is enabled.

When Teradata infrastructure is appropriately sized, most of the required maintenance is preventive. For example, one reason a system might fail is that it runs out of storage space. By continuously monitoring and reporting on available space by owner, we can avoid that problem. If capacity approaches a critical value, we can notify governance to authorize appropriate, preventive action. For example, governance may require owners to take actions, such as offloading or compressing files or requesting new storage space, which we would then configure either via IOT or contractually via our Teradata Cloud instance. We track available space over time. Figure 46 shows a visualization of storage use by owner over time.

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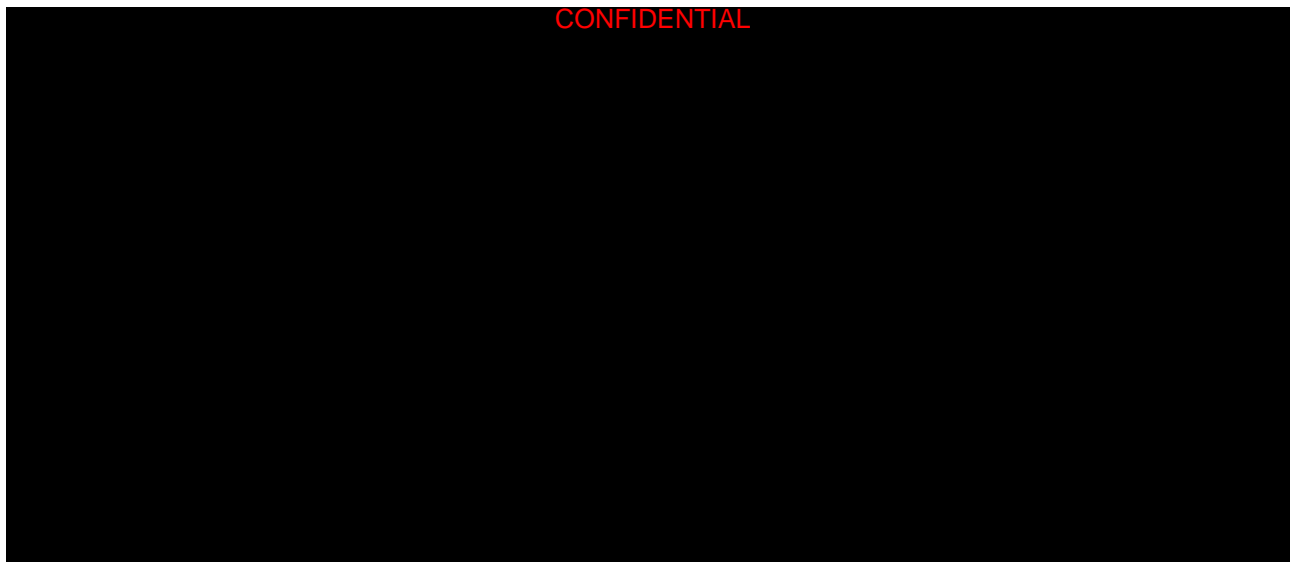


Another important preventive task is monitoring for and quickly addressing hardware failures. Teradata is a fast and reliable system because of many redundant components. Most failures have zero impact on data safety and little immediate impact on performance because of the multiple layers of redundancy built into the Teradata platform and the new MS Azure VM Cloud based infrastructure which features additional processing nodes. Statistically, some of those nodes and components will fail, and when they do, they need to be detected and replaced quickly. Our Optum supplier Teradata via the MS Azure Cloud has proven processes in place to affect such node or component repair or replacement on a timely basis.

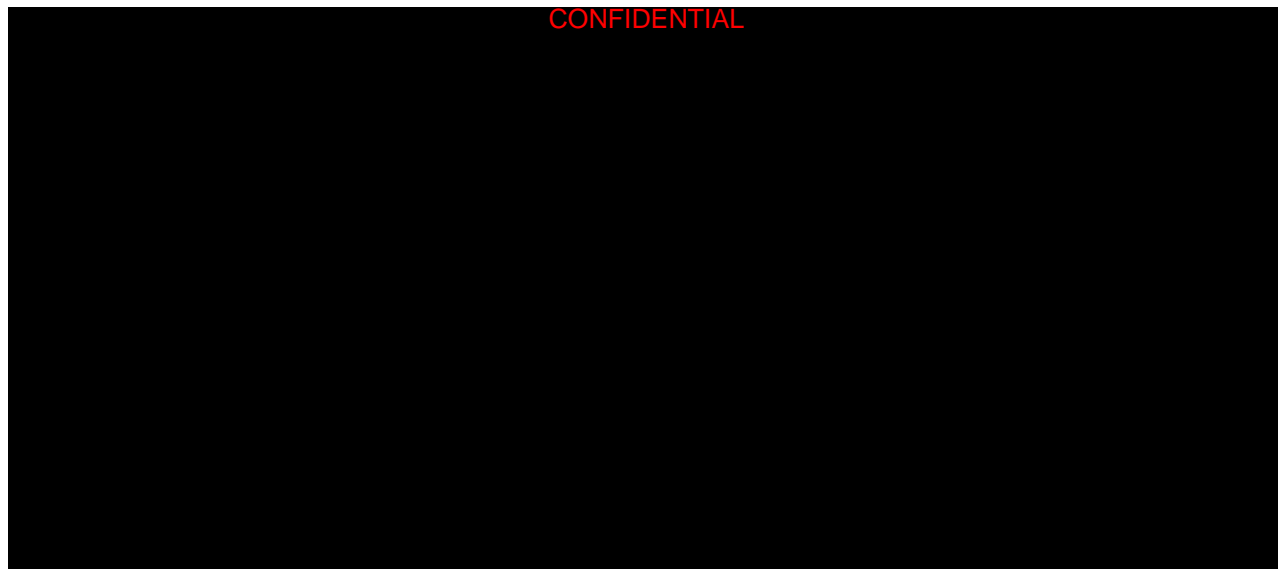
Another aspect of problem prevention is schedule maintenance. Work is assigned to the Teradata infrastructure in two ways. Most work comes from scheduled ETL jobs, which are started by Informatica or Cognos. We will maintain those schedules to minimize the impact on

users who are interacting directly with the system via direct Teradata SQL interfaces or pass through from BI Tools such as Cognos or Tableau.

The schedule minimizes the impact of batch operations on live end users. Large batch jobs run at night. Figure 47 shows monitoring of CPU usage.



For any unplanned downtime, we will notify your designated contact as soon as possible with a goal of immediacy. Under most foreseeable circumstances, that notification will occur immediately by electronic means. If there are any performance or functionality issues that fall short of downtime, we will notify the FSSA data warehouse team and other pertinent stakeholders within one business day of occurrence. Our goal is to never take longer than one hour to notify you of an outage. If there is an anticipated downtime, we will notify you at least 72



We will continue to maintain monitoring and reporting to track SLA compliance. These reports are available to authorized users. Teradata provides sophisticated hardware and software monitors—the SWS (Service WorkStation) and Teradata Viewpoint. These monitors give administrators both a global system view and the capability to drill down to individual

components. Both Informatica and Cognos have their own monitoring and logging functions, on which we will report.

We designed the system for high availability against a **24/7** operation, except for scheduled downtime to meet your requirement of maintaining a system **uptime of 99.99% or better**.

Our relationship with your team has shown time-and-time again that the EDW is a fundamental part of how decisions are made in your organization. We designed the solution to perform as such with a balanced approach to fault-tolerance and rapid response to workload fluctuations and component outages. We have met the design criteria for the twelve years since go-live and we will continue to maintain reliable performance. Our underlying Teradata database has strong workload management capabilities. While other database technologies aim for maximizing the performance of individual jobs or queries, Teradata manages system-wide resource allocation. This enables the system to support competing workloads simultaneously, such as data loads, large queries, Web services, and ad hoc work. All workload types can coexist according to agreed-to metrics, without any one of the workload types completely dominating the others.

In addition, our experience in data modeling enables us to anticipate the most common data uses in the given data marts, whether the data consumers are using canned reports, ad hoc queries, Web services, or planned extracts. Our physical data models reflect backup and replication activities around the clock. In meeting your availability SLAs, we will not propagate the results of incomplete modules or uncommitted transactions. Our recovery from system failure will start from a well-defined set of initial conditions, which will enable precise operational resumption. Whether it is a recovery entirely handled in the production site, or picked up from disaster recovery, the EDW will remain in a consistent state as it appeared prior to the interruption (as specified by SLA).

Further adding to reliability is our ability to handle errors, ones that arise from input data issues, environment failures, human factors, and many others. We build and configure the system to mitigate or eliminate the net effect of something going wrong. It is likely that we will obtain bad data. Less likely scenarios, but still possible, include the power or air conditioner failing, redundant components failing at the same time, or a defect surfacing. In all such cases, we rely on the modularity of our solution to provide proportional protection against errors.

Informatica PowerCenter gives us a whole range of responses to data outside of tolerances, ranging from the rejection of entire files, individual records, or conforming fields. We have set up automatic processes that back out errors, alert responsible individuals so they can take remedial action, and restart jobs. In other cases, bad records will be moved to an area for less urgent manual work. Most importantly, we will publish data only after it has been remediated, and we will do so in a manner that preserves their ties to Indiana external benchmarks (e.g., payment amount balancing). We discuss our use of Informatica further in Section 4, Systems Support and Reporting.

b. Your company's experience level with the Teradata platform.

As your incumbent vendor, Optum has successfully maintained your Teradata environment for twelve years including completing 6 system migrations due to hardware and cloud migrations. In addition, for nearly 30 years of EDW delivery and operations, we have maintained Teradata environments in both the public and private sectors. Please see Figure 49 and Figure 50 below.

In the private sector, we also maintain a much larger Teradata environment for the UnitedHealth Group enterprise to support our data assets which are part of our Unified Data Warehouse (UDW).



Figure 49: The Optum / State Teradata Experience

Our long-standing partnership with Teradata will provide the State continuity needed moving into the future.

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	Years of Experience with Teradata	Tcore	Customer Data Space (TB)	Named Users
 California MIS/DSS	16	102	127	~500
 Illinois EDW	24	66	114	~700
 Indiana EDW	12	30	37	~140
 Michigan EDW	30	71	74	~10,000
 Minnesota EDW	28	31	76	NA
 Virginia EDWS	6	15	53	~200
 UHG Unified Data Warehouse (UDW)	13	1,038	1,500	4,000

Figure 50: The Optum Teradata Experience Metrics

Optum has the 6 State Government-specific experience with Teradata with similar metrics as well as a very large Teradata environment, which we are maintaining for UnitedHealth Group within Optum.

c. Your company's plan to provide the State with Informatica support from the manufacturer, Informatica Corporation, as described in section 3.6.1.1

Optum has successfully maintained your Informatica environment for twelve years. In addition, we have maintained Informatica delivery maintenance and operations and the related environments in the public sectors as reflected in Figure 51 below.



Figure 51: The Optum / State Informatica Experience

Optum has 6 State Government specific experiences with Informatica with similar metrics as Indiana.

We will be the liaison to Informatica. We keep maintenance contracts in force. When an incident occurs, we will involve the vendor as needed to resolve the issue as quickly as possible. We maintain communication with vendors to learn of their product roadmaps. We will share that information with you. In addition, when vendors send a stream of patches and updates, we will apply them after appropriate notification and testing.

We have extensive expertise administrating the Informatica environments along with Informatica's suite of tools. These tools include PowerCenter, Address Doctor, B2B, and Data Quality.

Optum has managed the installation, configuration, patching, backup, and recovery of the Informatica software which is hosted on IOT provided servers. We work closely with Informatica to review newly certified Informatica maintenance release updates and patches and determine their applicability for installation. When Informatica issues patches to their software, we apply those needed patches in a timely manner after consulting with the stakeholders.



Optum recently upgraded the EDW Informatica software from 10.5.0 to 10.5.4. This upgrade was implemented to get to a version certified by Informatica to support our upgrade of Teradata to version 17.20. EDW and SSDW ETL developers were involved to validate and perform testing on existing Informatica code to ensure it would continue performing desired functions and meeting business requirements. Optum worked closely with FSSA, IOT and the State's SSDW vendor to lead and successfully complete delivery of the Informatica upgrade in compliance with business requirements and objectives.

We have and will continue to work with the State's infrastructure teams to validate an effective operating environment. This includes throughput analysis, capacity planning, and ongoing optimization and tuning of Informatica objects and the Virtual Machine environment.

Optum will continue to monitor Informatica server performance by reviewing CPU utilization and CPU memory usage. In addition, we will monitor workflow execution and recommend performance enhancements to long-running workflows. Our staff will continue working closely with Informatica and the EDW user community to establish best practices and guidelines for using the Informatica platform.

We will manage Informatica issues the EDW user community reports through the Service Desk and open associated cases with Informatica Global Support and provide the metadata needed for them to recommend a solution. Additionally, we work with the EDW ETL Developers and users to implement solutions to resolve the issue reported. We perform thorough incident analysis, including problem re-creation, resulting in resolution of product-related issues.

d. Your company's ability and process to maintain normal system operations during the potential system migration from on-prem to cloud based solutions.

As demonstrated with the recently executed Production Teradata system migration from on-prem to Azure there was no impact on business users during any stage of the process. The cloud environment was established, including migration of data, to allow initial replication of services so all stakeholders could begin testing connections and processes.

Once stakeholders approved all ETL and BI operations were working as expected, final data migrations occurred within the scheduled timeframe to allow ETL operations to continue without impact. On the day of cut over, after daily ETL load processing had completed, a final migration of the delta data was migrated to the new Cloud environment. After business hours stakeholders gathered on a call for the switch and final validation before start of business the next day.



EDW end users have experienced and noted faster responses for ad hoc queries. EDW ETL staff are noting much faster load and extract run times, and EDW DBA staff are reporting that critical backup process are running much faster because of the migration.

Throughout the migration project, EDW teams coordinated and communicated with DST, IOT, and other EDW stakeholders ensuring awareness and close coordination of timelines and expectations.

e. Acknowledgement of your understanding that system infrastructure requirements may change in the future, and confirm your willingness to work with the State to adapt required infrastructures based on potential changing system requirements.

Optum understands that infrastructure may change in the future, and we are positioned with experience in moving the existing EDWs to a cloud native platform. We recently migrated our Arkansas Medicaid DSS from an Oracle, on premise environment to an Azure Commercial cloud and Snowflake environment. We have incorporated this cloud migration experience in our response to proposing a cloud native solution for your EDW.

Optum will continue to align infrastructure through the engagement as we have for the past twelve years. Some recent examples of changes within the EDW environment that required infrastructure changes:

- Migrating Teradata development and production systems from on premise to cloud
- IOT SQL Server upgrade initiative
- IOT Windows server upgrade initiative

We monitor application product availability matrices to confirm all applications and infrastructure are in alignment with every change before implementation.

SSDW Transition

Optum is already familiar with the SSDW workload as we already manage your hybrid cloud infrastructure, which currently includes SSDW infrastructure, so the takeover of the SSDW will not change the workload associated with managing the Teradata or Informatica infrastructure. The additional Department of Workforce Development (DWD) and 1095B Azure skillsets will integrate with existing knowledge and skills within the team managing the existing hybrid cloud

environment. During the transition phase as we move towards M&O, a plan for the removal of Protegrity functions will be presented. Protegrity is no longer required because the existing Azure Teradata storage disks are encrypted using 256-bit AES which is FIPS 140-2 compliant. Based on projected timelines for the cloud native solution removal of Protegrity could occur sooner to realize potential savings of retiring the Protegrity software early.

Transition to Cloud Based EDW

As you asked in the RFP, we have proposed a migration to cloud native services for your EDW in Section 16 of our Proposal.

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10. Training

(Attachment K, Sections 3.9)

a. Explain how you propose to complete the deliverables listed in Section 3.9.

As your 12-year incumbent, our training team has formed a close partnership with FSSA and DST. Our training professionals have ensured end-users have the knowledge needed to utilize the Teradata EDW to monitor FSSA's programs to its full potential.

As DST shifts to focus on the future, our Training Center of Excellence is fully prepared to help you and all stakeholders experience a smooth transition to an EDW for both Medicaid and social services programs. As the incumbent, a major benefit to the State is that there will be no need for the transition of the existing EDW training program. We have training experts with the system knowledge and training curriculum for the legacy EDW system. We plan to supplement our team's SSDW knowledge with experienced subcontractors.

Training Success

Our Training Center of Excellence 2023 net promoter score results exceeded industry standards across more than 37,000 learners to earn:

- 93% learner satisfaction
- 95% learning effectiveness
- 95% positive impact on job function

During the transition period our main goal is to identify the knowledge gaps for each group of learners and to provide customized training sessions focusing on what is new to them either about the EDW or about working with Optum.

Optum recognizes that a well-delivered and comprehensive training strategy maximizes the State's return on investment in your Medicaid and social services EDW technology, data, and people. As a vital component of the services included in our proposal, our training program instills in the EDW user community the competence and confidence needed to maximize your solution – facilitating business user self-service and further nurturing a data-driven culture.

The EDW customized training programs have been delivered successfully for Medicaid and social services DSS in other states, such as Arkansas, California, Illinois, Michigan, Minnesota, New York, and Utah. As Optum is the incumbent in Indiana, we can offer inherent knowledge of the training and can save the State time and money, by using the existing training plan as a foundation and updating it based on new scope and State requirements.

Our current training program for Indiana EDW users focuses on how to use your solution's tools, as well as how to identify and use vetted business rules to review results, create reports, and conduct data analyses.

What they're saying about our training...

Great courses overall. Training was well organized and communicated. Assistance during the exercises was very helpful. Great team – impressed overall with the team and product.

It was very instructive. If I was caught on a student activity, the instructors were more than happy to show me the correct way of performing the needed function. The student activities applied what you had learned, which was great for helping the lessons stick.

All of the Optum employees were friendly, courteous, and respectful. They all seemed to be willing to answer questions to the best of their ability. If they didn't have an answer, they knew where to find it.

Skilled training staff

Our training team will include training leadership, instructional designers, and trainers. They leverage their expertise and training strategies based on our more than 29 years of delivery and operations across many commercial and government implementations combined with the latest learning management technologies and materials.

The State will continue to have local onsite training and support, provided by our Senior Instructional Designer, **CONFIDENTIAL** has a proven track record of using a team-teaching approach, where the instructor provides in-depth knowledge of the application(s), and the technical SME provides in-depth knowledge of the FSSA data.

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CONFIDENTIAL Instructional Designer, brings expertise in training development and delivery for small and large groups using learning theories and methodologies for a successful training program.

