



State of Tennessee

Division of Health Care Finance and Administration

Tennessee Technical Advisory Services (TN TAS)

Integrated Program Operations & Maintenance Planning/Deployment Management Plan

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Executive Summary

The Medicaid Modernization Program (MMP) for the State of Tennessee's Health Care Finance and Administration (HCFA), is a complex multi-year transformation program, composed of many projects that will implement significant business and technical change. A component of the MMP is the Eligibility Modernization Project (EMP). Given the focus on information systems as a business enabler, it is essential that an IT operations and maintenance (O&M) capability be established to support the solution throughout its life cycle. In order to support O&M, the State is requiring the SI Contractor to develop an O&M Runbook for integrated program operations & maintenance planning/deployment that details how O&M activities will be performed and staffed.

The purpose of this document, the TEDS O&M Management Plan (TOMP), is to provide general O&M strategy and approach that is to be utilized as a component in the development of the SI Contractor's TEDS O&M Runbook. The O&M Runbook will include Standard Operating Procedures (SOP) across the various IT Service Management functions and Processes. The TOMP covers the following functions and processes: Event Management, Incident Management, Request Fulfillment, Service Desk, Technical Management, IT Operations Management, and Applications Management. The SI Contractor shall utilize this document as context to the O&M requirements stated in the Request for Qualification for Systems Integration (SI) Services RFQ # 32101-15557.

The Contractor shall build and maintain the SOP Manual which shall be made available for State Staff. The manual shall be indexed, with separate sections for each capability listed. The State may require an SOP to be written for specific system support functions. The Contractor shall provide any and all tools necessary to fulfil the obligations related to executing these capabilities.

The SI Contractor's O&M Runbook is to be created in alignment with the IT Infrastructure Library v3 (ITIL). ITIL is the most adopted framework for IT Service Management (ITSM) in the world and focuses on the identification, planning, delivery, and support of IT services to the business and end users. ITIL describes processes, procedures, tasks, and check-lists which are not organization-specific, but can be tailored to integrate HCFA's strategy, deliver value, and maintain a consistent level of competency. In addition to ITIL, the document includes additional standards that are required for incorporation into the O&M Runbook.

The TOMP addresses how the SI Contractor shall approach roles and tools required to support O&M for TEDS. Using ITIL as the foundation for O&M, the following ITIL functions and their respective processes are included in the scope of the TOMP:

- Service Desk - The single point of contact between the service provider and the users. A typical service desk manages incidents and service requests, and also handles communication with the users.
- Technical Management - The function responsible for providing technical skills in support of IT Services and management of the IT Infrastructure. Technical management defines the roles of support groups, as well as the tools, processes and procedures required.

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- IT Operations Management - The function within an IT service provider which performs the daily activities needed to manage IT services and the supporting IT infrastructure. IT operations management includes IT operations control and facilities management.
- Applications Management - The function responsible for managing applications throughout their life cycle. This function includes, but is not limited to, application patching and application upgrades.

1. Introduction

1.1. Purpose

The purpose of this document, the TEDS O&M Management Plan (TOMP), is to provide general O&M strategy and approach that is to be utilized as a component in the development of the SI Contractor's TEDS O&M Runbook. The O&M Runbook will include Standard Operating Procedures (SOP) across the various IT Service Management functions and Processes. The TOMP covers the following functions and processes: Event Management, Incident Management, Request Fulfillment, Service Desk, Technical Management, IT Operations Management, and Applications Management. The SI Contractor shall utilize this document as context to the O&M requirements stated in the Request for Qualification for Systems Integration (SI) Services RFQ # 32101-15557.

1.2. Objectives

The objective of this document is to ensure the following is incorporated into the TEDS O&M Runbook approach and procedures:

- A management framework for the management of O&M activities
- Transparent and consistent end-to-end management of IT services leveraging a consistent set of processes, activities, and tools
- Continuous improvement processes and compliance with standards and service levels through the tracking and reporting on key performance metrics
- Consistent taxonomy aligned to industry leading practices to reduce complexity and confusion in the day-to-day work
- Continually drive and improve the performance of internal and external IT suppliers
- Increased stability through reduction in the number and impact of operational incidents
- Reduced risk and impact of production changes on the end users
- Standard operating procedures to provide expert technical support resources to quickly resolve issues, proactively identify potential problems and implement new initiatives.
- Support/transition solutions after turnover to State or successor

1.3. Scope

The Integrated Program Operations & Maintenance Planning/Deployment Management Plan, herein after referred to as the Program O&M Plan (POMP) will dictate how not only the TEDS SI, but all SIs within the MMP, will manage Operations & Maintenance activities. The development of the POMP will be completed through multiple iterations. The first iteration of the POMP will be created specifically for TEDS, in order to guide the SI Contractor through the procurement and execution of the EMP project. Iteration 1 of the POMP will be referred to as the TEDS O&M Plan (TOMP).

The TOMP dictates the standard processes/functions, and enabling tools that the TEDS SI Contractor shall design and have approved prior to entering the implementation phase of the SDLC, as well as the turnover strategy that shall be followed at the completion of the SI Contractors O&M term.

Industry leading practices, State standards and federal regulations/requirements will drive the creation of provisions the TEDS SI Contractor shall follow.

The TOMP will serve to outline:

- Processes, functions, and enabling tools/technologies that each SI shall implement and manage
- Roles and responsibilities of the SI Contractor and other entities within TEDS
- A framework for planning and supporting the turnover of the solution at the termination of the SI Contractor's O&M term to the State and/or successor.

The following processes and functions have been determined as in-scope for the TOMP:

Processes

- Event management
- Incident management
- Request fulfillment
- Access management

Functions

- Service Desk
- Technical management
- IT Operations Management
- Application Management

1.4. Referenced Documents

Integrated Program Operations & Maintenance Planning/Deployment Management Plan is interrelated with other deliverable as illustrated in the table below. These deliverables have been considered in the design of the Integrated Program Operations & Maintenance Planning/Deployment Management and will continue to be aligned to these and other relevant MMP management plans in future iterations.

Table 1: Referenced Documents

#	Document Name	Content Overview
1	The TAS Contract	The contractual artifacts for the TAS
2	HCFA SI Contract(s)	Previous HCFA SI contracts
3	Request for Qualifications for Systems Integration (SI) Services (RFQ # 32101-15557)	RFQ defining the State's requirements for an SI Contractor to develop, operate and maintain the Tennessee Eligibility Determination System (TEDS).
4	HCFA IS Operations & Maintenance Current State Assessment	TAS assessment of the current state operations of HCFA IS and analysis of current state capabilities
5	STS Documentation	Strategic Technology Service (STS) is a division within the Department of Finance & Administration (F&A). Responsible for a number of IS services at HCFA
6	ITIL ITSM V3.0	A globally recognized collection of best practices for managing information technology (IT)
7	Program System Performance and Availability Management Plan	Defines the framework for System Performance and Availability design, testing and deployment that will support the formation of each Program project's System Performance and Availability plans
8	Program System Capacity Plan	Details the framework for System Capacity design, testing and deployment that will support the formation of each Program project's System Capacity plans

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#	Document Name	Content Overview
9	Integrated Business Continuity / Disaster Recovery Plan	The framework for BC/DR design, testing and deployment that will support the formation of each Program project's BC/DR plans that will collectively yield an overall optimal, integrated enterprise BC/DR capability
10	Contract Management	Details the processes, tools and contract management support roles that the Contractor will implement and use to support the State MMP Contractor managers
11	Integrated Systems Implementation Management Plan	The Framework for Integrated System Implementation Management activities
12	Configuration Management Plan	Details the roles of the Contractor, the State, and the State MMP Contractors in the overall Configuration Management framework and approach
13	Software Problem Resolution Standards / Procedures Plan	Details the roles of the Contractor, the State, and the State MMP Contractors in the overall Software Problem Resolution Standards/Procedures framework and approach
14	Project and System Development Lifecycle Management Plan	The System Development Life Cycle (SDLC) is an integrated framework for representing the life cycles of systems and their related development projects.

1.5. Constraints, and Risks

1.5.1. Constraints:

- The O&M products defined within this TOMP are aligned to ITIL V3 standard where possible.

1.5.2. Risks:

- Stakeholders may be engaged within MMP (e.g. the system integrator) with different O&M methodologies and approaches. There may be a realignment required when these new stakeholders are engaged.
- Similarly, O&M toolsets between the different stakeholders may need to be aligned.

2. TOMP Management Plan Vision

2.1. Vision and Concepts Overview

This section describes the approach in defining the TOMP framework and related artifacts as they pertain to addressing the needs of the State while leveraging concepts and methodologies based on industry leading practices.

2.2. Why is the TOMP Being Created?

Like any large transformation program, MMP creates added complexity and operational risk that is difficult to control. The future of the MMP will introduce not only new technologies to the HCFA landscape, but include multiple SI Contractors to provide on-going O&M support.

Key challenges the MMP could face include:

- Scaling the current teams and resources to support multiple solutions and multiple contractors simultaneously
- Managing IT operations within a multi-sourced eco-system
- Disparity in contractor processes, tools, and taxonomy
- Delivering consistently on agreed levels of service across the various solutions
- Maintaining transparency into the performance of services and underlying technology

To successfully manage the future state operating model of HCFA IS, a consistent set of processes, activities, and tools need to be put in place to manage the services and supporting technologies to meet customer and user demands.

2.3. How Does the TOMP Support the MMP Priorities?

The TOMP will put in place the standards by which all SIs within the MMP will manage Operation & Maintenance processes and activities. By leveraging a standard framework for all SIs, HCFA will be able to leverage existing tools and resources more effectively, and ultimately improve the operations of all MMP solutions.

The TOMP is aligned with the IT Infrastructure Library v3 (ITIL). ITIL is the most adopted framework for IT Service Management (ITSM) in the world and focuses on the identification, planning, delivery, and support of IT services to the business and end users. ITIL describes processes, procedures, tasks, and check-lists which are not organization-specific, but can be tailored to integrate HCFA's strategy, deliver value, and maintain a consistent level of competency.

The benefits HCFA aims to achieve through the SI Contractor's O&M Runbook include:

- Transparent and consistent end-to-end management of IT services leveraging common processes, activities, and tools
- Consistent taxonomy aligned to industry leading practices to reduce complexity and confusion in the day-to-day work
- Continuous Improvement capabilities in the performance of internal and external IT suppliers
- Increased stability through reduction in the number and impact of operational incidents
- Reduced risk and impact of production changes on the end users

2.4. Overview of IT Service Management

IT Service Management is defined by ITIL as the implementation and management of quality IT Services that meet the needs of the business. IT Service Management is performed by IT Service Providers through an appropriate mix of people, process and information technology.

IT has traditionally been focused on providing the infrastructure and technology systems to the business, without thinking of it in the context of Services. This frequently leads to technology siloes that specialize in a particular software or solution. IT Service Management suggests a more holistic approach to managing services from end-to-end (and not just technology siloes) to make sure IT is delivering the required functionality and service levels to the business customer.

To fully understand this concept it is important to grasp the meaning of "Service" in IT Service Management. A Service is something that provides value to customers. There are various types of services, including:

- Business Services – IT Services that directly support a business process and may be directly provided to the business
- Technical Services – IT Services not directly used by the business, but are required by the IT Service Provider so they can provide other IT services

In order to transition from a traditional IT organization (technology soloed) to delivering ITSM, it is important to define the services IT will provide to its customers. As IT organizations mature, the services can be integrated across the different processes and functions.

Each organization will have a different set of services organized within the context of their business and how they deliver services to their customers.

