FEDERAL RETIREMENT THRIFT INVESTMENT BOARD (FRTIB)

TECHNOLOGY AND ENTERPRISE SUPPORT SERVICES (TESS)

TIB-2013-RFP-0012

FINAL STATEMENT OF WORK

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1.0 INTRODUCTION

The Federal Retirement Thrift Investment Board (FRTIB or Agency) is an independent Federal agency in the Executive branch created by the Federal Employees' Retirement System Act of 1986 (FERSA), Pub. L. No. 99-335, 100 Stat. 514 (codified as amended largely at 5 U.S.C. § 8351 and §§ 8401-79) to administer the Thrift Savings Plan (TSP). The TSP is similar to 401(k) plans offered to employees in the private sector; it is the largest defined contribution plan in the world, with 4.5 million employees and over $300 billion in assets. The TSP has five individual funds including government securities, bond, equities, and international funds, and life cycle funds made up of the five individual funds.

The purpose of the Technology Enterprise Support Services (TESS) acquisition is to competitively select a company to provide a broad range of Information Technology (IT) support services. Technology and Enterprise Support Services (TESS) includes the following IT support services, as well as select Recordkeeping business process services, as follows:

Business Process Services

- Recordkeeping Services, including: Required Minimum Distribution, Refund of Excess, G Fund Transfer/Forfeiture, Annual Tax Reporting, Year End Processing, Omni Scripting/Ad Hoc Reporting, Audit Support, Manual and Automated Updates to the Recordkeeping System, Level 2 Functional Application Support, Quarterly and Annual Statement Process

IT Services

- Data Center Services, including: Operations and Administration (time sensitive nightly batch processing for very large volume financial transactions), Computing, Storage, Backup, Output, Database and Middleware Administration
- Data Network Services, including: Operations and Administration, Wide Area Network, Local Area Network, Virtual Private Network, Firewall Management, Quality of Service, Provisioning, Install-Moves-Adds-Changes, Monitoring and Management
- Voice Network Services, including: Operations and Administration, Local and Long Distance Telephony, Voice Messaging, Voice Conferencing, Video Conferencing, Directory, Inbound Toll Free, Install-Moves-Adds-Changes, Contact Center Services, including: Interactive Voice Response, Automatic Call Distribution, Computer Telephony Interface
- End User Services, including: Operations and Administration, Desk side Break fix and Technical Support, Core Software Image Build and Deployment, Install-Moves-Adds-Changes, Backup and Restore

- Application Services including: Full Application Life Cycle Management support for Application Development and Production Support
- Service Desk Services including: Operations and Administration, Single Point of Contact, Request and Incident Management, Remote Device and Software Management, End User Administration, Install-Moves-Adds-Changes, Self Help, and Service Catalog
- Cross Functional Services, including, Performance Management, Security Management, Backup and Recovery, IT Service Continuity and Disaster Recovery, Incident, Problem, Configuration, Change, Release, Availability, Capacity ,Refresh, Operations, Documentation, Implementation and Migration, Engineering, Integration Testing, Asset Management, and Knowledge Transfer.

1.1 Current TESS Services

In the base period of performance, FRTIB desires implementation of missing processes and meaningful (minimally disruptive) improvement in existing processes to help facilitate: 1) better integration of the Service Towers, 2) more effective and efficient delivery of services, and 3) better governance of the entire service environment.

1.1.1 Cross Functional Services

1.1.1.1. IT Life Cycle and Operations

Currently, FRTIB performs many of these process services described independently within the Service Towers and without tight integration between Service Towers.

Generally, within the Schedule A Service Towers, FRTIB currently performs the following eight (8) process services in an ad hoc fashion: Design; Engineering; Acquisition; Integration and Testing; Implementation and Migration; Documentation; and Operations and Maintenance.

1.1.1.2. Service Delivery

Currently, FRTIB performs many of these process services described independently within the Service Towers and without tight integration between Service Towers.

Generally, within the Schedule A Service Towers, FRTIB performs the following process services in an ad-hoc fashion: Capacity Management; Security processes. FRTIB performs Backup and Recovery and IT Disaster Recovery with a higher degree of maturity. FRTIB is in the process of expanding and improving its Security process services.

1.1.1.3. Service Support

Currently, FRTIB performs most of these process services described independently within the Service Towers and without tight integration between Service Towers.

Generally, FRTIB performs the following process services with defined processes: Change Management and Release Management. FRTIB is in the process of building out processes for Event/Incident/Problem Management.

1.1.2. Data Center

FRTIB's data centers provide mainframe and distributed systems platforms for the systems that support the Agency and the Thrift Savings Plan. Due to the criticality of the Thrift Savings Plan system, these platforms are built utilizing enterprise technologies to provide 1) high-degrees of local high-availability and fault tolerance, 2) flexibility in management of resources, and 3) high degrees of data protection in a disaster recovery scenario.

1.1.3. Data Network

FRTIB's data network provides network connectivity at FRTIB's Headquarters, primary data center, backup data center, two call centers, and several contractor sites. Due to the criticality of the Thrift Savings Plan systems and operations, the data network is built utilizing enterprise technologies to provide high-throughput, highly-reliable and secure network connectivity. The data network includes multiple Multiprotocol Protocol Label Switching (MPLS) Wide Area Network (WAN) connections at eac site, redundant Internet connections at each data center, redundant data center interconnects, and redundant network hardware for each component.

1.1.4. Voice Network

FRTIB's voice network provides voice services at FRTIB's Headquarters and two call centers. Due to the criticality of the Thrift Savings Plan operations, the current voice network is built to provide sufficient capacity in the event of certain failures. FRTIB is in the process of making a transition to a Voice over Internet Protocol (VoIP)-based voice network system to support the Thrift Savings Plan to provide 1) high-degrees of fault tolerance, 2) excellent voice quality, and 3) enhanced flexibility in call management.

1.1.5. End User Services

FRTIB's End User Services provide support for the end user IT needs for the FRTIB's Federal employees. Currently, the Agency's End User Services are provided by Federal employees, but have struggled to develop repeatable processes and to maintain a stable and reliable environment. Due to the Agency's significant role in overseeing the Thrift Savings Plan and performing Agency business, the Agency needs to make considerable improvement in this area to provide 1) high-quality support, and 2) secure, high-quality technology solutions that address the rapid change that users demand. In addition, in the future, FRTIB anticipates an

expansion of End User Services to include FRTIB-provided virtual desktops for facilitating access to sensitive systems.

1.1.6. Service Desk

FRTIB is in the process of implementing a Service Desk to coordinate previously ad-hoc Incident/Problem management processes.

1.1.7. Applications

Within FRTIB Schedule B Applications Service Tower we maintain just over 60 applications. Our core applications have been Commercial Off-The-Shelf (COTS) acquired with the remaining being developed in-house to integrate with our COTS programs, build flat files for transmissions, or serve a purpose not readily available commercially. We have applications utilizing both Mainframe and Distributed Environments. A majority of our user-facing applications are classified as distributed and are housed on virtual servers and are web accessible. Each maintained application has its own unique instance within the development, test, and production environments. With the exception of a few applications, each instance has its own corresponding database. Development and Test environments would share a database only if the data was so large that it was not cost effective to have a separate database. With the criticality of the Thrift Savings Plan's operations, we have taken significant steps over the past two years to improve the structure of our Development and Test environments to ensure all applications are properly integrated and work seamlessly with minimal defects.

1.1.8. Recordkeeping

Within the Schedule B Service Towers, the FRTIB uses the Omni Plus Recordkeeping system to collect, organize, and categorize participant records. OmniPlus has been customized to support specialized processing requirements and transaction scheduling. This encompasses the core Recordkeeping functions, which are the processing of participant and plan level transactions to include contributions, corrective adjustments, investment transactions, loans and other disbursements, and reporting. These Recordkeeping services include: Required Minimum Distribution, Refund of Excess, G Fund Transfers/Forfeitures, Annual Tax Reporting, Year End Processing, Omni Scripting/Ad Hoc Reporting, Audit Support, Manual and Automated Updates to the Recordkeeping System, Level 2 Functional Application Support, and Quarterly and Annual Statement Process.

While the TSP was built for simplicity and not complexity, the addition of the ROTH contribution option required substantial modifications to the Recordkeeping system and has considerably increased the Plan's complexity. Currently, the FRTIB uses IT best practices and procedures for the integration and management of COTS software and applications; the

design, development, and integration of custom software and applications; and, the ongoing maintenance of all software to integrate with the Recordkeeping system. Due to substantial demands for additional service improvements, enhanced participant programs and benefits; the FRTIB continues to pursue significant IT improvements to the Recordkeeping system.

2.0 PROGRAM MANAGEMENT

The Contractor will be responsible and accountable for ensuring the quality and timeliness of products and services delivered under this contract

2.1 Program Management Objectives

FRTIB recognizes that Program Management Services are an essential component for successful contract management and establishing an ongoing successful FRTIB - Contractor relationship. The FRTIB requires a relationship with the Contractor based on the following key attributes:

- Appropriate governance structures
- Mutual trust and respect
- Excellent communication
- Well-defined objectives and service levels
- Well-defined roles and responsibilities

2.2 Program Management Requirements

The Contractor relationship management team will work with the FRTIB team to:

- Deliver high-quality IT services to support the FRTIB business needs
- High customer satisfaction from all technical and operational End Users of Services
- Continuous improvements to the functionality, creation and delivery of Services—to better serve the FRTIB business objectives.
- Develop the business rationale and benefits of any proposed changes and communicate these to the team and other FRTIB stakeholders, as appropriate
- Work within the mutually-agreed upon structure regarding processes and procedures
- Assist the FRTIB in its planning activities
- Ensure sufficient and continued communication

2.3 Day-to-Day Management

The FRTIB approved formal procedural, reporting and communication processes and structures will be established to manage the delivery of the IT services in an efficient and effective manner. They will be documented and maintained by Contractor, as approved by the FRTIB, and modified and updated on an ongoing basis to reflect changes to the business and operational relationship.

Contractor and the FRTIB will agree upon additional points of contact and a reporting structure covering day-to-day operations and reviews of Contractor's performance. These may include technical, financial, and service-level requirements reviews as well as the resolution of any contractual issues that may arise. These reporting schedules will be documented and maintained by Contractor in an online repository accessible to the FRTIB's management team. A regular meeting schedule will be required for the different reporting levels established, with ongoing 24-hour access to all of Contractor points of contact when required.

For IDIQ requirements associated with sections 3-10 of the SOW, the Contractor shall develop and maintain a Task Order Management and Tracking system.

The Contractor shall provide processes and procedures acceptable to the FRTIB that can be used to manage day-to-day relationship processes including:

- Dispute resolution
- Task Orders
- Performance reporting (e.g., Service Level Requirements (SLRs), project status, outstanding service request status)

2.4 Key Roles

The FRTIB and Contractor shall each establish and maintain relationship management teams of senior IT and business professionals that, throughout the Contract life cycle, will:

- Determine and protect the business interests and reputation of the FRTIB
- Dedicate sufficient time and resources to make the relationship a success
- Support the FRTIB strategic and tactical planning processes for in scope services, including IT linkage to business objectives and technology standards and architectures
- Monitor Contractor performance metrics including contracted Service Level Requirements.

2.4.1. Service Objectives

The following are the key high-level Service Objectives FRTIB expects to achieve through TESS Statement of Work (SOW):

- Comparable-to Defined Contribution and Financial Services Contemporaries
- Reliable and Available - to retain the confidence and trust of participants and stakeholders in the systems and data
- Secure- to ensure participant data and FRTIB systems are comprehensively and redundantly protected
- Autonomous- to preserve the Agency's position that critical systems are not wholly dependent on a Contractor's infrastructure

Enabling ... the FRTIB Mission

2.4.2. Program Executive/Relationship Management Team

Contractor Program Executive has overall responsibility for directing all of Contractor's activities and has the necessary authority to act for Contractor in connection with all aspects of the Contract. The Contractor Program Executive key responsibilities are:

- Serving as the primary Relationship Manager between the service Contractor and the FRTIB
- Being knowledgeable about the Services of Contractor and its Subcontractors' products and services
- Having experience at running services equal in size and scope to those of the FRTIB

2.4.3. Service Delivery Managers

Each Party designates individuals (for the FRTIB, the "FRTIB Service Tower Manager", and for Contractor, the "Contractor Service Delivery Manager") for each of the Service Towers, who are each Party's primary point of contact for all matters relating to that Service Tower.

Contractor Service Delivery Managers key responsibilities are:

- Knowledgeable about the Services and each of Contractor's and its Subcontractors' products and services

- Experienced at integration and operation of an information technology systems and networks (e.g., infrastructure, operations, software applications, and business processes) of a size and scope minimally equal in size and scope to those of the FRTIB

2.4.4. Transition Managers

Each transition from one service state to another (e.g. initial phase-out and transition, introduction of a new service or transfer of a service), will require the establishment of a transition team or teams with membership from the Agency and Contractor, to establish the new service state that is required. Both the Agency and the Contractor shall have a Transition Manager in place, for the duration of the applicable transition, to manage.

2.4.5. Additional Relationship Management Functions

The following are additional FRTIB and Contractor relationship management functions that are essential to managing the relationship:

- Project Management
- Performance Management
- Contract Management
- Transformation Management
- Strategic Planning Governance
- Quality Management
- Risk Management

2.4.5.1. Project Management

The Contractor implements project management tools and techniques for measuring progress and to achieve successful completion of project goals and objectives.

2.4.5.2. Performance Management

The FRTIB and Contractor Performance Management function takes overall responsibility for ensuring Contractor performance meets business requirements and recommends continuation, improvement or problem resolution to ensure that business requirements are met. This function includes:

- Leading the measurement process by which Service Level Requirements are assessed

- Reviewing and monitoring performance and facilitating the development of improvement plans
- Conducting exploratory activities to determine how to raise performance levels and recommending changes in Service Level Requirements where appropriate to ensure that they properly reflect business needs, while balancing costs.

2.4.5.3. Contract Management

The FRTIB and Contractor Contract Management function manages the contractual relationship between the FRTIB and Contractor. This function includes:

- Leading and facilitating contract activities from contract signing through service Contractor transition and ongoing operations
- Monitoring compliance with contract terms and conditions and providing recommendations to resolve issues related to non-compliance.

The FRTIB and Contractor Contract Management work closely with FRTIB procurement and legal counsel to:

- Create, negotiate and incorporate amendments into the contract
- Coordinate the contract negotiations/renegotiations to accommodate scope changes or changes to business requirements per the following contract change management process.

2.4.5.4. Transformation Management

The FRTIB and Contractor Transformation Management function manages and oversees programs that create significant step changes to the FRTIB service environment. This function includes:

- Leading and facilitating transformation activities from concept development to implementation
- Monitoring progress and compliance with the Transformation initiative identifying key issues, obstacles, or constraints to its execution and recommending solution to resolve issues
- Uses tool and techniques in project management to ensure proper management and execution.

2.4.5.5. Strategic Planning Governance

The FRTIB and Contractor Strategic Planning function manages and ensures the alignment of TESS Services with the strategic imperatives and objectives of FRTIB and its business stakeholders. This function includes:

- Conducting planning sessions that review and discuss significant inputs to the FRTIB Strategic Plan, as well as any major incidents that may affect the Agency
- Review key annual initiatives to ensure they go through the proper governance steps for approval
- Providing input to the FRTIB IT Strategic Plan.

2.4.5.6. Quality Management

The FRTIB and Contractor Quality Management function manages the overall compliance of Quality Management practices by TESS to ensure that quality is built into every aspect of performing the TESS services. This function includes:

- Reviewing the quality assurance policies and procedures to ensure adherence with best practices and that quality can be delivered consistently
- Processes such as, at a minimum, quality control, quality assurance, and quality improvement components so that the means of achieving desired levels of excellence is feasible.

2.4.5.7. Risk Management

The FRTIB and Contractor Quality Management function manages the Risk Management practices of TESS to ensure that risks are properly identified, managed, and mitigated. This function includes:

The identification, assessment, and prioritization of risks followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities.

The strategies to manage risk, including transferring the risk to another party, avoiding the risk, reducing the negative effect or probability of the risk, or even accepting some or all of the potential or actual consequences of a particular risk.

2.5 Contractor Key Personnel Incentives

Contractor creates and maintains, for the Contractor Key Personnel, an individual compensation structure that provides incentives to meet the objectives of the Contract and

SLRs. The FRTIB's expectation is that the FRTIB customer satisfaction is a key component of the assigned Contractor personnel performance reviews.

2.6 TESS Program Management Governance Structure

The following is the TESS contract governance process to oversee and manage all contract activities. The Governance process will be structured utilizing three levels of committees; TESS Program Executive Committee (TPEC), Program Management Operations Committee (PMOC), and Service Management Teams. The purpose of the Governance process is to control and manage all Core and Task Orders (TOs). These committees also provide the overall framework to effectively analyze, prioritize, and approve TOs. These committees are collaborative meetings with the Contractor and the Agency, however only the Contracting Officer Representative (COR) with delegated authority from the Contracting Officer (CO) directs within scope TESS activities; the CO will authorize all TOs for TESS.

2.6.1. TESS Program Executive Committee (TPEC)

The TPEC will be comprised of senior executives and managers from the Agency and the TESS contractor (members to be determined) who will meet to address strategic issues relating to administration of the Contract. The Executive Committee is also responsible for giving guidance to the Program Management Operations Committee.

The Executive Committee meets quarterly, and has the following roles and responsibilities:

- Address and resolve high-level scope issues and activities
- Review and approve technology and process innovations to drive significant business change
- Address technical and business risks or issues not resolved at a lower level of governance and operations

(Note: FRTIB Contracting Officer will address any scope issues as a result of the above actions.)

Prior to each meeting, the TESS Contractor shall prepare a proposed agenda for review and approval by the Agency Program Executive and Technical Management representatives. Upon review, the Agency representatives may propose additional agenda items or amend or remove agenda items proposed by the TESS Contractor. With the approval by Agency representatives, any member of the Executive Committee may invite industry thought leaders to participate in such meetings to facilitate information exchange and increase the value of the strategies discussed.