The Optum training program and supporting methodology incorporates two industry best practices and lessons learned from extensive delivery of training for Indiana and our other State accounts. The Performance First Learning (PFL) and ADDIE methodologies enable the effective use of newly learned capabilities into day-to-day business operations. Our corporate values of relationships and performance will help us continue to provide the State users with the knowledge needed to realize the best value from your EDW solution. Our training focuses on how to use your solution's tools, as well as how to identify and use vetted business rules to review results, create reports, and conduct data analyses.

Training curriculum design methodology

Performance First Learning (PFL) is the gold standard training approach that we use when we design our training curriculums. PFL is a training approach that emphasizes the development of role-aligned critical skills and the demonstrated ability to perform those skills in real-world, on-the-job situations upon completion of training. Our training is practical and relevant to participants' work environment. It incorporates regular opportunities for the participant to apply the lessons taught by the instructors using EDW data in an applicable training environment while having access to the training team for subject matter expertise. Figure 53 shows the four essential strategies of the PFL approach.



Figure 53: The Performance First Learning approach

Optum leverages the PFL methodology to provide lesson plans and activities that are meaningful to the learner and their specific needs.

Our training materials focus on important concepts and reinforce course elements. The training materials we use will be appropriate for specific user/job roles. This may include a troubleshooting guide, visual guide, a quick user guide, and common tips and tricks. Working in collaboration with the State, we will review and update training materials for accuracy and quality, as well as adapt them for program or system changes. Our materials also include a trainer guide with instructions, talking points, and activity references. Using this type of guide gives each class the same structure of training delivery.

Optum uses State training workstations that have access to required analytical tools and uses EDW data in a training environment. Our training uses both lecture style as well as hands-on training which is why having direct access to the tools and training environment is so important. We typically adhere to a maximum of 12 students in a classroom due to our instructor to student ratio that we have found is both productive/efficient while also being able to address individual needs.

One of the approaches Optum has been using for Indiana is team-teaching that includes the Trainer being supported by a SME in the classroom. The SME supports classroom instruction by helping the Trainer to respond to technical questions and providing one-on-one instruction during participant exercises and hands-on learning. Optum has used this model in multiple accounts. It efficiently facilitates the transfer of knowledge from Optum trainers and SMEs to learners in the classroom. It also provides an inherent base of support for our training team.

Training design & delivery

"EDW and OPA training give you so much valuable information. They not only show you how to use the programs, but they also show you how you can incorporate them into your work with business scenarios. The way each training is designed and presented helps you learn the systems regardless of your learning style."






--State analyst, Indiana Family and Social Services Administration

Training process methodology

We prepare staff to fulfill the requirements of their position by employing the **Analyze, Design, Develop, Implement, and Evaluate (ADDIE)** methodology. By using this industry standard methodology to guide our training development and delivery process, we achieve high quality standards through stringent version control, templates, rigorous internal review cycles, and holistic oversight of each curriculum. Through this achievement, we:

- Integrate hands-on and scenario-based practice for operational, technical, and soft skills at appropriate junctures, and vary activities from directive to exploratory
- Reinforce key learning points, encourage recall, and strategically place quizzes and reviews throughout the curriculum to reiterate content and improve retention
- Support creative problem solving and other advanced synthesis and application of skills, as appropriate to core competencies and roles

Figure 54 shows the ADDIE phases and steps followed to determine and configure a flexible, customized training program.

Phase	Steps	Work Products
 Analyze	<ul style="list-style-type: none"> Assess business goals Conduct needs analysis Identify knowledge gaps Conduct audience analysis Develop learning objectives 	<ul style="list-style-type: none"> Training needs analysis Training plan
 Design	<ul style="list-style-type: none"> Select delivery method(s) Determine training structure and duration Establish evaluation methodology Develop storyboards and outlines 	<ul style="list-style-type: none"> Storyboards/outlines
 Develop	<ul style="list-style-type: none"> Develop training materials Conduct quality reviews of materials 	<ul style="list-style-type: none"> Course materials Assessment instruments
 Implement	<ul style="list-style-type: none"> Finalize training schedule Publish training materials Prepare trainers Notify and enroll learners Conduct training and collect evaluation data 	<ul style="list-style-type: none"> Course schedule attendance/completion, assessment, and reaction-based data
 Evaluate	<ul style="list-style-type: none"> Compile training evaluation data Review training effectiveness 	<ul style="list-style-type: none"> Training evaluation report

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Figure 54: The ADDIE phases and steps for a customized training program

Optum training staff follow these phases and steps to deliver a custom training program.

The first phase of our design process is **Analyze**. A robust analysis is crucial in determining the needs of the learner and the objectives of the training. This phase involves gathering information about the audience, setting goals, and understanding any existing knowledge or skills they may have.

After a thoughtful analysis is complete, the Training Plan will be updated for the transition period and each major enhancement that has new training requirements no later than 90 calendar days from the scheduled go-live, as well as an updated Training Plan 30 days prior to the end of the contract year.

The next phase, **Design**, is where the creation of a training curriculum is planned. This includes developing a lesson plan, creating activities and assessments, and choosing appropriate media and delivery methods. Throughout the year, we will continue to offer various types of training to a diverse group of EDW users including advanced power users, executive users, business users, business and data analysts, data scientists, and report viewers. The following table describes the types of training provided to the State.

Training Type	Description
EDW System Usage Training	New users are trained on the Indiana Medicaid and social services programmatic reports, data, concepts, and will focus on the Indiana EDW Business Intelligence (BI) software, including Cognos and Tableau as well as the Data Central Portal.

Training Type	Description
EDW System Enhancement Training	Training sessions will be offered as the result of change requests, system modifications, new functions, or features, or new or modified program and/or policy changes identified through the Optum Hybrid Model and Agile Scrum methodology.
Refresher Training	Ongoing training is offered each year on a bi-monthly basis for users who may want a refresher class. Topics for advanced training or seminars are identified quarterly through Help Desk inquiries and survey responses.
System Development Life Cycle (SDLC) Training	Based on assigned work area, Optum provides State staff training around the SDLC phases using the Scale Agile Framework (SAFe), Agile Scrum methodology, and JIRA tool.
Security Training	Focuses on underlying principles, laws, and regulations, as well as security requirements and features of the EDW. It is provided during all user training sessions and materials are available online for interim training.

The third phase, **Develop**, is when the instructional materials are created and put into a format that learners can use. This will involve creating both online and offline versions of the material. As shown in Figure 55, the development of our training plan is completed in partnership with the State to make sure training needs are fully met and evolve throughout the life of the contract.



Figure 55: Design phase of ADDIE

Our thorough design process is centered around the State and the needs of their various end users.

The fourth phase, **Implement**, is when instructional material used to teach learners. This is where we will see if the materials meet the needs of the learners and if they are able to achieve the agreed upon learning objectives. This phase includes publishing the training materials, finalizing the training schedule, enrolling and communicating with learners, and conducting the trainings.

A key component of our ADDIE phase, Implement, is to make sure our staff trainers are well-prepared and have an in-depth understanding of the Indiana EDW solution and program curriculum. After curriculum is finalized, training staff follow our proven train-the-trainer protocol, which reduces project risk by making sure project staff trainers are thoroughly prepared to deliver quality instruction.

Finally, **evaluation** takes place after training implementation to determine whether the objectives were met and what changes could be made to improve future versions of the EDW training program. Figure 56 shows the various actions that are taken, or monitored, to solicit feedback for future trainings.

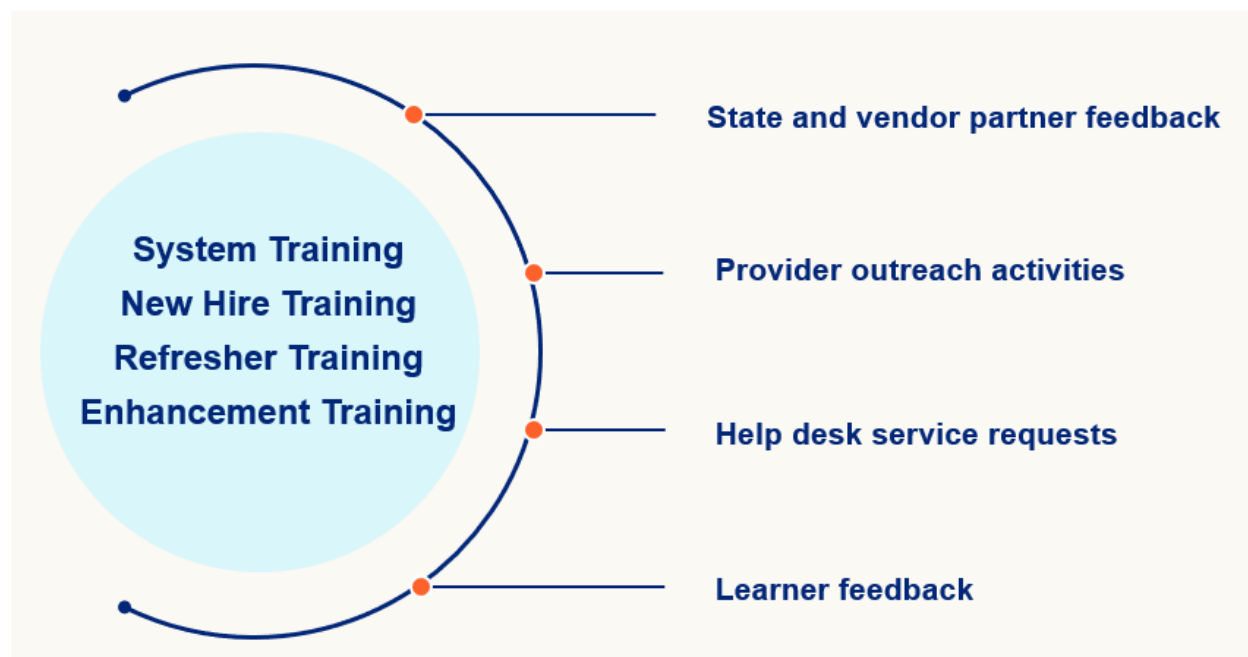


Figure 56: ADDIE Evaluation Phase

Our training staff continuously, and proactively, look for better ways to train State users and our internal Optum staff.

Optum will conduct a quarterly analysis of help desk support tickets and create additional training to address any areas of frequent inquiries/issues. Optum will also gather feedback from the State, learners, and observers to update the lessons and the way users are trained throughout the life of the contract.

In addition, because we value data-driven continuous quality improvements, we solicit learner feedback through post-training learner surveys. Optum will collaborate with the State to make sure that we ask learners “the right questions” to garner meaningful feedback within our post-training surveys, measuring the efficacy of training as well as the quality, relevancy and usefulness of the training materials and reference documents.

Training feedback is applicable to User Acceptance Testing (UAT), Initial and Ongoing training and is collected by Optum through the On-Line Training Evaluation tool. As an integral part of the proposed training program, the evaluation tool allows for timely student feedback on both the courseware and the instruction. This creates opportunities for introducing near real-time training program improvements. FSSA benefits from timely feedback, which is incorporated into our training courseware and delivery for future classes.

Client Example Post Class User Survey Results

"Awesome info and wonderfully positive and helpful faculty"

"There were no aspects of the course that I disliked. It really was good!"

—State Government Client Feedback

b. Provide a proposed training plan for this Contract.

Optum has included a draft Training Plan for your review as part of our Proposal Response in Appendix_Section 10_SGS Training Sample_Indiana EDW Training Plan. The purpose of our Training Plan is to allow the State and Optum to review the intended approach and agree on the best way to drive more informed and skilled users. The Optum training plan document is based on having delivered hundreds of hours of training to your users. Details included in our sample Training Plan include:

- Training approach
- Training registration
- Training environment
- Staffing
- Materials
- Schedule
- Ongoing and advanced training
- Training evaluation
- Document updates
- User access
- Course catalog
- Attendance
- Training schedule
- Training registration checklist

As outlined in our draft Training Plan, the information is evaluated and tracked to deliver informative and appropriate training to the State's users. Lisa will continue to manage these aspects of the overall training plan, throughout the life of the contract, for standard, annual and new training topics.



Training Class Specifics:

Displays all user groups and courses in which they will participate



Learning Evaluation:

Details regarding areas that are measured using various methods



EDW Course Catalog:

Detailed description of courses offered for each audience



Class Projections:

Details the number of classes offered and anticipated attendees



Training Schedule:

Provides class dates and times for all classes in a year

For each major enhancement that has new training requirements, the Training Plan will be submitted to the State no later than 90 calendar days from scheduled go live. The Training Plan deliverable will be updated at least annually by the EDW training coordinator. Optum provides 30 State business days to make appropriate changes and/or modifications in cases where the State disapproves of vendor training recommendations, including but not limited to: staff trainers, training courses or content, presentation methods, training plans, training manuals, updates, or status reports.

Training Materials

Our training program relies on classroom, instructor-led training with customized training materials per current Indiana training requirements. Optum customizes training materials and manuals to maximize knowledge transfer from technical teams to role-based participants based on skill level. Class participant materials may include student manuals, desk reference guides, activities, and other supporting documentation. Each training class has a trainer guide with instructions, talking points, and activity references. Using this type of guide makes certain that each class receives the same content.

All materials are provided to the State for review prior to inclusion in manuals and reference guides. Optum suggests information required in the training materials and the State approves or suggests any relatable information for insertion or update. All manuals and guides are generated from the most current system and technical environments available and are submitted to the State for approval prior to use and are updated annually. The learning manuals and training references are edited to ensure a common presentation format; and a copy (e.g., paper, binder) are provided to all participants. Each item of documentation regarding training, including processes, reference and integrated manuals are posted to the Optum portal for viewing electronically. Updates to the training materials are provided on a State-defined timeframe.

As a supplement to traditional classroom training, Optum will continue to post all updated training manuals and handouts on the DST Data Central portal. We know users like to refer to training materials when they are performing newly acquired skills and by making them easily accessible 24/7, we increase the likelihood of success and decrease the likelihood of getting frustrated using a new skill without the right support.

The training materials will be submitted for review and approval by the DST EDW project manager or instructional designer no later than thirty calendar days prior to the scheduled training. Figure 57 and Figure 58 are screenshots of current training materials created for the State.

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c. Explain your plan for maintaining a comprehensive training plan in alignment with the requirements of Section 3.9.

Optum recognizes that over time with various projects and enhancements, we may need to update existing training or offer new training classes. Optum updates training information for the State user community and our project staff on system enhancements or procedural changes. These may occur as the result of change requests, system modifications, new functions, or features, or new or modified program and/or policy changes identified through the Optum Hybrid Model and Agile Scrum methodology.

An educational needs assessment can be defined as the gap between what is known and what should be known. The goal of continuing education is to improve user proficiency by maintaining or improving knowledge, skills, and effectiveness. Optum can also offer additional training curriculums through Teradata, Informatica, Tableau, Snowflake and Transforming Data With Intelligence (TDWI) for more advanced data warehousing, business intelligence, and analytics education.

Based on our experience, Optum knows that training needs change over the life of a project. Initially, during the transition period there may be a need for more frequent training and introductory courses. As EDW users are trained and become more competent and confident in their skills, the need for more advanced training increases over time. Optum continues to retain a core schedule of introductory courses for new hires while continually working to build other more advanced offerings.

11. Compliance with Standards

(Attachment K, Section 4)

a. Confirm your understanding and agreement to meet the privacy/security standards and regulatory requirements in Section 4.

Optum fully understands the States privacy/security standards and regulatory requirements as detailed in RFP Attachment K, Section 4. We agree to meet these as required.

b. Describe all relevant experience with the privacy/security standards and regulatory requirements in Section 4.

We have the experience required to meet security and privacy standards implementation and regulatory compliance. We integrate security into the solution design through our SDLC using a shift-left approach common to DevSecOps. Working with you throughout planning and execution, we will identify and verify regulatory requirements and controls to meet and maintain compliance for agreed-on security controls. We will work with your security team to assess controls and compliance. Using continuous monitoring defined by NIST, our team will work with the State to monitor the EDW infrastructure and applications for compliance with NIST and other security requirements. We will support your need to assess controls and compliance through our common security assessment and testing methodology that applies to multiple regulatory, statutory, and IT standards.



We invest significant resources in our information security program. We will provide dedicated security resources to the project that will participate in the Medicaid Risk Management Strategy.

Security controls and management are integral to our delivery, maintenance, and operations procedures. We take an industry-standard, comprehensive approach to adopting, designing, and implementing regulatory and security requirements. This approach is based on a tiered structure of applicable compliance frameworks, applying the most stringent controls specified in the regulations, mandates, policies, and guidance.

We manage risk assessment, tracking, and remediation through mature risk management, compliance, and audit service programs to maintain a strong security posture. Internal assessments track compliance, and periodic vulnerability and security scans verify ongoing compliance. Our policy-driven approach to security can support multiple compliance standards including ARC AMPE, MARS-E, NIST 800-53, ARS, and IRS 1075. We protect client data, assets, and recipient privacy using NIST-defined control families.



Optum is subject to continual internal and external audits. We welcome the scrutiny and know our solutions and services will pass close examination by external auditors. We are familiar with, and consistently pass, federal and state audit processes as well as audits conducted by independent auditors. We work with you to make sure we align on the control definitions and undergo security testing to confirm your data is secure as part of our DDI process. One of our most recent audits, assessing more than 600 controls against MARS-E, NIST 800-53 and FISMA high, was evaluated with no findings on compliance. In the last 3 years we have had 7 customer audits with zero findings.

Our security experts are well-credentialed and experienced with providing support and expertise for government systems. They assess and build appropriate security controls. We allocate the

right resources to meet the security and compliance requirements. With our dedicated staff and a strong commitment to service, our security standards comply with compliance standards.



Optum understands the responsibility to protect confidential and proprietary information and to maintain availability and integrity of information systems and assets. This commitment is an integral part of our culture and the relationships we have with our clients and vendors. We will protect the EDW solution and data using advanced data protection, auditing and logging, encryption, identity and access management, infrastructure security, security incident management, and threat and vulnerability management.

c. Describe how you will support CMS Certification as outlined in Section 4.3.

Optum understands that certification for the EDW is not required, at this time per answers provided to questions on May 22, 2024. We will support the State with related data requests to satisfy CMS metrics reporting requirements. This includes assisting with the completion of the Operational Reporting Workbook with metrics descriptions and data and Conditions for Enhanced Funding artifact requirements, e.g., Disaster Recovery Test Results and Accessibility Voluntary Product Accessibility Templates (VPATs).

Should full certification be required in the future, Optum has a centralized COE certification team dedicated to leading certification responsibilities to support and collaborate with internal project team members, states and their stakeholders, CMS, and MITRE. Our team understands the important to make certain certification satisfactorily passes through the Operational Readiness Review (ORR) and Certification Review (CR) milestones to make sure states receive the full enhanced Federal funding amount available at the earliest date.