Below is an example set of services that may be applicable to HCFA:

Table 2: Example Services

Service Types	Example Business Process / Service Category	Example Services
Business Services (Generally implemented by Member Services)	Eligibility Determination (Process)	Process Eligibility Determination Decision Application Information Verification
	Accept Application Information (Process)	Online Application Submission
	MMIS Enrollment / Disenrollment (Process)	Interfaces to support MMIS Record Management Interfaces to send Eligibility Records
	Approve Eligibility Employee On-Boarding (Process)	User Access Management
Technical / Application Services (HCFA IS)	IT Professional Services (Service Category)	Security Management System Architecture
	Identity and Access Management (Service Category)	Access Provisioning Identity Proofing Two-Factor Authentication
	Business Rules Management Services (Service Category)	Rules Engine Rules Authoring and Configuration
	Production Control Services	Solution Monitoring Output / Print Management
Technical / Infrastructure Services	Infrastructure Management Services (Service Category)	Network WAN/LAN Management Print Infrastructure Management Service Desk Support

Service Types	Example Business Process / Service Category	Example Services
(STS, HCFA IS)	Enterprise Integration Services (Service Category)	Middleware Connectors Partner Integration Management
	Desktop Services (Service Category)	Standard Devices Desktop Management

By mapping services end-to-end, the IT organization is able to support the business priorities, rather than simply managing a system or component of a system. This ensures the appropriate service levels are provided for the highest priority business objectives, and any major incidents that could impact the business can be traced back to the underlying technical systems and components supporting Appit

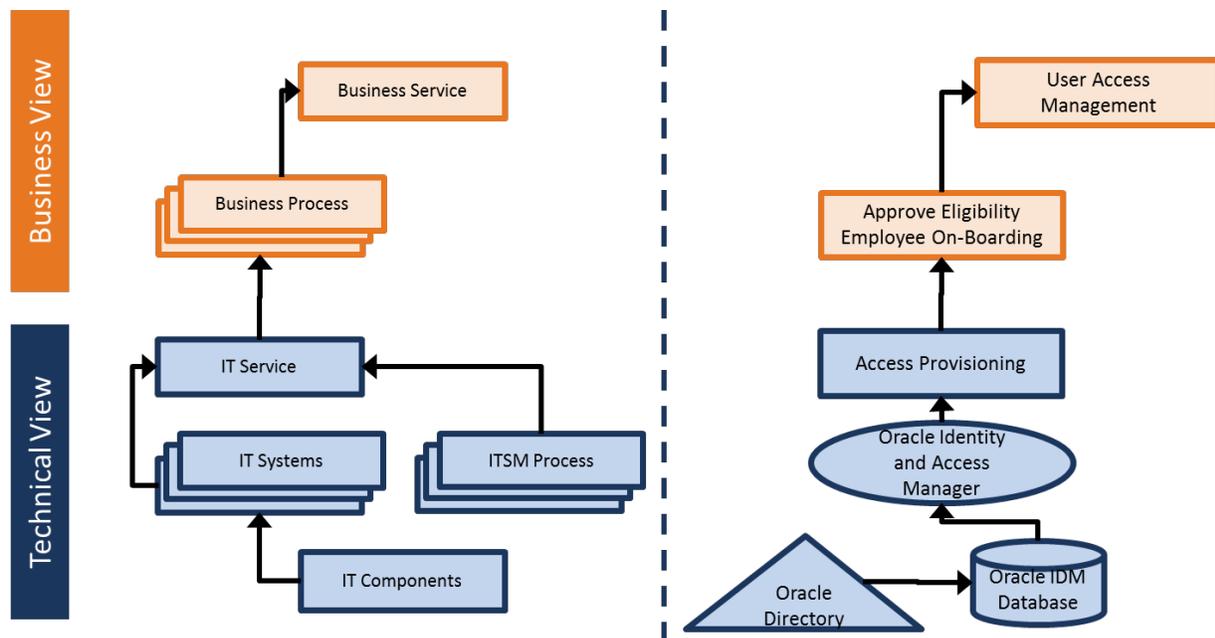


Figure 1: End – to- End Service Mapping Example

Take the example of User Access Management. In order to provide this business service, there are many business processes and IT Services that must support it. One simple example is Access Provisioning. Access Provisioning is a technical IT service that is needed to support the on-boarding of a new Eligibility employee. The IT System that supports Access Provisioning is Oracle Identity and Access Manager, which has multiple technology components including the Oracle IDM Database and Oracle Directory.

Characteristics of an end-to-end IT service are:

1. Defined Using Business Terminology
 - IT services must be defined according to business activities and outcomes that they support
 - IT must work with the business to arrive at a consensus for terminology
2. Clear Mapping to Supporting Components
 - IT services can be clearly mapped to supporting applications, licenses, infrastructure, etc.
3. Measured Against Established Baselines and SLAs
 - A baseline performance level is defined and mechanisms are in place to measure delivery
 - SLAs are agreed upon with the business for turnaround time, uptime, etc.

2.5. Alignment to the ITIL Service Lifecycle

ITIL is organized around a Service Lifecycle that includes: Service Strategy, Service Design, Service Transition, Service Operation and Continual Service Improvement.

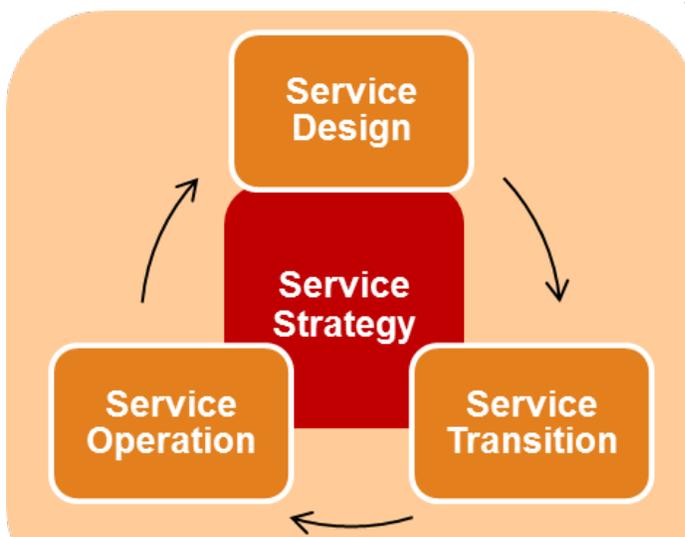


Figure 2: ITIL Life Cycle

The life cycle starts with **Service Strategy** – understanding who the IT customers are, the service offerings that are required to meet the customers’ needs, the IT capabilities and resources that are required to develop these offerings and the requirements for executing successfully. Driven through strategy and throughout the course of delivery and support of the service, IT must always try to assure that cost of delivery is consistent with the value delivered to the customer.

Service Design assures that new and changed services are designed effectively to meet customer

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expectations. The technology and architecture required to cost effectively meet customer needs is an integral part of Service Design. Additionally, processes required to manage services are also part of the design phase. Service management systems and tools that are necessary to adequately monitor and support new or modified services must be considered as well as mechanisms for measuring service levels, technology and process efficiency and effectiveness.

Through the **Service Transition** phase of the life cycle the design is built, tested and moved into production to assure that the business customer can achieve the desired value. This phase addresses managing changes, controlling the assets and configuration items (underlying components – hardware, software, etc.) associated with new and changed systems, service validation and testing and transition planning to assure that users, support personnel and the production environment has been prepared for the release to production.

Once transitioned, **Service Operation** then delivers the service on an ongoing basis, overseeing the daily overall health of the service. This includes managing disruptions to service through rapid resolution of incidents, determining the root cause of problems and detecting trends associated with recurring issues, handling daily routine end user requests and managing service access.

Enveloping the **Service Lifecycle** is Continual Service Improvement (CSI). CSI offers a mechanism for IT to measure and improve the service levels, the technology and the efficiency and effectiveness of processes used in the overall management of services.

The diagram below represents the 5 phases of the Service Lifecycle and the underlying Processes and Functions that support them.

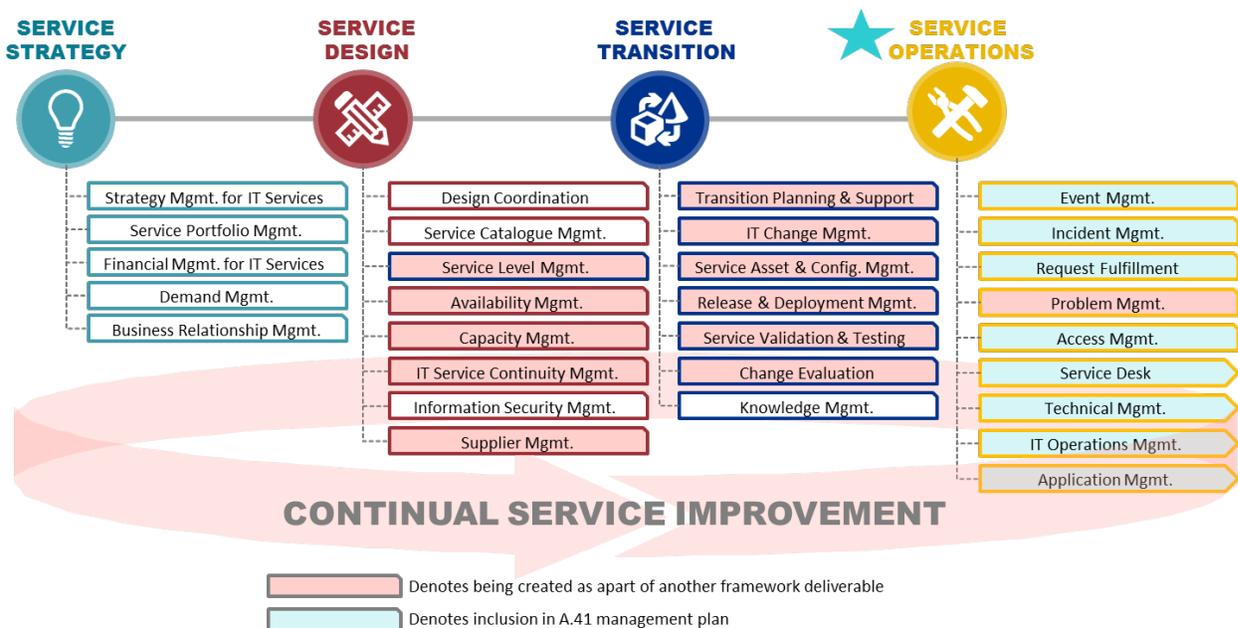


Figure 3: ITIL Functions

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The MMP will leverage many of the ITIL processes and functions shown above. The table below maps each Process and Function to the Program SLDC (PSDLC) Framework Deliverable that will represent it:

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Table 3: ITIL Lifecycle Phases PSDLC Mapping

Lifecycle Phase	ITIL Process / Function	PSDLC Framework Deliverable
Service Design	Availability Management	Program System Performance and Availability Management Plan
	Service Level Management	
	Continual Service Improvement	
	Capacity Management	Program System Capacity Plan
	IT Service Continuity Management	Integrated Business Continuity / Disaster Recovery Plan
	Supplier Management	Contract Management Procurement Management Contract Performance Management
Service Transition	Transition Planning & Support	Integrated Systems Implementation Management Plan
	IT Change Management	
	Release and Deployment Management	
	Change Evaluation	
	Service Asset and Configuration Management	Configuration Management Plan
Service Operations	Event Management	Integrated Program Operations & Maintenance Planning/Deployment Plan
	Incident Management	
	Request Fulfillment	
	Access Management	
	Service Desk	

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Lifecycle Phase	ITIL Process / Function	PSDLC Framework Deliverable
	Technical Management	
	IT Operations Management	
	Applications Management	
	Problem Management	Software Problem Resolution Standards / Procedures Plan

3. TOMP Methodology

3.1. TOMP Methodology Overview

The O&M Runbook is to be authored utilizing ITIL, federal, state, security, and other industry standard leading practices. ITIL shall be the foundation of the O&M Runbook, which is comprised of functions, processes, and activities that detail the roles and responsibilities of the involved parties. An overview of the required functions, processes, and activities are stated below:

3.2. Functions

A function is a team or group of people and the tools or other resources they use to carry out one or more processes or activities. The functions to be included in the O&M Runbook are:

- Service Desk- the single point of contact between the service provider and the end users. A typical Service Desk manages incidents, events, and service requests. The Service Desk is also responsible for handling communication with the end users.
- Technical Management- the function responsible for providing technical skills in support of IT services and management of the IT infrastructure. Technical Management defines the roles of support groups, as well as the tools, processes and procedures required.
- IT Operations Management- the function within an IT service provider which performs the daily activities needed to manage IT services and the supporting IT Infrastructure. IT Operations Management includes IT Operations Control and Facilities Management.
- Applications Management- the function responsible for managing applications throughout their Lifecycle.