2.6.2. Program Management Operations Committee (PMOC)

The PMOC will be comprised of CORs, Agency line managers, contractor representatives, and the CO. The PMOC has the following roles and responsibilities:

- Address technical and business risks or issues (as defined in Section 4) that have been escalated to this level
- Address the status of projects within each Service Tower and any problems or difficulties experienced by the Parties in transitioning to and/or delivering the Services
- Provide status of planned initiatives and discuss initiatives that may impact capacity requirements
- Discuss Contractor's overall compliance with the Service Level Requirements for all Services
- Plan for new Services and decommissioning of Services
- Review project forecasts and action items
- Adjust plans and projects as directed by the FRTIB
- Review the Program Management Report
- Explore and recommend innovation and improvement opportunities for more effective use of IT services and identify how innovative ideas and strategies could improve services under the Contract. Major opportunities will be referred to the TPEC. The CO will approve and authorize all scope changes to improve overall contract performance.

2.6.3. Service Management Teams

For the TESS Services, a joint management team comprised of business management and technology staffs from the FRTIB and the Contractor (the “Service Management Team”) are responsible for reviewing issues and activities associated with the day-to-day IT operations and services. *(Note: see defined contract authorization roles between CO and COR in 2.6.)* The Contractor is responsible for day-to-day operations. The COR and his/her task monitors are responsible for monitoring and reviewing that performance. The Service Management Team is chaired by the Cognizant Agency Service Manager. Members include the Contractor Service Delivery Manager, Agency Program Office lead(s) for the associated Service, plus any additional key attendees from both the Agency and Contractor. As required, additional Agency attendees may attend the Service Management Team work sessions on a ad-hoc basis. Any ad-hoc attendees require approval between Agency and Contractor prior to the Service Management Team meetings.

The Service Management Team meets on a weekly or other basis to be determined as agreed between the associated Contractor Service Delivery Manager and the Agency Service Tower Manager, and have the following role and responsibilities:

- Address operational or delivery issues arising during the previous week, and adherence to performance targets
- Review Root Cause Analysis of any previous issues
- Address outstanding or unresolved issues
- Review progress reports
- Plan for future changes [These plans should be escalated to the next level if they involve significant cost increases.]
- Review Contractor's compliance with the Service Level Requirements
- Review Issues, Risks, and Change Requests [Change requests should be escalated to the next level if they involve significant delays or cost increases.]
- Resolve such other matters as one Party may bring to the other

The contractor is responsible for managing and documenting all actions, and preparing an agenda with Agency concurrence prior to each committee meeting above.

2.7 FRTIB-Contractor Communications

The FRTIB and Contractor communicate, wherever possible and practicable, face-to-face. Video or audio conferences will be the second choice of communication medium. Where video or audio conferences are not practical, e-mail will be the fall-back communication medium.

All formal meetings whether face-to-face or video or audio conferences shall be:

- Set with an agenda at least 3 days in advance and have an identified chairman and note taker. The agenda should have clear directions of location and/or medium to be used; date and timings of meeting; topic items to be covered and expected outcome for each topic; owners of each topic; and any pre-work to be undertaken by topic owners or attendees.
- Documented with minutes by the note taker, and such minutes to include high-level summaries of key discussion points and future actions with timings and persons responsible for the actions. Minutes should be distributed to attendees and missing attendees and any persons with actions to be taken.

- Identify the person responsible for organizing the next meeting as required.

2.8 Reports

The following reports, in addition to monthly SLR compliance, are required.

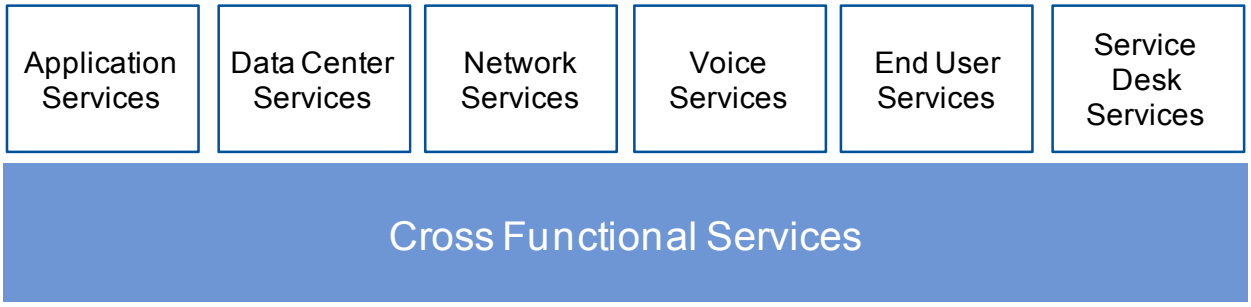
Table 1. Program Management Reports

Report Description	Frequency
Program Management Report	Monthly
Planned Initiatives Report and Impact	Monthly

3.0 CROSS FUNCTIONAL SERVICES

3.1 Cross-Functional Services Overview

Program wide services are the Cross Functional services that set forth the roles and responsibilities for the set of common services and processes that apply to the provision, delivery and management of all Services in support of the FRTIB Information Technology (IT) infrastructure and Applications in an IT Service Management end-to-end manner.



3.2 Service Environment

3.2.1. Scope of the Infrastructure To Be Supported

The Service Environment section in each IT Service Tower SOW describes the environment to be supported. The Service Environment includes Service Tower components such as hardware and software, facilities and locations, personnel, policies and procedures, licenses and agreements, work-in-progress and future initiatives. As such, this SOW applies to the Service Environment as specified in each Service Tower SOW. The Service Environment for each Service Tower will be documented in the applicable SOW Appendices and are to be maintained by Contractor, reviewed with FRTIB, updated by Contractor and made available to FRTIB on a quarterly basis.

3.2.2. Security Policies

The security environment, including compliance with Federal Information Security Management Act (FISMA), is critical to FRTIB's business. For purposes of this Cross Functional SOW and all Service Tower SOWs, FRTIB's Enterprise Information Security and Risk Management (EISRM) security policies are contained in RFP Attachment J.3.

3.3 Cross-Functional Services Requirements

The Contractor is responsible for providing Cross-Functional Services for Service Towers defined in the following sections of this SOW:

- Data Center Services
- Application Services
- End User Services
- Data Network Services
- Voice Network Services
- Service Desk Services
- Recordkeeping Services

3.3.1. Service Descriptions and Roles and Responsibilities

3.3.1.1. General Responsibilities

The following table identifies general roles and responsibilities associated with this SOW. An "X" is placed in the column under the Party that will be responsible for performing the task. Contractor responsibilities are indicated in the column labeled "Contractor."

Table 2. General Services Roles and Responsibilities

General Roles and Responsibilities	Contractor	FRTIB
1. Provide Services and the supporting processes that support FRTIB business needs, technical requirements End User requirements	X	
2. Approve Services and the supporting processes that support FRTIB business needs, technical requirements End User requirements		X
3. Comply with FRTIB policies, guiding principles , standards and regulatory requirements applicable to FRTIB for information, information systems, personnel, physical and technical security	X	

General Roles and Responsibilities	Contractor	FRTIB
4. Develop and maintain an approved comprehensive Standards and Procedures Manual that contains the standards, processes and procedures that will be used in the delivery of all Service Tower Services. The manual will include clearly delineated roles and responsibilities, touch points and measurements between FRTIB and the Contractor	X	
5. Approve the comprehensive Standards and Procedures Manual that contains the standards, processes and procedures that will be used in the delivery of all Service Tower Services. The manual will include clearly delineated roles and responsibilities, touch points and measurements between FRTIB and the Contractor		X
6. Conform to changes in laws, regulations and policies. Major Service Changes are proposed on a project-by-project effort basis to alter the environment to conform to the new requirements	X	
7. Report performance against Service Level Requirements SLRs	X	
8. Coordinate all Changes to the IT infrastructure across all service towers.	X	
9. Provide timely creation, updating, maintenance and provision of all appropriate project plans, project time and cost estimates, technical specifications, management documentation and management reporting in a form/format that is acceptable to FRTIB for all Service Tower projects and major Service activities	X	
10. Adhere to IT Service Management (ITSM) best practices and Key Performance Indicators (KPIs)	X	
11. Approve the use of the ITSM best practices and Key Performance Indicators (KPIs)		X

3.3.1.2. IT Life Cycle and Operations

3.3.1.2.1. Planning and Analysis

Planning and Analysis Services are activities associated with researching new technical trends, products and services, such as hardware components, system Software, and Networks that offer opportunities to improve the efficiency and effectiveness of the Service Towers. Planning and Analysis Services can also help support competitive business advantage and mitigate risks by reducing defects and improving the Quality of IT Services. The following table identifies the Planning and Analysis roles and responsibilities that Contractor and FRTIB will perform.

Table 3. Planning and Analysis Roles and Responsibilities

Planning and Analysis Roles and Responsibilities	Contractor	FRTIB
1. Define Services, processes, standards and time frames for Planning and Analysis activities		X
2. Participate in defining Services, processes, and standards for Planning and Analysis activities	X	
3. Review and approve Services, processes, and standards for Planning and Analysis activities		X
4. Define FRTIB requirements at the enterprise level for all Service Towers (e.g., business, technology strategy, functional, availability, capacity, performance, backup and IT service continuity)		X
5. Perform technical and Service Planning and Analysis based on FRTIB requirements (e.g., availability, capacity, performance, backup and IT Service Continuity and Disaster Recovery Services)	X	
6. Provide recommendations for new or changes to applications, infrastructure, processes, and Services based on Planning and Analysis results in a management report	X	
7. Approve Planning and Analysis and recommendations for new or changes to applications, infrastructure, processes and Services		X
8. Recommend Data Backup and Retention policies for all Service Towers	X	
9. Approve FRTIB Data Backup and Retention requirements and policies for all Service Towers		X

Planning and Analysis Roles and Responsibilities	Contractor	FRTIB
10. Continuously monitor technical trends through independent research; document and report on products, processes and services with potential use for FRTIB as they align with FRTIB's business and technology strategy	X	
11. Recommend new technologies that best meet FRTIB business needs and meet cost, performance and Quality objectives	X	
12. Approve the implementation of new technologies that best meet FRTIB business needs and meet cost, performance and Quality objectives		X
13. Perform feasibility studies for the implementation of new technologies that best meet FRTIB business needs and meet cost, performance and Quality objectives	X	
14. Define enterprise-level project management policies, procedures and requirements (e.g., project feasibility analysis, cost-benefit analysis, scheduling, costing, resource planning, communication planning, procurement, risk management and Quality management)		X
15. Perform project management function for Contractor-managed projects and provide project management deliverables in accordance with FRTIB project management policies and PMI best practices	X	
16. Perform project management oversight and liaison function to the business and customers (i.e., stakeholder management) and approve project management deliverables		X
17. Conduct annual technical and business planning sessions to establish standards, architecture and project initiatives per the Planning and Analysis results		X
18. Participate in technical and business planning sessions to establish standards, architecture and project initiatives as required	X	
19. Develop and present documented standards and architecture	X	
20. Approve documented standards and architecture		X
21. Develop and present project charters		X

Planning and Analysis Roles and Responsibilities	Contractor	FRTIB
22. Conduct regular planning for technology refreshes and upgrades	X	
23. Participate in regular planning for technology refreshes and upgrades		X
24. Develop technology refresh and upgrade plan annually	X	
25. Approve technology refresh and upgrade plan annually		X
26. Conduct technical reviews and provide recommendations for improvements that increase efficiency and effectiveness and reduce costs per the Planning and Analysis results	X	

3.3.1.2.2. Requirements Definition

Requirements Definition Services are the activities associated with the assessment and definition of functional, performance, IT Continuity and Disaster Recovery, and Security requirements that also comply with regulatory and FRTIB policies. These requirements drive the technical design for the environment. The following table identifies the Requirements Definition roles and responsibilities that Contractor and FRTIB will perform.

Table 4. Requirements Definition Roles and Responsibilities

Requirements Definition Roles and Responsibilities	Contractor	FRTIB
1. Define requirements and standards		X
2. Participate in defining requirements and standards	X	
3. Conduct interviews, group workshops and surveys to determine user functional, performance, availability, maintainability and IT continuity and other requirements		X
4. Participate in appropriate requirements-gathering activities (e.g., focus groups, interviews)	X	
5. Provide additional information in sufficient detail pertaining to the requirements definition to enable development of appropriate requirements documentation (e.g., business requirements documentation)		X
6. Document requirements required to deliver Services in agreed-to formats (e.g., system Specifications, data models, upgrade requirements, conversion requirements, Network design schematics)	X	

Requirements Definition Roles and Responsibilities	Contractor	FRTIB
7. Ensure requirements meet security policies	X	
8. Approve all requirements documents		X
9. Define Acceptance test criteria	X	
10. Participate in defining Acceptance test criteria		X
11. Review and approve all Acceptance test criteria		X
12. Provide documented requirements and Acceptance test criteria per approved requirements standards	X	

3.3.1.2.3. Design Specifications

Design Specification services are the activities and deliverables associated with translating user and information system requirements into detailed technical Specifications. The following table identifies the Design Specifications roles and responsibilities that Contractor and FRTIB will perform.

Table 5. Design Specifications Roles and Responsibilities

Design Specification Roles and Responsibilities	Contractor	FRTIB
1. Define Design Specifications standards and requirements		X
2. Recommend improvements to Design Specifications standards and requirements	X	
3. Develop, document and maintain technical design plans and environment configuration based on FRTIB Design Specifications standards and requirements including IT architecture, functional, performance, Availability, maintainability, security and IT Continuity and Disaster Recovery requirements	X	
4. Determine and document required Service Tower component upgrade, replacement and/or conversion specifications (e.g., hardware, Software, Networks)	X	
5. Review and approve design plans		X
6. Conduct site surveys for design efforts as required	X	
7. Provide Contractor with additional information in sufficient detail pertaining to the Design Specifications to enable creation of the appropriate design documents		X
8. Document and deliver Design Specifications	X	

Design Specification Roles and Responsibilities	Contractor	FRTIB
9. Review and approve Design Specifications		X

3.3.1.2.4. Acquisition and Management

Acquisition and Management Services are the activities associated with acquiring new and upgraded Service Tower components (e.g., hardware, software, circuits) and services, to include: issuing acquisition documents, evaluating technical and cost submittals, selecting a vendor, and purchasing. The threshold for these activities is not to exceed $500,000 for each acquisition. The following table defines the Acquisition and Management roles and responsibilities the contractor and FRTIB will perform.

Table 6. Acquisition and Management Roles and Responsibilities

Acquisition and Management Roles and Responsibilities	Contractor	FRTIB
1. Define general guidelines and procedures for this activity		X
2. Have a DCAA approved purchasing system	X	
3. Develop, document and maintain in the Standards and Procedures ManualAcquisition and Management procedures that meet requirements and adhere to defined policies	X	
4. Perform acquisitions	X	
5. Develop and issue acquisition bid requests as required and approved by FRTIB		X
6. Establish audit procedures to ensure compliance with best practices	X	
7. Evaluate proposals against clearly defined objective criteria	X	
8. Negotiate for Contractor-purchased/leased Service Tower-related components	X	
9. Manage the ordering, procurement and delivery processes in compliance with FRTIB procurement and Acceptance processes	X	
10. Manage and track Contractor purchase orders and service orders	X	
11. Coordinate delivery and installation of new products and services	X	

3.3.1.2.5. Asset Management

Asset Management Services are the activities associated with process of the ongoing management and tracking of the lifecycle of existing, Service Tower components (e.g., hardware, software and software licenses, maintenance, circuits) and their attributes (i.e. location, costs, depreciation, contracts, Contractor, serial numbers, etc.). The following table identifies Asset Management roles and responsibilities that Contractor and FRTIB will perform.

Table 7. Asset Management Roles and Responsibilities

Asset Management Roles and Responsibilities	Contractor	FRTIB
1. Define Asset Management requirements and policies		X
2. Recommend improvements to Asset Management requirements and policies	X	
3. Develop, document and maintain in the Standards and Procedures Manual Asset Management process and procedures that meet requirements and adhere to defined policies	X	
4. Review and approve Asset Management process and procedures		X
5. Deploy an Asset Management system that meets FRTIB requirements and adheres to defined policies		X
6. Maintain and manage an Asset Management system that meets FRTIB requirements and adheres to defined policies	X	
7. Manage life cycle of all Assets from identification, requisition ordering, inventory, installation, maintenance to disposal	X	
8. Develop Asset type list and attributes that would be included in the Asset Management system		X
9. Review Asset type list and attributes and maintain Asset types and attributes in the Asset Management system	X	
10. Provide FRTIB inquiry and reporting access into the Asset Management System for all Assets	X	
11. Maintain the accuracy of the data of in-scope Assets in the Asset Management System according to SLRs	X	

Asset Management Roles and Responsibilities	Contractor	FRTIB
12. Provide electronic feed file of Asset data for various FRTIB defined systems (e.g., financial system, FRTIB internal billing system)	X	
13. Establish, update and maintain the Asset database to include, at a minimum, the following Asset attributes: ▪ Manufacturer ▪ Model ▪ Serial number ▪ Asset identification number ▪ Asset location ▪ Ownership information (Contractor/FRTIB—lease/purchase) ▪ Asset cost information ▪ Maintenance information and history including the age of the Asset ▪ Warranty information ▪ Other billing information (e.g., lease information, FRTIB-specific information) ▪ Transaction edit history (e.g., locations, billing and user)	X	
14. Update in-scope Asset records related to all approved Change activities (e.g., Install/Move/Add/Change activities, Break/Fix activities, company reorganization and Change Management)	X	
15. Perform ongoing physical Asset audit, in accordance with Asset Management SLRs, to validate that data in the database is accurate and current	X	
16. Provide reports of Asset Management audit results	X	
17. Provide and, upon FRTIB approval, implement Asset Management remediation plan for Asset Management deficiencies	X	
18. Review and approve audit reports and remediation plans of Asset inventory management information		X
19. Provide reports of FRTIB asset financial information including depreciation, maintenance contracts and value of assets.	X	

Asset Management Roles and Responsibilities	Contractor	FRTIB
20. Conduct periodic/ad hoc quality assurance audit of Asset Management System		X
21. Terminate, dispose of and relocate Assets as needed/specified and provide disposition reports as needed	X	

3.3.1.2.6. Software License Management

Software License Management Services are the activities associated with the identification, acquisition, and disposal and ongoing management and tracking of software and their corresponding licenses. The following table identifies the Software License Management roles and responsibilities that Contractor and FRTIB will perform.