We have extensive, successful experience in CMS certification using both the Medicaid Enterprise Certification Toolkit (MECT) and the new modular Streamlined Modular Certification (SMC). As one of the first vendors supporting the new SMC model, we have collaborated with multiple state agencies, CMS, and MITRE, the CMS alliance partner since January 2020. The state agencies where Optum or our staff have supported Medicaid clients in successfully achieving CMS certification include Alaska, Arkansas, California, Colorado, Georgia, Indiana, Michigan, Mississippi, New Hampshire, North Dakota, Tennessee, Virginia, Washington, and West Virginia. These include CMS certification for the Arkansas DSS, Indiana DSS/EDW/BI, Michigan EDW/BI, Virginia EDWS/FADS. The Tennessee PBM certification was under the pilot Outcomes Based Certification (OBC). The Virginia EDWS and FADS solutions were certified under the SMC. The team is also currently supporting ongoing certifications for Alabama, Hawaii, Illinois, Montana, Hawaii, North Carolina, and West Virginia.

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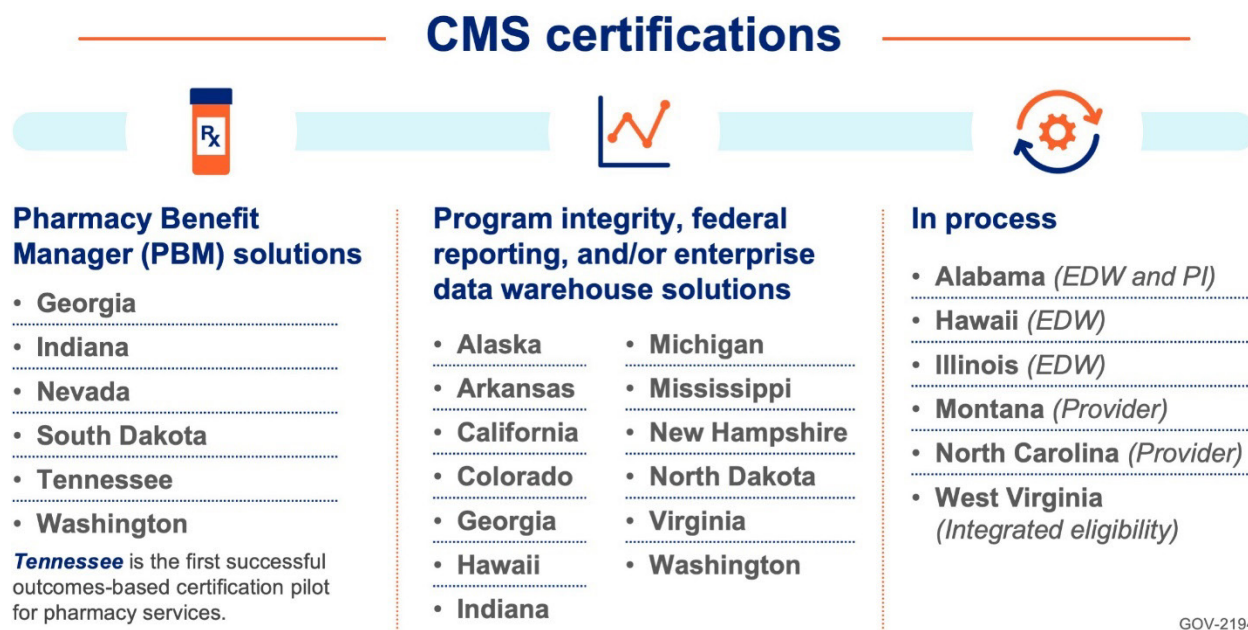
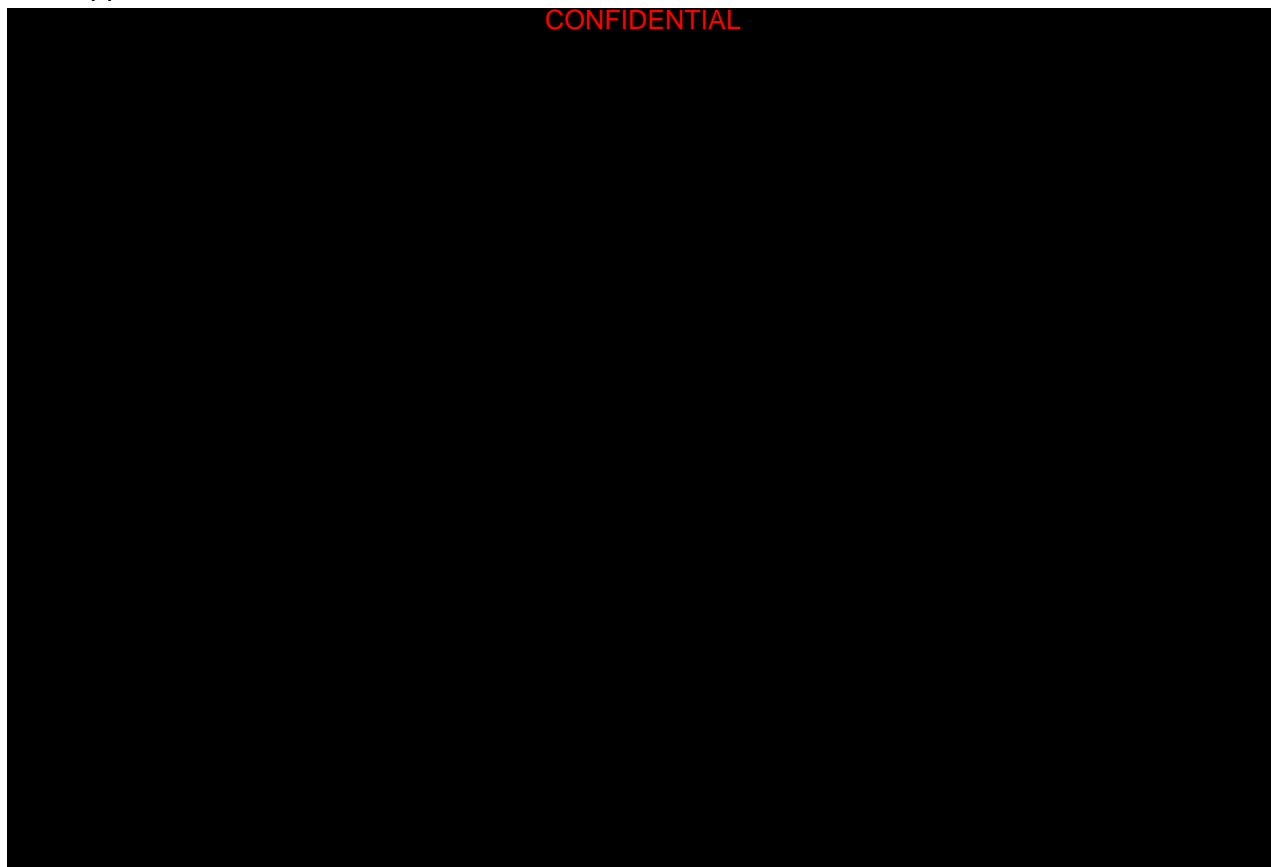


Figure 59: Optum clients with successful and ongoing CMS certification

Our centralized CMS Certification team stays current on requirements and changes so that we may assist you gain certification in the most efficient way, increasing your federal funding.

Our support includes but is not limited to:



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Collaborative and cooperative. Our certification management approach provides an end-to-end integrated working environment that will support your vision through cooperation and coordination with all MES stakeholders for successful certifications.

d. Propose ideas on how to increase MITA maturity via data management and business intelligence ideas.

We design our solutions to comply with the CMS Seven Standards and Conditions and align with MITA 3.0. Our analytical solutions feature a **SOA platform** to advance interoperability, modernization, and continual enterprise evolution.

Additionally, we select tools and solution components that enhance access and delivery using open standards, such as APIs and SOA principles. Our data warehouses support integration with Fast Health Interoperability Resources (FHIR) standards and clinical data to improve program accuracy and improve response times. We can incorporate the CURES Act interoperability APIs into our warehouse to enhance program collaboration across providers and members.

To increase value and efficiencies, you must have a solution that will move your program to higher maturity. We have developed and implemented information technology solutions that align with the MITA framework since its inception and throughout its iterations, up to and including the 3.0 framework. We have learned that each state has considerable variation in MITA readiness and maturity. Many capabilities associated with higher levels of MITA maturity require operational and infrastructure changes for which several states have planned. However, many are not yet ready to implement or support these changes because they lack the necessary core operational and technology capabilities. Our analytics solutions solve many of these constraints, as it is a full-service capability for the State.

Our business, architectural and operational capabilities trend toward the higher MITA maturity levels (4 and 5). We have found that implementing solutions that include higher levels of maturity into organizations that are typically at or below level 3 can disrupt existing operations and culture. Knowing this, our approach for advancing MITA maturity begins with delivering solutions that align with a state's current maturity model while offering business processes, architecture, and an operations framework that allows an adaptive and deliberate progression into higher maturity levels. We instill this discipline in the DDI phase and include organizational change components for those enterprise business, technology, and operational elements affected by higher levels of maturity and capabilities. With Optum, the State will have a partner that is committed to enhancing the user experience while increasing value and efficiencies over the life of the contract.

To advance your MITA maturity, we have automated all our ETL loads, reports/extracts delivery, and data quality checks and balancing procedures. We have automated regression testing. As we transition the SSDW, we will evaluate areas that would benefit from automation.

As you migrate to a cloud solution, our data warehouse is a scalable solution to enable the confidentiality, integrity, and availability of data as part of its enterprise modernization. We will advance your analytical capabilities and data-driven initiatives through modernization of tools, increased abilities to share data with other State partners or other states, and the ability to leverage a shared data hub, which advances your MITA maturity.

e. Your approach towards interface accessibility in alignment with Section 4.5.

The EDW uses native services and products available commercially. Voluntary Product Accessibility Templates (VPATs) can be provided by Optum to validate the conformance level to A, AA, or AAA for the relevant solution components. Optum has an internal accessibility team who supports conformance with the Web Content Accessibility Guidelines (WCAG) 2.0 and 2.1. Optum evaluates conformance based on Success Criteria defined in the WCAG 2.1 Conformance Requirements. We have a well-defined methodology for VPAT testing. Each web page accessibility will be tested and evaluated against a list of almost 100 practical checkpoints covering WCAG 2.0 Levels A and AA success criteria and Section 508 guidelines. Additionally, the team evaluates each page with automated and manual checks of function, content, zoom and resizing, color, and others. They accomplish these checks using a combination of mouse with monitor, keyboard-only and screen reader with keyboard to represent a range of experiences. It also verifies that they can interact with the solution as needed.

In addition, Optum will review expectations around FNS system requirements to support compliance with FNS Handbook 901. We will then collaborate with FSSA to discuss questions and define timelines for specific deliverables, attestations, and assessments. We have in-depth knowledge of federal interface requirements, and work closely with FNS, CMS, and other federal agencies to stay current on federal standards, regulations, and requirements. We will comply with and support the interface standards and testing requirements for accessibility as outlined in FNS Handbook 901 Chapter 6 and Chapter 9.

f. The Contractor must support standard API and file transfer methods for data transmission. Elaborate on how your company's solution will accommodate the utilization of the identified technologies. If the proposed solution does not support these technologies, explain in detail why and outline the proposed alternative.

We have proven expertise implementing API and other system integration components, as well as experience and understanding of various middleware technologies including MuleSoft Anypoint and Fortra GoAnywhere. We use many of these same tools in our service delivery stack. We select tools and solution components that enhance access and delivery using open standards including FHIR, REST, SOAP, SSH, FTP, FTPs, and SFTP.

Optum will primarily leverage Application Programming Interfaces (APIs) and Secure File Transfer (SFTP) to enable the secure exchange of messages and data. We support the use of API in the data infrastructure as well as the business intelligence components. Each technology has a supported set of APIs that we will work with the State to publish for business users.

Our transformation and load architecture uses data-driven workflows (pipelines) built with Informatica. Informatica allows us to orchestrate data movement and transformations at scale. The pipelines ingest data through the State and other data sources. We use innate, configurable triggering and scheduling functions to automate the pipelines so that new data becomes available when needed for the analytics applications.

- g. Review the State's Information Security Framework and either confirm that your company conforms to the policy or provide explanation to the areas for which your company does not conform. A link to the instructions for accessing the Information Security Framework can be found here: <https://www.in.gov/iot/iot-vendor-engagement/>.**

Optum conforms with the State's Information Security Framework. We will continually comply with applicable laws, regulations, and mandates. We will successfully support your compliance with HIPAA, NIST 800-53 r5, FIPS, SSA Security requirements, FNS Handbook 901, CMS MARS-E v2.0, and IRS Publication 1075. Security is integrated in our SDLC enabling identification and verification of regulatory requirements and the controls required to meet compliance.

We will review and complete the list of security controls and submit it to the State for approval before the Go-live of system components. We will engage with the IOT and the State to have the controls applied appropriately and effectively.

- h. Complete Attachment L - IOT Cloud Questionnaire to help the State understand your alignment with State standards and policies.**

Attachment L – IOT Cloud Questionnaire is provided as an attachment to our Proposal.

12. Project Management

(Attachment K, Section 5)

Please explain how you propose to execute Section 5 in its entirety, including but not limited to the specific elements highlighted below.

Over the last twelve years, Optum and the State have worked together to manage the implementation of the EDW and the ongoing maintenance and enhancements of the system. Through that time, we have worked closely to gather requirements, design new functionality, and test and release system code. The steady hand through that collaborative process has been the Optum Hybrid Model. We will continue to use the Optum Hybrid Model to meet the requirements as specified in our response to question #5, Enhancements of this document. We will provide consistent delivery for all EDW project management. The Optum Hybrid Model is derived from industry standards and best practices, including but not limited to the Project Management Institute's (PMI) latest Project Management Body of Knowledge (PMBOK), Scrum, and IEEE system and software processes. Using these standards and best practices, we will continue to support the State in maintaining efficient and effective decision governance structure and deliver EDW enhancements with quality results on time, on budget, consistent in formatting and content, and meet the user-defined requests.

We will continue to work with the State during Systems Development Life Cycle (SDLC) phases and quality checkpoints, with the emphasis on Agile methodologies, iterative development and testing, training, speed of delivery, transparency, integrated change management, and integrated issue and risk management, while adhering to the State compliance standards, Centers for Medicare & Medicaid Services (CMS) and MITA guidelines. We will use Agile methodologies for each enhancement unless otherwise approved by the State. We will incorporate all the industry standard Agile deliverables and artifacts with emphasis on communication, collaboration, and iteration. We will incorporate iterative methods for development and testing of software and training. Product quality and user experience are equally important for Optum long-term success.

Optum Performance

"I know this isn't new news to you guys but wanted you to see that **many** divisions within DHS are very proud of the work Optum, Business Operations Support, and partnering source vendors/systems have accomplished to gain Arkansas this great T-MSIS success. I received 3 different forwards of this email announcement! You all should be VERY proud! CONGRATS!"

– NTT Data PMO Staff Member



Our flexible project management approach will easily accommodate different sized maintenance and modification projects for the EDW over the term of the Contract.

a. How you will comply with the project management standards outlined in Section 5.1.

Our project management approach for the EDW Services project meets all requirements in Section 5 of the RFP. Since December 2016, we transformed the Optum team to utilize Agile Scrum development and testing methodology. We aligned our operations and procedures with the PMI process groups, and SDLC phases (Initial, Requirements, Analysis, Design, Coding, Testing, Implementation, and Post Implementation) for the EDW CORE MMIS, T-MSIS, and M&O deliverables. Since then, the Agile Scrum process proved to be very efficient and effective in delivering quality EDW services and M&O enhancements.

Optum emphasizes iterative development and testing, training, speed of delivery, transparency, integrated change management, and integrated issue and risk management. Optum also adheres to the State compliance standards, Centers for Medicare & Medicaid Services (CMS), and MITA guidelines.

Agile Term Definitions

The following table summarizes key agile terms and their general definitions, which are referenced throughout this document.

Agile Term	Description
Product Backlog	The product backlog is a prioritized features or requirements list documented in backlog items called user stories . Each user story is expected to yield, once implemented, a contribution to the value of the overall product.
User Story	A user story is a concise and autonomous unit of self-descriptive deliverable, based on features or requirements, with the necessary amount of information that its outcome can be tested and accepted. A user story is referred to as Product Backlog item in some cases.
Sprint Backlog	The sprint backlog is a selected list of Product Backlog's user stories that the scrum team is committed to complete related tasks within a two-week or shorter duration sprint.
Agile Charts	A burn down chart shows how much work is remaining to be done in the project for each sprint, whereas a burn up chart shows how much work has been completed, and the total amount of work.
Scrum Sprint	The Scrum Sprint represents a time-box of fixed duration during which a "Done," usable, and potentially releasable product increment is created by the Scrum team. Sprints have consistent durations throughout a development effort. A two-week period is the most common duration used in Agile Scrum software development.
Product Owner	A project's key stakeholder represents the business or user community and is responsible for working with the user group to determine what features will be in the Product Increment (PI).
Scrum Master	The Scrum Master is the facilitator for an agile development team. He or she is responsible for enacting Scrum values and best practices, removes impediments, and makes sure the team is fully functional and productive.
Scrum Team	Cross-functional small team members that work together on assigned deliverables during every sprint and throughout the product lifecycle. The Scrum Team may contain the following roles: business analyst, data architect, database administrator (DBA), ETL developer, report developer, tester, document writer, training coordinator, system analyst, and others.
Product Increment	The Product Increment is the sum of all Product Backlog items (e.g., user stories) completed during a Sprint and previous Sprints. A PI must be in a usable condition and can be demonstrated to Product Owner and/or other stakeholders.
Jira	Jira is a Web-enabled tool and a product of Atlassian. It provides Agile project management functions; test and defect tracking; requirements tracking; project charter management; change management and issue tracking; configuration and release management; and reports. Jira has role-based security with the ability to customize workflows for each ticket type, along with email notification rules.

Figure 60 shows the Optum Hybrid Model, which is based on Agile Scrum process.

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The Scrum process defines the following key components:

- Iterative inputs (e.g., features, requirements, enhancements, helpdesk tickets, change requests)
- Scrum roles and responsibilities (e.g., Product Owner, Scrum Master, Scrum Team)
- Agile artifacts (e.g., product backlog, sprint backlog, charts)
- Scrum planning and tracking events (e.g., Product Backlog Planning, Sprint Planning, Daily Scrum Call, Sprint Review Session, and Sprint Retrospective Session)
- Agile release log for PIs

Our Optum Hybrid Model provides an iterative and proven system development methodology; a structure for managing project governance and activities, status assessment, validation quality, and integration with project management components and SDLC phases as shown in Figure 61.