3.3. Processes

A process is a structured set of activities designed to accomplish a specific objective turning inputs into defined outputs which may include roles, responsibilities, tools and management controls required to deliver outputs. The processes to be included in the O&M Runbook are:

- Event Management - The process responsible for managing Events throughout their life cycle. Event Management is one of the main activities of the Service Desk.
- Incident Management - The process responsible for managing the life cycle of all incidents. The purpose of incident management is to restore normal service operation as quickly as possible and minimize the adverse impact on business operations, thus ensuring that agreed levels of service quality are maintained.
- Request Fulfillment - The process responsible for managing the life cycle of all service requests from the end users.

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- Problem Management - The process responsible for managing the life cycle of all problems. The primary objectives of Problem Management are to prevent incidents from happening, and to minimize the impact of incidents that cannot be prevented.
- Access Management - The process responsible for allowing end users to make use of IT Services, data, or other assets. Access Management helps to protect the confidentiality, integrity and availability of assets by ensuring that only authorized end users are able to access or modify the assets. Access Management is sometimes referred to as Rights Management or Identity Management.

3.4. Activities

An activity is an action that is taken to accomplish a specific output. A series of activities accomplished in a specified order make up the processes and functions.

3.5. Roles Overview

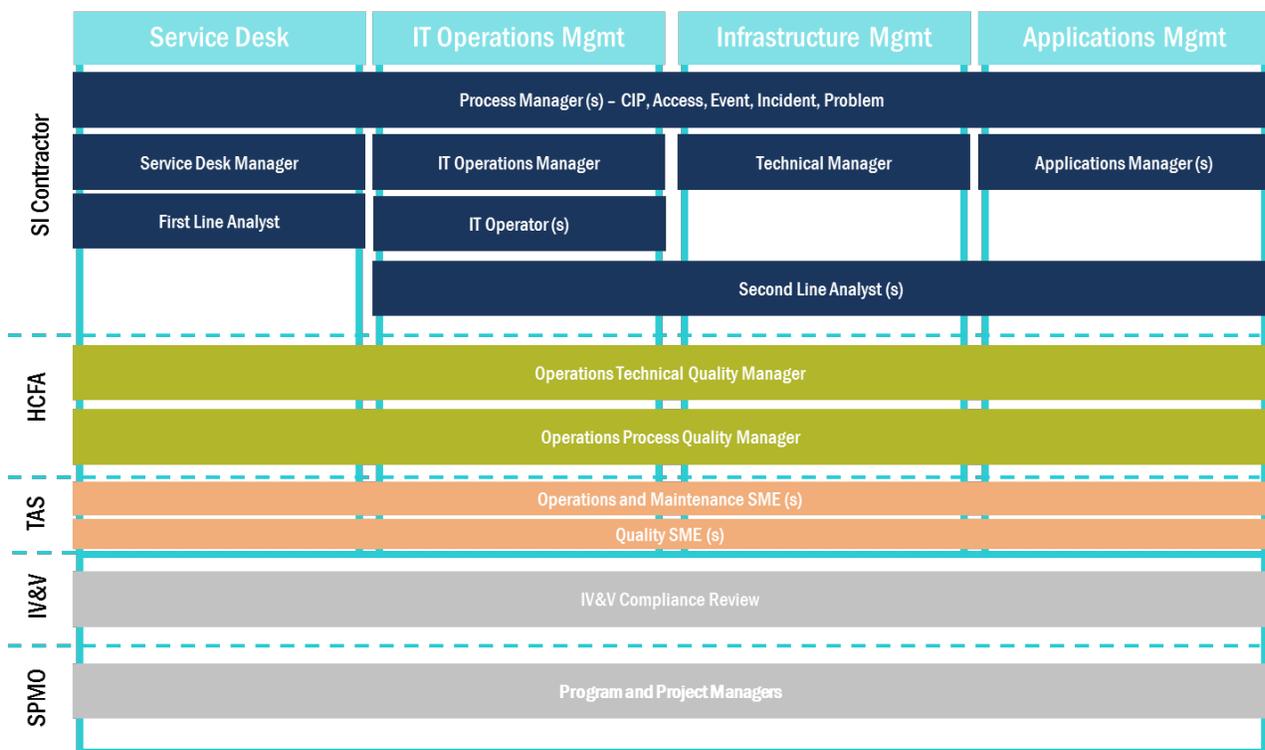


Figure 4: O&M Roles

There are multiple stakeholders that will play key roles within O&M across the MMP. Refer to Appendix B for detailed role descriptions and RACI Convention Used. Specific details regarding accountability for each specific process and activity are provided within section 5: *Functions, Processes and Activities required for the O&M Runbook.*

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Each solution within the MMP will have unique requirements regarding key technical staff to support the respective solution. With that said, during the O&M period of the SDLC, each SI Contractor shall align their key staff to function in the roles identified below. For the TEDS solution, the key staff may be mapped to O&M roles as demonstrated below.

Table 4: TOMP Roles to Key Staff Mapping

TOMP Roles	Mapped RFQ Key Staff	Typically Performed By:
Continuous Improvement Process Manager	<ul style="list-style-type: none"> Continuous Improvement Process Manager 	SI Contractor
Incident Management Process Manager	<ul style="list-style-type: none"> Incident/Problem Manager 	SI Contractor
Event Management Process Manager	<ul style="list-style-type: none"> Service Desk & Operations Center Manager 	SI Contractor
Service Desk Manager	<ul style="list-style-type: none"> Service Desk & Operations Center Manager Systems Operations Engineer/Incidents & Problem Management 	SI Contractor
Technical Manager	<ul style="list-style-type: none"> Technical Solutions Lead Infrastructure Architect 	SI Contractor
IT Operations Manager	<ul style="list-style-type: none"> Systems Operations Engineer / Incidents & Problem Management Production Control/ Operations Manager 	SI Contractor
IT Operators	<ul style="list-style-type: none"> IT Operations Analyst Performance Analyst/Capacity Planning Analyst Security Analyst/Architect 	SI Contractor
Applications Manager	<ul style="list-style-type: none"> Technical Specialist Application and Web Platforms 	SI Contractor
First Line Analyst	<ul style="list-style-type: none"> Process Analyst 	SI Contractor

TOMP Roles	Mapped RFQ Key Staff	Typically Performed By:
Second Line Analyst	<ul style="list-style-type: none"> • Production Control Analyst 	SI Contractor
Applications Technical Manager (System Specific)	<ul style="list-style-type: none"> • Application Architect 	SI Contractor

Depending on the size and complexity of the solution, the SI contractor may be able to combine roles, or propose additional roles in order to provide the necessary levels of service. This will be negotiated on a per-solution basis and must be approved by HCFA within the respective O&M Runbook.

- *Service Desk Manager* - The primary responsibility of the Service Desk Manager role is to supervise the processes and activities associated with the Service Desk. The Service Desk Manager is responsible for incident management and request fulfillment on the Service Desk. This could also be expanded to any other activity taken on by the Service Desk – e.g. monitoring certain classes of event.
- *Technical Manager* - The Technical Manager provides technical expertise and support for the management of the IT infrastructure. This role plays an important part in the technical aspects of designing, testing, operating and improving IT services. It is also responsible for developing the skills required to operate the IT infrastructure.
- *IT Operations Manager* - The IT Operations Manager is responsible for the daily operational activities needed to manage the IT infrastructure according to the performance standards defined during Service Design.
- *Applications Manager* - The Applications Manager role is primarily responsible for the guidance and leadership of the applications management function. This role is responsible for providing technical expertise relating to the applications, including any other software products needed to support this solution.
- *First Line Analyst* - The First Line Analyst is primarily responsible for being the first point of contact support by taking calls and handling incidents or service requests. It is quite common to have this role as a combination of the first-line analyst role and request fulfillment analyst role. Typical job titles that are associated with First line Analyst are: Help Desk Operator/Analyst, IT Call Desk, Technology Desk, etc. First Line Analysts may have limited technical knowledge and are responsible for solving low complexity incidents/service requests.
- *Second Line Analyst (System Specific)* - The Second Line Analysts are advanced support resources who take over incidents/service requests that are not able to be solved immediately with the means of first level support. This role tends to focus on deep rooted, technical incidents or incidents that require a significant amount of time.
- *Applications Technical Manager (System Specific)* – The Applications Technical Manager is responsible for technical expertise regarding the specific application

3.6. Tools Overview

The TEDS SI Contractor shall utilize the tools necessary to fulfil the obligations stated in the RFQ for Systems Integration (SI) Service RFQ #32101-15557 contract for O&M functions, processes, and activities. The SI Contractor shall leverage industry standard leading tools, which may include new or emerging technologies. Many industry leading tool suites will fulfill multiple tool requirements. Tools and technologies shall be properly vetted and approved by the State. A list of standard tools required to support O&M activities are in the table that follows below:

Table 5: Required Tools

Required Tools
Access Management
Active Directory
Application/Infrastructure Monitoring
Back Up and Restoration
Code Management
Compliance and Information Security Program Management
Content Management
Database Administration
Database Security Monitoring and Compliance Reporting Tool
Discovery
Facilities Management
File Integrity
Integrated IT Service Management Tool (ITSM)
IT Portfolio Management
Job Scheduling
Knowledge Management

Required Tools
Log Server
Maintenance Activities
Middleware Management
Monitoring
Print and Output Management
Release and Deployment Management
Security Information and Event Management
Static Code Checking
Virus Scan

The SI Contractor shall utilize State enterprise standard tools where possible and applicable. A list of State enterprise standard tools are in the table that follows below:

Table 6: Enterprise Tools

Function/Process/Activity Supported	Existing State Enterprise Tool
Database Administration	Oracle Database
Event Management	ServiceNow (CMDB and Service Desk Modules)
Identity and Access Management	Oracle Identity & Access Management
Incident Management	ServiceNow (Incident, CMDB, and Knowledge Modules)
Job Scheduling & Management	CA Workload Automation
Knowledge Management	SharePoint
Monitoring	HP Openview Site Scope, OAV, HP Performance Center
Print and Output Management	HP Exstream
Problem Management	ServiceNow (Problem, CMDB, Change, and Knowledge)

Integrated Program Operations & Maintenance Planning/Deployment Management Plan

Function/Process/Activity Supported	Existing State Enterprise Tool
Release and Deployment Management	HP ALM
Request Management	ServiceNow (Service Catalogue Module)
Service Desk	ServiceNow

The table below identifies tools that are utilized by the State to support O&M activities, but are not required by the State for the SI Contractor to use. If the contractor has expertise with another tool that performs a similar function/process/activity to those stated below, the SI Contractor may be permitted to use it pending State approval.