Table 8. Software License Management

Software License Management Roles and Responsibilities	Contractor	FRTIB
1. Define Software License Management requirements and policies		X
2. Recommend improvements to Software License Management requirements and policies	X	
3. Develop, document and maintain in the Standards and Procedures Manual Software License Management processes and procedures that meet requirements and adhere to defined policies as mapped to asset management	X	
4. Review and approve Software License Management processes and procedures		X
5. Manage and maintain (e.g., monitor, track status, verify, audit, perform contract compliance, reassign) Software licenses and media through Software license life cycle	X	
6. For FRTIB-retained contracts, be responsible for procurement, renewal, and upgrade costs and Contractor agreements		X
7. For non-FRTIB-retained contracts, be responsible for procurement, renewal, and upgrade costs and Contractor agreements	X	

Software License Management Roles and Responsibilities	Contractor	FRTIB
8. Develop and maintain inventory of all software licenses within the asset management system	X	
9. Report to FRTIB on any exceptions to Contractor terms and conditions including license non compliance	X	
10. Periodically, at least yearly, conduct Software license and maintenance agreements review, allowing for sufficient time prior to expiration for negotiations	X	
11. Participate in Software license and maintenance agreements review		X
12. Provide FRTIB with reports and recommendations to use in making software acquisition and discontinuance decisions	X	
13. Provide recommendations to purchase additional license allocation, recommending alternatives, or curtailing usage where necessary and appropriate, to restore, or continue to maintain, license compliance	X	
14. Identify and report license compliance issues to FRTIB and provide recommendations to resolve the compliance issue	X	
15. Review license compliance issues and document completed resolution		X
16. Manage and perform audits and reconcile the number of licenses to the number of installs, as requested by FRTIB	X	
17. Provide recommendations to FRTIB to resolve any software reconciliation issues	X	
18. Report on resolution of software reconciliation issues		X
19. Recommend License changes or replacement	X	
20. Approve any license change or replacement		X

3.3.1.2.7. Engineering

Engineering Services are the activities associated with the engineering and development of the IT infrastructure, tools and utilities that enhance the Service Towers. The following table identifies the Engineering roles and responsibilities that Contractor and FRTIB will perform.

Table 9. Engineering Roles and Responsibilities

Engineering Roles and Responsibilities	Contractor	FRTIB
1. Recommend Engineering requirements and policies	X	
2. Review and approve Engineering requirements and policies		X
3. Develop, document and maintain in the Standards and Procedures Manual Engineering procedures that meet requirements and adhere to defined policies	X	
4. Approve the Standards and Procedures Manual Engineering procedures		X
5. Develop and deliver Engineering plans where there is an impact on FRTIB entities/facilities and/or other Third Party agreements	X	
6. Review and approve Engineering plans where there is an impact on FRTIB entities/facilities and/or other Third Party agreements		X
7. Perform engineering functions required to implement design plans for additional or new products and services	X	
8. Perform engineering functions required to implement and manage Service Tower Services on FRTIB-owned/leased facilities	X	
9. Manage Engineering efforts using formal project management tools and methodologies	X	

3.3.1.2.8. Integration and Testing

Integration and Testing Services are the activities associated with ensuring that all individual IT components configured with or added to the IT environment work together cohesively to achieve the intended results. The following table identifies the Integration and Testing roles and responsibilities that Contractor and FRTIB will perform.

Table 10. Integration and Testing Roles and Responsibilities

Integration and Testing Roles and Responsibilities	Contractor	FRTIB
1. Define Integration and Testing requirements and policies		X

Integration and Testing Roles and Responsibilities	Contractor	FRTIB
2. Develop, document, and maintain Manual Integration and Testing procedures in the Standards and Procedures documentation that meet requirements and adhere to defined policies	X	
3. Review and approve Integration and Testing procedures		X
4. Manage and schedule integration test environment	X	
5. Maintain Software release matrices (software configuration management baseline) across development, QA, and production environments and Networks	X	
6. Validate and approve the Software release matrix		X
7. Evaluate all new and upgraded Service Tower components or Services for compliance with FRTIB security policies, regulations and procedures	X	
8. Validate new and upgraded Service Tower components or Services for compliance with FRTIB security policies, regulations and procedures, as required		X
9. Assess and communicate the overall impact and potential risk to Service Tower components prior to testing completion	X	
10. Define Test requirements		X
11. Conduct integration and security testing for all new and upgraded equipment, Networks, Software or Services to include unit, system, integration and regression testing based on requirements defined in requirements and design documents	X	
12. Stage new and upgraded equipment, Software or Services to smoothly transition into existing environment based on requirements defined in requirements and design documents	X	
13. Perform modifications and performance-enhancement adjustments to FRTIB system Software and utilities as a result of changes to architectural standards or additions and upgrades to the environment	X	
14. Test new releases of supported hardware and Software to ensure required performance and functionality is maintained in conformance with FRTIB SLRs	X	

Integration and Testing Roles and Responsibilities	Contractor	FRTIB
15. Provide Middleware required to integrate Software and hardware		X
16. Support Middleware required to integrate Software and hardware	X	
17. Provide integration of application Software	X	
18. Perform Configuration Management and Change Management activities related to Integration and Testing	X	
19. Accept and approve impact & risk analysis prior to testing completion		X

3.3.1.2.9. Implementation and Migration

Implementation and Migration Services are the activities associated with the installation of new and upgraded IT components (e.g., hardware, Software (e.g., operating system), and Network components). The following table identifies the Implementation and Migration roles and responsibilities that Contractor and FRTIB will perform.

Table 11. Implementation and Migration Roles and Responsibilities

Implementation and Migration Roles and Responsibilities	Contractor	FRTIB
1. Define Implementation and Migration requirements and policies		X
2. Develop, document and maintain in the Standards and Procedures Manual Implementation and Migration procedures that meet requirements and adhere to defined policies, including post-deployment verification and back out plans	X	
3. Review and approve Implementation and Migration procedures		X
4. Notify Contractor of equipment migration and redeployment plans		X
5. Coordinate and review all Implementation and Migration plans and schedules with FRTIB in advance, in accordance with Change Management policies	X	
6. Approve Implementation and Migration plans and schedules		X
7. Conduct pre-installation site surveys, as required	X	

Implementation and Migration Roles and Responsibilities	Contractor	FRTIB
8. Install enhancements to technical architecture or Services provided	X	
9. Install new or enhanced Service Tower components (e.g., hardware, Software, Middleware, utilities, Networks, peripherals, configurations) in accordance with FRTIB change management procedures	X	
10. Perform Service Tower component upgrades as a result of new and enhanced applications and architectures and FRTIB upgrade plans and requirements (e.g., hardware, Software, Middleware, utilities, Networks, peripherals, configurations) in accordance with FRTIB change management procedures	X	
11. Install physical infrastructure as required (e.g., wiring, cable plant, cooling, etc.) in accordance with FRTIB change management procedures	X	
12. Coordinate Implementation and Migration support activities with FRTIB IT staff and Contractor Service Desk	X	
13. Perform data migration and conversion by electronic or manual methods as a result of implementation or migration (e.g., databases, Network system management repositories, address tables, Management Information Bases [MIBs])	X	
14. Perform appropriate tests on all Installs, Moves, Adds and Changes per requirements in accordance with FRTIB change management procedures	X	
15. Document post-deployment verification and back out plans and results per requirements	X	
16. Review and approve post-deployment verification and back out plans and results		X
17. Conduct post-deployment verification plans and results per requirements	X	
18. Review initial post-deployment verification results and decide if back out is required		X
19. Conduct back out if required	X	

Implementation and Migration Roles and Responsibilities	Contractor	FRTIB
20. Provide FRTIB IT technical staff and End Users with training related to the implementation of new products and Services per requirements	X	

3.3.1.2.10. Environment and Facilities Support

Environment and Facilities Support Services are the activities associated with maintaining environmental requirements at Contractor and FRTIB facilities. The following table identifies Environment and Facilities Support roles and responsibilities that Contractor and FRTIB will perform.

Table 12. Environmental and Facilities Support Roles and Responsibilities

Environment and Facilities Support Roles and Responsibilities	Contractor	FRTIB
1. Recommend Environment and Facilities Support requirements	X	
2. Review and approve Environment and Facilities Support requirements		X
3. Identify requirements for FRTIB Environment for Contractor-supported components	X	
4. Develop, document and maintain in the Standards and Procedures Manual Environment and Facilities Support procedures that meet requirements and adhere to defined policies	X	
5. Review and approve Environment and Facilities Support procedures		X
6. Remotely monitor environmental systems (e.g., UPS) required to support Service Tower components housed in FRTIB facilities (e.g., computer rooms)	X	
7. Develop and recommend improvement plans for FRTIB-monitored facilities as needed to maintain an effective and secure computing environment	X	
8. Approve improvement plans for FRTIB-monitored facilities as needed to maintain an effective and secure computing environment		X
9. Implement or coordinate the implementation of all approved upgrades and installations	X	

Environment and Facilities Support Roles and Responsibilities	Contractor	FRTIB
10. Coordinate FRTIB site activities of all personnel (i.e., Contractor employees and others) working in equipment locations (e.g., equipment rooms, Network equipment closets)	X	
11. Ensure that facilities support activities conform to the requirements of defined Change Management processes	X	

3.3.1.2.11. Training and Knowledge Transfer

Training and Knowledge Transfer Services consist of the following three types of training Contractor shall provide:

a. Training for the improvement of skills through education and instruction for Contractor's staff. Contractor shall participate in any initial and ongoing training (e.g., Privacy Act, Ethics, etc.) delivered by FRTIB as required that would provide a learning opportunity about FRTIB's business and technical environment.

b. Training for FRTIB retained technical staff for the express purpose of exploiting the functions and features of the FRTIB computing environment. Delivery methods may include classroom-style, computer-based, individual or other appropriate means of instruction.

c. Selected classroom-style and computer-based training (case-by-case basis) for standard commercial off-the-shelf (COTS) applications, including new employee training, upgrade classes and specific skills.

The following table identifies the Training and Knowledge Transfer roles and responsibilities that Contractor and FRTIB will perform.

Table 13. Training and Knowledge Transfer Roles and Responsibilities

Training and Knowledge Transfer Roles and Responsibilities	Contractor	FRTIB
1. Define Training and Knowledge Transfer requirements and policies		X
2. Develop, document and maintain the Standards and Procedures Manual Training and Knowledge Transfer procedures that meet requirements and adhere to defined policies	X	

Training and Knowledge Transfer Roles and Responsibilities	Contractor	FRTIB
3. Review and approve Training and Knowledge Transfer procedures		X
4. Develop and deliver training program to instruct FRTIB personnel on the provision of Contractor Services (e.g., “rules of engagement,” requesting Services)	X	
5. Review and approve Contractor-developed training program		X
6. Develop, implement and maintain a FRTIB-accessible knowledge database/portal	X	
7. Develop and implement Knowledge Transfer procedures to ensure that more than one individual understands key components of the business and technical environment	X	
8. Participate in FRTIB-delivered instruction on the business and technical environment	X	
9. Develop, document and deliver training requirements that support the ongoing provision of FRTIB Services, including refresher courses as needed and instruction on new functionality	X	
10. Attend training classes as needed to remain current with systems, Software, features and functions for which Service Desk support is provided, in order to improve Service performance (e.g., First-Contact Resolution)	X	
11. Provide training when substantive (as defined between FRTIB and Contractor) technological Changes (e.g., new systems or functionality) are introduced into FRTIB environment, in order to facilitate full exploitation of all relevant functional features	X	
12. Provide training materials for FRTIB technical staff for Criticality 1 supported applications	X	
13. Provide ongoing training materials for Service Desk personnel on FRTIB business and technical environments as defined by FRTIB	X	

Training and Knowledge Transfer Roles and Responsibilities	Contractor	FRTIB
14. Provide FRTIB-selected classroom-style and computer-based training (case-by-case basis) for standard, Commercial Off-The-Shelf (COTS) applications as requested by FRTIB	X	

3.3.1.2.12. Documentation

Documentation Services are the activities associated with developing, revising, maintaining, reproducing and distributing Service Tower information in hard copy and electronic form. The following table identifies the Documentation roles and responsibilities that Contractor and FRTIB will perform. In addition to SharePoint, FRTIB currently uses Serena Requirements Manager.

Table 14. Documentation Roles and Responsibilities

Documentation Roles and Responsibilities	Contractor	FRTIB
1. Recommend Documentation requirements and formats	X	
2. Define Documentation requirements, formats and policies		X
3. Develop, document and maintain in the Standards and Procedures Manual Documentation procedures that meet requirements and adhere to defined policies	X	
4. Review and approve Documentation procedures		X
5. Provide output in agreed format for support of activities throughout the life cycle of Services as specified in each Service Tower	X	
6. Document system Specifications and configurations (e.g., interconnection topology, configurations, Network diagrams, data flow diagram, system maps)	X	
7. Provide FRTIB-specific operating requirements		X
8. Document standard operating procedures (e.g., boot, failover/disaster recovery/COOP, spool management, batch processing, backup)	X	
9. Review and approve standard operation procedures Documentation		X
10. Document job production and maintenance schedules	X	

Documentation Roles and Responsibilities	Contractor	FRTIB
11. Review and approve job production and maintenance schedules and Documentation		X

3.3.1.2.13. Operations and Administration

Operations and Administration Services are the following activities associated with providing a stable IT infrastructure and effectively and efficiently performing procedures to ensure IT Services meet SLR targets and requirements. The following table identifies the Operations and Administration roles and responsibilities that Contractor and FRTIB will perform.

Table 15. Operations and Administration Roles and Responsibilities

Operations and Administration Roles and Responsibilities	Contractor	FRTIB
1. Provide Operations and Administration requirements and policies, including schedules for the operation of FRTIB Service Tower components		X
2. Develop, document and maintain in the Standards and Procedures Manual Operations and Administration procedures that meet requirements and adhere to defined policies	X	
3. Develop operational documentation (i.e., Run Books, contact lists, operations scripts, etc.) that meets FRTIB requirements	X	
4. Review and approve Operations and Administration procedures and operational documentation		X
5. Provide Enterprise System Management tools to monitor the IT infrastructure and FRTIB applications		X
6. Coordinate with FRTIB to deploy enterprise Service Tower component management tools to monitor the IT infrastructure and FRTIB applications	X	
7. Install and configure enterprise Service Tower component management tools in such a fashion that Problems, issues and events are proactively identified, reported and Resolved according to prescribed SLRs	X	

Operations and Administration Roles and Responsibilities	Contractor	FRTIB
8. Perform event management monitoring of IT Services to detect abnormal conditions or alarms, log abnormal conditions, analyze the condition and take corrective action	X	
9. Manage hardware, Software, peripherals, Services and spare parts to meet SLRs, minimize downtime and minimize FRTIB resource requirements	X	
10. Manage and coordinate subcontractors and Third Parties in order to meet Service and SLR requirements	X	
11. Develop and provide operational reports (daily, weekly, monthly) that provide status of operational activities, production issues and key operational metrics	X	
12. Review and approve operational reports		X
13. Audit Operations and Administration policies for compliance with FRTIB security policies		X
14. Provide FRTIB with a copy of or access to any Contractor or Third Party-supplied documentation (including updates thereto)	X	

3.3.1.2.14. Maintenance

Maintenance Services are the activities associated with the maintenance and repair of hardware, Software and Networks to include "Break/Fix" Services. Installed platform and product version levels are not to be more than one version behind the current commercial release, unless coordinated with FRTIB architectural standards committee. The following table identifies the Maintenance roles and responsibilities that Contractor and FRTIB will perform at Contractor and FRTIB facilities; includes occasional offsite support services for FRTIB senior leadership, as required..

Table 16. Maintenance Roles and Responsibilities

Maintenance Roles and Responsibilities	Contractor	FRTIB
1. Define Maintenance requirements and policies		X
2. Develop, document and maintain the Standards and Procedures Manual Maintenance procedures that meet requirements and adhere to defined policies	X	

Maintenance Roles and Responsibilities	Contractor	FRTIB
3. Develop Maintenance schedules	X	
4. Review and approve Maintenance procedures and schedules		X
5. Define dispatch requirements and point-of-service locations		X
6. Provide OEM or OEM equivalent hardware and software maintenance contracts		X
7. Ensure appropriate Maintenance coverage for all Service Tower components using FRTIB-provided maintenance contracts to maintain hardware and software	X	
8. Perform maintenance on all custom software, enhancements, and interfaces	X	
9. Provide maintenance and Break/Fix support in FRTIB's defined locations, including dispatching repair technicians to the point-of-service location if necessary	X	
10. Perform (and/or coordinate with third-party maintenance Contractor if applicable) diagnostics and maintenance on Service Tower components including hardware, Software, peripherals, Networks and special-purpose devices as appropriate	X	
11. Perform an analysis of the impact and/or applicability of supplier-provided (e.g., Omni) patches and/or service packs in accordance with FRTIB policies and requirements	X	
12. Approve supplier-provided (e.g., Omni) patches and/or service packs		X
13. Review all patches relevant to the IT environment and classify the need and speed in which the Security patches should be installed as defined by policies and Change Management	X	
14. Install patches per FRTIB's Change Management process and procedures including acquiring required FRTIB approval	X	
15. Install (and/or coordinate with third-party maintenance Contractor if applicable) manufacturer field change orders, service packs, firmware and Software maintenance releases, etc.	X	

Maintenance Roles and Responsibilities	Contractor	FRTIB
16. Perform (and/or coordinate with third-party maintenance Contractor if applicable) product patch, “bug fix,” service pack installation or upgrades to the current installed version	X	
17. Perform Maintenance-related Software distribution and version control, both electronic and manual	X	
18. Replace (and/or coordinate with third-party maintenance Contractor if applicable) defective parts including preventive Maintenance, according to the manufacturer’s published mean-time-between failure rates	X	
19. Conduct (and/or coordinate with third-party maintenance Contractor if applicable) Maintenance and parts management and monitoring during warranty and off-warranty periods	X	

3.3.1.2.15. Technology Refreshment and Replenishment

Technology Refreshment and Replenishment (TR&R) Services are the activities associated with modernizing the IT environment on a continual basis to ensure that the system components stay current with evolving industry-standard technology platforms. The following table identifies the Technology Refreshment and Replenishment roles and responsibilities that Contractor and FRTIB will perform.