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We will continue to use the following industry-standard project management tools to manage and track the EDW project from inception to closing:

- Atlassian Jira Agile: We have implemented Agile Scrum processes using the Jira tool with an integration with DST Helpdesk ticket and email notification rules based on well-defined workflows
- SharePoint Document Management with version control
- Microsoft Office (Word, Excel, PowerPoint, OneNote)
- Excel Power Query add-on for additional analytics on exported data from Jira
- Microsoft Project (when needed)

Our proven methodology will provide the State with a high-quality solution, with less schedule and budget risks, in the time frame that you require.

We follow these Agile Principles for faster and higher quality deliverables for the EDW project:

- We satisfy the State needs through early and continuous delivery of EDW project requests
- We provide greater transparency and flexibility to the State into project management components and progress
- We welcome changing requirements, even late in the development cycle
- We deliver working software in shorter time period, called sprints
- We work in tandem with EDW stakeholders daily or more frequently throughout the project
- We make sure working and quality software is a foundational measure of progress

- We follow Agile processes that promote sustainable development and testing. The sponsors, developers, testers, and users should be able to maintain a constant pace throughout the EDW project
- We pay continuous attention to technical excellence and good design, which enhances agility
- We promote self-organizing teams through best architectures, requirements, and designs
- We use Agile test-driven and acceptance test-driven development
- We assign highly experienced IT, data warehouse, and business intelligence reporting professionals
- We learn from our experience and embrace change, constantly striving for better ways to deliver EDW solutions

Our project manager **CONFIDENTIAL** who is a Project Management Professional (PMP) will oversee all project management processes, components, and deliverables of the EDW Services project. He will conduct periodic project management meetings, provide status reporting, manage product releases and final deliverables with the State, track and maintain project compliance, coordinate and communicate with the State, and manage the M&O services team to comply with SLAs. Our track record with similar implementations testifies to the effectiveness of our approach and the strength of our experience.

Similarly, **CONFIDENTIAL** will spearhead projects related to the original SSDW scope. **CONFIDENTIAL** is a talented and experienced PM who has worked with FSSA on several different projects such as the IRS 1095 project with DFR and data warehousing projects with DMHA and other agencies. **CONFIDENTIAL** duality in subject matter expertise and project management acumen will drive the team to deliver quality products, on time and within the defined budget and scope.

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Optum Delivery and Project Components

To guide the EDW project, we use our Optum Hybrid Model project components and align it with the processes established in the Jira Agile tool. These components were tailored to inter-relate and enable the State and us to track all work in 360-degree views any time during the lifecycle of the project. This provides the State with greater transparency. Figure 62 shows the Optum Hybrid Model components that have been customized in Jira and being used for EDW and M&O requests.

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SDLC-Project Initiation

As we begin the EDW Services, we will work with you to clarify project requests, identify project objectives, and document project charters. We will work with you to establish clear lines of accountability; lessons learned metrics; and quality assurance gateways. In addition, we will work with you to identify one or more of the following project components:

- Project charter(s)
- Requirements
- Project test plan

We will schedule a kick-off meeting with your stakeholders and key members of our team. We will also continue to work with you during development, testing, and delivery of project deliverables.

Project Charter

Optum works with the State to determine the project delivery pipeline based on a set of features and/or requirements. The project charter is used to capture project intake information such as:

- Project title
- Description
- Delivery pipeline priority
- Project size (small, medium, large)
- Business needs
- Assumptions and risks
- State sponsor
- Approved by and approval date
- Milestones and timelines
- Estimates
- Roles and responsibilities
- Due date
- Any attachments

This will result in defining the projects' delivery pipeline for EDW and M&O requests. Optum recently completed a project for the IN Pathways program where an established EDW Project Charter was created and approved by FSSA, which is a great example of the importance of this process.

As shown in Figure 63 the project charter has its simple yet effective workflow of notifying the sponsor and receiving comments and/or approvals, through Jira automation and built-in email notifications.

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Project Charter Workflow is used to track project status, notification, comments, and/or approvals. When the project charter is created, its initial status will be **INACTIVE**. Once reviewed with the State sponsor and received the approval to proceed, its status will change to **ACTIVE**. Once related work for the project is complete, the project status will change to **COMPLETE**. If the project work is cancelled by the State, then its status will change to **CANCELLED**.

A project charter can link to features, requirements, user stories, and/or test plans as the following sections detail.

We will work with State stakeholders to define high-level features of anticipated work related to project delivery when requirements are not available. The feature includes basic information, such as title, description, priority, and any attachments. The features can link (i.e., group) to a project charter or requirements or user stories, depending on the request type. This flexible approach provides you and Optum with the ability to plan for joint requirements exploration sessions, and to determine the product increments. A feature can be toggled active or inactive using Jira workflow. A feature can be re-used across multiple projects, when needed.

Requirements

Optum works with the State stakeholders during EDW requirements gathering efforts to develop requirements records and artifacts using Jira. Optum uses the Business Requirements Template to gather requirements with the State business stakeholders. Requirements will be validated with the State stakeholders, during joint requirements validation sessions, to confirm the completeness and accuracy of each requirement. The approved business requirements document will be broken into Jira requirements records for tracking purposes. Each requirement record within the requirements artifact will include the following information:

- Requirement title
- Description
- Priority
- Requirement type (system, non-functional, usability, security, infrastructure, operations, business, reporting, data, metadata, MITA, or CMS)
- Approved by and approval date
- Business owner
- Any attachments

Additional requirement changes from the State stakeholders will be documented and tracked for each requirement record using Jira workflow. In addition, documentation requirements can be done directly in user stories based on the State's discretion. The Optum Hybrid Model's flexibility enables it to accommodate the State's preferences.

Requirements will be validated with the State stakeholders, during joint requirements validation sessions, to confirm the completeness and accuracy of each requirement. Requirements feedback from the State stakeholders will be documented and tracked for each requirement record using Jira workflow, as Figure 64 shows. We can document requirements directly into user stories based on the State's discretion. Our Optum Hybrid Model is flexible to accommodate the State preferences. See the Product Backlog Planning Event section below for more information about the relationship between requirements and user stories.

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When a requirement is created, its initial status is Open. When the requirement is ready to review, the workflow action Review will toggle its status to Analysis. Once the requirement is approved by the State stakeholder(s), its status will change to Approved. If the requirement is no longer needed, its status will change to Cancelled and will be kept in the requirements repository for historical purposes.

Project Test Plan

Optum uses Agile test-driven and acceptance test-driven development. Quality Assurance Measures are employed throughout the EDW project. The EDW Project Test Plan provides a basis for planning, performing, managing, monitoring, and measuring the quality of EDW testing activities. Optum provides comprehensive testing methods that will be performed in synch with SDLC phases.

- The Test Plan will summarize the following:
- Testing approach and goals
- Risks, issues, assumptions, dependencies, and constraints
- Testing types and test approach, including entry and exit criteria for each test type
- Defect severity and resolution timeliness based on the requirements and State SLA
- Test environments
- Roles and responsibilities (including Agency name and stakeholder participation)
- Quality controls and checkpoints
- Scrum triage process
- Test data management and security controls
- Test reporting, metrics, reviews, and approvals

The proposed Optum testing methods are described in the following table.

Optum Testing Methods

Agile Term	Description
Unit Testing	As the lowest testing level, Unit Testing verifies that the individual units of the software work properly. The objective of unit testing is to test the software's functionality and to confirm that the unit of software is structurally sound and able to respond appropriately in all conditions.
Integration Testing	<p>Integration Testing occurs when two or more units have been tested and are combined into a larger, single structure. Because our solution components routinely interact with other system components, integration testing tests the interfaces and interoperability between components. Integration Testing is used to identify and resolve defects before the more complex System Integration Testing. We define integration test objectives for each increment and before it starts. They include:</p> <ul style="list-style-type: none"> • Defining the integration testing scope • Describing the out-of-scope artifacts and activities • Documenting testing assumptions <p>Developers for a release cannot perform system or integration testing on their own release work. In situations where the application team is not large enough to staff roles separately, segregation of testing duties may be mitigated by dual sign-off for production migration. After Integration Testing is completed, the development team hands the system over to our quality assurance (QA) team.</p>
System Integration Testing (SIT)	Using converted, masked data, our testing team conducts System Integration Testing on the complete, integrated EDW product increment release to evaluate its compliance with state-specified functional requirements and to verify end-to-end reliability, security, and maintainability.
Interface Testing	This testing will verify the integrated solution and data flows for all EDW business partners. Through Interface Testing, we determine that providers, service centers, business partners, and other agencies can submit transactions over appropriate channels, and can send and receive proper acknowledgements and negative responses. For each type of transmission, we also test the time lag between transaction receipt by the EDW and notification of receipt to the data originator.
Regression Testing	Regression Testing is an activity conducted throughout all stages and releases. It is implemented to validate that existing, tested functionality is not negatively affected by the introduction of new functionality and that identified defects/bugs are satisfactorily corrected. This testing is conducted in a controlled environment with well-defined data management and code management practices unique to this testing.

Agile Term	Description
User Acceptance Testing (UAT)	<p>After successful completion of SIT, our testing team coordinates User Acceptance Testing (UAT) with DST and Agency users (typically one or more business units) to validate the EDW against base lined business requirements and approved change requests. This occurs within a pseudo-production environment. The focus of UAT is to determine how well users can perform their jobs with the set of systems and business processes currently configured for the release. Through UAT, end users:</p> <ul style="list-style-type: none"> • Verify that the EDW and infrastructure perform according to the business requirements/constraints and related modifications • Validate that the solution meets the user's needs <p>The emphasis is on evaluating the system against normal business circumstances, but in a controlled testing environment. This environment will support UAT-related activities, such as training, defect logging, and resolution of other issues required prior to sign-off and release of all work products to production.</p> <p>Throughout our contract tenure, EDW business users perform UAT to validate that the EDW and downstream enhancements/modifications meet requirements and function as designed.</p> <p>Our team will work closely with EDW stakeholders to provide the support needed during UAT.</p>
Stress/Performance Testing	<p>Stress/Performance Testing will include volume (load) and stress testing of the solution to determine that the release provides the intended functionality and meets performance requirements under production conditions. It also confirms that all aspects of the system architecture (technical, application, data, and network) can handle anticipated transactional volumes.</p> <p>This testing is followed by performance tuning as needed. Our team will design a strategy for applying load to the system. Test scenarios will include a combination of manual and automated tests.</p>
Operational Readiness Testing (ORT)	<p>Through ORT, EDW stakeholders verify that the EDW has been installed and configured to successfully operate in the production environment and that end users have been satisfactorily trained to operate the system at go live. Our team will work closely with the EDW stakeholders to provide the support needed during ORT.</p>
Post Implementation Review Quality Assurance (PIR QA)	<p>After deploying the product increment to production, we will conduct PIR QA on the deployed production component with production data to ensure results are correct and as expected based on requirements, change requests, user stories, and helpdesk tickets.</p>

Project Planning and Execution

Scrum is an Agile process that enables a focus on delivering the highest business value in the shortest time. This helps to prioritize large to-do lists into manageable tasks with improved teamwork, better communication, and faster results. Scrum allows for the rapid and repeated inspection of actual working software. Stakeholders can see real working software iteratively and decide to release it as is or continue to enhance it for the next sprint.

Scrum Design, Development, Testing, and Delivery Approach

Optum designs, develops, tests, and implements each release (product increment) according to DST and Agency requirements and M&O requests in collaboration with EDW stakeholders. Figure 65 shows Agile planning events are employed to develop and track the project schedule and related artifacts.



Figure 65: Agile Events

These events are the standard ones used in Agile Scrum methodology; however, Optum will attend any other meetings and sessions per State requests.

Product Backlog Planning Event

The Product Owners (Agency stakeholders and Optum), Optum Scrum Team, and Optum Scrum Master meet iteratively to plan or update user stories based on EDW requirements, helpdesk tickets, change requests, and other M&O requests. This event can occur monthly or bi-weekly depending on the agreement with the Product Owner. During this event, the participants will create, review, or refine user stories and related test cases to fulfill the project timeline and requirements. The participants will plan for the sprints, which include the user stories, and determine the Product Increment (PI) sprint regarding the product demo for the stakeholders and the user group. All updates will be captured in the related user stories that comprise the Product Backlog.

User Story

The User Story is the core element of the Product Backlog. It is analogous to a project plan milestone with more concise and self-descriptive planning information. It is sometimes referred to as a Product Backlog item. Each User Story has a comprehensive yet flexible workflow for status tracking and reporting purposes. The User Story workflow is illustrated in Figure 66.

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Sprint Planning Event

The work to be performed in the sprint is planned during the Sprint Planning Event. The work in a Sprint Planning Event can include:

- Design
- Development, testing
- Deployment preparation
- Necessary documentation
- Data modeling

- Database changes
- Post implementation validation

This iterative plan is updated throughout the collaborative work of the Product Owner, Scrum Team, and Scrum Master. The Optum Scrum Team will define/update related tasks, timelines, and estimates for each selected user story that has been assigned within a sprint. The recommended duration of a sprint is two weeks. Optum will continue to work on the State's critical requests to deliver them in a shorter time period when required.

During the Sprint Planning Event, the Scrum Team answers the following:

What can be delivered in the increment resulting from the upcoming sprint?

- The Scrum Team works to forecast the tasks that will be worked on during the sprint. These tasks will link to the User Story and are known as Sub-tasks (tasks), as the following sample screen shows.

How will the work needed to deliver the Product Increment be achieved?

- Having set the Sprint Goal and selected Product Backlog user stories for the sprint, the Scrum Team decides how it will build this functionality into a Done status during the Sprint.

Sprint Review Event

A Sprint Review is held at the end of the sprint to inspect the Product Increment and refine the Product Backlog, if needed. The Product Owner, Scrum Team, Scrum Master, and stakeholders collaborate about what was done in the sprint. This is an informal meeting, not a status meeting. The Product Owner explains what Product Backlog items are in Done status and what are not in Done status. The Scrum Team demonstrates the work that it has moved to Done status and answers questions about the Product Increment.

The entire group collaborates on what to do next, so that the Sprint Review provides valuable input to subsequent Sprint Planning Events. The result of the Sprint Review is a revised Product Backlog that defines the probable Product Backlog user stories for the next sprint(s).

Sprint Retrospective Event

The Sprint Retrospective is an opportunity for the Scrum Team to inspect itself and create a plan for improvements to be enacted during the next sprint. This event is held at the end of a sprint or after the Product Increment demo.

The goals of this event are:

- Inspect how the last sprint went with people, relationships, process, and tools.
- Identify and order the major items that went well and potential improvements.
- Create a plan for implementing improvements to the way the Scrum Team does its work.

The Scrum Master encourages the Scrum Team to improve, within the Agile Scrum process framework, its development process and practices to make it more effective and productive for the next sprint. The Sprint Retrospective Event represents mini-Lessons Learned for continuous improvements of team velocity, productivity, and the quality of results.

Daily Scrum Call

The Daily Scrum is a 15-minute time-boxed event for the Scrum Team to synchronize development activities and create a plan for the next 24 hours. It is not a problem-solving meeting. Additional problem solving can be taken offline for team discussions and resolution, when possible, for the next daily scrum call. Each Scrum Team member answers the following three questions:

- What did the Scrum Team member do since the last daily scrum meeting?
- What will the Scrum Team member do today?
- Is anything in the way (e.g., any impediments, risks, or issues)?

The benefits of the Daily Scrum Call are:

- The Development Team uses the Daily Scrum to inspect progress toward the Sprint Goal and to inspect how progress is trending toward completing the work in the Sprint Backlog.
- The Daily Scrum optimizes the probability that the Scrum Team will meet the Sprint Goal.
- Every day, the Scrum Team should understand how it intends to work together as a self-organizing team to accomplish the Sprint Goal and create the anticipated Product Increment by the end of the sprint(s).
- Daily Scrums improve communication, identify impediments to development for removal, highlight and promote quick decision-making, and improve the Scrum Team's level of knowledge and velocity.

Development

Every working day, the Scrum team members log in to the Jira tool and work on each development task using the Agile Sprint Board or My Active Tasks dashboard.

During the Daily Scrum Call, the Scrum team and the Scrum Master will meet to go through each team member's updates. By the end of the day, Scrum team members will quickly update their tasks, depending on the progress made. During the development task status transition update, the Scrum team members will log their time spent and add comments. The Jira tool will automatically calculate the remaining estimated hours to complete the task (based on the original task estimates decided on during the Sprint Planning Event). It will also update the task progress (% Complete), and will keep track of all task activities, comments, and status transitions histories.

Each sub-task (task) has a flexible workflow quickly updated daily by the Scrum team member, as Figure 67 shows.

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The Scrum Master will update the status of the User Story using its workflow actions. The parallel and overlapping daily activities of updating Task progress and updating the User Story progress will automatically update both the Sprint Backlog and Product Backlog and keep them in synch.

Testing

During the Product Backlog Planning Event, the Scrum Team-Test Lead coordinates with the Product Owners to develop/update Test Cases.

The Test Cases are linked to the appropriate User Stories in the Product Backlog for end-to-end control and tracking of EDW Project services. The linked Test Cases can be viewed from within the User Story view screen. Optum walks through the test cases with the Product Owners and other stakeholders to confirm that the entry and exit criteria for acceptance testing have been met.

Figure 68 shows the test case workflow with actions and status transitions.

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Internal QA testing activities are conducted on every User Story defined in the Product Backlog and assigned to a sprint. Each test case includes one or more test steps. When a test step fails it is documented as a defect. The defect is then linked to the proper User Story and included in a sprint for resolution, depending on the defect severity and priority. The Severity field is used to track the defect resolution timeliness based on the RFP requirements and the State SLA.

The table below defines the severity values for defects.

Severity Levels

Severity Level	Description
Critical (1)	A problem has made a critical function unusable or unavailable, and no workaround exists.
High (2)	A problem has made a critical function unusable or unavailable, but a workaround exists., A problem has made an important function unusable or unavailable, and no workaround exists.
Medium (3)	A problem has diminished critical or important functionality or performance, but the functionality still performs as specified in the user documentation.
Low (4)	A problem has diminished supportive functionality or performance.

The defect is a special type of task which has its own workflow, as shown in Figure 69.

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If the User Story requires the State UAT activities, the User Story output artifact (e.g., report) is deployed to the State UAT environment, and the State stakeholder is informed about the readiness to begin the UAT activities. The User Story status will progress to STATE UAT as per the User Story Workflow described under the Product Backlog Planning Event section. In support of acceptance testing, Optum will start operational support of each release.