Table 7: Available/Existing State Tools

Function/Process/Activity Supported	Existing State Tool
Application Scanning	NetSparker
Backup & Restoration	NetBackup
Code Management	Apache Subversion
Compliance and Information Security Program Management	Lockpath Keylight
Database Security Monitoring and Compliance Reporting	IBM Guardian
Discovery	Front Range
File Integrity	Advanced Intrusion Detection Environment
Log Server	SysLog Server
Monitoring	Q-Radar
Security Information and Event Management	Q-Radar
Static Code Checking	Fortify
Virus Scan	Symantec Endpoint Protection (Windows) and Clam Antivirus (Linux)
Vulnerability Scan	Nessus

4. Functions, Processes, and Activities Required for the TOMP

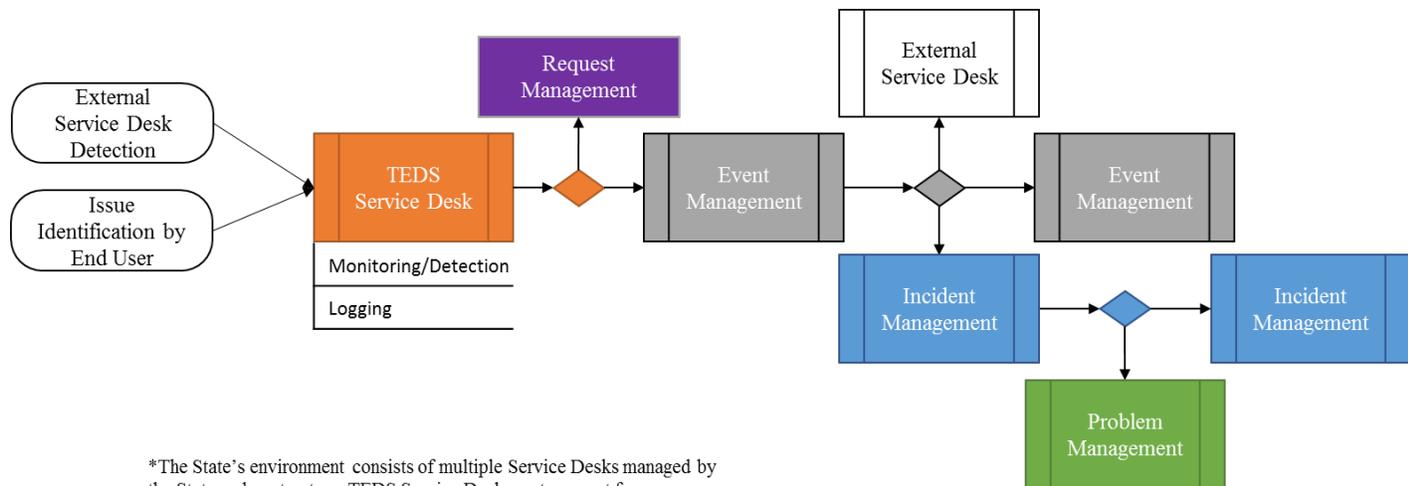
The functions, processes, and activities are the foundational elements and drivers for O&M at the State. The subsequent sections are intended to provide guidance and insight to the people, processes, and technology to be incorporated when authoring of the O&M Runbook.

4.1. Service Desk (Function)

The primary role of the Service Desk function is to act as the first point of contact for end users to request a service (Service Request) or to report service failures (incidents, events, or problems). The TOMP shall include how the SI Contractor will address the operations and management of the Service Desk and its associated processes and activities.

Service Desk: Function Diagram

The following process diagram depicts the high level processes/activities and interaction with other processes involved with the Service Desk function. The SI Contractor will be expected to prepare a detailed process flow which contains the activities and roles involved in their Service Desk.



*The State's environment consists of multiple Service Desks managed by the State and contractors. TEDS Service Desk must account for communication and routing between Service Desks.

Figure 5: Service Desk Function Diagram

Service Desk: SI Contractor Responsibilities

For the SI Contractor's responsibilities required in the O&M Runbook, reference the RFQ For Systems Integration (SI) Service RFQ #32101-15557 Section A.17 "Operations and Maintenance."

Service Desk: Roles

The O&M Runbook shall state how the SI Contractor will account for the following roles:

Process Manager(s)

- Incident Manager - The primary responsibility of the Incident Management Process Manager represents the first stage of escalation for Incidents, should these not be resolvable within the agreed service levels
- Event Manager - The primary responsibility of the Event Management Process Manager is to detect events
- Problem Manager - The primary responsibility of the Problem Management Process Manager is to prevent Incidents from reoccurring and to minimize the impact of Incidents that cannot be prevented
- Continual Improvement Process Manager - The primary responsibility of the Continual Improvement Process Manager is to measure the performance of the service provider and design improvements to processes, services and infrastructure in order to increase efficiency, quality, and cost effectiveness.

Service Desk Manager(s)

- Service Desk Manager - The primary responsibility of the Service Desk Manager is to supervise the processes and activities associated with the Service Desk. The Service Desk Manager is responsible for Output Management, Console Operations and Production Control, as well as Incident Management and Request Fulfillment on the Service Desk. This could also be expanded to any other activity taken on by the Service Desk – e.g., monitoring certain classes of event

IT Operations Staff

- First Line Analyst - The primary responsibility of the First Line Analyst is that of providing first point of contact support by taking calls and handling incidents or service requests. It is quite common to have this role as a combination of the first-line analyst role and request fulfillment analyst role. Goal is to resolve 80% of the calls placed to the service desk upon first contact.

4.2. Incident Management (Process)

Incident Management is a process of the Service Desk that consists of the activities to detect, diagnosis, and determine the corrective action for incidents (*An unplanned interruption to an IT service or reduction in the quality of an IT service*).

Incident Management Process Diagram

The following process diagram depicts the high level processes/activities and interaction with other processes involved with the Service Desk function. The SI Contractor will be expected to prepare and make available to HCFA IS a detailed process flow which contains the activities and roles involved in their Service Desk.

Integrated Program Operations & Maintenance Planning/Deployment Management Plan

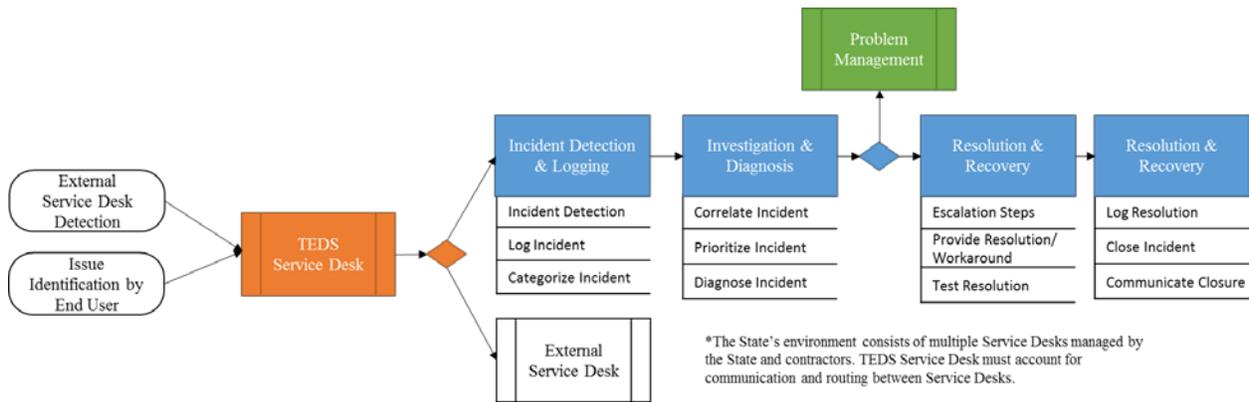


Figure 6: Incident Management Process Diagram

Incident Management Supporting Responsibility Matrix

The activities and allocation of responsibilities reflected in this document provides general guidance for EMP. Specific activities and responsibilities may vary across distinct projects within EM. Each project in EMP shall apply this guidance in developing project specific RACIs, tailoring the RACIs in this management plan based on the specific characteristics and contractual agreements for the respective project.

Table 8: Incident Management RACI

INCIDENT MANAGEMENT	STATE					CONTRACTOR			
	HCFA BUSINESS	HCFA IS	HCFA ENTERPRISE SECURITY	PROGRAM/ PROJECT MANAGER	STS (INFRASTRUCTURE)	SI	TAS	SPMO	IV&V
INTERACTION HANDLING		A			SR	R			
INCIDENT DETECTION & LOGGING		A			SR	R			
INVESTIGATION & DIAGNOSIS	C	A	C		SR	R	C		
RESOLUTION & RECOVERY	C	A	C		SR	R	C		
CLOSURE		A			SR	R			

Incident Management Supporting Tools

The SI Contractor shall leverage existing tools in Incident Management activities where available and possible. For the State’s enterprise list of tools to support O&M, reference section 4.6 Tools Overview.

Incident Management Activities & Requirements

For the SI Contractor’s responsibilities required in the O&M Runbook, reference the RFQ For Systems Integration (SI) Service RFQ #32101-15557 Section: A. 17 “Operations and Maintenance.”

Incident Management Metrics and Key Performance Indicators

The following metrics and key performance indicators should be tracked, monitored, and available through reports on a frequency agreed upon with the State:

Table 9: Incident Metrics and KPIs

Metrics and Key Performance Indicators	Mandatory/Optional
Total process time to resolve incidents by priority and by category	Mandatory
Effort to resolve incidents by priority and by category	Mandatory
Number of incidents at each stage (by status)	Mandatory
Size of current incident workload for each IT service	Mandatory
Number and percentage of major incidents (priority 1 & 2 incidents)	Mandatory
Number and percentage of tickets aging longer than defined time periods (10 days, 20 days etc.)	Mandatory
Total number of incidents	Mandatory

Incident Management Outputs and Deliverables

- Incident Management Process which includes, at a minimum, the SI contractors handling of the following details:
 - Incident Reports and reporting cadence
 - Problem Candidates
 - Known Errors
 - Workarounds
 - Root Cause Analysis
 - Incident categorization structure
 - Incident priority coding system
 - Incident Models (how to identify, log, categorize, prioritize, responsibilities, timescales, thresholds, escalation, details for closure, etc.)
 - Major incident reviews/post mortem reports
- Change Request Lists
- Daily Operations Report- For the Daily Operations Report reference the RFQ For Systems Integration (SI) Service RFQ #32101-15557 Section A.17 “Operations & Maintenance”

4.3. Problem Management (Process)

The Problem Management process will have its own management plan. For the problem management process, reference management plan Software Problem Resolution Standards/Procedures Plan.

4.4. Event Management (Process)

Event Management consists of the detection, diagnosis, and determination of corrective action for events (A change of state that has significance for the management of an IT service or other configuration item).

The SI Contractor shall be responsible for coordinating with HCFA IS and STS on the detection, documentation, investigation and determination of corrective actions for events. The SI Contractor shall be responsible for automated monitoring events 24/7/365. The SI Contractor shall be responsible for developing (or leverage existing tools where available and possible) event management capabilities and tools. The SI Contractor will develop, maintain and manage a plan to monitor every operation that affects the TEDS solution (e.g. network, hardware, software, interfaces, services, data manipulation).

Event Management Process Diagram

The following process diagram depicts the high level processes/activities and interaction with other processes involved with the Service Desk function. The SI Contractor will be expected to prepare a detailed process flow which contains the activities and roles involved in their Service Desk.

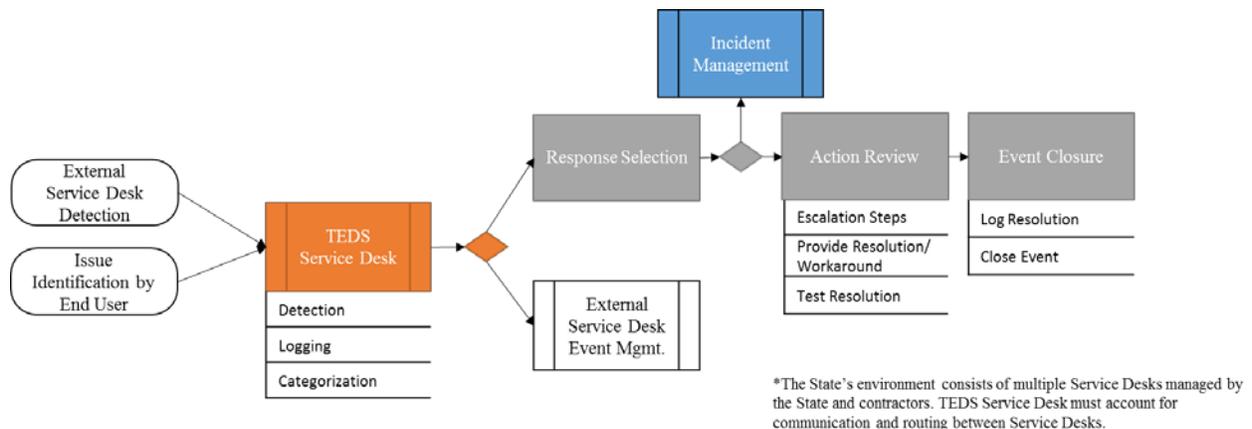


Figure 7: Event Management Process Diagram

Event Management Supporting Roles

The activities and allocation of responsibilities reflected in this document provides general guidance for EMP. Specific activities and responsibilities may vary across distinct projects within EM. Each project in EMP shall apply this guidance in developing project specific RACIs, tailoring the RACIs in this management plan based on the specific characteristics and contractual agreements for the respective project.