Table 17. Technology Refreshment and Replenishment Roles and Responsibilities

TR&R Roles and Responsibilities	Contractor	FRTIB
1. Recommend TR&R life cycle management policies, procedures and plans appropriate for support of FRTIB business requirements	X	
2. Develop, document and maintain the Standards and Procedures Manual TR&R procedures and develop TR&R plans that meet requirements, adhere to defined policies and Change and Release Management processes	X	
3. Review and approve TR&R policies, procedures and plans		X
4. Perform the necessary tasks required to fulfill the TR&R plans	X	
5. Provide management reports on the progress of the TR&R plans	X	

TR&R Roles and Responsibilities	Contractor	FRTIB
6. Periodically review the approved TR&R implementation plans to ensure they properly support FRTIB business requirements		X

3.3.1.3. Service Delivery

3.3.1.3.1. Availability Management

The goal of Availability Management is to understand the overall availability requirements of FRTIB business needs and to plan, measure, monitor and continuously strive to improve the availability of the IT Infrastructure, services, and supporting IT organization to ensure these requirements are met consistently with a focus on providing cost effective Availability improvements that deliver measurable FRTIB business benefits. Availability Management covers the evaluation, design, implementation, measurement and management of the IT Infrastructure Availability from a component and an end-to-end perspective (i.e., Services), including new or modified IT service management methodologies and tools, as well as technology modifications or upgrades of IT infrastructure systems and components. The goal of the Availability Management process is to optimize the capability of the IT Infrastructure, services and supporting organization to deliver a cost effective and sustained level of Availability that enables the business to satisfy its business objectives.

Key activities of the Availability Management process are:

- Determine business unit Availability requirements (usually as part of the SLA development) for a new or enhanced IT Service and formulate the Availability and recovery design criteria for the IT Infrastructure to ensure IT Services are designed to deliver the appropriate levels of Availability
- Determine the critical business functions and impact arising from IT component failure. Where appropriate reviewing the Availability design criteria to provide additional resilience to prevent or minimize impact to the business
- Identify opportunities to optimize the availability of the IT Infrastructure to deliver cost effective improvements that deliver tangible business benefits
- Support the targets for availability, reliability and maintainability for the IT Infrastructure components that underpin the IT Service to enable these to be documented and agreed within SLAs, and contracts
- Establish measures and reporting of availability, reliability, and maintainability, that reflects the business, End User and IT support organization perspectives
- Monitor and conduct trend analysis of the availability, reliability and maintainability of IT systems and components

- Review IT Service, system, and component availability, identifying unacceptable levels, and ensuring appropriate corrective actions are taken to address IT Availability shortfalls
- Investigate the underlying reasons for unacceptable availability and providing recommendations for resolution
- Produce and maintain a forward-looking Availability Plan, which prioritizes and plans overall IT Availability improvements aimed at improving the overall Availability of IT Services and Infrastructure components to ensure that existing and future business Availability requirements can be met
- Provide IT Availability reports to ensure that agreed levels of availability, reliability and maintainability are measured and monitored on an ongoing basis

The following table identifies the Availability Management roles and responsibilities that the Contractor and FRTIB will perform.

Table 18. Availability Management Roles and Responsibilities

Availability Management Roles and Responsibilities	Contractor	FRTIB
1. Establish criteria and SLRs for Availability Management support requirements, including IT services to be covered		X
2. Develop Availability Management policies, process and procedures and determine appropriate Availability Management tools and methods that support FRTIB's Availability Management support requirements	X	
3. Participate in the development of Availability Management policies, process and procedures, and the tools and availability methods to be used		X
4. Review and approve Availability Management policies, processes and procedures		X
5. Implement agreed-upon Availability Management policies, processes and procedures	X	
6. Provide unrestricted read access by FRTIB-authorized staff and designated personnel to all current and historical Availability knowledgebase data and records	X	
7. Ensure that Availability requirements are included when requirements are identified when upgrading and/or designing new IT systems and services to support business users		X
8. Participate in user requirements gathering and analysis	X	

Availability Management Roles and Responsibilities	Contractor	FRTIB
when upgrading and/or designing new IT systems and services to ensure that IT Services and systems are designed to deliver the required levels of Availability (mapped to the SLRs) required by the business		
9. Create Availability and recovery design criteria to be applied to upgrades and/or new or enhanced Infrastructure design	X	
10. Participate in creating Availability and recovery design criteria to be applied to upgrades and/or new IT Infrastructure system and services design		X
11. Coordinate with the IT service support and IT service delivery process owners and managers from FRTIB to research, review, and assess Availability issues and optimization opportunities	X	
12. Define the Availability measures and reporting required for the IT Infrastructure and its components that underpin an upgraded and/or new IT Service as the basis for an SLA agreement that reflect business, End User, and IT support organization requirements		X
13. Participate with FRTIB in defining the Availability measures and reporting requirements	X	
14. Recommend appropriate tools and practices to measure and report on agreed-upon Availability measures for upgraded and/or enhanced IT Infrastructure	X	
15. Review and approve Availability measurement tools and practices		X
16. Ensure that approved Availability measurement tools and practices are implemented	X	
17. Monitor and maintain an awareness of technology advancements and IT best practices related to Availability optimization and periodically provide updates to FRTIB IT management	X	
18. Ensure that all Availability Management improvement initiatives conform to defined Change Management procedures set forth in the Process and Procedures Manual	X	
19. Coordinate and take ownership of Availability	X	

Availability Management Roles and Responsibilities	Contractor	FRTIB
Management across all IT service areas within FRTIB and third-party service Contractors (e.g., public carriers, Internet service Contractors, third party Contractors, et. Al.)		
20. Participate in Problem Management review sessions as appropriate, specifically those Problems related to outages of critical systems	X	
21. Monitor actual IT Availability achieved versus targets and ensure shortfalls are addressed promptly and effectively	X	
22. Conduct Availability Assessment review sessions and provide cost-justified improvement recommendations	X	
23. Participate in Availability review sessions		X
24. Review and approve cost-justifiable improvement recommendations that FRTIB deems appropriate to enhance FRTIB IT and business performance needs		X
25. Coordinate with FRTIB and third-party service Contractors to gather information on IT systems and service Availability issues and trends to be used for trend analysis	X	
26. Produce and maintain an Availability Plan which prioritizes and plans approved IT Availability improvements	X	
27. Review and approve Availability Plan		X
28. Promote Availability Management awareness and understanding within all IT support organization including third party service Contractors	X	
29. Perform regular reviews of the Availability Management process and its associated techniques and methods to ensure that all are subjected to continuous improvement and remain fit for purpose	X	
30. Periodically audit the Availability Management process to ensure that it continues to deliver desired results in compliance with agreed-upon policies, processes and procedures		X

3.3.1.3.2. Capacity Management

Capacity Management Services are the activities associated with ensuring that the capacity of the Service Towers matches the evolving demands of FRTIB business in the most cost-effective and timely manner. The process encompasses the following:

- Monitoring of performance and throughput of IT Services and supporting IT components
- Understanding current demands and forecasting for future requirements
- Developing capacity plans which will meet demand and SLRs
- Developing modeling and conducting simulations to manage capacity
- Conducting risk assessment of capacity recommendations
- Developing and implementing a capacity plan including the financial impact of the Service Towers
- Undertaking tuning activities

The following table identifies the Capacity Management roles and responsibilities that Contractor and FRTIB will perform.

Table 19. Capacity Management Roles and Responsibilities

Capacity Management Roles and Responsibilities	Contractor	FRTIB
1. Define Capacity Management requirements (SLRs) and policies		X
2. Develop, document and maintain in the Standards, Process and Procedures Manual Capacity Management procedures that meet requirements and adhere to defined policies	X	
3. Review and approve Capacity Management process and procedures		X
4. Establish a comprehensive Capacity Management planning process	X	
5. Review and approve Capacity Management planning process		X
6. Define, develop and implement tools that allow for the effective capacity monitoring/trending of IT infrastructure, applications and IT components	X	
7. Identify future business requirements that will alter capacity requirements		X

Capacity Management Roles and Responsibilities	Contractor	FRTIB
8. Develop a periodic (usually yearly) capacity plan, including quarterly updates	X	
9. Develop and implement capacity models and run simulations to validate the capacity plan	X	
10. Participate in all capacity planning activities		X
11. Assess capacity impacts when adding, removing or modifying applications and infrastructure components	X	
12. Continually monitor IT resource usage to enable proactive identification of capacity and performance issues	X	
13. Capture trending information and forecast future FRTIB capacity requirements based on FRTIB-defined thresholds	X	
14. Assess Incidents/Problems related to capacity and provide recommendations for resolution	X	
15. Recommend changes to capacity to improve service performance	X	
16. Assess impact/risk and cost of capacity changes	X	
17. Approve capacity-related recommendations		X
18. Maintain capacity levels to optimize use of existing IT resources and minimize FRTIB costs to deliver Services at agreed-to SLRs	X	
19. Ensure adequate capacity exists within the IT environment to meet SLR requirements taking into account daily, weekly and seasonal variations in capacity demands	X	
20. Validate Asset utilization and capital efficiency		X

3.3.1.3.3. Performance Management

Performance Management Services are the activities associated with managing and tuning Service Tower components for optimal performance. The process encompasses the following:

- Monitoring of performance and throughput of IT Services and supporting IT components
- Assessing the results of the reports
- Conducting trending analysis
- Providing recommendations to tuning

- Performing tuning activities

The following table identifies the Performance Management roles and responsibilities that Contractor and FRTIB will perform.

Table 20. Performance Management Roles and Responsibilities

Performance Management Roles and Responsibilities	Contractor	FRTIB
1. Define Performance Management requirements and policies		X
2. Develop, document, and maintain Performance Management procedures that meet requirements in the Standards, Process and Procedures Manual and adhere to defined policies	X	
3. Review and approve Performance Management procedures		X
4. Perform Service Tower component tuning to maintain optimum performance in accordance with Change Management procedures	X	
5. Manage Service Tower component resources (e.g., devices and traffic) to meet defined Availability and performance SLRs	X	
6. Provide regular monitoring and reporting of Service Tower component performance, utilization and efficiency	X	
7. Proactively evaluate, identify and recommend configurations or changes to configurations that will enhance performance	X	
8. Conduct trending analysis to recommend changes to improve performance	X	
9. Develop and deliver improvement plans as required to meet SLRs	X	
10. Review and approve improvement plans		X
11. Implement improvement plans and coordinate with Third Parties as required	X	
12. Provide technical advice and support to the application maintenance and development staffs as required	X	

3.3.1.3.4. Service Level Monitoring and Reporting

Service Level Monitoring and Reporting Services are the activities associated with the monitoring and reporting Service Levels with respect to SLRs. In addition, Contractor reports system management information (e.g., performance metrics and system accounting information) to the designated FRTIB representatives in a format agreed to by FRTIB. The following table identifies the Service Level Monitoring and Reporting roles and responsibilities that Contractor and FRTIB will perform.

Table 21. Service Level Monitoring and Reporting Responsibilities

Service Level Monitoring Roles and Responsibilities	Contractor	FRTIB
1. Define SLRs		X
2. Define Service Level Monitoring and Reporting requirements and policies		X
3. Develop, document and maintain in the Standards Process and Procedures Manual Service Level Monitoring and Reporting procedures that meet requirements and adhere to defined policies	X	
4. Review and approve Service Level Monitoring and Reporting procedures		X
5. Develop Annual Service Level Management Plan	X	
6. Approve Annual Service Level Management Plan		X
7. Report on SLR performance, including any justifications for exceptions, and improvement results	X	
8. Adjudicate SLR exceptions		X
9. Coordinate SLR monitoring and reporting with designated FRTIB representative and Third Parties	X	
10. Measure, analyze and provide management reports on performance relative to SLRs	X	
11. Conduct SLRs Improvement Meetings to review SLRs and recommendation for improvements	X	
12. Review and approve SLR improvement plans		X
13. Implement SLR improvement plans	X	
14. Review and approve SLR metrics and performance reports		X
15. Provide FRTIB access to performance and SLR reporting and monitoring system and data	X	

3.3.1.3.5. Security

Security Services are the activities associated with maintaining physical and logical security of all Service Tower components, including hardware, Software, data protection, virus protection, access protection and other Security Services in compliance with FRTIB Security requirements and FISMA/NIST. This excludes non-technical, operational business process functions not contained within the Service Towers, such as Recordkeeping. The following table identifies Security roles and responsibilities that Contractor and FRTIB will perform.

Table 22. General Security Roles and Responsibilities

General Security Roles and Responsibilities	Contractor	FRTIB
1. Define Security requirements, standards, process and procedures and policies including regulatory requirements		X
2. Assist in developing Security standards, policies and procedures including industry best practices	X	
3. Develop, document and maintain in the Standards, Process and Procedures Manual Security requirements, standards, process and procedures and policies including regulatory requirements	X	
4. Review and approve Security requirements, standards, procedures and policies including regulatory requirements		X
5. Remain up-to-date with current Security trends, threats, common exploits and security policies and procedures and best practices	X	
6. Provide a full-time Security assessment group to conduct continual assessments of FRTIB's Security effectiveness as compared to leading edge policies and procedures	X	
7. Conduct risk assessments to identify control or Security gaps		X
8. Conduct self-assessments to identify control or Security gaps and reports results to FRTIB	X	
9. Provide Security plan and IT infrastructure based on Security requirements, standards, procedures, policies, FRTIB's federal, requirements and risks	X	
10. Review and approve Security plans and IT infrastructure		X

General Security Roles and Responsibilities	Contractor	FRTIB
11. Implement physical and logical Security plans consistent with FRTIB Security policies and industry standards (e.g.,FISMA/NIST)	X	
12. Establish access profiles and policies for adding, changing, enabling/disabling and deleting log-on access of FRTIB employees, agents and subcontractors		X
13. Perform log-on/Security-level access changes as detailed in profiles and policies for all Services Towers	X	
14. Provide best available COTS Security analysis and monitoring products for FRTIB's system and Network infrastructure		X
15. Support best available COTS Security analysis and monitoring products for FRTIB's system and Network infrastructure	X	
16. Report FRTIB-related Security violations to FRTIB per FRTIB policies	X	
17. Resolve FRTIB-related Security violations per FRTIB policies	X	
18. Review all Security patches relevant to the IT environment and classify the need and speed in which the Security patches should be installed as defined by Security policies and Change Management	X	
19. Install Security patches per FRTIB's Change Management process and procedures including acquiring required FRTIB approval	X	
20. Maintain all documentation required for Security assessments, audits and internal control and control testing	X	
21. Place and support systems with particularly sensitive data in controlled access areas. Only End Users with current, authorized access permission are allowed to enter these areas	X	
22. Perform periodic Security audits for FRTIB's systems		X
23. Allow Third Party Security audits for FRTIB's systems	X	
24. Implement a Security awareness program	X	

General Security Roles and Responsibilities	Contractor	FRTIB
25. Ensure that all Contractor staff complete FRTIB required security training, based on FRTIB-defined information security roles	X	
26. Provide FRTIB access to security reporting and monitoring systems and data	X	
27. Support Certification and Accreditation activities	X	
28. Conduct Certification and Accreditation activities		X

3.3.1.3.6. Physical Security

Physical Security focuses on the physical access controls implemented to ensure the security of FRTIB's and Contractor's data processing equipment, facilities (including third party facilities)and its associated management systems.

Table 23. Physical Security

Physical Security	Contractor	FRTIB
1. Provide physical security in conformance with policies, procedures and practices	X	
2. Physically secure data processing equipment, facilities, and storage media from unauthorized access	X	
3. Protect data processing equipment from environment hazards and infrastructure failures (mechanical, electrical, HVAC, cable)	X	
4. Physically protect and store fixed and portable media (e.g., Tape, Optical, portable hard drives, flash drives) containing sensitive data	X	
5. Determine which FRTIB personnel should have access to data processing equipment, facilities, and storage media		X
6. Propose list of Contractor personnel who should have access to data processing equipment, facilities, and storage media	X	
7. Approve list of Contractor personnel who should have access to data processing equipment, facilities, and storage media		X
8. Ensure only authorized personnel have access to data processing equipment, facilities, and storage media	X	
9. Track and monitor all physical access and activities performed on data processing equipment and facilities	X	

Physical Security	Contractor	FRTIB
10. Review access logs to access to data processing equipment was business justified	X	
11. Provide capability to immediately revoke access to data processing equipment, facilities, and storage media	X	
12. Maintain physical access audit logs	X	
13. Physically secure management systems from unauthorized access	X	
14. Ensure only authorized personnel have access to management systems	X	
15. Track and monitor all changes performed on management systems	X	
16. Provide capability to immediately revoke access from management systems	X	
17. Maintain change audit logs on management systems	X	

3.3.1.3.7. Data Security

Data Security consists of the activities associated with the classification, management, security, encryption of sensitive/confidential data and the storage of media containing that data.