When the UAT acceptance is received from the State stakeholder, the package to release to Production using Release Management is prepared, as explained in the next section. The User Story status will progress to READY TO DEPLOY. Prior to go-live, operational readiness reviews are performed to verify that the EDW has been installed and configured in the Production Environment and that end users have been satisfactorily trained to operate the system.

After deploying to production, Post Implementation Review Quality Assurance (PIR QA) activities are conducted using production data to verify that the post-implementation production functionality meets approved requirements and there are no impacts to existing production

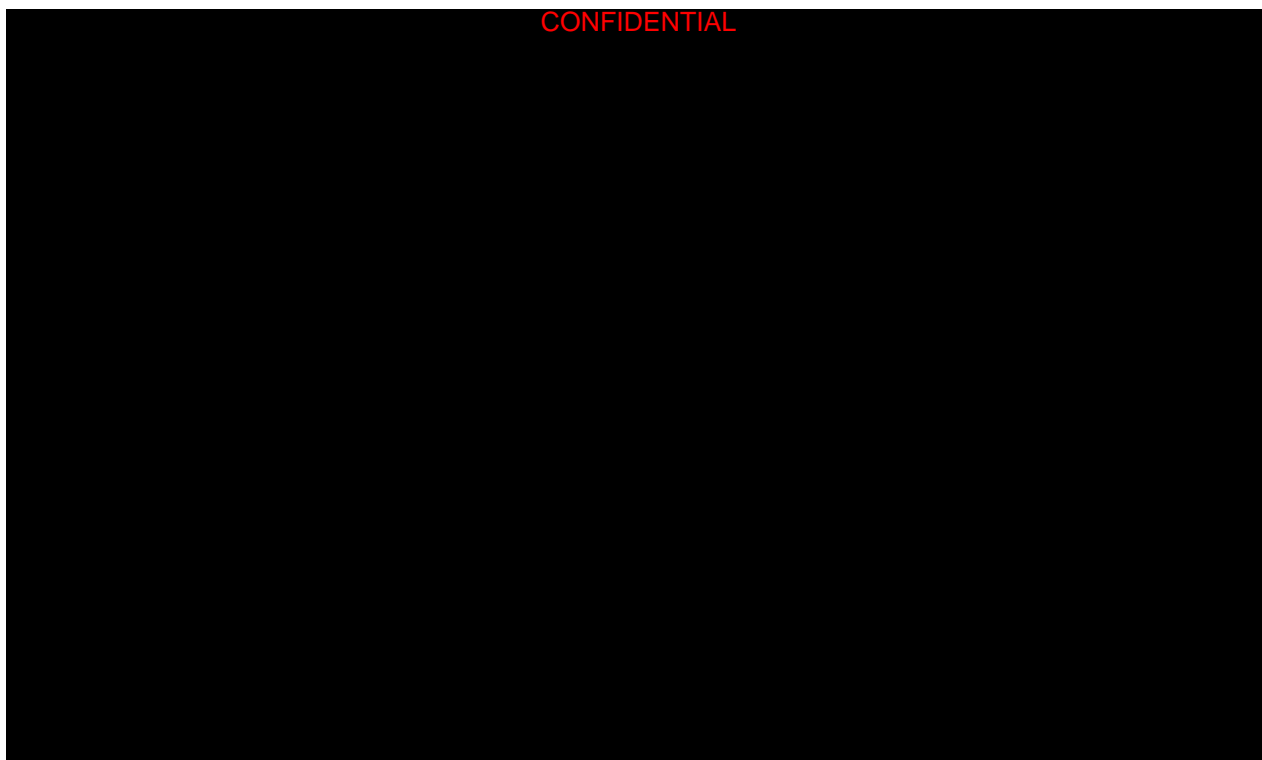
operations and data. The User Story status will progress to PIR QA. The results of PIR QA are shared with the State, and once validated, the User Story will progress to CLOSED status.

Post Implementation Review (PIR)

Regarding the User Story Workflow, every User Story defined in the Product Backlog and assigned to a Sprint, will go through PIR QA activities by the Scrum Team (Tester) after deploying its related artifacts (e.g., reports) to the State Production Environment. The User Story status will be at PIR QA and until the PIR QA results are reviewed with the State for final approval. Then the User Story status will progress to CLOSED status.

Risk and Issue Management

During the lifetime of EDW projects and through coordination with the State, Optum documents and tracks EDW project related risks and issues in an integrated approach with other Optum Hybrid Model Project components. Risks and issues are linked to selected user stories, tasks, defects, helpdesk tickets, and so forth. This approach provides a clear path to determining the impacts on project work (Product Backlog), estimates, and timelines. The following image (see Figure 70) shows the Risk and Issue workflows, along with related actions and status transitions.



Version History

Using the Jira tool, Optum can report on the version history of information such as:

- Comments history
- Activities
- Ticket status transition
- Work time log

Resource Management and Time Tracking

Resource management is conducted frequently to verify resources are properly allocated to projects and to stay focused on delivering quality results within the allocated budget and timeline. Optum develops the EDW Task and Hours tracking report for the required duration (weekly, monthly). This report can include the sum of forecasted versus actual hours for tasks and defects by resource, release, and/or project charter. Other report formats and durations can be provided based on the State requests.

Transition to Operations

Technical and management continuity is provided as completed projects move into the operations phase. As an experienced EDW Services provider, Optum understands that effective operational skill sets are different from DDI skill sets. With the support from our

operations lead, **CONFIDENTIAL**, our Operations team has the knowledge and experience needed to optimize the operational capabilities of the EDW, focusing service delivery on operational efficiencies and customer service.

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Project Control

Optum continuously monitors and controls the progress of all project activities in collaboration and coordination with the State. The Optum Hybrid Model and tools selected for this project will enable the production of reports, dashboards, metrics, schedules, and contract deliverables to show our continued performance is meeting EDW stakeholder expectations.

Optum shares with the State updated Product Backlog and Sprint Backlog weekly using Jira, with highlights on new versus updated user stories from the previous week. These updates are reviewed with the State weekly.

Every week Optum will continue to send the State updated Product Backlog for three months, when applicable, to review updated User Stories for that period during the State's Enterprise Medicaid Changes weekly meeting.

Reports and Dashboards

Every project component in the Jira tool has an activity history for complete end-to-end tracking for each component, at any given point in time.

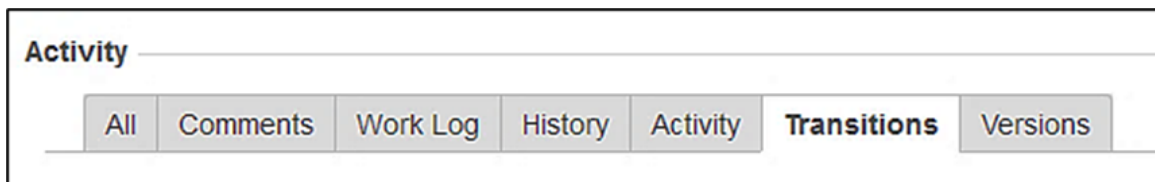


Figure 71: Project component activity history section in Jira

The end-to-end features of Jira provide easy monitoring and control.

This section is visible from the view screen of any Jira ticket related to EDW Services Project components.

Optum developed several online dashboards and views in Jira that will help the State stay up to date with the EDW project timeline, original and remaining time estimates, progress, releases, and statuses.

These dashboards will help the State to check the progress and status of the EDW project at any time and from different angles.

In addition, several reports are generated, including the Sprint burndown chart, resolution time report, resource workload report, and time tracking report. Optum can generate additional reports based on State requests.

Project Close

Project close is the final phase of the EDW project and comprises the activities at the end of the project. This can occur when the State decides to implement an entirely new solution, or transition to a new vendor to operate and maintain the EDW. Three months before conclusion of the contract, Optum will develop and submit a transition plan to assist in continuing the collection of the data. Optum will cooperate fully with the incoming vendor that is selected.

b. A high level proposed Project Plan. As part of your response, please detail the following:

- **Communication strategy for this project. Please provide roles, responsibilities, communication types, and methods of delivery, timing, etc.**

Communications Plan

Throughout the EDW Services project, we will provide transparency through our defined communication management process and project management methodology. This chart provides a structured overview of the key components involved in our communication plan for the EDW.

Component	Description
Stakeholder Analysis	Identify stakeholders and assess their communication needs, interests, and influence.
Communication Objectives	Define clear objectives aligned with project goals, such as increasing awareness or managing expectations.
Communication Channels	Utilize various channels including formal meetings, written communication, collaborative platforms, and interactive sessions.
Communication Content	Tailor content to stakeholder needs, providing updates on milestones, progress, risks, and benefits.
Communication Schedule	Collaborate with EDW stakeholder calendars outlining the frequency, timing, and format of communication activities.
Roles and Responsibilities	Define roles for communication within the project team, including a designated communication lead.
Feedback Mechanisms	Implement mechanisms for soliciting feedback from stakeholders, such as surveys or feedback forms.
Change Management Communication	Develop targeted plans to support change management activities related to the project.
Monitoring and Evaluation	Monitor effectiveness through KPIs such as stakeholder engagement levels and feedback response rates.

The communication plan identifies communication recipients, the person responsible for communication, frequency of communication and communication method.

The Optum project charter defines the project communication plan for scrum meetings and meetings with the stakeholders. The project business analyst (BA) schedules business requirements review sessions with stakeholders as needed, while the project's Scrum Master is responsible for communications with the State stakeholders.

We will measure and report progress, task and milestone completion, budget adherence, and deliverable acceptance as appropriate. This will keep you up to date through open and transparent communications. Our project manager will facilitate ongoing communications across the Agency, other project stakeholders, and the Optum team.

The Optum project manager will generate weekly status reports for delivery to DST and will schedule and participate in status meetings to discuss overall project progress. We will post these status reports to the State SharePoint project repository for viewing by project stakeholders.

We will conduct joint weekly status review meetings with DST, where we will review the status reports and address any issues or concerns that DST may have. Optum understands the State may adjust the meeting frequency as needed, particularly when there is high degree of enhancement activities during a certain time. Optum personnel will also attend any ad hoc meetings requested by the State, including any meetings to provide executive project updates. If on-site attendance is necessary, the State will provide advanced notice. If presentation material is necessary, we will develop the required materials prior to the meeting.

We will use the State's weekly status report template, which includes the following:

- An executive summary summarizing project status
- The latest Project Schedules and status updates, including:
 - Activities completed in the past week
 - Activities planned in the next four weeks
 - Key accomplishments
 - Next week's milestones
 - Updated issues/logs with issues resolved during the reporting period
 - Updated risk logs with project risks
 - Risk impacts
 - Issue resolution/risk and mitigation strategies
- Maintenance and Operations phase specific:
 - Number of open helpdesk tickets/issues
 - Number of closed helpdesk tickets/issues
 - Milestone dates for ongoing development activities
- Planned application release and bug fixes
- Major tasks in progress
- Monthly count of received versus closed EDW helpdesk tickets
- Aging report of open helpdesk tickets
- EDW product backlog (user stories) status chart
- EDW product backlog by type chart
- Open action items statistics between Optum and CORE MMIS vendor

Optum will deliver weekly status reports by 5 p.m. each Tuesday. If the Tuesday is a State holiday, we will deliver the report the next business day.

Other status reports we will deliver include:

- **Monthly Service Level Agreement Report:** Report detailing the previous month's performance according to Service Level Agreements in RFP Sections 9.2.3.a and 9.3.a, or as agreed upon with DST. We will deliver monthly status reports for the previous month no later than the 10th of the month. If the 10th is on a weekend or holiday, we will deliver the report the next business day.
- **Quarterly Performance Report:** Report detailing deviations to SLAs for the past quarter and reasons for the deviations. We will deliver quarterly status reports for the previous quarter no later than the 10th calendar day of the current quarter. If the 10th is on a weekend or holiday, we will deliver the report the next business day.
- **Annual Summary Reports:** Annual reports for the previous year's performance will be delivered by the end of the first month in the New Year. If that day is a weekend or holiday, we will deliver the report the next business day.

Our project updates will include a dashboard of project health at various levels, using agreed-upon health indicators (generally red, green, and yellow) as shown in Figure 72.

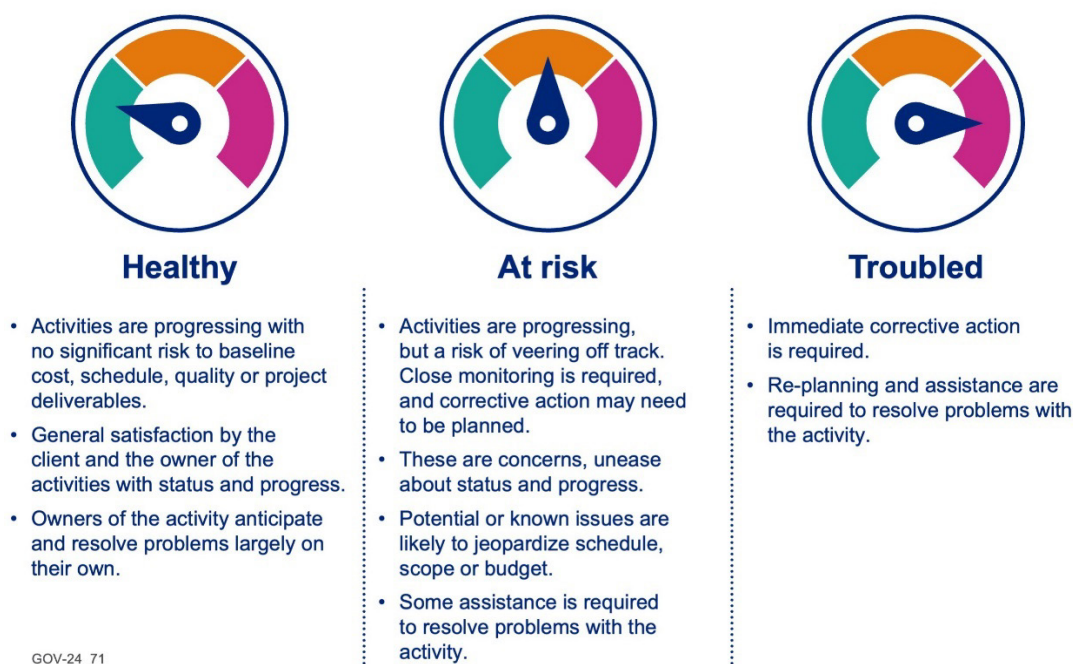


Figure 72: Project Health Status Example

Our weekly EDW Services project status reports will include a dashboard of project health at various levels.

Risk Management strategy for this project. Please detail risk and issue management processes and identify any tools used to help manage risks and issues. As part of your response, please identify key lessons and barriers your company has faced on projects of similar size, scope, and complexity. What mitigation and contingencies were put in place for those risks?

To increase efficiency in referencing project risks and decisions, the Optum project team creates and manages the Issues, Risks, Action Items, Assumptions, and Decisions (IRAAD) tool, housed on a Jira instance and exported to an internal SharePoint site. The Risk and Issue Management Plan governs the practices and processes behind this reference tool, which is an agreed-upon combination of the Risk Management Plan and the Issue Management Plan. The Risk and Issue Management Plan is a component of the overall PMP.

Optum documents, tracks and manages all assigned project issues, risks, action items, assumptions and decisions using the IRAAD tool. Optum updates and uses the SharePoint-based IRAAD tool to store and report on the status of all project issues being monitored.

Risk Strategy

1. Risk Identification for EDW/SSDW Projects:

- Identify potential risks related to data quality, data security, data integration, technology infrastructure, regulatory compliance, and business continuity.
- Utilize techniques such as data profiling, stakeholder interviews, and data lineage analysis to uncover potential risks.

2. Risk Assessment and Prioritization:

- Assess the likelihood and impact of identified risks on the data warehouse project.
- Prioritize risks based on their severity and potential impact on data integrity, project timelines, and business objectives.

3. Risk Mitigation Strategies:

- Implement data quality controls and validation processes to ensure the accuracy and reliability of data within the warehouse.
- Enhance data security measures through encryption, access controls, and regular security audits to protect sensitive information.
- Establish robust data integration processes to ensure seamless data flow from source systems to the data warehouse.
- Develop contingency plans and disaster recovery strategies to mitigate the impact of unexpected events such as system failures or data breaches.

4. Issue Management for EDW Operations:

- Establish protocols for identifying and addressing data anomalies, discrepancies, and inconsistencies in the EDW and SSDW.
- Work within our data governance frameworks to facilitate issue resolution and decision-making processes.
- Maintain our centralized repository for tracking and documenting data-related issues, their root causes, and remediation efforts.

5. Continuous Monitoring and Control:

- Utilize our monitoring tools and alerts to proactively identify potential data quality issues, security breaches, or performance bottlenecks.

- Conduct regular audits and reviews of EDW processes and controls to ensure compliance with State and CMS regulatory requirements and industry standards.
- Update risk assessments and mitigation strategies based on changing business needs, technology advancements, and evolving regulatory landscapes.

6. Communication and Reporting:

- Establish clear channels of communication between State and vendor stakeholders, IT teams, and business units to facilitate timely reporting of data-related risks and issues.
- Provide regular updates to DST and EDW key stakeholders on the status of risk mitigation efforts and any significant data-related incidents.

7. Learning and Improvement:

- Continue to foster a culture of continuous improvement by conducting post-implementation reviews and lessons learned sessions to identify areas for enhancement in EDW processes and risk management practices.
- Encourage knowledge sharing and cross-functional collaboration within DST and Agency stakeholders to leverage best practices and lessons learned from past experiences.

By implementing these detailed risk and issue management processes tailored to the unique requirements of the EDW environments, Optum can effectively mitigate risks, ensure data integrity, and maximize the value derived from the State's EDW data assets.

During the lifetime of EDW projects and through coordination with the State, Optum documents and tracks EDW project related risks and issues in an integrated approach with other Optum Hybrid Model Project components. Risks and issues are linked to selected user stories, tasks, defects, helpdesk tickets, and so forth. This approach provides a clear path to determining the impacts on project work (Product Backlog), estimates, and timelines.

<ul style="list-style-type: none">• How has your company used governance to resolve risks, issues, and barriers?

Project governance establishes policies and procedures that help in identifying risk, addressing issues and barriers to meet stakeholder objectives. Optum has effectively managed, aligned with business objectives, and delivered expected outcomes for the Indiana EDW project since its inception. We use a governance structure to clearly define the goals, scope, and expected benefits of the EDW project. This ensures that all stakeholders understand what the project aims to achieve and aligns efforts accordingly. Our commitment to governance extends to the definition of common measures used in decision-making and reporting. A close partnership with you will be critical to the success of the project. Together, we can achieve a solution that fits with your mission and vision. Our goal for the EDW Services project is to foster open communications, a spirit of cooperation, and a positive working environment. To work toward a shared vision, we propose a governance structure, as Figure 73 shows.