Table 10: Event Management RACI

EVENT MANAGEMENT	STATE					CONTRACTOR			
	HCFA BUSINESS	HCFA IS	HCFA ENTERPRISE SECURITY	PROGRAM/ PROJECT MANAGER	STS (INFRASTRUCTURE)	SI	TAS	SPMO	IV&V
ENGINEER & CONFIGURE EVENT MANAGEMENT SYSTEM (EVENT CAPTURE)	C	A	C		SR	R	C		
DETECT & LOG EVENT		A	I		SR	R	I		
CORRELATE & FILTER EVENT		A	I		SR	R	I		
SELECT EVENT RESPONSE		A	I		SR	R	I		
REVIEW & CLOSE EVENT	I	A	I		SR	R	I		

Event management Supporting Tools

The SI Contractor shall leverage existing tools in Event Management activities where available and possible. For the State’s enterprise list of tools to support O&M, reference section 4.6 Tools Overview.

Event Management Activities and Requirements

For the SI Contractor’s responsibilities required in the O&M Runbook, reference the RFQ For Systems Integration (SI) Service RFQ #32101-15557 Section: A. 17 “Operations and Maintenance.”

Event Management Metrics Key Performance Indicators

The following types of metrics should be tracked, monitored, and available through reports on a frequency agreed upon with the State:

Table 11: Event Management Metrics and Key Performance Indicators

Metrics and Key Performance Indicators	Mandatory/Optional
Number of events/alerts generated without actual degradation of service/functionality (false positives – indication of the accuracy of the instrumentation parameters, important for CIP)	Mandatory
Number and ratio of events compared with the number of incidents	Mandatory
Number and percentage of each type of event per platform or application versus total number of platforms and applications underpinning live IT services (looking to identify IT services that may be at risk for lack of capability to detect their events)	Mandatory
Number and percentage of repeated or duplicated events (this will help in the tuning of the correlation engine to eliminate unnecessary event generation and can also be used to assist in the design of better event generation functionality in new services)	Mandatory
Number and percentage of events that required human intervention and whether this was performed	Mandatory
Number of incidents that occurred and percentage of these that were triggered without a corresponding event	Mandatory
Number and percentage of incidents that were resolved without impact to the business (indicates the overall effectiveness of the event management process and underpinning solutions)	Mandatory
Number and percentage of events that resulted in incidents or changes	Mandatory
Number and percentage of events caused by existing problems or known errors (this may result in a change to the priority of work on that problem or known error)	Mandatory
Number and percentage of events indicating performance issues (for example, growth in the number of times an application exceeded its transaction thresholds over the past six months)	Mandatory
Number and percentage of events indicating potential availability issues (e.g. failovers to alternative devices, or excessive workload swapping)	Mandatory
Number of recurring events	Mandatory

Event Management Outputs and Deliverables

- Event Management Plan
 - Event reports
 - Known errors
 - Workarounds
- Event correlation and filtering parameters
 - Event categorization structure
 - Event priority coding system
 - Event Models (how to identify, log, categorize, prioritize, responsibilities, timescales, thresholds, escalation, details for closure, etc.)
 - Major event reviews/post mortem reports
- Correlation Engine
 - Fully automated correlation engines with rules what needs to be filtered and correlated
 - The correlation rules must be continuously reviewed and analyzed to improve event handling and escalation

4.5. Request Management (Process)

Request Management Description

Request Management is the processes for handling the life cycle of service requests from users.

Request Management Process Diagram

The following process diagram depicts the high level processes/activities and interaction with other processes involved with the Service Desk function. The SI Contractor will be expected to prepare a detailed process flow which contains the activities and roles involved in their Service Desk.

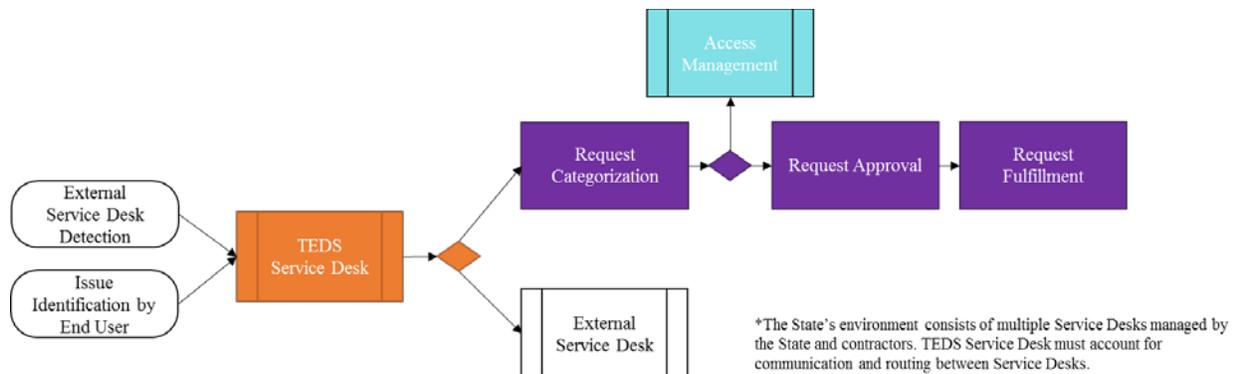


Figure 8: Request Management Process Diagram

*Integrated Program Operations & Maintenance Planning/Deployment
Management Plan*

Request Management Supporting Roles

The activities and allocation of responsibilities reflected in this document provides general guidance for EMP projects. Specific activities and responsibilities may vary across distinct projects EM. Each project in EMP shall apply this guidance in developing project specific RACIs, tailoring the RACIs in this management plan based on the specific characteristics and contractual agreements for the respective project.

Table 12: Request Management RACI

REQUEST MANAGEMENT	STATE					CONTRACTOR			
	HCFA BUSINESS	HCFA IS	HCFA ENTERPRISE SECURITY	PROGRAM/ PROJECT MANAGER	STS (INFRASTRUCTURE)	SI	TAS	SPMO	IV&V
INITIATE REQUEST	I	A	I			R	I		
VALIDATE & CLASSIFY REQUEST	I	A	I			R	I		
EVALUATE REQUEST	C	A	C			R	I		
APPROVE REQUEST	C	A	C			R	I		
FULFILL REQUEST	C	A	C		SR	R	C		
REVIEW & CLOSE REQUEST	C	A	C			R	I		
CANCEL REQUEST	I	A	I			R	I		

Request Management Supporting Tools

The SI Contractor shall leverage existing tools in Request Management activities where available and possible. For the State’s enterprise list of tools to support O&M, reference section 4.6 Tools Overview.

Request Management Activities and Requirements

For the SI Contractor’s responsibilities required in the O&M Runbook, reference the RFQ For Systems Integration (SI) Service RFQ #32101-15557 Section: A. 17 “Operations and Maintenance.”

Request Management Metrics and Key Performance Indicators

The following types of metrics should be tracked, monitored, and available through reports on a frequency agreed upon with the State:

Table 13: Request Management Metrics and KPIs

Metrics and Key Performance Indicators	Mandatory/Optional
Percent of requests fulfilled within SLA	Mandatory
Percent of unfulfilled requests (orphaned requests)	Mandatory
Percent of requests fulfilled that are authorized	Mandatory
Breakdown of requests at each stage including Approval stage (to help with identifying backlogs and bottlenecks)	Mandatory
Meantime to fulfil by different parameters such as category, fulfilment group etc.	Mandatory
Average user/customer survey score (total and by question category)	Mandatory
Percent of incidents opened against fulfilled requests	Mandatory
Percent of requests handled by Tier 1 and fulfilled on first interaction	Mandatory
Total number of requests (as a control measure)	Mandatory

Request Management Outputs and Deliverables

- Request Management Plan
- Request Models (how to detect, log, categorize, and prioritize, responsibilities, timescales, thresholds, escalation, details for closure, etc.)
- Service Level Agreements
- Operational Level Agreements

4.6. IT Operations Management (Function)

The primary role of the IT Operations Management Function is to monitor and control the IT services. This function is responsible for performing the daily activities needed to manage IT services.

IT Operations Management SI Contractor Responsibilities

For the SI Contractor's responsibilities required in the O&M Runbook, reference the RFQ For Systems Integration (SI) Service RFQ #32101-15557 Section: A. 17 "Operations and Maintenance."

IT Operations Management Function Roles

The SI Contractor's O&M Run Book must state how the SI Contractor will account for the following roles:

IT Operations Manager - The primary responsibility of the IT Production Control/ Operations Manager is the daily operational activities needed to manage the IT Operations according to the performance standards defined by the State

IT Operators

Second Line Analysts - Second Line Analysts are advanced support entities, which take over incidents/service requests that are not able to be solved immediately with the means of first level support. This role tends to focus on more deep rooted, technical incidents or incidents that require a significant amount of time. Role(s) that the SI Contractor will staff that fall into the category of Second Line Analyst are: Process Analyst, IT Engineer / Systems Monitoring Analyst, Batch Monitoring Analyst, Programmer Analyst, Production Control Analyst, Infrastructure Architect, SOA Architect, Technical Solution Architect, Database Architect, IT Service Continuity Analyst, Service Architect.

4.7. Console Management / Operations Control (Activity)

Console Management / Operations Control Description

Console management/operations control activity consists of defining the central observation and monitoring capability and then using those consoles to exercise event management, monitoring and control activities.

Console Management / Operations Control Supporting Roles

The activities and allocation of responsibilities reflected in this document provides general guidance for EMP. Specific activities and responsibilities may vary across distinct projects with EM. Each project in EMP shall apply this guidance in developing project specific RACIs, tailoring the RACIs in this management plan based on the specific characteristics and contractual agreements for the respective project.

Table 14: Console Management RACI

CONSOLE MANAGEMENT	STATE					CONTRACTOR			
	HCFA BUSINESS	HCFA IS	HCFA ENTERPRISE SECURITY	PROGRAM/ PROJECT MANAGER	STS (INFRASTRUCTURE)	SI	TAS	SPMO	IV&V
CONSOLE MANAGEMENT	I	A	I			R	I		

Console Management / Operations Control Supporting Tools

The SI Contractor shall leverage existing tools in Console Management activities where available and possible. The State’s existing standard tool(s) for Console Management Activities is the ServiceNow Service Desk and Knowledge Module.

Console Management/ Operations Control Activities and Requirements

For the SI Contractor’s responsibilities required in the O&M Runbook, reference the RFQ For Systems Integration (SI) Service RFQ #32101-15557 Section: A. 17 “Operations and Maintenance.”

4.8. Job Scheduling and Monitoring (Activity)

Job Scheduling and Monitoring Description

Job Scheduling and Monitoring is the Activity responsible for job scheduling, or the management of routine batch jobs or scripts.

Job Scheduling and Monitoring Supporting Roles

The activities and allocation of responsibilities reflected in this document provides general guidance for EMP. Specific activities and responsibilities may vary across distinct projects within EM. Each project in EMP shall apply this guidance in developing project specific RACIs, tailoring the RACIs in this management plan based on the specific characteristics and contractual agreements for the respective project.

Table 15: Job Scheduling & Monitoring RACI

JOB SCHEDULING AND MONITORING	STATE					CONTRACTOR			
	HCFA BUSINESS	HCFA IS	HCFA ENTERPRISE SECURITY	PROGRAM/ PROJECT MANAGER	STS (INFRASTRUCTURE)	SI	TAS	SPMO	IV&V
JOB SCHEDULING AND MONITORING	C	A	I		SR	R	C		

Job Scheduling and Monitoring Supporting Tools

The SI Contractor shall leverage existing tools in Job Scheduling and Monitoring activities where available and possible. For the State’s enterprise list of tools to support O&M, reference section 4.-6 Tools Overview.