Table 24. Data Security

Data Security	Contractor	FRTIB
1. Provide Data Security in conformance with policies, procedures and practices	X	
2. Establish data classifications, descriptions and associated data protection requirements		X
3. Classify data under FRTIB's control		X
4. Classify data under Service Contractor's control	X	
5. Protect data based on data classification	X	
6. Approve Contractor's data classification		X
7. Maintain full custodial responsibility of removable media up to and including the handoff of that media to any authorized entity	X	

Data Security	Contractor	FRTIB
8. Protect portable media while in transit and maintain transmittal records	X	
9. Eradicate all data from storage media (server memory, disk, tape, optical, other) before redeployment or disposal in accordance with established FRTIB policies and procedures	X	
10. Perform periodic reconciliation reporting of all data media and perform annual audit to reconcile all storage media	X	
11. Report reconciliation discrepancies to FRTIB and take corrective action to address issue	X	
12. Establish encryption and key management requirements for sensitive or confidential data based on data classification		X
13. Recommend encryption solutions that meets FRTIB's encryption requirements for data at rest and in transit	X	
14. Approve encryption solutions that meets FRTIB's encryption requirements for data at rest and data in transit		X
15. Implement encryption solutions that meets FRTIB's encryption requirements for data at rest and in transi	X	
16. Encrypt data and/or media based on data classification requirements	X	
17. Establish custodial service requirements for key management		X
18. Recommend a key management custodial service that meets FRTIB's requirements	X	
19. Approve key management custodial service		X
20. Implement a custodial service for key management	X	
21. Periodically review data security to ensure data is being protected consistently with data classification	X	

3.3.1.3.7.1. Identity and Access Management

Identity and access management services consist of the activities to authorize, authenticate and provide access control to the IT infrastructure. Identity management within this scope is limited to internal access control and does not include participant/beneficiary system access control, authorization and authentication.

Table 25. Identity and Access Management

Identity and Access Management	Contractor	FRTIB
1. Provide Identity and Access Management in conformance with FRTIB practices, policies and procedures	X	
2. Establish roles, authorized activities and minimum rights granted to Service Contractor personnel (including non-user accounts)	X	
3. Establish roles, authorized activities and minimum rights granted to FRTIB personnel (including non-user accounts)		X
4. Approve roles and authorization activities performed by Contractor		X
5. Establish and manage the process for defining, granting, modifying and revoking user accounts and enforcing role restrictions	X	
6. Establish and manage process to support temporary access	X	
7. Review and approve user and system user account management process		X
8. Approve service Contractor personnel who are authorized to manage user accounts		X
9. Provide IT Identity and Access Management technology solution that integrates with FRTIB systems		X
10. Support and maintain IT Identity and Access Management technology solution for infrastructure	X	
11. Perform engineering, configuration and ongoing management of IT Identity and Access Management technology solution	X	
12. Provide and implement a solution to interface FRTIB and service Contractors Identity and Access management processes	X	
13. Approve solution to interface FRTIB and service Contractors Identity and Access management processes		X
14. Define logging and archiving policies and requirements		X
15. Provide logging and archiving specifications/design	X	
16. Approve logging and archiving specification/design		X
17. Log and archive user/account activity according to approved logging and archiving specification/design	X	
18. Periodically audit production system access logs and activities to identify malicious or abnormal behavior in	X	

Identity and Access Management	Contractor	FRTIB
accordance with established FRTIB policies and standards		
19. Periodically review all FRTIB account IDs to ensure the accounts are valid/required, removing inactive and unneeded accounts in accordance with established FRTIB policies and standards		X
20. Periodically review all privileged user accounts to ensure the accounts are valid/required, removing inactive and unneeded accounts in accordance with established FRTIB policies and standards	X	
21. Periodically review end user accounts to ensure each user has appropriate minimal permissions required to perform their job function in accordance with established FRTIB policies and standards	X	
22. Periodically review privileged user accounts to ensure each user has appropriate minimal permissions required to perform their job function in accordance with established FRTIB policies and standards	X	

3.3.1.3.7.2. Security Monitoring

Contractor provides both NIDS (Network-based Intrusion Detection/Prevention Services) and HIDS (Host-based Intrusion Detection/Prevention Services) using FRTIB-owned NIDS /HIDS hardware and software. Contractor also performs internal threat monitoring for malicious and/or suspicious activity. The following table identifies the roles and responsibilities associated with the Security Monitoring Services.

Table 26. Security Monitoring Services Roles and Responsibilities

Security Monitoring Services Roles and Responsibilities	Contractor	FRTIB
1. Develop policies and standards for intrusion detection/prevention		X
2. Provide Intrusion Detection/Prevention Services and reporting	X	
3. Allow for independent Intrusion Detection/Prevention Services provided by FRTIB	X	
4. Develop recommendations for improved security	X	
5. Review and approve recommendations for improved security		X
6. Implement approved recommendations	X	
7. Ensure that security incidents are opened for	X	

Security Monitoring Services Roles and Responsibilities	Contractor	FRTIB
detected/prevented intrusions		
8. Perform 24X7 Real-time Monitoring of equipment and connectivity to detect malicious or abnormal behavior, network intrusions	X	
9. Respond to abnormal or malicious activity based on established policies	X	
10. Provide FRTIB reports on activities, anomalies or deficiencies that could result in a compromise of the system's data confidentially, integrity or system performance	X	
11. Establish, manage, secure and monitor connectivity to affiliates	X	

3.3.1.3.7.3. Security Configuration Management

Table 27. Security Configuration Management

Security Configuration Management Roles and Responsibilities	Contractor	FRTIB
1. Certify engineering and configuration management are compliant with FRTIB security policies	X	
2. Review and approve engineering designs and configuration management security		X
3. Certify equipment meets FRTIB's security requirements and provide evidence of compliance	X	
4. Periodically review equipment configurations and address any deficiencies or inconsistencies, and provide FRTIB with results with detailed recommendations to remediating issues that are found	X	
5. Review and approve remediation approach		X
6. Provide FRTIB with secure baselines for standard components (e.g., routers, servers, DBMS, etc.)	X	
7. Establish a baseline for the secure configuration of servers based on FRTIB technical control specifications (e.g CIS benchmark)		X
8. Recommend changes to baseline to meet FRTIB requirements		X

9. Configure servers to FRTIB security requirements	X	

3.3.1.3.7.4. Security Equipment and Connectivity

Table 28. Security Equipment & Connectivity

Security Equipment & Connectivity Roles and Responsibilities	Contractor	FRTIB
1. Monitor security bulletins and advisories for security threats. When threat poses risk to FRTIB systems, develop course of action to remediate risk.	X	
2. Review and approve course of action to remediate security threat.		X
3. Identify Security patches relevant to the IT environment and classify the need and speed in which the Security patches should be installed as defined by Security policies	X	
4. Contractor collaborate with FRTIB on plan to implement security patches	X	
5. Install Security patches per the Change, configuration, and Release Management processes and procedures.	X	
6. Install, configure and maintain Anti-virus, Intrusion detection, security agents, file integrity monitors on servers	X	
7. Provide ongoing support (patches, upgrades, signatures), tuning and management of the security software	X	
8. Perform 24X7 Real-time Monitoring of security software logs and activity. Detect malicious or abnormal behavior and establish corrective action.	X	
9. Establish logging and archiving specifications	X	
10. Identify logging and archiving specifications in order to support business requirements		X
11. Approve logging and archiving specification		X
12. Log and archive server user and system activity	X	
13. Provide FRTIB reports on any server logs/intrusion detection activities, anomalies or deficiencies that could result in a compromise of the ecommerce system's data confidentially, integrity or system performance	X	
14. Periodically review host-based protection tool configurations	X	

Security Equipment & Connectivity Roles and Responsibilities	Contractor	FRTIB
and recommend changes to address any deficiencies or inconsistencies		
15. Approve changes to host-based protection tools		X
16. Provide ongoing support (patches, upgrades, signatures), tuning and management of the servers, storage and intrusion detection	X	

3.3.1.3.7.5. Security Vulnerability and Risk Assessment

Vulnerability and Risk Assessment services are the activities associated with vulnerability scanning, penetration testing, security assessment and overall risk assessment to identify and remediate threats that could be exploited to compromise systems.

Table 29. Security Vulnerability & Risk Assessment

Security Vulnerability Testing Services	Contractor	FRTIB
1. Establish practices, policies and procedures to provide vulnerability and threat management and risk assessment services	X	
2. Review and identify gaps in Service Contractor's practices, policies and procedures		X
3. Collaborate with FRTIB in modifying practices, policies, procedures to address gaps while enabling the Contractor to efficiently and effectively provide vulnerability and threat management and risk assessment services	X	
4. Review and approve final practices, polices, procedures		X
5. Maintain practices, polices, procedures	X	
6. Review and approve Contractor driven changes to practices, policies and procedures		X
7. Provide services in conformance with practices, policies and procedures	X	
8. Conduct independent self-assessment vulnerability and penetration testing of the Contractor infrastructure, including network vulnerability	X	
9. Develop remediation plans in response to independent vulnerability and penetration testing findings	X	

10. Conduct IT infrastructure compliance testing	X	
11. Conduct application vulnerability and penetration testing	X	
12. Conduct physical vulnerability and penetration testing for the locations housing FRTIB data processing equipment and portable media	X	
13. Provide FRTIB vulnerability and penetration test results/report including vulnerabilities identified, causes, implications, associated risks, expected date of fix and interim plan/options until a fix is available	X	
14. Recommend best course of action until fix is available and plan to implement fix when available	X	
15. Approve best course of action until fix is available and plan to implement fix when available		X
16. Apply fix in accordance with remediation plan	X	
17. Validate fix and vulnerability remediation. Provide evidence of remediation.	X	
18. Maintain up-to-date asset vulnerability inventories for all infrastructure elements to include network, server and operating system.	X	
19. Gather, consolidate and validate threat discoveries and announcements within agreed upon time limits from the initial discovery/announcement.	X	
20. Produce Threat Exposures given threat and asset vulnerability inventories. Production will occur within agreed upon time limits from the time threat discovery is validated.	X	
21. Validate Threat Exposures		X
22. Evaluate and recommend vulnerability remediation tasking for each validated threat exposure	X	
23. Validate remediation tasks		X
24. Execute remediation tasks. Communicate remediation status	X	
25. Validate remediation		X
26. Perform regular security program risk assessment and provide FRTIB a report inclusive of risk catalog (including but not limited to, associated program and unit level risks), threat assessment, recommended plan to remediate security vulnerabilities	X	
27. Review and approve remediation plan		X

28. Implement remediation plan	X	
29. Validate remediation. Provide proof of remediation.	X	X

3.3.1.3.7.6. Security Incident Management

Security Incident management services are the activities associated with identification, classification, management and reporting of a security event.

Table 30. Security Incident Management

Security Incident Management Services	Contractor	FRTIB
1. Establish practices, policies and procedures to provide Security Incident Management service	X	
2. Review and identify gaps in Service Contractor's practices, policies and procedures		X
3. Collaborate with FRTIB in modifying practices, policies, procedures to address gaps while enabling the Contractor to efficiently and effectively provide Security Incident Management security service	X	
4. Review and approve final practices, polices, procedures		X
5. Maintain practices, polices, procedures	X	
6. Review and approve Contractor driven changes to practices, policies and procedures with FRTIB for approval.	X	
7. Provide services in conformance with practices, policies and procedures	X	
8. Provide security incident severity level classification, descriptions and approach for managing and communicating incident based on severity level	X	
9. Provide recommended changes to severity level approach to ensure appropriate communication and management of incidents.		X
10. Modify security classification and management approach based on FRTIB's required changes	X	
11. Perform 24X7 Real-time Monitoring of logs and activity to detect malicious or abnormal behavior, network intrusions	X	
12. Perform initial assessment of security incident. Upon discovery, mitigate damage. Escalate and communicate	X	

Security Incident Management Services	Contractor	FRTIB
incident based on incident classification.		
13. Collect and review all log data collected for a security incident.	X	
14. Manage security incident until closure	X	
15. Authorize security incident closure		X
16. Remediate to reduce the impact of the security incident	X	
17. Escalate product related threats to the Contractor for remediation	X	
18. Escalate FRTIB custom application related threats to FRTIB	X	
19. Develop a containment solution to security threats that do not have a clear remediation	X	
20. Review and approve containment solution		X
21. Implement containment solution	X	
22. Communicate all security breaches to FRTIB	X	
23. Provide guidance in communicating breaches and support investigations by FRTIB security and external parties.	X	
24. Communicate breach to external parties as required		X
25. Provide support to investigations by FRTIB Security and external parties when approved by FRTIB	X	
26. Provide technical expertise for security investigations	X	
27. Maintain the central repository of log files (including application and system specific log files) that stores data via an immutable media (e.g. CD-ROM, WORM drive)	X	
28. Provide incident security reports, detailing all events, when they happened, who performed what actions, and the business impact of the events.	X	
29. Provide metrics on the number of security incidents on an agreed upon schedule	X	
30. Provide system, application or any other logs requested by FRTIB in a real-time read only basis	X	
31. Provide forensics expertise		X
32. Support forensics activities	X	
33. Provide procedures on engaging security teams in case of	X	

Security Incident Management Services	Contractor	FRTIB
security incident		
34. Approve procedures on engaging security teams in case of security incident		X
35. Provide FRTIB with an ability to view into current incidents/cases that Contractor is investigating (read only access into Contractor's case management tool)	X	

3.3.1.3.7.7. Security Compliance and Audit

Security Compliance and Audit are the activities to identify the standards with which FRTIB must comply, the modification of practices, policies and procedures to enable compliance, and the audit activities to validate compliance.

Table 31. Security Compliance & Audit

Security Compliance & Audit	Contractor	FRTIB
1. Identify regulatory, federal and industry or other applicable standards with which FRTIB must comply		X
2. Define practices, policies and procedural requirements to conform to standards		X
3. Collaborate with Contractor in adapting practices, policies and procedures to conform to standards	X	X
4. Approve practices, policies and procedures defined by Contractor		X
5. Implement practices, policies and procedures to conform to standards	X	
6. Coordinate compliance certification and accreditation activities		X
7. Support compliance certification and accreditation activities	X	
8. Periodically verify compliance with practices, policies and procedures through an annual audit process		X
9. Communicate non-compliance and remediation activities to FRTIB	X	
10. Address non-compliance of practices, policies and procedures	X	

Security Compliance & Audit	Contractor	FRTIB
11. Support FRTIB and other third party compliance audits	X	
12. Continuously assess compliance requirements and identify changes to practices, processes, and procedures to comply	X	
13. Communicate proposed changes to FRTIB	X	
14. Approve proposed changes to practices, processes, and procedures to comply		X
15. Modify security practices, processes and procedures to maintain compliance	X	

3.3.1.3.8. Backup and Recovery

Backup and Recovery Services are the activities associated with providing ongoing Backup and Recovery capabilities according to FRTIB schedules and requirements. Contractor must demonstrate that it will consistently meet or exceed FRTIB's ongoing Backup and Recovery requirements. The following table identifies Backup and Recovery roles and responsibilities that Contractor and FRTIB will perform.

Table 32. Backup and Recovery Roles and Responsibilities

Backup and Recovery Roles and Responsibilities	Contractor	FRTIB
1. Define Backup and Recovery schedules, requirements and policies		X
2. Recommend best practices for Backup and Recovery Services strategies, policies, and process and procedures	X	
3. Develop, document and maintain in the Standards and Process and Procedures Manual Backup and Recovery schedules and procedures that adhere to FRTIB requirements and policies	X	
4. Coordinate the Backup and Recovery Standards and Process and Procedure Manual with FRTIB Security and Legal teams	X	
5. Review and approve Backup and Recovery schedules and process and procedures		X
6. Define Backup and Recovery Monitoring and Reporting requirements and policies	X	

7. Review and approve Backup and Recovery Monitoring and Reporting procedures		X
8. Manage backup media inventory (tape, disk, optical and other media type) including the notification to FRTIB of need for additional media	X	
9. Provide all backup media		X
10. Perform Service Tower component backups and associated rotation of media as required	X	
11. Identify and establish a secure off-site location for data media		X
12. Archive data media at a secure off-site location	X	
13. Ensure ongoing capability to recover archived data from media as specified (backward compatibility of newer backup equipment)	X	
14. Test backup media to ensure incremental and full recovery of data is possible and ensure Service Tower component integrity, as required or requested by FRTIB	X	
15. Recover files, file system or other data required from backup media, as required or requested by FRTIB	X	
16. Provide recovery and backup requirements and updates as they change		X
17. Provide FRTIB access to backup and recovery reporting and monitoring systems and data	X	

3.3.1.3.9. IT Service Continuity and Disaster Recovery (DR)

IT Service Continuity and Disaster Recovery (DR) Services are the activities associated with providing IT Service Continuity and DR Services for FRTIB applications, and their associated infrastructure (e.g., CPU, servers, Network, data and output devices, End User devices). FRTIB applications and associated infrastructure will receive DR Services according to FRTIB's Business Continuity Plan. The following table identifies Service Continuity and Disaster Recovery Services roles and responsibilities that Contractor and FRTIB will perform.

Table 33. IT Service Continuity and Disaster Recovery Roles and Responsibilities

IT Service Continuity and Disaster Recovery Roles and Responsibilities	Contractor	FRTIB
1. Define IT Service Continuity and Disaster Recovery		X

IT Service Continuity and Disaster Recovery Roles and Responsibilities	Contractor	FRTIB
Services strategy, requirements and policies		
2. Recommend best practices for IT Service Continuity and Disaster Recovery Services strategies, policies, process and procedures	X	
3. Document IT Service Continuity and Disaster Recovery Services process and procedures that adhere to FRTIB requirements and policies	X	
4. Review and approve IT Service Continuity and Disaster Recovery Services procedures		X
5. As needed, assist FRTIB in other IT continuity and emergency management activities	X	
6. Develop and maintain a detailed DR plan to meet IT Service Continuity and Disaster Recovery requirements. DR Plan includes plans for data, replication, backups, storage management and contingency operations that provide for recovering FRTIB's systems within established recovery requirement time frames after a disaster affects FRTIB's use of the Services.	X	
7. Define data (file system, database, flat files, etc.) replication, backup and retention requirements		X
8. Establish processes to ensure DR plans are kept up to date and reflect Changes in FRTIB environment	X	
9. Establish procedures to ensure the impact to the DR plans are reviewed by the Change Management process.	X	
10. Review and approve DR plans		X
11. Establish DR test requirements		X
12. Perform scheduled DR tests per FRTIB policies	X	
13. Coordinate involvement of FRTIB end users for DR testing		X
14. Coordinate involvement of all other parties for DR testing	X	
15. Participate in DR tests		X
16. Track and report DR test results to FRTIB	X	
17. Review and approve DR testing results		X
18. Develop action plan to address DR testing results	X	
19. Review and approve DR testing action plan		X

IT Service Continuity and Disaster Recovery Roles and Responsibilities	Contractor	FRTIB
20. Implement action plan and provide ongoing status until completion	X	
21. Initiate the DR plan in the event of a FRTIB DR situation per the DR policies and procedures		X
22. Initiate the DR plan in the event of a Contractor DR situation and notify FRTIB per DR policies and procedures	X	
23. Coordinate with FRTIB during a Contractor DR situation per DR policies and procedures	X	
24. Provide FRTIB access to IT Service Continuity and DR reporting and monitoring systems and data	X	

3.3.1.4. Service Support

3.3.1.4.1. Event/Incident Management

Incident Management includes the activities associated with restoring normal service operation as quickly as possible and minimizing the adverse impact on business operations of FRTIB, thus ensuring that the best possible levels of service quality and availability are maintained. While the Incident Management processes apply to Level 1, Level 2 and Level 3 support groups, Level 1 support, normally at the service desk, is responsible for primary ownership of recording and tracking the Incident and is responsible for the close coordination and ongoing monitoring and tracking of, and reporting on, incidents that have been escalated to second-level and third-level support groups to ensure that escalated Incidents are resolved as promptly as possible. The primary activities of Incident Management process include:

- Incident detection and recording
- Incident classification and initial support
- Incident investigation and diagnosis
- Incident escalation
- Incident resolution and recovery
- Incident closure

The Contractor is responsible for escalating incidents and coordinating with all appropriate Level 2 and Level 3 support groups to ensure knowledge capture and transfer regarding Incident Resolution procedures from Contractor's Level 1 Service Desk to support the objective of increasing the first call resolution number of Incidents capable of being resolved by Level 1 service technicians.