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Our approach is multi-layered. The project vision, direction, and priority setting flow down from the top-most Strategic Governance layer. Below the Strategic Layer is the Managerial Layer where the planning, monitoring, and controlling of work will occur. Our project manager will be your primary point of contact. He will conduct status reviews, escalate issues or risks to you, and demonstrate progress toward your EDW Services objectives. The final governance level is Operational Governance. This is where the day-to-day activities of the project take place to accomplish the work of implementing and operating the EDW Services solution. Our layered governance approach will pave the way for frequent and candid communication, clear decision/priority setting and escalation paths, timely issue resolution, and early identification of risks.

Project governance will bind the core functions of our processes together. We will use it to identify, prioritize, track, and manage changes within the EDW project. Using the Optum Hybrid Model, prioritization of M&O tasks and EDW enhancements will flow down from the Strategic Governance Layer to the appropriate levels within the FSSA and Optum EDW Services teams. This approach promotes scalable, open, and honest communications, transparency, and keeps all parties concerned informed of priorities, decisions, and project status.

- **Quality Management Plan. Please provide roles, responsibilities, tools, etc.**

We employ proven quality management, control, and monitoring practices endorsed by the PMI and in our work for government agencies that we have achieved success using. We train our staff continuously in these important processes and practices. We use Agile Scrum Daily Calls to detect impediments and work on removing those blocks so the Scrum Team members can complete their tasks as planned. Throughout the scope of the EDW Services project, we will perform regularly scheduled quality assurance checks. This is done to make sure the data and

all other daily tasks adhere to a set of quality standards. Our goal is to assist in proactively identifying potential risks associated with the project or any project lags.

During the planning phase of the project, we produce a quality management plan (QMP) from the product backlog, sprint backlog, and release log. This will describe the activities, milestones, deliverables, and other quality processes necessary to make certain that our services meet Indiana requirements and Optum quality standards. QMP activities will include definition and standards, communication, roles and responsibilities, document control, process tracking, budget and schedule quality, continuous improvement, reporting and training. Our QMP will integrate the functions of change control, risk management, and issue management with those of quality assurance and quality control to provide consistent quality across the project. Figure 74 shows how our quality management components are incorporated into the QMP, and how they interact with other project management areas within our overall project management approach.

By integrating quality management with other components of project management, we will provide a framework for verifying our work product aligns with your expected outcomes throughout the project lifecycle.

Our quality practices are tracked with metrics data sets, which drive management reporting, executive dashboard, and KPIs. Our QMP provides the building blocks for relevant, reliable quality measures of the schedule and project. A well-built and maintained schedule provides input to key metrics.

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- c. Provide an example of a high-level Project Schedule for this project. This should include your company's tasks, sub-contractor owned tasks, and State-owned tasks in an integrated fashion.**

Optum has developed a high-level Project Schedule that expands upon the transition strategy and defines all the Optum-owned, Optum subcontractor-owned, and State-owned tasks, subtasks, and interdependencies. It also includes the list and descriptions of milestones and deliverables required as part of the EDW program. We use the Project Schedule to monitor,

track, and report transition progress to FSSA. The approved Project Schedule is a living document. The elements of the approved work plan may be adjusted or updated as part of transition execution. This living document will be managed by Optum and accessible to all authorized parties. Figure 75 below shows a high-level timeline of the EDW Project Schedule. Our detailed proposed Project Schedule is included with our Response in Appendix_Section 12c_Project Work Plan Schedule.

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- d. Describe your company's approach to the Change Management/Change Control process per the requirements outlined in Section 5.4. Explain how you will gather the information and expertise needed to create an accurate Change Request.

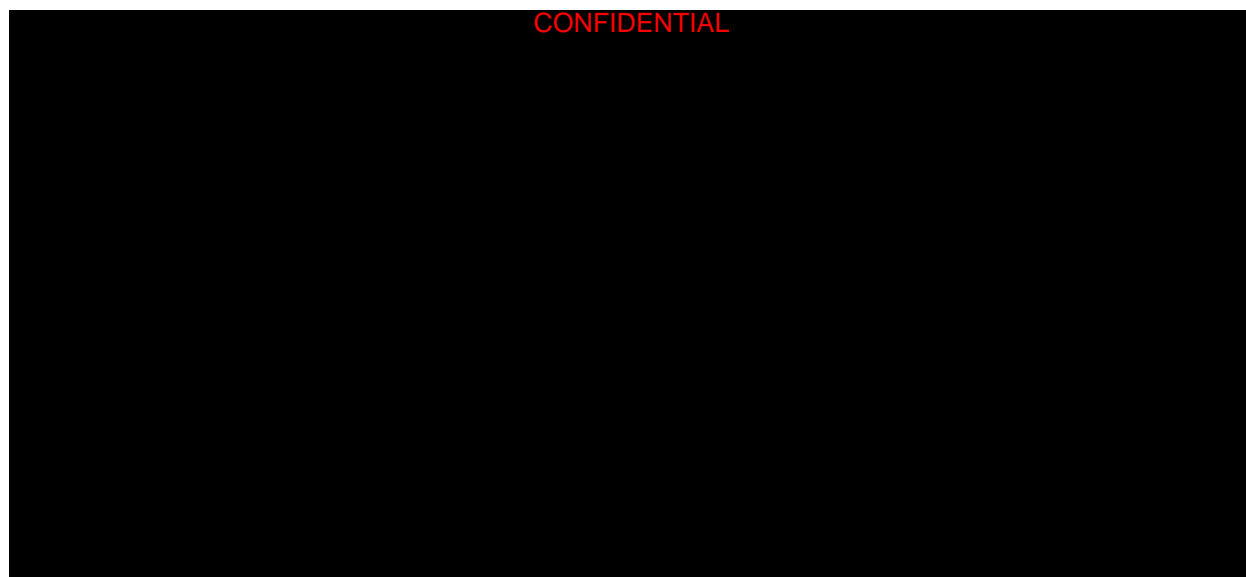
Optum Change Management Process (Attachment K, 5.4)

Change is a common occurrence in the project lifecycle, especially in complex system configuration and business process implementation projects, such as the State of Indiana's EDW Services project. Change management is critical to control project schedules, cost, and quality, and ultimately to deliver services that meet your requirements and satisfaction. All changes, enhancements, and updates to the EDW module components, workflows, and

business processes undergo the same change control rigor. In this way, we enhance the implementation success and remove any negative impacts to other module components. We use Jira to document and track change requests in complete collaboration with the State.

The Change Request (CR) Sample screen shows comprehensive information that can be captured for each change request based on State request and workflow status. The CR can link to one of the SDLC phases (initial, requirements, analysis, design, coding, testing, implementation, or post implementation). The CR can also be linked to your MMIS vendor's change requests for cross-referencing with CORE MMIS change requests. The CR can link to any Jira ticket types (e.g., project charter, user story, issue, risk, helpdesk, test case, defect).

Figure 76 provides an overview of our Change Management Process.



Our Change Management Process will include the following activities:

- Optum will analyze, size, and provide proposal/cost estimates for requested changes.
- The State will review estimates and either approve or disapprove changes based on estimates, priority, and other factors.
- The State will clarify priority and impact on existing enhancements and other change requests.
- Optum will work with the State to update appropriate project control artifacts.
- Optum will work with the State to communicate status to stakeholders.
- Both the State and Optum will monitor outcomes.

Figure 77 provides a change request workflow using Jira Agile tool.

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Optum will coordinate with the State on the change request status and process. The workflow shows the actions and status transitions based on requests and feedback from the State. Version and tracking history will be captured in Jira from the creation of a change request, CONCEPT, to the completing the change request, CLOSED, DEFERRED, or CANCELLED.

Optum is focused on government health care, Medicaid, and social services programs. We understand these are dynamic business areas that are regularly affected by governmental policy changes at the federal, state, and local level. We regularly assist our clients in identifying policy changes at these various governmental levels that can affect our services to each client. We will assist the State as needed in assessing the impacts of policy changes.

We design our solutions to respond efficiently and effectively to the need for changes stemming from the ever-increasing complexity of the Medicaid and social services environment brought about by policy changes. This includes the use of configurable, COTS-based solution components that enable changes to be implemented through configuration versus custom development. We will actively participate in the change evaluation process for the State and analyze and understand the impact of all changes regardless of the originating party.

Optum understands that all proposals for change must be initiated through a change request, and that any document resulting from the change request will be binding upon the agreement and signature of all associated parties. As required by the RFP, Optum will:

- Adhere to the State's Change Management Process and requirements, including but not limited to, review and approval of change requests being released into production, including post-implementation review changes
- Develop an impact analysis as part of enhancement proposals that includes estimates for effort, resources, timing, cost, and impacts to system
- Adhere to the Information Technology Infrastructure Library (ITIL) standards associated with change management activities – Request for Change
- Submit a change request for any identified deficiency within three business days or within a time frame defined by the State
- Provide adequate planning to accommodate the State and any impacted vendors
- Maintain the change request process so that the process and testing results comply with specified quality and timeliness standards
- Provide a weekly report that includes a listing of each outstanding change request, along with the State's requested documentation

Changes to system software, application software, system hardware, and business processes will be subject to the approved Change Management Process. As is customary for change management processes, we will evaluate and analyze proposed changes, including developing estimates of effort, resources, cost, time, and other influences. This information is critical for the approval and prioritization processes, all of which we will collaborate with you to attain approval.

Change evaluation criteria

The change evaluation criteria, in collaboration with the State, defines the boundaries, thresholds, or range within which change requests will be accepted, deferred, or rejected. The evaluation of change requests is a vital part of controlling changes. All change requests are evaluated, and the method in which change requests are evaluated will depend on their importance and urgency. The following are typical change request (CR) evaluation and prioritization criteria:

Major changes

- Represent significant change to the approved scope
- Affect requirements or work items on the critical path, delaying significant milestones or the overall project end date by duration (e.g., 10 business days or more) or a certain time percentage (e.g., more than 3%)
- Require additional funding whether in dollars (e.g., \$50 thousand or more) or percentage of budget (e.g., more than 12%)
- Must be documented as a CR and go through the change control process

Minor changes

- Do not significantly affect the schedule; do not extend the completion date of milestones or tasks with project dependencies
- Have no negative financial impact; no project budget variance will occur as a result
- May not be documented as a CR

Questions to consider

- Does this change add to or alter the requirements?

- What local, state, or federal policies impact the change?
- Is there a workaround, or is this change necessary for the project's overall success?
- Does this change require an increase in funding?
- Will this delay the project end or enhancement release dates?
- Even though this change may have a negative impact on this project, does it result in significant business upside that makes it worthwhile?
- Does enacting this change now make more sense than delaying it? Will the delay cost more money in the end?
- Have all the affected stakeholders been considered, and do they endorse the change?
- Are there contractual ramifications to consider?

Change evaluation methods

- Initial review and evaluation of the newly submitted CR via Jira workflow and email
- Detailed review during a formal change board meeting of the updated CR, including team analyses, workaround plan, impacts, and sizing

e. Confirm your understanding and acceptance of the requirements of Section 5.4.

Optum understands and acknowledges that routine changes made in the ordinary course of our provision of services defined within the scope of the contract, such as changes to operating procedures, schedules, equipment configurations, will be made at no additional cost to the State. We agree that examples of routine changes included in the routine maintenance of the EDW solution are to be performed at no additional cost to the State:

- Activities necessary for the EDW to (a) function in compliance with federal and State laws and administrative rules, the State Plan, State waivers, State policies, and the operating manuals in effect at the time of proposal submission, and (b) to correct deficiencies found after implementation of modifications. The State expects the EDW to maintain continual federal and State regulation compliance.
- Activities necessary to comply with new industry standards and operating rules associated with those standards.
- Activities necessary for the system to meet the contractual performance requirements.
- Activities necessary to make sure that data, tables, programs, and documentation are current and that errors are found and corrected.
- Data maintenance activities for updates to tables, including database support activities.
- Changes to scripts or system parameters concerning the frequency, number, sorting, and media of reports.

Optum agrees that all change requests are considered either covered under the Software Warranty or are no cost maintenance change requests unless the State approves additional compensation through the change control process. Determination of such status, including Optum dispute, will not delay the change request's implementation.

We will provide EDW Services that fully comply with the requirements and deliverables set forth in the contract. Optum understands that State approval of work products associated with the responsibilities, requirements, and deliverables does not in any way relieve Optum from full

financial responsibility if the work product does not meet the State's requirements, as set out in the RFP and the subsequent contract.

f. Describe your company's plan to perform the Quality Management responsibilities outlined in Section 5.5.

The Quality Management Process (QMP) will be reviewed and approved by DST before implementation. By integrating quality management with other components of project management, we will provide a framework for verifying that our work product aligns with your expected outcomes throughout the project contract.

Quality Monitoring

The QMP will define the quality control monitoring activities on which we will mutually agree. We will perform these activities as scheduled to evaluate adherence to processes, procedures, and standards. This will involve reviewing and auditing the activities and deliverables to verify compliance.

The QMP will establish all quality control and monitoring activities appropriate to project planning, problem tracking and reporting, configuration management, training, and operations. We will perform quality checks throughout the project in the form of secondary deliverable reviews, customer satisfaction surveys, and peer and management reviews. These activities will combine with quality checks in the form of inspections, walkthroughs, and peer and management reviews. We will not consider any deliverable complete until we conduct all pre-requisite quality checks. Ideally, strategically placed quality monitoring will minimize unplanned rework.

We will also use quality control for technical activities throughout the project. These methods include test strategies, plans, scripts, software defect tracking, deliverable walkthroughs, peer reviews, and configuration management. We will monitor the quality of the program each month according to our processes to assure timely communications, quality performance, and to employ process discipline for the project.

Our quality practices are tracked with metric data sets, which drive management reporting, executive dashboard, and key performance. You will have access to this information through the portal dashboard. We have a record of proactively identifying and resolving quality issues throughout operations for our customers. Our testing and quality management activities will help us reduce the occurrence of failures and demonstrate continuous improvement. Additional measures we will take to identify and resolve issues during operations for you include the following:

Effective risk management: We base our approach to risk management on identifying possible setbacks or roadblocks as early as possible. This strategy combines our well-defined processes with the experience of our delivery team to help us identify risks that can generate issues. Our approach is to apply stringent and strategic controls. We do not just monitor to identify issues. We proactively address risks so that the likelihood of the risk becoming an issue is reduced.

Data quality issue identification: Our EDW solution architecture anticipates new source systems and insulates existing operations and workloads from potential harms relating to poor data quality. Through a combined State and Optum data stewardship role, the data ingestion process will identify quality issues at the onset and take corrective action to confirm that loads occur as scheduled and prevent adverse reporting impacts. We will also validate loads before they transition to production.

Early quality issue detection and correction: As part of the Optum Hybrid Model, we will proactively support detection and correction of quality issues as new EDW solution components are considered, designed, and introduced.

Enterprise performance management: Our enterprise performance management approach helps us predict and optimize services and system performance. Poor performance of services and systems can result in quality issues. We accomplish efficient system utilization and superior service responsiveness by monitoring performance indicators, such as response times, resource utilization, demand and contention, and queue lengths. We analyze the data and proactively tune the system and services to achieve the maximum possible efficiency, responsiveness, and throughput. Our standard monitoring tools measure and report on performance standard metrics.

Performing these measures will help us deliver an EDW solution that complies with our rigorous quality practices and is fully compliant with your quality and performance requirements.

This process, along with the data quality tool, enables data profiling, cleansing, and reconciliation across multiple sources and subsequent monitoring of new data creation. The tool is completely integrated with the Informatica PowerCenter application, verifying that all incoming data is thoroughly cleansed and then loaded into the ETL process for loading. The tool focuses on proven data integration connectivity, enabling easy access and cleansing of any data in any source. This includes partner and legacy systems. A single, configurable development environment is used to manage quality across all data domains, including customer, product, financial, and asset. All rules, reference data, and processes can be reused for data migration, data consolidation, master data management, and data governance projects.

We will use the EDW solution data quality component to generate and support virtual views as new data models. This tool empowers business analysts and data stewards to easily profile data and monitor data issues on an ongoing basis with browser-based tools designed especially for them. It allows ETL developers to rapidly discover and analyze data using pre-built rules and a single, unified development environment to reuse data profiling results across projects, boosting productivity and eliminating errors.

The EDW solution data quality component uses and incorporates automated rule sets within the actual development process. With Informatica Developer, architects and developers can combine data quality rules with sophisticated data transformation logic and conduct midstream and comparative profiling to validate and debug logic as it is developed. Data quality services can be configured so that data can be provisioned physically or virtually and at any latency. Informatica Developer enables ETL developers to reuse all profiling and rule specifications from business analysts and data stewards across all applications and projects.

Proactive Monitoring for Informatica PowerCenter and Data Quality tools have a facility that allows for a visual examination of all data quality rules and transformation processes. An easy-to-use, Web-based, real-time alert dashboard organizes and prioritizes alerts. This dashboard requires no customization.

From this dashboard, the ETL operations team can respond to the alert immediately by fixing the issue directly, forwarding the case for resolution, or creating a trouble ticket.

The EDW solution data quality component provides a set of preconfigured, out-of-the-box data quality monitoring rules and templates that can be easily activated and customized without jeopardizing any operational systems. Templates cover:

- Completeness check – Maximum null count
- Conformity check – Maximum pattern count
- Value count check – Maximum value count

From these templates, hundreds of rules can be generated on specific fields. The rules customization feature is intuitive.

The EDW solution data quality component employs two powerful tools to assist in capturing and displaying data quality issues. These tools are Informatica Analyst and Informatica Developer.

Informatica Analyst enables data profiling and analysis with the flexibility to filter and drill down on specific records for better detection of problems. Authorized users can readily monitor and share data quality metrics with scorecards and reports by emailing a URL to colleagues. Specification, validation, configuration, and testing of quality rules become streamlined, improving collaboration between business and IT.

Informatica Developer enables architects and developers to quickly discover and access all data sources, regardless of whether those sources are on premise or in the cloud, to improve the process of analyzing, profiling, validating, and cleansing data. With Informatica Developer, architects and developers can combine data quality rules with sophisticated data transformation logic and conduct midstream and comparative profiling to validate and debug logic as it is developed.