Job Scheduling and Monitoring Tools Activities and Requirements

For the SI Contractor’s responsibilities required in the O&M Runbook, reference the *RFQ For Systems Integration (SI) Service RFQ #32101-15557* Section: A. 17 “Operations and Maintenance.”

4.9. Backup and Restore (Activity)

Backup and Restore is the Activity responsible for providing detailed application information and guidance to STS for performing the backup and restore on behalf of all technical and application management teams and departments and often on behalf of users.

Backup and Restore Supporting Roles

The activities and allocation of responsibilities reflected in this document provides general guidance for EMP. Specific activities and responsibilities may vary across distinct projects with EM. Each project within EM shall apply this guidance in developing project specific RACIs, tailoring the RACIs in this management plan based on the specific characteristics and contractual agreements for the respective project.

Table 16: Back Up and Restore RACI

BACK UP AND RESTORE	STATE					CONTRACTOR			
	HCFA BUSINESS	HCFA IS	HCFA ENTERPRISE SECURITY	PROGRAM/ PROJECT MANAGER	STS (INFRASTRUCTURE)	SI	TAS	SPMO	IV&V
BACK UP AND RESTORE	C	A	I		R	SR	C		

Back Up and Restore Supporting Tools

The SI Contractor shall leverage existing tools in Back Up and Restore activities where available and possible. For the State’s enterprise list of tools to support O&M, reference section 4. 6 Tools Overview.

Back Up and Restore Activities and Requirements

For the SI Contractor’s responsibilities required in the O&M Runbook, reference the *RFQ For Systems Integration (SI) Service RFQ #32101-15557* Section: A. 17 “Operations and Maintenance.”

4.10. Print and Output Management (Activity)

Print and Output Management Description

The print and output management activity is responsible for the collation and distribution of all centralized printing or electronic output.

Print and Output Management Supporting Roles

The activities and allocation of responsibilities reflected in this document provides general guidance for EMP. Specific activities and responsibilities may vary across distinct projects with EM. Each project within EM shall apply this guidance in developing project specific RACIs, tailoring the RACIs in this management plan based on the specific characteristics and contractual agreements for the respective project.

Table 17: Print and Output Management RACI

PRINT AND OUTPUT MANAGEMENT	STATE					CONTRACTOR			
	HCFA BUSINESS	HCFA IS	HCFA ENTERPRISE SECURITY	PROGRAM/ PROJECT MANAGER	STS (INFRASTRUCTURE)	SI	TAS	SPMO	IV&V
PRINT AND OUTPUT MANAGEMENT	C	A	I			R			

Print and Output Management Supporting Tools

The SI Contractor shall leverage existing tools in Print and Output Management activities where available and possible. For the State’s enterprise list of tools to support O&M, reference section 4. 6 Tools Overview.

Activities and Requirements

For the SI Contractor’s responsibilities required in the O&M Runbook, reference the RFQ For Systems Integration (SI) Service RFQ #32101-15557 Section: A. 17 “Operations and Maintenance.”

4.11. Infrastructure Management (Function)

The primary role of the Infrastructure Management function is to provide technical expertise and overall management of the IT infrastructure. The objectives of this function are to plan, implement, and maintain a stable technical infrastructure to support the business processes of the enterprise. This includes training and deploying appropriate personnel to build and operate the technology required to deliver and support IT services.

Infrastructure Management Activities and Requirements

For the SI Contractor’s responsibilities required in the O&M Runbook, reference the *RFQ For Systems Integration (SI) Service RFQ #32101-15557* Section: A. 17 “Operations and Maintenance.”

4.12. Infrastructure Management Storage & Archive (Activity)

Many services require the storage of data for a specific time and also for that data to be available off-line for a certain period after it is no longer used. This is often due to regulatory or legislative requirements, but also because history and audit data are invaluable for a variety of purposes, including marketing, product development, forensic investigations etc.

Infrastructure Management Supporting Roles

The activities and allocation of responsibilities reflected in this document provides general guidance for EMP. Specific activities and responsibilities may vary across distinct projects within EM. Each project within EM shall apply this guidance in developing project specific RACIs, tailoring the RACIs in this management plan based on the specific characteristics and contractual agreements for the respective project.

Table 18: Infrastructure Management RACI

INFRASTRUCTURE MANAGEMENT	STATE					CONTRACTOR			
	HCFA BUSINESS	HCFA IS	HCFA ENTERPRISE SECURITY	PROGRAM/ PROJECT MANAGER	STS (INFRASTRUCTURE)	SI	TAS	SPMO	IV&V
INFRASTRUCTURE MANAGEMENT		A	I		SR	R	C		

Infrastructure Management Activities and Requirements

For the SI Contractor’s responsibilities required in the O&M Runbook, reference the *RFQ For Systems Integration (SI) Service RFQ #32101-15557* Section: A. 17 “Operations and Maintenance.”

4.13. Middleware Management (Activity)

Middleware Management Description

The Middleware management Activity is responsible for the software that connects or integrates software components across distributed or disparate applications and systems. Middleware enables the effective transfer of data between applications, and is therefore key to services that are dependent on multiple applications or data sources.

Middleware Management Supporting Roles

The activities and allocation of responsibilities reflected in this document provides general guidance for EMP. Specific activities and responsibilities may vary across distinct projects within EM. Each project within EM shall apply this guidance in developing project specific RACIs, tailoring the RACIs in this management plan based on the specific characteristics and contractual agreements for the respective project.

Table 19: Middleware Management RACI

MIDDLEWARE MANAGEMENT	STATE					CONTRACTOR			
	HCFA BUSINESS	HCFA IS	HCFA ENTERPRISE SECURITY	PROGRAM/ PROJECT MANAGER	STS (INFRASTRUCTURE)	SI	TAS	SPMO	IV&V
MIDDLEWARE MANAGEMENT		A	I		SR	R	C		

Middleware Management Supporting Tools

The SI Contractor shall leverage existing tools in Middleware Management activities where available and possible. For the State’s enterprise list of tools to support O&M, reference section 4.6 Tools Overview.

Middleware Management Activities and Requirements

For the SI Contractor’s responsibilities required in the O&M Runbook, reference the *RFQ For Systems Integration (SI) Service RFQ #32101-15557* Section: A. 17 “Operations and Maintenance.”

4.14. Database Administration (Activity)

The database administration Activity is responsible for the O&M of the databases that support the applications.

Database Administration Supporting Roles

The activities and allocation of responsibilities reflected in this document provides general guidance for EMP. Specific activities and responsibilities may vary across distinct projects within EM. Each project in EM shall apply this guidance in developing project specific RACIs, tailoring the RACIs in this management plan based on the specific characteristics and contractual agreements for the respective project.

Table 20: Database Administration RACI

DATABASE ADMINISTRATION	STATE					CONTRACTOR			
	HCFA BUSINESS	HCFA IS	HCFA ENTERPRISE SECURITY	PROGRAM/ PROJECT MANAGER	STS (INFRASTRUCTURE)	SI	TAS	SPMO	IV&V
DATABASE MANAGEMENT	I	A	I		SR	R	C		

Database Administration Supporting Tools

The SI Contractor shall leverage existing tools in Database Administration activities where available and possible. For the State’s enterprise list of tools to support O&M, reference section 4.6 Tools Overview.

Database Administration Activities and Requirements

For the SI Contractor’s responsibilities required in the O&M Runbook, reference the *RFQ For Systems Integration (SI) Service RFQ #32101-15557* Section: A. 17 “Operations and Maintenance.”

4.15. Directory Services Management (Activity)

The Directory Services Management Activities is the Activity responsible for managing the information about the resources available on a network and to which users have access. Directory Services Management is the basis for providing access to the end users and for ensuring that unauthorized access is detected and prevented.

Directory Services Management Supporting Roles

The activities and allocation of responsibilities reflected in this document provides general guidance for EMP. Specific activities and responsibilities may vary across distinct projects within EM. Each project in the EM shall apply this guidance in developing project specific RACIs, tailoring the RACIs in this management plan based on the specific characteristics and contractual agreements for the respective project.

Table 21: Directory Services Management RACI

DIRECTORY SERVICES MANAGEMENT	STATE					CONTRACTOR			
	HCFA BUSINESS	HCFA IS	HCFA ENTERPRISE SECURITY	PROGRAM/ PROJECT MANAGER	STS (INFRASTRUCTURE)	SI	TAS	SPMO	IV&V
DIRECTORY SERVICES MANAGEMENT		A	I		SR	R	C		

Directory Services Management Supporting Tools

The SI Contractor shall leverage existing tools in Directory Services activities where available and possible. For the State’s enterprise list of tools to support O&M, reference section 4.6 Tools Overview.

Directory Services Management Activities and Requirements

For the SI Contractor’s responsibilities required in the O&M Runbook, reference the RFQ For Systems Integration (SI) Service RFQ #32101-15557 Section: A. 17 “Operations and Maintenance.”

4.16. Network Management (Activity)

The Network Management activity is responsibility resides with STS (State infrastructure service provider), but the SI Contractor is responsible for managing issues related the network or connectivity relative to EM.

Network Management Supporting Roles

The activities and allocation of responsibilities reflected in this document provides general guidance for EMP. Specific activities and responsibilities may vary across distinct projects with EM. Each project with EM shall apply this guidance in developing project specific RACIs, tailoring the RACIs in this management plan based on the specific characteristics and contractual agreements for the respective project.

Table 22: Network Management RACI

NETWORK MANAGEMENT	STATE					CONTRACTOR			
	HCFA BUSINESS	HCFA IS	HCFA ENTERPRISE SECURITY PROGRAM/ PROJECT MANAGER	STS (INFRASTRUCTURE)	SI	TAS	SPMO	IV&V	
NETWORK MANAGEMENT		C			A	R			

Network Management Supporting Tools

The SI Contractor shall provide any / all Network Management tools to meet the requirements of this contract. For the State’s enterprise list of tools to support O&M, reference section 4.6 Tools Overview.

Network Management Activities and Requirements

For the SI Contractor’s responsibilities required in the O&M Runbook, reference the RFQ For Systems Integration (SI) Service RFQ #32101-15557 Section: A. 17 “Operations and Maintenance.”

4.17. Server Management and Support (Activity)

The Server and Support Activity is responsible for the management and support of the servers and mainframes that are used for hosting applications or databases, operating high-volume transaction systems, running client/server services, storage, print and file management.

Server Management and Support Supporting Roles

The activities and allocation of responsibilities reflected in this document provides general guidance for EMP. Specific activities and responsibilities may vary across distinct projects within EM. Each project within EM shall apply this guidance in developing project specific RACIs, tailoring the RACIs in this management plan based on the specific characteristics and contractual agreements for the respective project.

Table 23: Server and Mainframe Management RACI

SERVER MANAGEMENT AND SUPPORT	STATE					CONTRACTOR			
	HCFA BUSINESS	HCFA IS	HCFA ENTERPRISE SECURITY	PROGRAM/ PROJECT MANAGER	STS (INFRASTRUCTURE)	SI	TAS	SPMO	IV&V
SERVER MANAGEMENT AND SUPPORT		A	I		SR	R	C		

Server Management and Support Supporting Tools

The SI Contractor shall provide any / all Server Management and Support Activities tools to meet the requirements of this contract. For the State's enterprise list of tools to support O&M, reference section 4.6 Tools Overview.

Server Management and Support Activities and Requirements

For the SI Contractor's responsibilities required in the O&M Runbook, reference the RFQ For Systems Integration (SI) Service RFQ #32101-15557 Section: A. 17 "Operations and Maintenance."

4.18. Applications Management (Function)

Applications Management is the technical knowledge and expertise related to managing applications. The function is responsible for managing applications throughout their life cycle. Applications Management ensures that resources are effectively trained and deployed to design, build, test, transition, operate and improve the technology required to deliver and support IT services.

Applications Management: SI Contractor Responsibilities

For the SI Contractor's responsibilities required in the O&M Runbook, reference the RFQ For Systems Integration (SI) Service RFQ #32101-15557 Section: A. 17 "Operations and Maintenance."