The following table identifies the Incident Management roles and responsibilities that the Contractor and FRTIB will perform.

Table 34. Event/Incident Management Roles and Responsibilities

Event/Incident Management Roles and Responsibilities	Contractor	FRTIB
1. Establish criteria for Incident Management support requirements, including equipment and services to be covered, severity-levels, definitions and characteristics, incident classification and prioritization schema, escalation requirements,.		X
2. Develop Incident Management policies, process and procedures that support FRTIB's Incident Management support requirements	X	
3. Review and approve Incident Management policies and procedures		X
4. Provide an Incident Management System and Knowledge Management Database, including all hardware, software, databases, automated monitoring tools, and management and reporting tools		X
5. Maintain and manage an Incident Management system and knowledge management database, including all hardware, software, databases, automated monitoring tools, and management and reporting tools, which are acceptable to FRTIB	X	
6. Provide unrestricted read access by FRTIB-authorized staff and other personnel to all current and historical Incident records and knowledgebase data	X	
7. Monitor the Incident Management system for automatically generated and logged Incident alerts and events	X	
8. Resolve incidents on the first call in accordance with the Procedures Manual, knowledge database documents, and configuration database(s)	X	
9. Log all calls/queries into the service desk	X	
10. Identify, filter, and classify Events and Incidents to a severity level and handle according to agreed-upon Incident response procedures	X	
11. Diagnose and resolve incidents; where possible use desktop remote-control capability with user's approval and	X	

Event/Incident Management Roles and Responsibilities	Contractor	FRTIB
disconnecting when complete. Where possible, implement appropriate corrective actions for known errors (e.g., workarounds for known unresolved Problems)		
12. Escalate incidents to the appropriate next-level service group within Contractor, FRTIB, or third-party service Contractor as soon as it is clear that the incident is unable to be resolved without additional assistance or as required to comply with service level response times	X	
13. Monitor and track incident resolution progress through to final closure and record/update incident record status as appropriate	X	
14. Provide expert functional and process assistance for in-scope applications at Level 1 and escalate to Level 2 or 3 resource as required	X	
15. Provide Level 1 assistance to inquiries on the features, functions and usage of hardware and software for all in-scope hardware and software.	X	
16. Provide Level 1 support for applications software on the supported applications. Level 1 support is limited to approved scripts.	X	
17. Propose training and Level 1 scripts and workarounds for the service desk for applications software on the approved list	X	
18. Approve training and Level 1 scripts and workarounds for the service desk for applications software on the approved list		X
19. Provide Level 2 and Level 3 support for Applications Software on the supported applications list	X	
20. Verify that all records (e.g., inventory, asset and configuration management records) are updated to reflect completed / resolved incident	X	
21. Assist users with questions relating to functionality and use of in-scope End User hardware and software	X	
22. Document solutions to resolved incidents in central knowledgebase. Accurately update all information pertinent to trouble ticket including general verbiage, codes, et..al.	X	
23. Notify designated FRTIB personnel of all Severity 1 and	X	

Event/Incident Management Roles and Responsibilities	Contractor	FRTIB
Severity 2 incidents within the designated timeframe		
24. Contact designated FRTIB business personnel of applicable Severity 1 and Severity 2 incidents		X
25. Maintain current and historical records of all calls and the resolution of those calls for the life of the contract and provide reporting and trend capabilities	X	
26. Troubleshoot, diagnose and resolve incidents for all in-scope hardware and software warranty and non-warranty devices, including removing and / or repairing physically broken or inoperable devices	X	
27. Provide Dispatch for in-scope End User devices for all in-scope devices and repair as required	X	
28. Provide end-to-end Incident Identification, Escalation and Resolution Management; and a Closure Process including the management of those tickets escalated to third parties	X	
29. Determine wherever possible whether a problem should be opened to address an incident	X	
30. Track ongoing status of any incident and their corresponding problem record to ensure that identified problems are addressed and resolved	X	
31. Ensure incident resolution activities conform to defined Change Management procedures set forth in the Process and Procedures Manual	X	
32. Coordinate and take ownership of incident resolution across all IT service areas with FRTIB and third parties (e.g., public carriers, Internet service Contractors, third party Contractors, et. Al.)	X	
33. Periodically review the status of open, unresolved Incidents and related problems and the progress being made in addressing problems	X	
34. Participate in Problem Management review sessions as appropriate	X	
35. Conduct incident review sessions and provide listing and status of same categorized by Incident Severity impact	X	
36. Participate in Incident Management review sessions		X
37. Coordinate with FRTIB and third-party Level 2 support	X	

Event/Incident Management Roles and Responsibilities	Contractor	FRTIB
groups to acquire and transfer knowledge on incident and problem resolutions and record this knowledge gained into the knowledge base to facilitate increased ability for Contractor's Level 1 Service Desk in providing first-call resolution		
38. Conduct follow-up with uEnd Users who reported the Incident to verify that the Incident was resolved to the uEnd User's satisfaction.	X	
39. Close out incidents that were resolved satisfactorily	X	
40. Provide Incident Management reporting as required	X	

3.3.1.4.2. Problem Management Services

Problem Management Services are intended to minimize the adverse impact of Incidents and Problems on the business caused by errors within the IT Infrastructure and to prevent recurrence of Incidents related to these errors by determining the unknown underlying cause (e.g., root cause) of one or more Incidents and ensuring that actions are initiated to improve or correct the situation.

Reactive Problem Management services include diagnosing and solving Problems in response to one or more Incidents that have been reported through Incident Management and provide proactive Problem Management to identify and solve Problems and known errors before Incidents occur in the first place, including performing predictive analysis activities, where practical, to identify potential future problems, develop recommended mitigation plans, and implement approved corrective mitigation actions and processes. Problem Management also includes maintaining, updating and disseminating information about Problems and the appropriate workarounds and resolutions, so that the number and impact of Incidents occurring within FRTIB's IT infrastructure is reduced over time.

The major activities of Problem Management are:

- Problem control
- Error control
- Proactive prevention of Problems
- Performing major Problem reviews
- Providing Problem Management reporting

Problem Management services include all identified Problems that are determined to be related to IT systems and services under the control of the Contractor. Problem Management

also includes coordination and assistance to FRTIB and third-party Contractors in performing their Problem Management process.

Proper Problem Management ensures that resolutions to problems are implemented through the appropriate control procedures, especially Change Management and Release Management, as well as coordinating Problem Management activities with the various teams within the Contractor, FRTIB and third-party Contractors responsible for performing Configuration Management, Availability Management, Capacity Management, IT Service Continuity Management, and Service Level Management activities.

The following table identifies the Problem Management roles and responsibilities that the Contractor and FRTIB will perform.

Table 35. Problem Management Roles and Responsibilities

Problem Management Roles and Responsibilities	Contractor	FRTIB
1. Define requirements and policies for Problem Management (e.g., events that trigger a Root Cause Analysis, categorization and prioritization schema, etc.)		X
2. Participate in developing Problem Management requirements and policies	X	
3. Develop appropriate process and procedures and methodologies that support FRTIB-approved Problem Management requirements and policies that comply with FRTIB requirements	X	
4. Approve appropriate process and procedures and methodologies that support FRTIB-approved Problem Management requirements and policies that comply with FRTIB requirements		X
5. Implement appropriate process and procedures and methodologies that support FRTIB-approved Problem Management requirements and policies that comply with FRTIB requirements	X	
6. Establish and maintain a Problem Management knowledgebase that is accessible to FRTIB where information about Problems, Root Cause, Known Errors, Workarounds and problem resolution actions are recorded and tracked. This knowledgebase can be the same knowledgebase as used by Incident Management	X	
7. Provide unrestricted access by FRTIB-authorized staff and	X	

Problem Management Roles and Responsibilities	Contractor	FRTIB
other FRTIB designated personnel to all current and historical Problem Management records and knowledgebase data		
8. Ensure Problem Management activities conform to defined Change Management procedures set forth in the Procedures Manual	X	
9. Coordinate with appropriate Incident Management teams and take ownership of Problem Management activities of all problems determined to reside in the Contractor's service area of responsibility (e.g., detection, logging, root-cause analysis, et. al.)	X	
10. Coordinate, escalate and track Problem Management activities within FRTIB and third parties related to problems determined to reside in all IT infrastructure areas	X	
11. Flag all incidents that require further root-cause analysis be conducted (i.e., Severity 1 and Severity 2 incidents) per the agreed-to procedures	X	
12. Ensure that recurring problems that meet defined criteria related to the Contractor's IT service responsibility area are reviewed using root-cause analysis procedures	X	
13. Conduct proactive trend analysis of incidents and problems, and other data elements to identify recurring situations that are or may be indicative of future problems and points of failure	X	
14. Track and report on problems and trends or failures and identify associated consequences of problems	X	
15. Develop and recommend corrective actions or solutions to address recurring incidents and problems, as well as mitigation strategies and actions to take to avert potential problems identified through trend analysis	X	
16. Identify, develop, document, and recommend appropriate Workarounds for known errors of unresolved problems and notify Incident Management and all other appropriate stakeholders of it's availability if approved. Document the workaround in the knowledgebase	X	
17. Perform Quality Assurance on all Recordkeeping-related problem workarounds	X	
18. Review and approve Workarounds for implementation, as		X

Problem Management Roles and Responsibilities	Contractor	FRTIB
appropriate		
19. Coordinate and monitor status of root-cause analysis activities performed by FRTIB and third-party Contractors (i.e., from other IT service areas)	X	
20. Document and update Problem Management knowledgebase with information regarding problem resolution actions, activities and status (e.g., root cause, known errors, workarounds, etc.) and notify all appropriate stakeholders of availability of information	X	
21. Coordinate with FRTIB and third-party service Contractors to ensure that knowledge on Problems related to other IT service areas is captured and entered into a centralized Problem Management knowledgebase	X	
22. Ensure problem resolution activities conform to defined Change Management procedures set forth in the Process and Procedures Manual	X	
23. Provide status reports detailing the root cause and procedure for correcting recurring Problems and Severity 1 and Severity 2 Incidents until closure as determined by FRTIB	X	
24. Conduct Problem Management review meetings and provide listing and status of problems categorized by impact	X	
25. Participate in Problem Management review meetings and review and approve recommendations for actions, where appropriate		X
26. Periodically review the state of open incidents and related problems and the progress being made in addressing Problems	X	
27. Participate in and review and approve as appropriate all Problem Management generated RFCs as part of the Change Management		X
28. Create Request for Change (RFC) documentation with recommended corrective actions to be taken to resolve a problem and submit to FRTIB for review and approval	X	
29. Conduct periodic problem management proactive review sessions	X	
30. Provide Problem Management reporting as required	X	

3.3.1.4.3. Configuration Management

Configuration Management Services are the activities associated with providing a logical model of the Service Towers' devices and their relationships by identifying, controlling, maintaining and verifying installed hardware, software, and documentation (ie maintenance contracts, SLA documents, etc).

The goal is to account for all IT Assets and configurations, provide accurate information on configurations and provide a sound basis for Incident, Problem, Change and Release Management and to verify configuration records against the infrastructure and correct any exceptions. The following table identifies the Configuration Management roles and responsibilities that Contractor and FRTIB will perform.

Table 36. Configuration Management Roles and Responsibilities

Configuration Management Roles and Responsibilities	Contractor	FRTIB
1. Define Configuration Management requirements and policies		X
2. Develop, document and maintain in the Standards Process and Procedures Manual Configuration Management procedures that meet requirements and adhere to defined policies	X	
3. Review and approve Configuration Management procedures and processes		X
4. Identify and document the Configuration Item structure	X	
5. Approve the Configuration Item structure		X
6. Establish Configuration Management database, in accordance with FRTIB requirements	X	
7. Review and approve Configuration Management database		X
8. Select and provide Configuration Management tools		X
9. Install and maintain Configuration Management tools	X	
10. Enter/upload configuration data into configuration database	X	
11. Establish process interfaces to Incident and Problem Management, Change Management, technical support, maintenance and Asset Management processes	X	

Configuration Management Roles and Responsibilities	Contractor	FRTIB
12. Establish appropriate authorization controls for modifying configuration items and verify compliance with Software licensing	X	
13. Establish guidelines for physical and logical separation between development, test and production and the process for deploying and back-out of configuration items		X
14. Develop procedures for establishing configuration baselines as reference points for rebuilds, and provide ability to revert to stable configuration states	X	
15. Develop procedures for establishing security baselines as reference points for rebuilds, and provide ability to revert to stable configuration states		X
16. Establish procedures for verifying the accuracy of configuration items, adherence to Configuration Management process and identifying process deficiencies	X	
17. Provide a deficiency report and steps taken to address the issues identified	X	
18. Provide FRTIB Configuration Management reports as required and defined by FRTIB	X	
19. Audit Configuration Management process and accuracy of configuration data		X

3.3.1.4.4. Change Management

Change Management Services are activities that are to ensure that standardized methods and procedures are used for efficient and prompt handling of all changes, in order to minimize the impact of change upon Service quality and consequently to improve the day-to-day operations of FRTIB.

Change Management covers all aspects of managing the introduction and implementation of all changes affecting all Towers and in any of the management processes, tools, and methodologies designed and utilized to support the Tower components.

The Change Management processes and activities are inter-related and complementary with Release Management and Configuration Management, as well as Incident Management and Problem Management.

The Change Management process includes the following process steps:

- Determine metrics for measuring effectiveness of a Change
- Request for Change (RFC) process
- Recording/Tracking process
- Prioritization process
- Responsibility Assignment process
- Impact/Risk Assessment process
- Participation in IT service continuity and DR planning
- Coordination of the Change Advisory Board (CAB)
- Review / Approval process
- Establish and manage the schedule of approved Changes
- Implementation process
- Verification (test) process
- Closure process

The following table identifies Change Management roles and responsibilities that Contractor and FRTIB will perform.

Table 37. Change Management Roles and Responsibilities

Change Management Roles and Responsibilities	Contractor	FRTIB
1. Define Change Management policies and requirements, including change priority schema and classifications, per the Change Management process components outlined above		X
2. Develop Change Management procedures and processes per the Change Management process components outlined above	X	
3. Participate in the development of the Change Management and CAB procedures, policies, and approval authorities		X
4. Review and Approve Change Management process, procedures and policies		X

Change Management Roles and Responsibilities	Contractor	FRTIB
5. Receive and document all Requests for Change (RFC) and classify proposed changes to the Services, which includes change cost, risk impact assessment, and system(s) security considerations	X	
6. Review and validate that RFCs comply with Change Management policies, procedures, and processes		X
7. Ensure that appropriate back-out plans are documented and in place in the event of systems failure as a result of the change	X	
8. Provide Change Management plan to FRTIB for review	X	
9. Approve Change Management plan		X
10. Develop and maintain a schedule of planned approved changes (Forward Schedule of Changes or FSC) for FRTIB to review	X	
11. Coordinate, schedule, and conduct Change Advisory Board (CAB) meetings to include review of planned changes and results of changes made, ensuring that all appropriate parties are invited and represented in accordance with approved CAB policies	X	
12. Participate in CAB meetings		X
13. Provide change documentation as required, including proposed metrics as to how effectiveness of the change will be measured	X	
14. Review and approve change documentation and change effectiveness metrics		X
15. Review and approve any RFC determined to have a cost, security, or significant risk impact to FRTIB's IT systems or business		X
16. Authorize and approve scheduled changes or alter the schedule change requests as defined in the Change Management procedures		X
17. Publish and communicate the approved FSC to all appropriate IT and business unit stakeholders within FRTIB of change timing and impact		X

Change Management Roles and Responsibilities	Contractor	FRTIB
18. Oversee the approved change build, test, and implementation processes to ensure these activities are appropriately resourced and completed according to Change schedule	X	
19. Ensure that thorough testing is performed prior to release and assess FRTIB business risk related to any change that is not fully tested prior to implementation		X
20. Participate in business risk assessment for change to be introduced without being fully tested	X	
21. Monitor changes, perform change reviews and report results of changes, impacts, and change effectiveness metrics	X	
22. Verify that change met objectives based upon predetermined effectiveness metrics and determine follow-up actions to resolve situations where the change failed to meet objects	X	
23. Review and approve change management results		X
24. Close out RFCs that met the change objectives or changes that were abandoned	X	
25. Perform Change Management quality control reviews and audits of Change Management processes, and records		X
26. Provide FRTIB Change Management reports as required and defined by FRTIB	X	

3.3.1.4.5. Release Management

Release Management is concerned with implementing the changes to defined IT services and covers both the software and the hardware. Release Management Services are activities that take a holistic view of a change to a Service to ensure that the technical and non-technical aspects of a Release related to software, and hardware changes.