IDQ includes a set of unified, role-based data discovery and profiling tools for quickly identifying critical data problems hidden across the enterprise. Powerful and versatile, these tools help assess which data quality problems affect the operation the most. Quality designations include:

- **1st Level Quality:** Valid values will be used in the basic transformation process to ensure that empty or null columns are not allowed. Data quality rules will make certain that all columns contain values that meet specific criteria.
- **2nd Level Quality:** Data quality rules will enforce valid values once transformation is occurring (as stated for Level 1).
- **3rd Level Quality:** Duplicate record checking is part of the master data management facility of data quality. It assists in integrating and eliminating duplicates.
- **4th Level Quality:** Identify dependent relationships is part of the master data management facility of data quality, performing the linking and matching tasks that assist in the building of the master indexes.

Taken together, our proposed solution will exceed your expectation to monitor the software, systems, and processes for quality and quality assurance assessment.

As a part of our quality management responsibilities, Optum will:

- Develop QA functions to regularly monitor performance and compliance of each business process managed by Optum.
- Assign staff members to conduct the QA process who are independent of those performing the work.
- Work on quality assurance as directed by the State.
- Develop an approved Quality Management Plan that focuses on being proactive and preventing problems rather than allowing problems to occur, and making sure work products and deliverables meet business objectives, end-user expectations, and defined requirements.
- Provide information about the impact of a system deficiency, the proposed action plan, and describe any appropriate workaround to appropriate State stakeholders.

- Provide a well-researched and clearly explained root-cause analysis (RCA) for any issue including, but not limited to, a description of the problem, action plan to be taken, and measures that will be taken to prevent such a problem in the future. The written root-cause analysis (RCA) will be provided within seven calendar days of the resolution of the situation addressed by the RCA.
- Develop monthly QA reports that summarize the quality assurance activities performed during the month.
- Report results of any State-required audit within 30 calendar days of the audit, providing our detailed response, including actions we will take to correct any negative findings.
- Implement Corrective Action Plans (CAPs) as needed to correct quality concerns.
- Complete all necessary corrective measures within 90 calendar days of receipt of the audit findings or on a schedule agreed to by the State.
- Provide a report within 90 calendar days of receipt of the audit or on a schedule agreed to by the State detailing the corrective measures undertaken to respond to audit findings.

We will define, implement, and conduct all necessary quality management activities to provide ongoing quality products and services to the State.

g. Describe your company's plan to perform the Management Reporting responsibilities outlined in Section 5.6. and any reporting tools and/or templates you plan to use to deliver the reports detailed in Section 5.6.

The cadence and style of all formal communication is noted in the EDW Operations Manual. The EDW Operations Manual is updated annually and provided to the State for their approval.

Any changes or updates to the management reporting responsibilities would first be discussed with the State and then notated in the EDW Operations Manual. The following reports are provided currently:

Weekly Status Report

Optum project manager will generate the weekly status report and send it to the State by 5 p.m. Tuesday. If Tuesday is a state holiday, we will deliver the report on the next business day. The weekly status report focuses on the general health of the project-related work, including:

- Major accomplishments
- Project health check
- Next week's milestones
- Project issues and risks
- Project risks and mitigation strategies
- Major tasks in progress
- Helpdesk metrics and aging charts
- Product Backlog status progress chart
- Configuration and Release log

We can include additional information in the weekly status report based on the State's request.

Weekly Medicaid Enterprise Changes (EMC) Status Report

Optum project manager will generate this weekly report that includes product backlog updates and open action item statuses between Optum and the CORE MMIS vendor. We will submit the EMC status report two days prior to the meeting with the State to provide adequate review.

Monthly Operations Report

We will generate the Monthly Operations report detailing the previous month's performance in accordance with Service Level Agreements. We will deliver the report by no later than the 10th of the month. If the 10th is on a weekend or holiday, the report will be due the next business day. The report will include the following information:

- EDW overall metrics for the month
- Weekly load status
- System availability
- Weekly data extract status
- Monthly data extract status
- Annual/Ad hoc data extract status
- Teradata storage metrics
- EDW current software inventory
- Helpdesk management report

Quarterly Performance Report

We will generate the Quarterly Performance report detailing deviations to SLAs for the past quarter and reasons for the deviations. We will deliver the Quarterly status report for the previous quarter by no later than the 10th calendar day of the current quarter. If the 10th is on a weekend or State holiday, the report will be due the next business day.

Annual Summary Report

We will deliver the Annual Summary report for the previous year's performance by the end of the first month in the New Year. The report will provide the following information:

- Previous years' key achievements
- EDW operations metrics
- Helpdesk management report
- Change management report
- Next year's roadmap

h. Include a sample SLA reporting template that aligns with the requirements described in section 5.6.

Meeting your SLA expectations is fundamental to the success of our partnership. SLA metrics represent the heartbeat of your EDW, and our goal is to measure continuously and to maintain operations in alignment with SLA objectives. We have built and employed a comprehensive performance management approach to verify ongoing performance and compliance with SLAs.

Currently, our resources support the necessary service-response requirements for the EDW. Since the initial implementation of your current EDW, we have provided the capability to track, monitor, and report on events to meet required incident resolution times. Additionally, we developed and continue to manage performance measures linked to achieving your EDW services business objectives. During a new contract, our Platform Administrator and team will continue to identify and collect the performance metrics required to effectively control project activities for both SSDW and EDW environments. The team will verify that our M&O performance complies with your requirements.

Our communications approach provides transparency and a continued shared understanding of the overall health of your system and performance against SLAs. As needed, we will enhance measurement and reporting systems for all new SLAs and continue to report on service level indicators for system availability, response time, and other agreed upon SLA metrics. In addition, we will continue to provide an exception log to identify and track any issues encountered. We will work closely with your appropriate staff to manage and document the steps taken to resolve incidents. Figure 78 below shows a sample SLA reporting template being used by Optum on the current EDW program today.

2 Service Level Agreement Dashboard April 2024

SLA #	Key Service Level Agreement	Threshold for Compliance (Reported Monthly)	EDW Achieved	EDW Breached	Percentage of compliance
1	System uptime. Maintain system uptime against a 24-hours per day, 7 days per week operating schedule, excluding maintenance time. Note: Any maintenance exceptions should be either for a standing window (such as 2 a.m. to 4 a.m. on Sundays) or require written pre-approval from the State.	99.99% uptime other than scheduled maintenance time	720 hrs	0	100.00%

Figure 78: Sample SLA Report Template

We developed and continue to manage performance measures linked to achieving your EDW services business objectives.

We will provide you with monthly metrics that monitor and report our performance against the problem resolution time matrix set forth in the RFP. Our monthly reports will include details about the source of failures and the entity responsible for their resolution. For SLA failures caused by events within our scope of control and services, we will continue to fully document the root cause and the corrective action plan to prevent recurrence.

For ongoing M&O services, we will work with you to capture, understand, and agree upon any new or updated Service Level requirements and their respective thresholds. We have developed methods and procedures to monitor and calculate the EDW performance compared to the SLA thresholds defined in the RFP. We will enhance existing processes and procedures as needed to meet any new, mutually agreed upon EDW SLAs.

As part of our validation activities, we will continue to provide monthly, quarterly, and annual SLA tracking reports in addition to all supporting documents. These reports and all materials and work products associated with the EDW Services, including staff time reports, staff status

reports, staff calendars, agendas, meeting notes, charters, and the SSDW Request Tracker are available to you on designated shared repositories.

The following table lists the SLAs defined in Attachment K, Section 8. We respond individually to each to provide traceability for the services we propose and which we currently maintain for the EDW. Going forward, we suggest an annual SLA review to assess the effectiveness of existing SLAs and to determine if new or adjusted SLAs are needed given the dynamic nature of your business and the technology landscape and then mutually agree upon any new or adjusted SLAs.

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15. Service Level Agreements

(Attachment K, Section 8)

a. Explain how you will meet the M&O, Enhancements, and Other Service Levels listed in Section 8.

For ongoing M&O services, we will work with you to capture, understand, and agree upon any new or updated Service Level requirements and their respective thresholds. We have developed methods and procedures to monitor and calculate the EDW performance compared to the SLA thresholds defined in the RFP. We will enhance existing processes and procedures as needed to meet any new, mutually agreed upon EDW SLAs.

As part of our validation activities, we will continue to provide monthly, quarterly, and annual SLA tracking reports in addition to all supporting documents. These reports and all materials and work products associated with the EDW Services, including staff time reports, staff status reports, staff calendars, agendas, meeting notes, charters, and the SSDW Request Tracker are available to you on designated shared repositories.

b. Describe your process for identifying, prioritizing, and communicating problems that are contributing to a failure to maintain Service Levels.

Currently, our resources support the necessary service-response requirements for the EDW. Since the initial implementation of your EDW, we have provided the capability to track, monitor, and report on events to meet required incident resolution times. Additionally, we developed and continue to manage performance measures linked to achieving your EDW services business objectives. During a new contract, our Platform Administrator and team will continue to identify and collect the performance metrics required to effectively control project activities for the full scope of the EDW solution. The Optum team will verify that our M&O performance complies with your requirements.

Our communications approach provides transparency and a continued shared understanding of the overall health of your system and performance against SLAs. As needed, we will enhance measurement and reporting systems for all new SLAs and continue to report on service level indicators for system availability, response time, and other agreed upon SLA metrics. In addition, we will continue to provide an exception log to identify and track any issues encountered. We will work closely with your appropriate staff to manage and document the steps taken to resolve incidents.

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c. Describe best practices or considerations for the State related to service levels based on your experience in similar projects.

For more than 30 years, we have been a leading provider of EDW solutions and services to the government Medicaid and social services industry. This includes our EDW management and operations services to the State of Indiana FSSA for the past 12 years. This experience gives us an ability to provide a preemptive approach to meeting and exceeding Service Level requirements.

Our Optum Hybrid Model has been used with many data management clients. It has been successful because we have mechanisms in place to manage activities, assess status, and communicate our combined progress with the project. Our approach provides a disciplined operations methodology, ITIL-based Service Management, and a PMBOK-driven structure for managing activities, assessing status, and communicating with you and other EDW stakeholders. We will use Jira, a COTS product, for end-to-end Project Portfolio management. This provides an efficient and cohesive process flow across all phases of the project deliverables and timely transparency of all systems and services.

As a best practice, during contract negotiations and the initial phases of start-up, we will meet with you to validate methods and procedures to monitor and calculate the performance of the EDW compared to the performance measures established in the Contract or as mutually agreed upon. The initial step in establishing State-approved methods and procedures will be to document mutually agreed upon definitions for key terms in the Performance Measures. After establishing agreed upon definitions, we will finalize the deliverables that define the methods and procedures to monitor and calculate the performance of the EDW services.

Our status reports provide detailed information to enable you to make informed decisions, stay on top of progress, and take quick action. We will also provide added focus to our continuous process improvement and optimization efforts. Our goals for Maintenance and Operations are to first increase EDW services stability by preventing defects from occurring. Secondly, we seek to improve and optimize EDW services to promote cost savings and share ideas for greater business process efficiencies.

We will verify ongoing project status performance and compliance with mutually established project management SLAs.

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d. Confirm your understanding and acceptance of the compliance thresholds in Sections 8.

We agree to meet all Service Level Agreement (SLA) requirements specified in RFP Attachment K; Section 8 based upon our understanding as described below. Meeting your SLA requirements is fundamental to the success of our partnership. The following table lists the SLAs defined in Attachment K, Section 8. We respond individually to each to provide traceability for the services we propose and which we currently maintain for the EDW. Going forward, we suggest an annual SLA review to assess the effectiveness of existing SLAs and to determine if new or adjusted SLAs are needed given the dynamic nature of your business and the technology landscape and then mutually agree upon any new or adjusted SLAs.

SLA Compliance Response

SLA#	Key Service Level Agreement	Threshold for Compliance (Reported Monthly)
1	<p>System Uptime. Maintain system uptime against a 24-hours per day, 7 days per week operating schedule, excluding maintenance time.</p> <p>Note: Any maintenance exceptions should be either for a standing window (such as 2:00 A.M. to 4 A.M. on Sundays) or require written preapproval from the State.</p>	99.99% uptime other than scheduled maintenance time
	<p>Optum Response: We will maintain your required system uptime for the Teradata systems and applications, which fully reside within the EDW Contractor's scope of services. For other systems which depend upon services and infrastructure supplied and operated by multiple owners, such as IOT, we will work with you and the appropriate constituents to define the plans and procedures necessary to maintain your overall uptime requirement, however, we will not be responsible for maintaining the availability to the extent caused by such components. We also will work with you and appropriate stakeholders to agree on maintenance exceptions during a standing window or with written pre-approval from the State. Additional details regarding how Availability is measured and the proposed exceptions, including maintenance window exceptions are set forth in Appendix 4, Teradata Cloud License Terms inside of Appendix 2.3.6_Alternative and Supplemental Contract Terms_Att B_Att B.2 to our Business Proposal.</p>	
	<p>How Data is Collected: We continuously monitor events and system performance with our extensive monitoring and logging capabilities in Teradata, Informatica, and Cognos. These monitors give administrators both a global system view and the capability to drill down to individual components. Both Informatica and Cognos have their own monitoring and logging functions, on which we report. We designed the system for high availability against a 24-hour day, seven days per week operation, except for scheduled downtime to meet your requirement of maintaining a system uptime of 99.99% or better.</p>	

SLA#	Key Service Level Agreement	Threshold for Compliance (Reported Monthly)																									
2	Response Timeliness. Provide response time compliance for user requests, incidents, defects, and bugs based on Severity Code timeliness standards outlined in Section 9.2.2.	98% of total measured response times are met For example, if there are 25 items opened in a month that equates to 100 response time measurements (25 items X 4 response stages). The Contractor must meet the response times for at least 98% of these measurements in the month.																									
	Optum Response: We will comply with meeting the 98% compliance threshold for the total measured response times to user requests, incidents, defects, and bugs based on Severity Code timeliness standards. Our integrated staff of clinical, business, and technical experts will be available to answer service requests. The Service Desk will oversee triage and ticket assignments to effectively track and provide timely, accurate responses that meet the State’s SLA requirements. We will leverage Jira for triage, prioritization, resolution and generating total measured reports on response time for all user requests, incidents, defects, and bugs.																										
	How Data is Collected: We leverage Jira for tracking response timeliness. To meet this SLA, Jira tracks the 4 measured response times for each service desk ticket by the severity code.																										
	<table><tr><th>Severity Code</th><th>Initial Response</th><th>Estimation Response</th><th>Delivery of Update (if there is an update)</th><th>Resolution Completion (unless otherwise approved by the State)</th></tr><tr><td>1-Critical</td><td>15 minutes</td><td>2 hours</td><td>Every 2 hours</td><td>4 hours</td></tr><tr><td>2-High</td><td>30 minutes</td><td>2 hours</td><td>Every 2 hours</td><td>8 hours</td></tr><tr><td>3-Moderate</td><td>1 hour</td><td>8 hours</td><td>Every 4 hours</td><td>4 calendar days</td></tr><tr><td>4-Low</td><td>1 hour</td><td>Next business day</td><td>Weekly</td><td>20 calendar days</td></tr></table>		Severity Code	Initial Response	Estimation Response	Delivery of Update (if there is an update)	Resolution Completion (unless otherwise approved by the State)	1-Critical	15 minutes	2 hours	Every 2 hours	4 hours	2-High	30 minutes	2 hours	Every 2 hours	8 hours	3-Moderate	1 hour	8 hours	Every 4 hours	4 calendar days	4-Low	1 hour	Next business day	Weekly	20 calendar days
Severity Code	Initial Response	Estimation Response	Delivery of Update (if there is an update)	Resolution Completion (unless otherwise approved by the State)																							
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2-High	30 minutes	2 hours	Every 2 hours	8 hours																							
3-Moderate	1 hour	8 hours	Every 4 hours	4 calendar days																							
4-Low	1 hour	Next business day	Weekly	20 calendar days																							
3	Resolution Timeliness. Resolve opened incidents in the required timeframes to the satisfaction of the State	99% of opened incidents resolved on time																									
	Optum Response: We will comply with meeting the 99% compliance threshold for the total measured resolution time of incidents that do not have external dependencies in the required timeframes to the satisfaction of the State, as defined below. Resolution time shall correspond to the severity level of the incident, unless, for a specific incident, Optum and the State mutually agree to a longer resolution time after consideration of all relevant facts and circumstances. In addition, Optum and the State shall mutually agree upon the objective standard by which resolution shall be measured, where resolution shall be deemed to have met the State’s satisfaction where such mutually agreed upon objective criteria have been met for the applicable incident. The objective criteria may include a temporary work around, fix or more permanent change that permits the Solution to operate in accordance with its specifications. We will leverage Jira for triage, prioritization, resolution and generating total measured reports on response time for all user requests, incidents, defects, and bugs.																										