Applications Management: Roles

The O&M Runbook shall state how the SI Contractor will account for the following roles:

Applications Manager - The Applications Manager role is primarily responsible for the guidance and leadership of the applications management function. This role is responsible for providing technical expertise relating to the applications.

4.19. Application Management Lifecycle (Activity)

The Application Lifecycle Management Activity is responsible for the decision making regarding the implementation, enhancement and decommissioning of IT and business applications.

Applications Management Lifecycle Supporting Roles

The activities and allocation of responsibilities reflected in this document provides general guidance for EMP. Specific activities and responsibilities may vary across distinct projects within EM. Each project within EM shall apply this guidance in developing project specific RACIs, tailoring the RACIs in this management plan based on the specific characteristics and contractual agreements for the respective project.

Table 24: Application Management Lifecycle RACI

APPLICATION MANAGEMENT LIFECYCLE	STATE					CONTRACTOR			
	HCFA BUSINESS	HCFA IS	HCFA ENTERPRISE SECURITY	PROGRAM/ PROJECT MANAGER	STS (INFRASTRUCTURE)	SI	TAS	SPMO	IV&V
Application Management Lifecycle	C	A	I			R	C		

Applications Management Lifecycle Supporting Tools

The SI Contractor shall leverage existing tools in Applications Management activities where available and possible. For the State’s enterprise list of tools to support O&M, reference section 4.6 Tools Overview.

Applications Management Lifecycle Activities and Requirements

For the SI Contractor’s responsibilities required in the O&M Runbook, reference the RFQ For Systems Integration (SI) Service RFQ #32101-15557 Section: A. 17 “Operations and Maintenance.”

4.20. Specific Application Management (Activity)

The Application Management activity is responsible for the decision making regarding the O&M of IT and business applications.

Specific Applications Management Supporting Roles

The activities and allocation of responsibilities reflected in this document provides general guidance for EMP. Specific activities and responsibilities may vary across distinct projects within EM. Each project within EM shall apply this guidance in developing project specific RACIs, tailoring the RACIs in this management plan based on the specific characteristics and contractual agreements for the respective project.

Table 25: Application Management RACI

APPLICATION MANAGEMENT	STATE					CONTRACTOR			
	HCFA BUSINESS	HCFA IS	HCFA ENTERPRISE SECURITY	PROGRAM/ PROJECT MANAGER	STS (INFRASTRUCTURE)	SI	TAS	SPMO	IV&V
Application Management		A	I		C	R	C		

Specific Applications Management Supporting Tools

The SI Contractor shall leverage existing tools in Applications Management activities where available and possible. For the State’s enterprise list of tools to support O&M, reference section 4.6 Tools Overview.

Specific Applications Management Activities and Requirements

For the SI Contractor’s responsibilities required in the O&M Runbook, reference the RFQ For Systems Integration (SI) Service RFQ #32101-15557 Section: A. 17 “Operations and Maintenance.”

5. TOMP Management

The TOMP Management section describes the management of the SI Contractor's O&M Runbook, O&M's alignment to the SDLC, and the turnover strategy for O&M activities and the TEDS solution.

5.1. Management

The TEDS solution will interface with multiple internal and external entities, which increases complexity and the risk associated with the initiative. Proper implementation of the O&M Runbook is required to ensure consistent O&M processes are followed.

The SI Contractor is responsible for authoring and maintaining the O&M Runbook. The O&M Runbook should incorporate federal, state, HCFA, and industry leading standards, and follow the structure laid out in this document regarding functions, process and activities.

In order to demonstrate adherence to this plan and continuous improvement, the SI Contractor shall perform formal maturity assessments and service reviews against each function, process, and activity. Assessments shall be conducted at least once a quarter, in order to highlight areas of improvement or concern. The findings of the maturity assessments and the service reviews shall be published to the State. These findings will be key inputs to the Continuous Improvement Process which is outlined within Program System Performance and Availability Management Plan.

The Contractor shall perform periodic reviews, on a schedule defined by the State, of SLAs and performance against them to ensure the State is satisfied with the level of performance. The Contractor shall produce and provide the State with formal reports of findings. For the SI Contractor's responsibilities required in the management of the O&M Runbook, reference the RFQ For Systems Integration (SI) Service RFQ #32101-15557 Section: A.17 "Operations and Maintenance."

5.2. SDLC Alignment

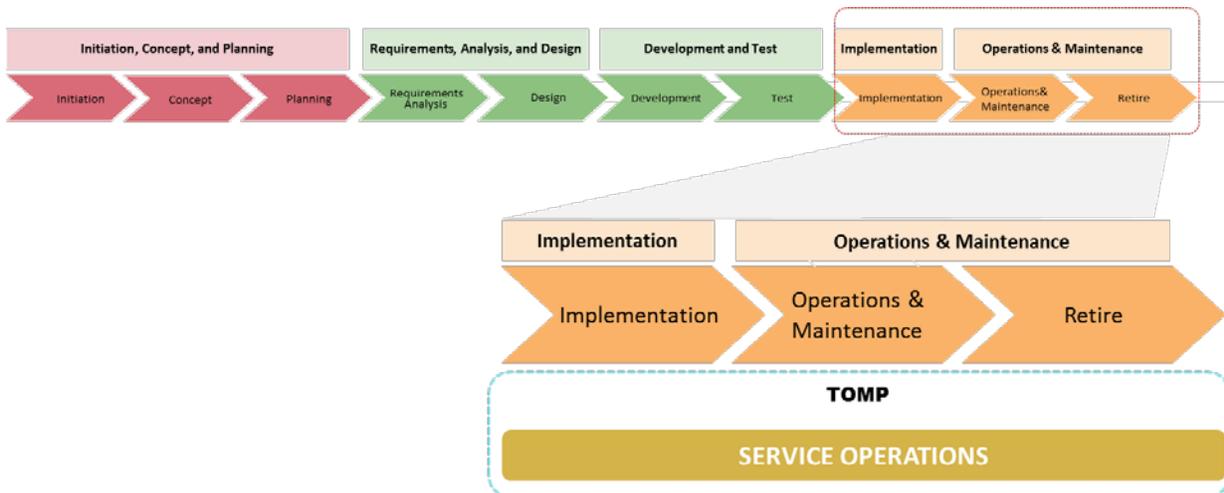


Figure 9: SDLC Alignment

SDLC Phase: Implementation

The O&M activities will enter into the SDLC starting with the Implementation phase. The implementation phase focuses on completing all activities necessary to deploy the solution in the new environment and to ensure that the system, as developed satisfies the functional requirements; satisfies the business needs; adheres to all mandates, constraints, and service level agreements; and operates as described in the S\systems operations documentation. During Implementation, O&M will focus on ensuring the functions, processes and activities required to support the TEDS system have the proper supporting tools and staff in place.

SDLC Phase: Operations and Maintenance

The Operations & Maintenance phase of the SDLC is where O&M will play the largest role, which is to ensure the system is available and functioning properly. This phase includes the ongoing support of the TEDS solution and the Service Desk with 24/7/365 monitoring. Ongoing O&M support includes performance monitoring, incident, problem, and event detection and remediation; as well as ensuring the solution remains current. Operations and support efforts need to be managed closely according to business needs. For the SI Contractor's responsibilities required in the SDLC Operations and Maintenance phase, reference the RFQ For Systems Integration (SI) Service RFQ #32101-15557; Section A.17 "Operations and Maintenance."

SDLC Phase: Retire

The Retire phase defines the activities executed to remove the TEDS solution at the end of its' life cycle (or an older release of the system) from the production environment. For the SI Contractor's responsibilities in the SDLC Retire phase, reference RFQ For Systems Integration (SI) Service RFQ #32101-15557; Section A.18 "Turnover."

5.3. O&M Turnover

For the SI Contractor's responsibilities required in the O&M RUNBOOK, reference the RFQ For Systems Integration (SI) Service RFQ #32101-15557; Section A.18 "Turnover."

6. TOMP Governance

The purpose of TOMP governance is to ensure that O&M work adheres to standards and principles; supports business strategy; and provides the functionality stated.

The governance section describes how the SI Contractor’s O&M activities will be governed throughout the TEDS solution life cycle. This section will describe the standards and policies to be incorporated in the O&M Runbook, as well as the general governance required for all MMP projects.

6.1. O&M Policies and Standards

The SI Contractor will leverage and adhere to industry-leading best practices and applicable standards as detailed below to author the O&M Runbook.

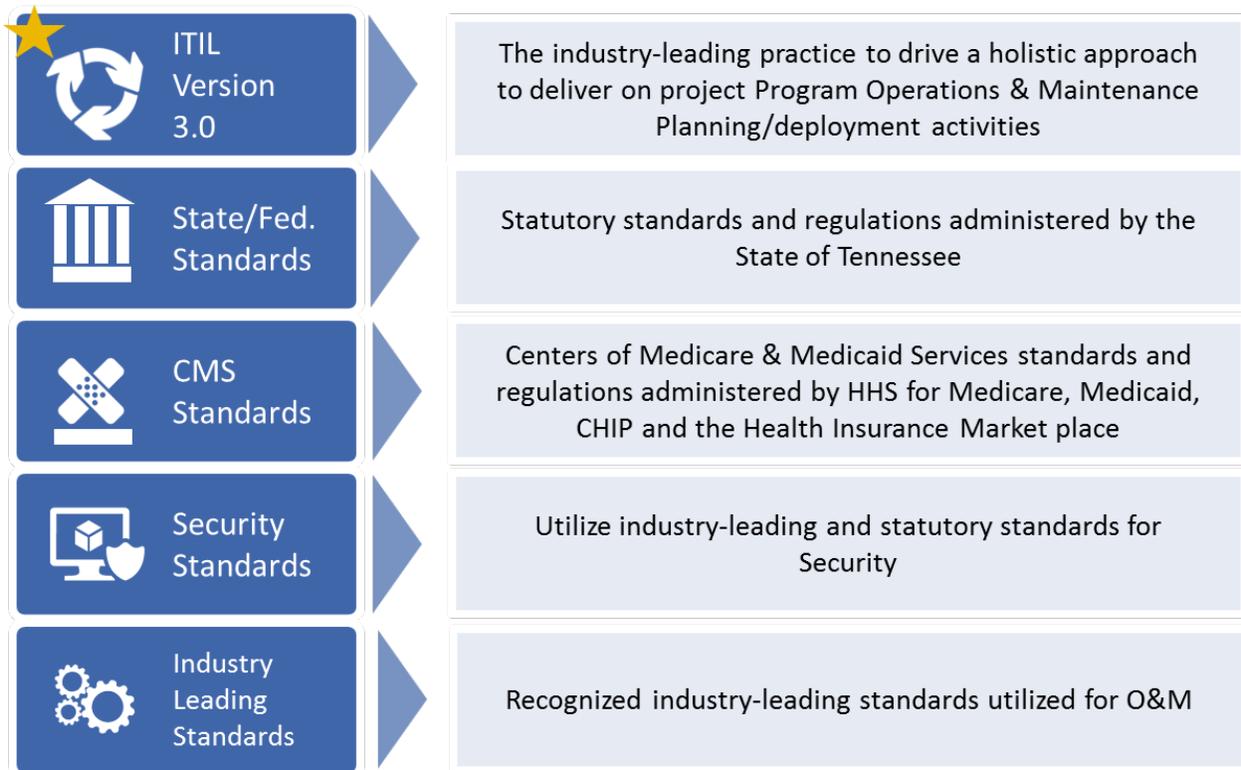


Figure 10: O&M Policies & Standards

6.2. External - Industry Standards

These standards are set outside of the organization, but are to be adapted and enforced in the O&M Runbook. They should provide general guidance, taxonomy, and structure in the development of the O&M Runbook. These standards should include:

1. [ITIL V3](#)– ITIL is a widely accepted approach to IT service management

6.3. External Mandatory – Legal, Regulatory and Legislative (Federal, State, and CMS) Standards

These standards must be met by target and solution O&M practices without exception. The governance team is accountable for compliance to the O&M standards set forth in the O&M Runbook. The SI Contractor must incorporate and comply with all applicable federal and State laws, rules, regulations, sub-regulatory guidance, executive orders, CMS TennCare Waivers, and all current Court decrees, orders or judgments applicable to the TennCare and CHIP programs (collectively referred to herein as the Applicable State and Federal Requirements). This includes but is not limited to:

1. [PPACA](#)
2. [CMS Enhanced Funding Requirements: Seven Conditions and Standards](#)
3. [HIPAA](#) – specifically Title II, with the five rules regarding Administrative Simplification: the Privacy Rule, the Transactions and Code Sets Rule, the Security Rule, the Unique Identifiers Rule, and the Enforcement Rule
4. [Freedom of Information Act](#)
5. [MITA](#)
6. [MARS-E](#)
7. IRS 1075

MMP level governance body roles vary depending on the type of policy (i.e., where it comes from). State and federal level policies are enforced by governance review boards while HCFA policies are both approved and enforced.