These changes can be implemented by rolling out a combination of new applications or infrastructure software and/or upgraded or new hardware, or simply by making changes to the documentation such as service hours or support arrangements. Release Management processes and activities are inter-related and complementary with the Change Management process, as well as Configuration Management and Problem Management.

Release Management includes the following activities:

- Establishing standardized Release Management policies and procedures
- Managing Release Planning and Scheduling for the overall Release Schedule, as well as individual Releases
- Establishing and managing a Release documentation and identification schema
- Managing the Release design, build, and configuration processes
- Release Testing and Testing Management
- Rollout planning including quality plans and back-out plans
- Release communication, preparation, and training
- Managing the successful rollout/distribution and installation of all elements of a Release
- Documenting each Release and updating the Configuration Management Database (CMDB)

Releases can also consist of a number of problem fixes and enhancements to existing IT services. A Release consists of the new or changed software required and any new or changed hardware needed to implement the approved Changes. Releases are generally divided into:

- Major software Releases and hardware upgrades or replacements, normally containing large areas of new functionality. A major upgrade or Release usually supersedes all preceding minor upgrades, Releases and emergency fixes.
- Minor software Releases and hardware upgrades, normally containing small enhancements and fixes, some of which may have already been issued as emergency fixes. A minor upgrade or Release usually supersedes all preceding emergency fixes.
- Emergency software and hardware fixes, normally containing the corrections to a small number of known problems.

The following table identifies Release Management roles and responsibilities that Contractor and FRTIB will perform.

Table 38. Release Management Roles and Responsibilities

Release Management Roles and Responsibilities	Contractor	FRTIB
1. Define Release Management policies and requirements per the Release Management process components outlined above		X
2. Develop Release Management procedures and processes per the Release Management process components outlined above	X	

Release Management Roles and Responsibilities	Contractor	FRTIB
3. Participate in the development of the Release Management process and procedures		X
4. Review and approve Release Management processes and procedures		X
5. Establish and maintain an appropriate secure environment(s) where all authorized versions of all software, in physical or electronic form as applicable (Definitive Software Library or DSL) and where all hardware spares (Definitive Hardware Store or DHS) are stored, protected and accounted.	X	
6. Maintain master copies of all new versions of software (both COTS software packages and application developed custom-built software) in the secured DSL and update configuration item.	X	
7. Ensure that all hardware spares are secured in the DHS and reflected in the configuration management database(s)	X	
8. Establish, manage, update, and maintain the overall Release Plan and Release Schedule for all planned Releases	X	
9. Establish and administer the version control schema as it relates to Release Management of FRTIB custom applications	X	
10. Develop, manage, update and maintain formal Release Plans for each Release in coordination with Change Management	X	
11. Develop quality plans and back-out plans as appropriate for each Release	X	
12. Provide Release Management Plans and Schedules to FRTIB for review	X	
13. Review and approve Release Management Plans and Schedules		X
14. Conduct site surveys, as necessary, to assess existing hardware and software being used to validate Release package requirements and dependencies	X	

Release Management Roles and Responsibilities	Contractor	FRTIB
15. Plan resource levels and requirements for supporting a release	X	
16. Ensure that any new software, hardware, or support services required for the release are available when needed	X	
17. Ensure that all necessary testing environments are available and properly configured to support Release testing	X	
18. Ensure there is segregation of duties between the application developer testers and the release management testers.	X	
19. Conduct post-deployment testing as required	X	
20. Schedule and conduct Release Management meetings to include review of planned releases and results of changes made	X	
21. Identify and document all Configurable Items (CIs) that need to be included in the Release, as well as all system inter-dependencies	X	
22. Plan and manage the acceptance testing process for each Release	X	
23. Review and approve Release acceptance testing plans		X
24. Provide Release documentation as required	X	
25. Authorize and approve scheduled Releases or alter the schedule as defined in the Release Management procedures		X
26. Review Release Management details and alter as appropriate to meet the needs of the FRTIB (e.g., back out plan, go/no go decision)	X	
27. Notify FRTIB affected clients of Release timing and impact and provide communications to the service desk	X	
28. Implement Release in compliance with Change Management requirements and adherence to detailed release plans	X	

Release Management Roles and Responsibilities	Contractor	FRTIB
29. Modify configuration database, asset management items, and service catalog (if applicable) to reflect changes to CIs due to the Release	X	
30. Conduct post-mortem of Releases that necessitated implementation of the backout plan and develop and implement appropriate corrective or follow-up actions to minimize future occurrences	X	
31. Perform quality control audits and approve Release control results		X
32. Provide FRTIB Release Management reports as required and defined by FRTIB	X	

3.3.1.4.6. Service Catalog and Task Management

Service Catalog Management Services are the activities associated with the ongoing management of the Service environment. The following table identifies Service Catalog Management roles and responsibilities that Contractor and FRTIB will perform.

Table 39. Service Catalog Management Roles and Responsibilities

Service Catalog Management Roles and Responsibilities	Contractor	FRTIB
1. Define Service Catalog and Task Management requirements and policies		X
2. Develop, document and maintain in the Standards Process and Procedures Manual Service Catalog and Task Management procedures that meet requirements and adhere to defined policies	X	
3. Review and approve Service Catalog and Task Management process and procedures		X
4. Develop a comprehensive “IT” Service Catalog which details Services offered including all Service options, pricing, installation time frames, order process (new, Change and remove service) and prerequisites	X	
5. Approve service catalog		X
6. Develop a Service ordering process that clearly defines how to order Change or delete Services	X	

Service Catalog Management Roles and Responsibilities	Contractor	FRTIB
7. Recommend criteria and formats for administrative, Service activity and Service Level Reporting	X	
8. Review and approve criteria and formats for administrative, Service activity and Service Level Reporting		X
9. Develop and implement Customer Satisfaction program for tracking the Quality of Service delivery to End Users	X	
10. Review and approve Customer Satisfaction program for tracking the Quality of Service delivery to End Users		X
11. Provide reporting (e.g., statistics, trends, audits, customer satisfaction results)	X	

3.4 Exclusions

The following items are specifically excluded from this SOW:

- None

3.5 Service Management

3.5.1. Objectives

A key objective of this agreement is to attain service-level requirements (SLRs). Written reports to FRTIB regarding Contractor's compliance with the SLRs specified in this SOW Schedule are required.

3.5.2. Service Level Requirements (SLRs)

The following SLRs represent minimum Service levels required across all IT Service Towers. Contractor must consistently meet or exceed the following SLRs. Exceptions causing SLR non-compliance will be discussed in the monthly service level review meeting as referenced in Section 3.3.1.3.4 Service Level Monitoring and Reporting.

Table 40. Severity Levels

Severity Level 1 – Emergency/Urgent *Critical Business Impact*	The Incident has caused a complete and immediate work stoppage affecting a Critical Function or Critical Infrastructure component such that a primary business process or a broad group of users such as an entire department, floor, branch, line of business, or external customer. No work around available. Examples: ▪ Major application problem (e.g., payroll, call center, etc.) ▪ Severe disruption during critical periods (e.g., month-end processing, HOD/BOT meetings) ▪ WAN or LAN outage ▪ Security violation (e.g. denial of service, port scanning)
Severity Level 2 – High *Major Business Impact*	A business process is affected in such a way that business functions are severely degraded, multiple users are impacted, a key customer is affected, or a Critical Function is operating a significantly reduced capacity or functionality. A Workaround may be available; however the Workaround is not easily sustainable. Examples: ▪ Major data/database or application problem (e.g. exchange) ▪ E-mail system is performing slowly, but workload in manageable ▪ Security incursion on a non-critical system
Severity Level 3 – Medium *Moderate Business Impact*	A business process is affected in such a way that certain functions are unavailable to end users or a system and/or service is degraded. A Workaround may be available. Examples: ▪ Telecommunication problem (e.g. Blackberry, PBX digital/analog card) ▪ End User Device problem (e.g. hardware, software)

Severity Level 4 – Low *Minimal Business Impact*	An Incident that has little impact on normal business processes and can be handled on a scheduled basis. A Workaround is available or there is minimal negative impact on a user's ability to perform their normal daily work. Example: ▪ "How To" questions ▪ Service Requests (e.g. system enhancement) ▪ Peripheral problems (e.g. locally attached printer) ▪ Preventative Maintenance

Table 41. Incident/Problem Resolution SLRs

Definition	Time to Resolve Incidents/Problems following responses to different Incident Severity Level classifications.The following Incident and Problem SLRs apply to all IT Service Towers. FRTIB will determine whether or not a workaround addresses and/or resolves a problem.

Incident/Problem Resolution SLRs			
Incident/Problem Resolution	**Service Measure**	**Performance Target**	**SLR Performance %**
Reply back to End User and Notify FRTIB Service Manager of a Severity 1 or 2 Incident	Time to Respond	< 15 minutes <1 hour	98% 99.99%
Reply back to End User for a Severity 3 or 4 Incident	Time to Respond	< 2 hours	98.0%
Severity Level 1	Time to Resolve	< 2 hours	98.0%
Severity Level 2	Time to Resolve	< 4 hours	98.0%
Severity Level 3	Time to Resolve	< 6 hours	98.0%

Incident/Problem Resolution SLRs			
Severity Level 4	Time to Resolve	Next Business Day or as prioritized by Contractor	98.0%
Initial Root Cause Analysis	Time to Initial Report	Within 24 hours of Incident Resolution	98.0%
	Formula	Number of requests closed within Performance Target during the Measurement Interval ÷ Total of all requests occurring during Measurement Interval The Contractor shall be expected to provide a method for accounting for incidents/problems that cross Measurement Intervals.	
	Measurement Interval	Measure Weekly	
	Reporting Period	Report Monthly	
	Measurement Tool	TBD	

3.5.2.1. Backup and Restore SLRs

Definition	Frequency of backing up data successfully

Table 42. Backup Schedule

Mainframe and Servers Services—Backup Schedule and SLRs					
Type of Backup	**Backup Frequency**	**Storage Site**	**Retention/Purge Period**	**Target**	**SLR Performance %**
Incremental	Daily	Off-site	35 days	Backup Frequency	99.9%

Mainframe and Servers Services—Backup Schedule and SLRs					
Full (Backup)	Weekly	Off-site	5 weeks	Backup Frequency	99.9%
Full (Archive)	Monthly	Off-site	Indefinite	Backup Frequency	99.9%
All				Quarterly Test representative sample of each type of backup Restore Process	100%

Table 43. Restoration SLR

Definition	Responsiveness to restoration requests.

Restoration Services Table			
Restoration Type	**Service Measure**	**Performance Target**	**SLR Performance %**
Restore Requests for production data	Response Time Data 1 week old or less	≤3 hours from FRTIB request	95.0%
Restore Requests for recovery of test data or data volume backups	Response Time Data 1 week old or less	≤8 hours from FRTIB request	95.0%

Restoration Services Table			
Restore Requests for recovery of data or data volume backups	>1 week old	Commence restore within 3 Business Days	99.0%
	Formula	Number of requests completed within Performance Target ÷ Total of all requests occurring during Measurement Interval	
	Measurement Interval	Measure Weekly	
	Reporting Period	Report Monthly	
	Measurement Tool	TBD	

3.5.2.2. IT Continuity and Disaster Recovery (DR) Requirements

Table 44. IT Continuity and DR SLRs

Definition	Time to recover FRTIB systems after DR Incident has been determined.

Disaster Recovery SLRs			
Business Impact Analysis (BIA) Application Rankings	**Service Measure**	**Performance Target**	**SLR Performance %**
1	Time to recover	<8 hours	98.0%
2	Time to recover	9 to 48 hours	98.0%

Disaster Recovery SLRs			
3	Time to recover	49 to 96 hours	98.0%
	Formula	Number of applications recovered within Performance Target ÷ Total number of applications in Measurement Interval	
	Measure Interval	Measure Monthly	
	Reporting Period	Report Quarterly	
	Measurement Tool	TBD	

Table 45. Annual DR Test SLRs

Definition	Testing the efficacy of the disaster recovery (DR) plan annually.

Annual DR Test SLRs			
Recovery Time	**Service Measure**	**Target**	**SLR Performance %**
All	Fully completed test of each DR plan, including all found issues completely documented	Annual execution of fully completed test of each DR plan, including all found issues completely documented	100%
	Formula	Number of tests completed within Performance Target ÷ Total of all tests occurring during Measurement interval	
	Measurement Interval	Annual	
	Reporting Period	Per DR Test	

Annual DR Test SLRs		
	Measurement Tool	DR Test Plan, Post-Test Report

Table 46. Major Change DR Test SLRs

Definition	DR tests as a result of major changes to the IT environment.

Major Change DR Test SLRs			
Recovery Time	**Service Measure**	**Target**	**SLR Performance %**
All	Fully completed test of affected DR plans, including all found issues completely documented	Execution of fully completed test of affected DR plans, including all found issues completely documented, after each Major Change	100%
	Formula	Number of tests completed within Performance Target ÷ Total of all tests occurring during Measurement interval	
	Measurement Interval	Annual	
	Reporting Period	Per Change DR Test	
	Measurement Tool	DR Test Plan, Post-Test Report	

3.5.2.3. Asset Tracking and Management

Definition	The accuracy of tracking asset data and database.

Table 47. Asset Tracking SLR

Asset Tracking Requirements Table			
Accuracy of Data in Asset Tracking Database	Accuracy	Accuracy percentage of each of the following data elements as determined by audit:	
		Data Element	**Accuracy Percentage**
		Serial Number	97%
		Assigned Location/Person	97%
		Hardware/Software Configuration	97%
	Formula	Number of tracked Assets where data element is determined to be correct ÷ Total number of tracked Assets audited	
	Measurement Interval	Audited as specified in **Standards and Procedures Manual** (quarterly as of Effective Date).	
	Measurement Tool	TBD	

3.5.2.4. End User Satisfaction Survey

Definition	The measurement of end user satisfaction with the services provided by the Contractor.

Table 48. End User Satisfaction SLR

End User Satisfaction SLR

End User Satisfaction SLR			
End User Satisfaction	**Service Measure**	**Performance Target**	**SLR Performance %**
Scheduled Survey (conducted semiannually by FRTIB or its designated Third Party agent)	End User Satisfaction rate	End Users surveyed should be very satisfied or satisfied	90%
	Formula	Sum of survey result from each participant ÷ Total number of participants responding to Scheduled Survey	
	Measurement Interval	Measure Semiannually	
	Reporting Period	Report Semiannually	
	Measurement Method/Source Data	TBD	

3.5.2.5. Security

Table 49. Security Intrusion Detection SLRs

Definition	Network traffic to/from designated systems is monitored for current attack signatures and is retained for 3 days. Measurement for this service is 24x7x365 requirement. Pre-scheduled maintenance is preformed between the period beginning Sunday 0100 to 0700.

Security Intrusion Detection SLRs			
Management Task	**Service Measure**	**Performance Target**	**SLR**
NIDS – monitor for current attack signatures	Overall Schedule	Sun-Sat, 0000-2400	99.99%
HIDS – monitor for	Overall Schedule	Sun-Sat, 0000-2400	99.99%

Security Intrusion Detection SLRs			
Management Task	**Service Measure**	**Performance Target**	**SLR**
changes to selected local files			
NIDS – review all priority 1 and priority 2 alerts and notify FRTIB and Service Desk on positives	Elapsed Time	<15 minutes	99.90%
	Formula	Performance = Transactions completed per Management Task within Performance Target / Total Transactions per Management Task occurring during the Measurement Interval	
	Measurement Interval	Monitor Continuously, Measure Daily, Report Monthly	
	Measurement Tool	TBD	

Table 50. Security Vulnerability and Penetration Services SLRs

Definition	Entire networks are tested to determine the susceptibility of their hosts to current attacks. Measurement for this service is Mon-Fri, during normal business hours, for Intranet testing. Whereas Internet penetration testing occurs outside of business hours [2000 – 0500] and where appropriate, running continuously over the weekend. Pre-scheduled maintenance is performed during periods of service inactivity. An IMAC Vulnerability Assessment is an assessment after each Install, Move, Add, or Change (IMAC) of any piece of IT equipment for any vulnerabilities that may have been introduced by installing, moving, adding, or changing that piece of IT equipment.