SLA#	Key Service Level Agreement	Threshold for Compliance (Reported Monthly)										
	<p>How Data is Collected: We leverage Jira for tracking measured resolution timeliness. To meet this SLA, Jira tracks the measured resolution times for each service desk ticket by the severity code.</p> <table><tr><th>Severity Code</th><th>Resolution Completion (unless otherwise approved by the State)</th></tr><tr><td>1-Critical</td><td>4 hours</td></tr><tr><td>2-High</td><td>8 hours</td></tr><tr><td>3-Moderate</td><td>4 calendar days</td></tr><tr><td>4-Low</td><td>20 calendar days</td></tr></table>		Severity Code	Resolution Completion (unless otherwise approved by the State)	1-Critical	4 hours	2-High	8 hours	3-Moderate	4 calendar days	4-Low	20 calendar days
Severity Code	Resolution Completion (unless otherwise approved by the State)											
1-Critical	4 hours											
2-High	8 hours											
3-Moderate	4 calendar days											
4-Low	20 calendar days											
4	<p>Extracts Accuracy/Timeliness. Conduct inbound and outbound file exchange in accordance with approved requirements accurately and on time</p>	<p>100% of total measured inbound and outbound exchanges reports are accurate and completed on time*</p> <p>Any detected inaccuracies will be corrected on a schedule based on critical nature of the deviation as determined by the State</p>										
	<p>Optum Response: We will conduct inbound and outbound file exchange in accordance with approved requirements accurately and on time with 100% of total measure accuracy and timeliness. We will provide routine reports outlining the performance and accuracy of all data extracts as we do currently with our Quarterly Attestation Letter.</p>											
	<p>How Data is Collected: Optum tracks and reports all inbound and outbound files exchanged weekly. The weekly report logs the vendor, delivery mechanism and frequency, the SLA expected completion time, actual completion time, and number of expected files vs number of files delivered. This report is uploaded to FSSA’s SharePoint site each week.</p>											
5	<p>Recurring Reports Accuracy/Timeliness. Produce recurring reports in accordance with approved requirements accurately and on time (Any unapproved deviation from timeliness and accuracy standards will be corrected on a schedule based on critical nature of the deviation as determined by the State)</p>	<p>100% of reports are accurate and delivered on time*</p>										
	<p>Optum Response: We will maintain 100% accuracy and timeliness for EDW recurring reports in accordance with approved requirements. We will provide routine operations reports detailing the performance and accuracy of all recurring reports.</p>											
	<p>How Data is Collected: Optum tracks and reports all recurring report schedules weekly. The weekly report logs the vendor, delivery mechanism and frequency, the SLA expected completion time, actual completion time, and number of expected files vs number of files delivered. This report is uploaded to FSSA’s SharePoint site each week.</p>											

SLA#	Key Service Level Agreement	Threshold for Compliance (Reported Monthly)
6	<p>Ad Hoc Reports Accuracy/Timeliness. Produce ad hoc reports in accordance with timeline associated with the State's assigned level of urgency – see Section 3.2.3.5 (Any unapproved deviation from timeliness and accuracy standards will be corrected on a schedule based on critical nature of the deviation as determined by the State)</p>	100% of reports are accurate and delivered on time*
	<p>Optum Response: We will produce ad hoc reports in accordance with timelines associated with the State's assigned level of urgency with 100% accuracy and timeliness. Ad hoc reports are submitted via our helpdesk with a requested completion date. We create user stories, determine the level of effort, and identify a release based on resource capacity. If the projected release date exceeds the State-requested date, we will notify the State and ask for a revised delivery date. In the event that the State cannot adjust the due date, we will work with the State to assess the priority of existing work and make necessary adjustments with State approval.</p>	
	<p>How Data is Collected: We leverage Jira for tracking completion timeliness for ad hoc requests. To meet this SLA, we measure the number of ad hoc requests received per month by the requested completion date. We create user stories in Jira, determine the level of effort, and identify a release based on resource capacity. We work closely with DST and the requestor to set realistic expectations of the request based upon the complexity of the data and reporting requirements.</p>	
7	<p>Work Product Compliance. Ensure work products comply with all standards identified in the RFP. (Any unapproved deviation from standards will be corrected within ten (10) calendar days of detection by vendor or State)</p>	100% compliance, unless otherwise approved by the State
	<p>Optum Response: We will maintain 100% work product compliance with all standards identified in the RFP, unless the State approves a deviation from this standard. We will also correct unapproved deviations within ten (10) calendar days of detection. A correction may either be a revised work product that complies with the applicable standard or a proposed plan that includes a date by which such correction is completed that is reasonably approved by the State. For Enhancements, we will utilize Scaled Jira Portfolio Management, Requirements and Change Request Workflow Management, and the Requirements Traceability Matrix to map and track requirements and verify that work products comply with them.</p>	
	<p>How Data is Collected: We leverage Jira for tracking work product compliance. To meet this SLA, we measure the number of work products (Projects) in Jira that were completed in the month to be reported by the target completion date. We work closely with DST and the project stakeholders through our project communications plan during requirements, development, testing and deployment so that our projects are completed on time.</p>	

SLA#	Key Service Level Agreement	Threshold for Compliance (Reported Monthly)
8	Security Incident Notification Timeliness. Security Incidents shall be made known to the FSSA Privacy & Security Office and the DST team within fifteen (15) minutes of when Contractor discovered the Security Incident.	100% compliance, as measured by time elapsed from Security Incident discovery
	Optum Response: Optum will notify the FSSA Privacy and Security Office and the DST team within one (1) business day following Optum confirming that a Security Incident has occurred. For this SLA, a “Security Incident” is defined as “an action” or “event” that has resulted in the improper use or disclosure of PHI or PII in Contractor’s safekeeping, so as to constitute a Breach under the HIPAA Privacy Rule). While this is an exception to SLA 8, there are several reasons in support of this limited exception: <ul style="list-style-type: none"> It is consistent with the notification timeline for reporting unauthorized disclosures of Social Security Data under the Professional Services Contract, Attachment B, Section 12(N). It is consistent with notification timelines previously agreed to by FSSA in other contracts. Doing so leads to more informed reporting while still complying with applicable laws that permit reporting over a much longer period than a single business day. In so far as the SLA has a one (1) business daytime frame, the content of the notification shall be based upon the information known to Optum within that timeframe, with the understanding that Optum shall continue to investigate the Security Incident and provide periodic updates, including a root-cause analysis and corrective action plan, when such information becomes available.	
	How Data is Collected: We continuously monitor events and system logs to monitor proper use and disclosure of PHI and PII. Our communications plan and EDW announcements email are used to supplement any initial notification done within one (1) business day of any actual, confirmed discovery of a Security Incident.	
9	Privacy and Security Compliance. Compliant with key federal laws and regulations (e.g., ADA, OSHA, Medicaid, SNAP, TANF, IRS, SSA, etc.), Indiana Law, MARS-E, and HIPAA requirements for privacy and security in all activities.	No incidents of non-compliance.
	Please see Attachment K for the definition of “Breach” and additional relevant information.	(Any incidents of non-compliance discovered by or reported to the State shall be cured by the Contractor within 30 calendar days upon notice by the State; satisfactory failure to cure would subject the Contractor to the Withhold established below and repeated failures to cure would be cause for termination of the agreement.)

SLA#	Key Service Level Agreement	Threshold for Compliance (Reported Monthly)
	<p>Optum Response: We will comply with all federal legislation including those identified in the RFP, Indiana Law, MARS-E, and HIPAA requirements and others deemed applicable to this project for privacy and security in all activities. We will work jointly with the State PMO to explicitly identify all applicable federal legislation and verify that we have included the appropriate materials in our training program for our staff and subcontractors working on this project. Annual training on HIPAA compliance is mandatory for all Optum employees. We will require and verify that our subcontractors that have potential access to PHI are also trained annually.</p> <p>We recognize the importance of privacy and security compliance and will make every reasonable effort to prevent any non-compliance. In case of any incidents of non-compliance discovered by or reported to the State, we will verify that it will be cured within thirty (30) calendar days upon notice by the State. We acknowledge and understand the penalty of failure to cure would subject us to the Withhold established and that repeated failures to cure would be cause for termination of the agreement.</p>	
10	Staffing Standards Compliance: Compliance with staffing resource standards, replacement standards, departure notification standards, and removal standards per staffing role-level.	100% compliance, unless otherwise approved by the State
	<p>Optum Response: We will comply with your requirement to maintain staffing standards and compliance as detailed in Section 7.</p>	
11	Forward all communications received that should be handled by State staff within one (1) business day of receipt	100% compliance, unless otherwise approved by the State
	<p>Optum Response: A user's Service Desk request will be triaged by Optum first to determine if the issue is one that we are able to address or if it must be referred to the State for a response either because the question is outside the scope of our contract or is a matter that only the State can answer. Requests that must be referred to the State for a response will be forwarded to the appropriate State personnel within one (1) business day of receipt unless the State approves an exception to this requirement.</p>	
	<p>How Data is Collected: We leverage Jira for tracking communications that should be referred to the state. To meet this SLA, Jira tracks the number of tickets with a status of 'Deferred' or 'Transferred' for the reporting month. DST or State staff are notified of these tickets within 1 day of receipt.</p>	
12	Notify the sender that communications have been forwarded to the State within one (1) business day of receipt	100% compliance, unless otherwise approved by the State
	<p>Optum Response: Service Desk requests, regardless of the point of entry, will be logged into the Service Desk system and the user will be contacted within one (1) business day with either the answer to the question or a status of closed or open and with a reason such as "Referred to the State," or "In Research", unless the State approves an exception to this requirement.</p>	
	<p>How Data is Collected: We leverage Jira for tracking communications that should be referred to the state. To meet this SLA, Jira tracks the number of tickets with a status of "Referred to the State," or "In Research" for the reporting month. The requestor is notified of these tickets within 1 day of receipt.</p>	

SLA#	Key Service Level Agreement	Threshold for Compliance (Reported Monthly)
13	Propose a replacement of key staff positions within 30 (thirty) calendar days of vacancy	100% compliance, unless otherwise approved by the State
	Optum Response: We will propose a qualified replacement to the State for key staff positions within thirty (30) calendar days of vacancy. Replacement staff will have qualifications that meet the skills and experience for the key staff position set forth in the RFP and, at the State's request, can be made available for the State to interview prior to hiring or being placed in the position.	
14	Provide monthly management reports within ten (10) calendar days of the end of the month being reported	100% compliance, unless otherwise approved by the State
	Optum Response: A management report will be submitted monthly to the State Project Manager within ten (10) calendar days of the end of the month being reported, unless the State approves an exception to this requirement. The report will include mutually agreed upon content appropriate for FSSA management, with a focus on our performance against Service Level Agreements and other key performance metrics.	
15	Submit status meeting agenda at least two (2) business days prior to meeting	95% compliance, unless otherwise approved by the State
	Optum Response: We will submit meeting agendas at least two (2) business day prior to each status meeting, unless the State approves an exception to this requirement. Our experience managing large projects has taught us that a great deal of activity occurs each week, much progress is made, and various issues and questions arise that require immediate consideration. Consequently, we believe consistently scheduled status meetings are the most effective way to make certain of continuous progress. Availability of status meeting agenda (1) business day before the meeting is critical to their efficiency. The State will approve all meeting agendas before distribution.	
16	Provide status meeting minutes in specified format within two (2) business days of the meeting	95% compliance, unless otherwise approved by the State
	Optum Response: We will submit status meeting minutes within two (2) business days after the completed meeting unless the State approves an exception to this requirement. The meeting minutes will meet the format standards as documented in the Communication Management Plan. All meeting minutes will be approved by the State before distribution.	
17	Provide Service Level Agreement status reports in specified format at least one (1) business day prior to each meeting	100% compliance, unless otherwise approved by the State
	Optum Response: We will submit SLA status reports at least one (1) business day prior to each meeting, unless the State approves an exception to this requirement. The status report will meet the specified format as documented in the Communication Management Plan.	

SLA#	Key Service Level Agreement	Threshold for Compliance (Reported Monthly)
18	Provide annual summary reports in specified format	100% compliance, unless otherwise approved by the State
	Optum Response: We will submit an annual operations report as specified by the State, unless the State approves an exception to this requirement, and as defined in the Communication Management Plan. Optum is willing to provide these reports on a quarterly basis consistent with its current practice.	
19	Notify State of issues with reports within two (2) business days of detection	100% compliance
	Optum Response: We will notify the State of issues with reports within two (2) business days of detection. For urgent communications or to meet other defined notification requirements, we may need to formally notify a State contact by phone. We will use voice mail or email as an acceptable alternative after a reasonable attempt is made to notify the contact or their identified alternative by phone.	
	How Data is Collected: Optum tracks and reports all recurring reporting schedules. We use our communications plan and EDW announcement emails for any issues with reports within 2 business days of detection.	
20	Produce accurate documentation within ten (10) days of required change	100% compliance, unless otherwise approved by the State
	Optum Response: We will use a combination of tools, reports, and protocols to support implementation of required changes through operations. We leverage our PMBOK-aligned (Project Management Institute's Project Management Body of Knowledge) change management methodology and processes and COTS-based tools (Jira) to support change management documentation to produce accurate documentation within ten (10) days of required changes unless the State approves an exception to this requirement.	
21	Respond to requests for additional information regarding reports according to deadlines agreed upon by Contractor and the State	100% compliance, unless otherwise approved by the State
	Optum Response: We will respond to requests for additional information regarding reports according to deadlines agreed upon with the State. Our approach will enable agility and efficiency through timely information and clear communication.	

SLA#	Key Service Level Agreement	Threshold for Compliance (Reported Monthly)																									
	How Data is Collected: We leverage Jira for tracking requests for additional information. To meet this SLA, Jira tracks the 4 measured response times for each service desk ticket by the severity code.																										
	<table><tr><th>Severity Code</th><th>Initial Response</th><th>Estimation Response</th><th>Delivery of Update (if there is an update)</th><th>Resolution Completion (unless otherwise approved by the State)</th></tr><tr><td>1-Critical</td><td>15 minutes</td><td>2 hours</td><td>Every 2 hours</td><td>4 hours</td></tr><tr><td>2-High</td><td>30 minutes</td><td>2 hours</td><td>Every 2 hours</td><td>8 hours</td></tr><tr><td>3-Moderate</td><td>1 hour</td><td>8 hours</td><td>Every 4 hours</td><td>4 calendar days</td></tr><tr><td>4-Low</td><td>1 hour</td><td>Next business day</td><td>Weekly</td><td>20 calendar days</td></tr></table>	Severity Code	Initial Response	Estimation Response	Delivery of Update (if there is an update)	Resolution Completion (unless otherwise approved by the State)	1-Critical	15 minutes	2 hours	Every 2 hours	4 hours	2-High	30 minutes	2 hours	Every 2 hours	8 hours	3-Moderate	1 hour	8 hours	Every 4 hours	4 calendar days	4-Low	1 hour	Next business day	Weekly	20 calendar days	
Severity Code	Initial Response	Estimation Response	Delivery of Update (if there is an update)	Resolution Completion (unless otherwise approved by the State)																							
1-Critical	15 minutes	2 hours	Every 2 hours	4 hours																							
2-High	30 minutes	2 hours	Every 2 hours	8 hours																							
3-Moderate	1 hour	8 hours	Every 4 hours	4 calendar days																							
4-Low	1 hour	Next business day	Weekly	20 calendar days																							
22	Notify the State of any issues with the User Interface within one (1) hour of detection of the issue	100% compliance																									
	Optum Response: For both new changes and ongoing operations, we will partner with you to develop a knowledge base of potential issues, response timeliness requirements and how issues should be triaged. In the event of any issues with the User Interface, we will inform the State Project Manager within (1) hour of the detection of the issues.																										
	How Data is Collected: We continuously monitor events and system performance with our extensive monitoring and logging capabilities in Teradata, Informatica, and Cognos. These monitors give administrators both a global system view and the capability to drill down to individual components. Both Informatica and Cognos have their own monitoring and logging functions, on which we report.																										
23	Resolve a minimum percentage of defects by the initial fix	Threshold will be established with each Contractor during contract negotiations																									
	Optum Response: We will resolve the minimum percentage of defects by initial fix as established in the thresholds established during contract negotiations. Such minimum percentage shall be based upon mutually agreed upon defect severity levels, and the percentage shall take into consideration the complexity of the defect and it's agreed upon severity level. We will work with the State at the beginning of the contract to define and produce the Master Test Plan as part of the Project Management Plan. Our comprehensive testing approach enables us to achieve test result objectives in the most efficient manner. Additionally, we will leverage Jira to produce reports on defect fixes to measure productivity.																										
	How Data is Collected: We leverage Jira for tracking defects. To meet this SLA, we measure the number of defects identified per month by the targeted initial fix date.																										
24	Enhancement Estimates Timeliness. Provide enhancement cost and time estimates within one (1) week from request submission	95% compliance																									

SLA#	Key Service Level Agreement	Threshold for Compliance (Reported Monthly)
	<p>Optum Response: We will provide enhancement cost and time estimates within one (1) week from request submission that contains all information required by Optum depending upon the nature of the request by following the Change Control process in the Project Management Plan. The initial response may capture those costs and time estimates reasonably available to Optum, with additional updates that may depend upon third parties to provide additional cost or time estimate information as soon as possible thereafter. Additionally, we will use the Jira Requirements Workflow feature to capture and track enhancement requests. This process will allow for effective and timely assessment of cost and estimates for all change requests.</p>	
	<p>How Data is Collected: We leverage Jira for tracking enhancement estimates compliance. To meet this SLA, we measure the number of enhancement projects in Jira that were completed in the month to be reported by the project initiation date and project charter create date which is 1 week.</p>	
25	<p>Enhancement Completion Timeliness. Complete requested enhancements within estimated timeframes approved by the State</p>	100% compliance
	<p>Optum Response: We will complete requested enhancements within estimated timeframes approved by the State based upon our proposed time frame unless otherwise agreed upon. To provide continuity and control, we will follow the Change Control and Risk/Issue/Opportunity Management processes established in the Project Management Plan. Jira's User Story Workflow enables us to efficiently complete all approved enhancement requests within estimated and approved time frames.</p>	
	<p>How Data is Collected: We leverage Jira for tracking enhancement completion timeliness. To meet this SLA, we measure the number of enhancement projects in Jira that were completed in the month to be reported by the enhancement project target complete date.</p>	
26	<p>Defect/Bug Correction Timeliness. Correct defects and bugs found during User Acceptance Testing per the timeframes agreed upon with the State at the time the defects/bugs are reported. The Contractor shall receive State approval on which bugs are allowed to be uncorrected before production.</p>	Correct 100% of defects (Severity Level 1 and 2) and 95% of bugs (Severity Level 3 and 4) per the timeframes agreed upon with the State
	<p>Optum Response: We will correct defects and bugs found during User Acceptance Testing per the timeframes agreed upon with the State at the time the defects/bugs are reported. Leveraging Jira Portfolio Management, our Project Manager will be able to work with you to secure approval for defect remediation and closely and accurately track implementation of defect fixes per the timeframes agreed upon with the State at the time the defects/bugs are reported.</p>	
	<p>How Data is Collected: We leverage Jira for tracking defects identified during UAT. To meet this SLA, we measure the number of defects identified during UAT per month by the targeted fix date prior to deployment to production.</p>	

SLA#	Key Service Level Agreement	Threshold for Compliance (Reported Monthly)
27	Budget Adherence. The Contractor shall complete the requested enhancements within the State-approved budget. The Contractor shall be responsible for any expenditures over the State approved budget if no changes in scope were made.	100% compliance
	Optum Response: We will comply with your requirement to complete approved enhancements within the approved budget, where the approved budget shall be based upon what we propose unless otherwise mutually agreed upon. We acknowledge that we will be responsible for any expenditure that exceeds your approved budget if no change control allowed such expense.	
	How Data is Collected: We leverage Jira for tracking project budget adherence. To meet this SLA, we measure the number of projects in Jira that were completed in the month to be reported by the target completion date. We work closely with DST and the project stakeholders through our project communications plan during requirements, development, testing and deployment so that our projects are completed on time and on budget.	

e. Propose and describe a tracking mechanism to ensure SLA compliance.

Our team uses multiple mechanisms to track SLAs for compliance, depending on the nature of the SLA. The table above in d. includes the tracking mechanism for each required SLA.

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17. Scope of Work Synergy

(Optional if Proposing for Both EDW and CAE Services)

If your company is proposing to offer both the EDW and CAE scopes of work, explain what synergies will benefit the State if you are awarded both scopes of work. Any cost savings must be described in the Cost Proposal.

Not applicable.