6.4. Security Principles

Security principles and standards are set by the governance board and should include, at a minimum, the Minimum Acceptable Risk Standards for Exchanges (MARS-E 2.0). Policies and standards should be applied as required from the following:

1. MARS-E 2.0
2. National Institutes of Standards and Technology (NIST)
3. Internal Revenue Service (IRS)

6.5. Industry Leading Practices

Industry leading principles and standards that are widely accepted and utilized for ITSM, and could be leveraged to augment the standards above. Examples of such standards are:

1. COBIT
2. ISO/IEC 20000

Appendix A: Definitions, Acronyms and Abbreviations

Table 26: Definitions

Term	Definition
ITIL Version 3.0	The industry-leading practice to drive a holistic approach to deliver on project Program Operations & Maintenance Planning/deployment activities
Service Strategy	Defines the perspective, position, plans and patterns that a service provider needs to execute to meet an organization's business outcomes
Process Service Design	Includes the design of the services, governing practices, processes and policies required to realize the service provider's strategy and to facilitate the introduction of services into supported environments
Service Transition	Ensure that new, modified or retired services meet the expectations of the business as documented in the service strategy and service design stages of the life cycle
Continual Service Improvement	Coordinate and carry out the activities and processes required to deliver and manage services at agreed levels to business users and customers Manage the technology that is used to deliver and support services
Service Operation	Ensure services are aligned with changing business needs by identifying and implementing improvements to IT services that support business processes
Service Lifecycle	An approach to IT service management that emphasizes the importance of coordination and control across the various functions, processes and systems necessary to manage the full life cycle of IT services
Processes	Structured set of activities designed to accomplish a specific objective turning inputs into defined outputs It may include roles, responsibilities, tools and management controls required to deliver outputs
Functions	A team or group of people and the tools or other resources they use to carry out one or more processes or activities
Transition Planning & Support	The Process responsible for Planning all Service Transition Processes and coordinating the resources that they require.
IT Change Mgmt.	The Process responsible for controlling the Lifecycle of all Changes. The primary objective of Change Management is to enable beneficial Changes to be made, with minimum disruption to IT Services.
Service Asset	The Process responsible for both Configuration Management and Asset Management. Configuration Management: The Process responsible for

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Term	Definition
& Configuration Management	maintaining information about Configuration Items required to deliver an IT Service, including their Relationships. Asset Management: Process responsible for tracking and reporting the value and ownership of financial Assets throughout their Lifecycle
Knowledge Management	The Process responsible for gathering, analyzing, storing and sharing knowledge and information within an Organization. The primary purpose of Knowledge Management is to improve Efficiency by reducing the need to rediscover knowledge.
Release & Deployment Management	The process responsible for both Release Management and Deployment. Release Management is the process responsible for planning, scheduling and controlling the movement of releases to test and live environments. The primary objective of release management is to ensure that the integrity of the live environment is protected and that the correct components are released. Deployment is the activity responsible for movement of new or changed hardware, software, documentation, process, etc. to the live environment.
Service Validation &Testing	The process responsible for validation and testing of a new or changed IT service. Service Validation and Testing ensures that the IT service matches its design specification and will meet the needs of the business.
Change Evaluation	The process responsible for assessing a new or changed IT service to ensure that risks have been managed and to help determine whether to proceed with the change. Evaluation is also used to mean comparing an actual outcome with the intended outcome, or comparing one alternative with another.
Access Management	The process responsible for allowing users to make use of IT services, data, or other assets. Access Management helps to protect the confidentiality, integrity and availability of assets by ensuring that only authorized users are able to access or modify the assets. Access Management is sometimes referred to as rights management or identity management.
Service Desk	The single point of contact between the service provider and the users. A typical Service Desk manages incidents and service requests, and also handles communication with the users.
Technical Management	The function responsible for providing technical skills in support of IT services and management of the IT infrastructure. Technical Management defines the roles of support groups, as well as the tools, processes and procedures required.
IT Operations Management	The function within an IT service provider that performs the daily activities needed to manage IT services and the supporting IT infrastructure. IT Operations Management includes IT Operations Control and Facilities

Term	Definition
	Management.
Application Management	The function responsible for managing applications throughout their life cycle.
Event Management	The process responsible for managing events throughout their life cycle. Event Management is one of the main activities of IT operations.
Incident Management	The Process responsible for managing the life cycle of all incidents. The purpose of Incident Management is to restore normal service operation as quickly as possible and minimize the adverse impact on business operations, thus ensuring that agreed levels of service quality are maintained
Request Fulfillment	Request fulfillment is the process responsible for managing the life cycle of all service requests from the users.
Problem Management	The process responsible for managing the life cycle of all problems. The primary objectives of problem management are to prevent incidents from happening, and to minimize the impact of incidents that cannot be prevented.

Table 27: Acronym

Acronym	Definition
CHIP	Children's Health Insurance Program
CMS	Centers for Medicare and Medicaid Services
DED	Deliverable Expectations Document
EM	Eligibility Modernization
HCFA	Health Care Finance and Administration
HHS	Health and Human Services
HIPAA	Health Insurance Portability and Accountability Act
ISSC	Information Systems Steering Committee
IT	Information Technology
IT-ELC	Information Technology Enterprise Lifecycle
ITIL	Information Technology Infrastructure Library
IV&V	Independent Validation & Verification

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Acronym	Definition
MMIS	Medicaid Management Information System
MMP	Medicaid Modernization Program
NHSIA	National Human Services Interoperability Architecture
NIST	National Institutes of Standards and Technology
O&M	Operations & Maintenance
OeHI	Office of eHealth Initiatives
PGMP	Program Governance Management Plan
PMO	Project Management Office
PPACA	Patient Protection and Affordable Care Act
PPM	Project Portfolio Management
PSDLC	Program Solution Development Lifecycle
RFQ	Request for Qualifications
RTM	Requirements Traceability Matrix
SDLC	Solution Development Lifecycle
SI Contractor	Systems Integrator
SPMO	Strategic Project Management Office
STS	Strategic Technology Solutions
TAS	Technical Advisory Services
TEDS	Tennessee Eligibility Determination System
TOMP	TEDS Operations & Maintenance Management Plan

Appendix B: SDLC RACI Chart Role Definition

This appendix defines roles and responsibilities that key stakeholders have in the SDLC Phase activities and deliverables.

The following defines what each letter in the RACI acronym means:

(R) Responsible: Those who are primary responsible for the work to complete the task or deliverable. Only one party shall be responsible for any activity, task, or deliverable.

(SR) Shared Responsibility: Those who are charged with completing some supporting work relative to the activity or task. There may be no, one, or multiple SR parties for any activity, task, or deliverable.

(A) Accountable: Those who are accountable for ensuring the correct and thorough completion of the task or deliverable. There should be only one Accountable party for any activity, task, or deliverable.

(C) Consulted: Those whose opinions and input are sought (two-way conversation).

(I) Informed: Those who are kept up to date on progress, often only on completion of the task or deliverable (one-way conversation).

Table 28: RACI Participants Definition

RACI Participants Definitions		
State	Program and Project Management	The management team that includes the Medicaid Modernization Program (MMP) Director and assigned Project Managers.
	HCFA Business	Organizational units that oversee the policies and operations of HCFA business functions, such as member services.
	HCFA IS	HCFA IS provides support for planning, design, implementation and operation of information technologies and methodologies.
	HCFA Enterprise Security	HCFA's enterprise security, includes HCFA & contractor resources responsible for reducing the risk of unauthorized access to systems and data.
	STS (Infrastructure)	Strategic Technology Solutions provides direction, planning, resources, execution, and coordination in managing the information systems needs of the State of Tennessee. STS is a division within the Department of Finance & Administration.

RACI Participants Definitions		
MMP Contractors	TAS	Technical Advisory Services supports and advises the State in completing the Medicaid Modernization Program (MMP) by offering Organizational Change Management and Training, Operations & Maintenance Planning, System Development life cycle Advisory Services, Quality Management, and Enterprise Architecture services
	SPMO	The Strategic Program Management Office provides program and project management support to the State in completing the MMP
	IV&V	Independent Verification and Validation is an independent contractor responsible for verifying that any developed systems perform as designed and will continue to operate correctly in the future. IV&V provides objective evidence that all software requirements have been implemented correctly and completely. This includes evidence that the solution produces the intended results and that all functionality is traceable to solution requirements.
	SI	The System Integrator is responsible for the design, development, testing, implementation, and the operations and maintenance (O&M) of a new system to modernize and enhance eligibility determination, redetermination, and eligibility appeals for the State of Tennessee's Medicaid program (TennCare) and Children's Health Insurance Program (CHIP, known as CoverKids in Tennessee).

Appendix C: RACI Table

FUNCTION/ PROCESS	ACTIVITY	STATE					CONTRACTOR			
		HCFA BUSINESS	HCFA IS	HCFA ENTERPRISE SECURITY	PROGRAM/ PROJECT MANAGER	STS (INFRASTRUCTURE)	SI	TAS	SPMO	IV&V
Incident Management	Interaction Handling		A			SR	R			
	Incident Detection & Logging		A			SR	R			
	Investigation & Diagnosis	C	A	C		SR	R	C		
	Resolution & Recovery	C	A	C		SR	R	C		
	Closure		A			SR	R			
Event Management	Engineer & Configure Event Management System (Event Capture)	C	A	C		SR	R	C		
	Detect & Log Event		A	I		SR	R	I		
	Correlate & Filter Event		A	I		SR	R	I		
	Select Event Response		A	I		SR	R	I		
	Review & Close Event	I	A	I		SR	R	I		
Request Management	Initiate Request	I	A	I			R	I		
	Validate & Classify Request	I	A	I			R	I		
	Evaluate Request	C	A	C			R	I		
	Approve Request	C	A	C			R	I		
	Fulfill Request	C	A	C		SR	R	C		
	Review & Close Request	C	A	C			R	I		
	Cancel Request	I	A	I			R	I		
Console Management	Console Management		A	I		SR	R	C		
Job Scheduling	Job Scheduling and	C	A	I		SR	R	C		

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FUNCTION/ PROCESS	ACTIVITY	STATE					CONTRACTOR			
		HCFA BUSINESS	HCFA IS	HCFA ENTERPRISE SECURITY	PROGRAM/ PROJECT MANAGER	STS (INFRASTRUCTURE)	SI	TAS	SPMO	IV&V
and Monitoring	Monitoring									
Back Up and Restore	Back Up and Restore	C	A	I		R	SR	C		
Print and Output Management	Print and Output Management	C	A	I			R			
Infrastructure Management	Infrastructure Management		A	I		SR	R	C		
Middleware Management	Middleware Management		A	I		SR	R	C		
Database Administration	Database Administration	I	A	I		SR	R	C		
Directory Services Management	Directory Services Management		A	I		SR	R	C		
Network Management	Network Management					A	R			
Server Management and Support	Server Management and Support		A	I		SR	R	C		
Application Management Lifecycle	Application Management Lifecycle	C	A	I			R	C		
Application Management	Application Management		A	I		C	R	C		