Security Vulnerability & Penetration Services SLRs

Management Task	Service Measure	Performance Target	SLR
Testing of vulnerabilities & Penetration	Overall Schedule	Mon–Fri, 2000–0500 Sat-Sun, 0000-2400	99.90%
Conduct IMAC Vulnerability Assessment	Per IMAC	<1 business day	99.90%
	Formula	Transactions completed within required time / Total Transactions	
	Measurement Interval	Monitor Continuously, Measure Daily, Report Monthly	
	Measurement Tool	TBD	

Table 51. Virus File Update SLR

Definition	Time within which Contractor shall release the latest virus update file to the FRTIB network

Virus File Update SLR			
Management Task	**Service Measure**	**Performance Target**	**SLR**
Update Virus Release Files as designated by Service Recipient and ensure software is working properly by completing any manufacturer and/or Service Recipient designated tests	# of business days until virus file release from time of release from virus security company.	<= 10 days	95%
	Formula	Releases completed within required time / Total Releases	

Virus File Update SLR			
Management Task	Service Measure	Performance Target	SLR
	Measurement Interval	Monthly	
	Measurement Tool	TBD	

3.5.3. Reports

The following reports, in addition to monthly SLR compliance, are required to be developed by the Contractor

Table 52. Cross-Functional Services Reports

Report Description	Frequency
Updating and Maintaining SOW Appendices	Annually
Service Level Report	Monthly
Project Management Plans and Deliverables	Periodic
Comprehensive Standards and Procedures Manual	Annually
Service Change Recommendations	Periodic
Technical Trends Report	Periodic
Standards and Architecture Report	Annually
Technology Refreshment and Replenishment Plan	Annually
Recommendations for Efficiency and Effectiveness Improvement	Periodic
Technical Design and Environment configuration Plans	Periodic
Asset Management Audit Report	Quarterly
Asset Management Financial Report	Annually
Asset Disposition/Relocation/Disposal Report	Annually
Asset Management Remediation Plan (Audit Results)	Quarterly

Report Description	Frequency
Software License Management Report	Annually
Software License Audit and Compliance Report	Quarterly
Engineering Plans	Periodic
Implementation and Migration Procedures (Included in Comprehensive SOP Manual)	Periodic
Post-deployment verification and back out plans	Periodic
Facilities Security Improvement Plans	Annually
Technology Refreshment and Replenishment Procedures (Included in Comprehensive SOP Manual)	Annually
Operations and Administration procedures (Included in Comprehensive SOP Manual)	Annually
Operational Report (Production Metrics and Issues)	Monthly
Maintenance Standards and Procedures Manual (Included in Comprehensive SOP Manual)	Annually
Technology Refreshment and Replenishment Report	Quarterly
Availability Management Procedures (Included in Comprehensive SOP Manual)	Annually
Availability Management and Improvement Plan	Annually
Capacity Management Procedures (Included in Comprehensive SOP Manual)	Annually
Capacity Management and Improvement Plan	Annually
Service Level Monitoring and Reporting Procedures (Included in Comprehensive SOP Manual)	Annually
Service Level Improvement Report	Quarterly

Report Description	Frequency
Self Risk Assessment Security Report	Annually
Security Process and Procedures (Included in Comprehensive SOP Manual)	Annually
Security Incident Violations Report	Periodic
Remediation Plans for Independent Vulnerability and Penetration Tests	Periodic
Data Security - Reconciliation reporting of all data media	Monthly
Data Security - Annual Audit to Reconcile all Storage Media	Annually
Data Security -Intrusion Detection/Prevention Services and report	Periodic
Data Security - Anomalies and Deficiencies report	Periodic
Data Security- vulnerability and penetration test results/report	Periodic
Backup and Recovery Schedules and procedures (Included in Comprehensive SOP Manual)	Annually
IT Service Continuity and Disaster Recovery Services Process and Procedures (Included in Comprehensive SOP Manual)	Annually
Detailed Disaster Recovery Plan	Annually
Disaster Recovery Test results	Annually
Incident/Event Trend Report	Monthly
Problem Management Processes and Procedures (Included in Comprehensive SOP Manual)	Annually
Problem Trend Report	Monthly
Root Cause Status Report	Monthly
Configuration Management and Items Deficiencies Report	Quarterly
Change Management Processes and Procedures (Included in Comprehensive	Annually

Report Description	Frequency
SOP Manual)	
Change Management Report	Periodic
Schedule of Planned Approved Changes	Periodic
Release Management processes and Procedures (Included in Comprehensive SOP Manual)	Annually
Overall Release Management Plan and Schedule	Monthly
Release Plans for Each Release, including Quality and Back-out Plans	Periodic
Release Management Report	Periodic
Acceptance Testing Plan and Process for Each Release	Periodic
Post Mortem Release Corrective Action Plan for Release Backouts	Periodic
Service Catalog Trend Report	Quarterly

Schedule A: Infrastructure and Operations

4.0 Data Center Services

This schedule sets forth the roles and responsibilities of the Parties for the Data Center Services provided under the Agreement as part of the Services. Data Center Services are the Services and activities, as further detailed in this SOW, required to provide and support FRTIB centralized production, quality assurance, and development computing environments.

The Data Center environment includes:

- Centralized CPUs such as: Mainframe, Unix-based (virtualized and physical), Windows-based systems (virtualized and physical), and associated data storage and backup Services and supporting systems Software (e.g., operating systems, utilities, schedulers).
- This environment also includes the routers, switches, load balancers, and other network devices within the data center, but does not include network devices outside the data center.
- Contractor may deploy additional systems to support the computing environment and to provide FRTIB infrastructure technical support.
- Contractor shall be expected to coordinate with any internal FRTIB or third-party data center facility Provider on issues such as facilities management, power requirements, air conditioning requirements, physical space, and capacity planning of the same within the data center.

In addition to the Services described in this schedule, the Contractor is responsible for providing the Services described in the Cross-Functional Services section.

4.1 Service Environment

4.1.1. Scope of the Infrastructure to Be Supported

The following sub-sections and related Service Environment Appendices further describe and scope the Data Center environment to be supported. These Service Environment Appendices are to be maintained by Contractor, and reviewed with FRTIB, and updated by Contractor and made available to FRTIB on a quarterly basis.

4.1.1.1. Hardware and Software

A listing and description of all Data Center hardware to be provided and supported is provided in Appendix B.1.1—Data Center Server Hardware and Appendix B.1.2—Data Center Storage Hardware. Contractor shared services hardware and Software required to support FRTIB Data Center environment should be designated separately.

A listing and description of the systems Software and utilities to be provided and supported is provided in Appendix B.2—Data Center Software.

4.1.1.2. Service Locations

All Data Center Services are provided at co-location facilities. A listing of co-location owned and operated facilities providing Data Center Services is provided in Appendix B.3—Client Facility Locations.

4.1.1.3. Policies, Procedures and Standards

The policies, procedures and standards with which Data Center Services will comply are provided in Appendix B.4—Data Center Procedures and Standards and Appendix B.4.1—FRTIB SBM User Guide.

4.1.1.4. Agreements and Licenses

A list of Data Center-related agreements and licenses is provided in Appendix B.5—Data Center Agreements and Licenses for which FRTIB will retain ownership and responsibility.

4.1.1.5. Work-In-Progress

FRTIB currently has a number of Data Center related initiatives in progress that are included within the scope of this SOW and may impact Services. The Contractor will work with FRTIB per the terms of this Statement of Work to complete this work in Appendix B.6—Data Center Related Work in Progress.

4.1.1.6. Future Initiatives

Other Data Center-related initiatives considered but not in process are included in Appendix B.7—Data Center Future Initiatives.

4.1.1.7. Baseline Information

FRTIB's current Data Center utilization and projected usage is included in Appendix B.8—Data Center Baseline Projections. These business requirements represent FRTIB's most realistic projection of the Service requirements for Day 1 implementation based on a

combination of past trends and current anticipated overall business direction over the term of the Agreement.

4.2 Data Center Service Requirements

4.2.1. Service Descriptions and Roles and Responsibilities

In addition to the Services, activities, and roles and responsibilities described in Section 3.0 Cross-Functional Services, Contractor is responsible for the following Data Center Services.

4.2.1.1. General Responsibilities

The following table identifies general roles and responsibilities associated with this SOW. An "X" is placed in the column under the Party that will be responsible for performing the task. Contractor responsibilities are indicated in the column labeled "Contractor."

Table 53. General Roles and Responsibilities

General Roles and Responsibilities	Contractor	FRTIB
1. Comply with FRTIB policies and standards and regulations applicable to FRTIB including information systems, personnel, physical and technical security	X	
2. Manage event and workload processes across all platforms	X	
3. Perform technical support for all hardware/equipment of the Data Center computing infrastructure	X	
4. Support Data Center infrastructure System Software (e.g., operating systems, utilities, databases, Middleware as listed in the applicable SOW appendices)	X	
5. Support Data Center Networks (e.g., LAN, WAN connection) and related operations (e.g., procure, design, build, systems monitoring, Incident diagnostics, troubleshooting, Resolution and escalation, security management, and capacity planning/analysis) as required to meet FRTIB computing requirements	X	
6. Provide and support Data Center-related environmental elements (e.g., HVAC, dual redundant UPS, power, cross connects, fire detection and suppression systems, temperature and humidity controls, and controlled physical access with 24×7 manned security)		X
7. Provide cable plant within FRTIB's cage		X

General Roles and Responsibilities	Contractor	FRTIB
8. Maintain cable plant within FRTIB's cage	X	
9. Implement and coordinate all Changes to the Data Center infrastructure including those that may affect the Service levels of any other Service Tower and Third Parties	X	
10. Create, maintain and provide all appropriate project plans, project time and cost estimates, technical Specifications, management documentation and management reporting in a form/format that is acceptable to FRTIB	X	

4.2.1.2. Data Center Computing Services

4.2.1.2.1. Operations and Administration

Operations and Administration Services are the activities associated with the day-to-day management of the Data Center computing environment, providing and supporting a stable infrastructure and effectively and efficiently performing operational and processing procedures to ensure Services meet SLR targets and requirements. The following table identifies the Operations and Administration roles and responsibilities that Contractor and FRTIB will perform.

Table 54. Operations and Administration Roles and Responsibilities

Operations and Administration Roles and Responsibilities	Contractor	FRTIB
Monitoring Operations Roles and Responsibilities		
1. Define monitoring requirements and policies		X
2. Develop and document in the Standards and Procedures Manual monitoring procedures that meet requirements and adhere to defined policies	X	
3. Review and approve monitoring procedures		X
4. Provide proactive and scheduled console monitoring of infrastructure and systems (e.g., hardware, network, batch schedule, interfaces, table spaces), and respond to messages and take corrective action as required	X	
5. Develop and maintain standard automated scripts to perform monitoring on systems Software	X	
6. Identify and report Problems including system, file, disk and application Problems	X	

Operations and Administration Roles and Responsibilities	Contractor	FRTIB
7. Provide troubleshooting, repair and escalation of Problems in the Data Center computing environment	X	
8. Provide preventative measures for proactive monitoring and self-healing capabilities to limit Outages that impact Service delivery	X	
9. Identify and report application Problems	X	
10. Resolve or assist in Resolving application Problems in accordance with SLRs and escalate as required	X	
Job Scheduling and Execution Operations Roles and Responsibilities	**Contractor**	**FRTIB**
11. Define job scheduling requirements and policies, application interdependencies, FRTIB contacts, and rerun requirements for all production jobs	X	
12. Approve job scheduling requirements and policies, application interdependencies, FRTIB contacts, and rerun requirements for all production jobs		X
13. Develop and document in the Standards and Procedures Manual job scheduling procedures that meet requirements and adhere to defined policies	X	
14. Review and approve job monitoring procedures		X
15. Provide job scheduling, job execution, reporting and Resolution, taking into account infrastructure and system interdependencies	X	
16. Implement and manage scheduling tools for managing/automating job execution (e.g., job workflow processes, interdependencies, FRTIB contacts, and rerun requirements file exchange functions and print management)	X	
17. Define production, test and demand batch scheduling requirements	X	
18. Approve production, test and demand batch scheduling requirements		X
19. Prepare production, test and demand batch jobs for execution	X	

Operations and Administration Roles and Responsibilities	Contractor	FRTIB
20. Execute production, test and demand batch jobs on required systems	X	
21. Monitor progress of scheduled jobs and identify and Resolve issues in scheduling process	X	
22. Startup and shut-down online/interactive systems according to defined schedules or upon approved request	X	
23. Maintain database of job scheduling, contact, rerun and interdependencies	X	
24. Provide quality control for reprocessing activities, such as batch reruns	X	
25. Prepare job run parameters	X	
26. Validate job results per FRTIB instructions	X	
27. Notify FRTIB and maintain a history of job completion results	X	
Electronic Data Exchange Management Roles and Responsibilities	**Contractor**	**FRTIB**
28. Define electronic data exchange format requirements and policies, including transport (e.g., EDI, XML, FTP), delivery locations, format and schedule requirements	X	
29. Approve electronic data exchange format requirements and policies, including transport (e.g., EDI, XML, FTP), delivery locations, format and schedule requirements		X
30. Develop and document in the Standards and Procedures Manual procedures for performing electronic data exchange that meet requirements and conform to industry (e.g., FISMA) standards	X	
31. Review and approve electronic data exchange procedures		X
32. Develop and maintain a repository of all FRTIB electronic data exchange distribution and exchange entities	X	
33. Provide and support electronic interfaces between the Contractor-hosted environments and Third Parties (e.g., agency payroll, Treasury, lockbox)	X	
34. Execute electronic data exchange production and test distribution according to production schedules	X	

Operations and Administration Roles and Responsibilities	Contractor	FRTIB
35. Monitor all electronic data exchange transactions to ensure proper completion	X	
36. Rerun transactions as required and escalate non-Resolved electronic data exchange transactions to FRTIB contact	X	
37. Perform recovery operations for electronic data exchange transactions as required	X	
38. Interface directly with FRTIB electronic data exchange distribution entities according to defined, entity-unique FRTIB procedures	X	
System Administration Roles and Responsibilities	**Contractor**	**FRTIB**
39. Recommend system administration requirements and policies	X	
40. Approve system administration requirements and policies		X
41. Develop and document in the Standards and Procedures Manual procedures for performing system administration that meet requirements and adhere to defined policies	X	
42. Review and approve systems administration procedures		X
43. Manage transaction definitions (CICS)	X	
44. Set up and manage End User accounts, perform access control, manage files and disk space and manage transaction definitions	X	
45. Perform system or component configuration Changes necessary to support computing services in conformance with Change Management requirements	X	
46. Provide usage statistics reports that will be used to support showback/chargeback and other reporting requirements	X	
47. Provide daily summaries of job execution results and prompt notification based on Severity Incident SLRs	X	

4.2.1.2.2. Storage and Data Management

Storage and Data Management Services are the activities associated with the provisioning and day-to-day management of the installed Data Center storage and data environment (e.g., direct access storage devices (DASD), redundant array of independent disks (RAID), storage area Network (SAN), Network-attached storage (NAS), tape and optical), providing a stable supporting infrastructure and effectively and efficiently performing procedures to ensure

Services meet SLR targets and requirements. The following table identifies the Storage and Data Management roles and responsibilities that Contractor and FRTIB will perform.

Table 55. Storage and Data Management Roles and Responsibilities

Storage and Data Management Roles and Responsibilities	Contractor	FRTIB
1. Recommend Contractor-standard Storage and Data Management policies	X	
2. Develop, document and maintain in the Standards and Procedures Manual Storage and Data Management Contractor procedures that meet FRTIB requirements and adhere to FRTIB policies	X	
3. Review, provide additional procedures as required and approve Storage and Data Management standards, policies, and procedures		X
4. Support data storage Services (e.g., RAID array, SAN, NAS, tape, optical, etc.)	X	
5. Monitor and control storage performance according to technical standards & Specifications, Storage and Data Management policies & procedures, and perform tuning as required	X	
6. Maintain and improve storage resource efficiency	X	
7. Maintain data set placement and manage data catalogs	X	
8. Perform data and file backups and restores per established procedures and SLRs	X	
9. Manage file transfers and other data movement activities	X	
10. Provide input processing, for activities such as loading Third Party media (e.g., tape) and receipt and/or transmission of batch files	X	
11. Acquire consumables, such as tape, disks, etc., in support of the backup requirements.		X
12. Manage consumables, such as tape, disks, etc., in support of the backup requirements. Notify need for acquisition of additional materials as needed	X	
Media Operations Roles and Responsibilities	**Contractor**	**FRTIB**
13. Recommend Contractor-standard Media Operations policies	X	

Storage and Data Management Roles and Responsibilities	Contractor	FRTIB
14. Develop, document and maintain in the Standards and Procedures Manual Media Operations Contractor procedures that meet FRTIB requirements and adhere to FRTIB policies	X	
15. Review, provide additional procedures as required and approve media processing standards, policies, and procedures		X
16. Maintain a media library and media management system	X	
17. Manage the media inventory to ensure that adequate media resources are available.	X	
18. Manage input media availability to meet processing SLRs	X	
19. Load and manage Third Party media	X	
20. Provide secure off-site storage for designated media and transport media to FRTIB approved off-site location as required		X
21. Perform periodic audits to ensure proper cataloging of media	X	

4.2.1.2.3. Output Management

Output Management Services are the activities associated with delivering printed and electronic output in the FRTIB-required formats and destinations, including remote printing and print to file, per FRTIB-approved schedules. The following table identifies the Output Management roles and responsibilities that Contractor and FRTIB will perform.

Table 56. Output Management

Output Management Roles and Responsibilities	Contractor	FRTIB
1. Recommend Output Management requirements and policies	X	
2. Develop and document in the Standards and Procedures Manual procedures for performing Output Management that meet requirements and conform to defined policies, including the management of transport, delivery locations and scheduling requirements	X	
3. Review and approve Output Management procedures, standards, and policies		X

Output Management Roles and Responsibilities	Contractor	FRTIB
4. Provide print Output Management and distribution	X	
5. Ensure that printed output is delivered to FRTIB-specified delivery locations according to schedule	X	
6. Ensure that output devices are functioning, including performing or coordinating routine maintenance and coordinate with local support for any problem resolution, if required	X	
7. Create and distribute FRTIB data products, including volume creation (e.g., CDs, cartridges, FTP)	X	

4.2.1.2.4. Collaborative Computing

Collaborative Computing Services are the activities associated with the supporting collaborative tools (e.g., MS Exchange/Outlook, SharePoint, WebEx, Live Meeting). These activities include the acquisition, installation, upgrades, maintenance, support and tuning of collaborative applications for optimal performance and mailbox administration. The following table identifies the Collaborative Computing roles and responsibilities that Contractor and FRTIB will perform.

Table 57. Collaborative Computing Roles and Responsibilities

Collaborative Computing Roles and Responsibilities	Contractor	FRTIB
1. Recommend Collaborative Computing requirements and policies	X	
2. Participate in defining and accept Collaborative Computing policies and procedures for functions including e-mail, calendaring and messaging delivery components	X	
3. Develop and document in the Standards and Procedures Manual Collaborative Computing procedures that meet requirements and adhere to defined policies	X	
4. Review and approve Collaborative Computing procedures, standards, and policies		X
5. Provide system administration services including mailbox administration, add/move/delete, mailbox permissions, and creation of distribution lists and owners	X	

Collaborative Computing Roles and Responsibilities	Contractor	FRTIB
6. Provide public folder administration services, including creation/deletion of folders, folder owner permissions and ownership assignment, and folder replication management	X	
7. Provide security services specific to collaboration systems (e.g., SPAM filtering)	X	
8. Perform Collaborative Computing application upgrades (e.g., service packs, hot fixes, dot releases, major upgrades)	X	
9. Install, test, provide technical support, database administration and security administration for Collaborative Computing applications	X	
10. Provide technical assistance and subject matter expertise support as required by FRTIB staff and Third Party solution providers	X	
11. Provide e-mail archiving and retrieval to meet regulatory and compliance requirements	X	

4.2.1.2.5. Remote Access

Remote Access Services are the activities associated with the installation, management, operations, administration and support of the hardware and Software that support Remote Access and connectivity to all systems (e.g., VPN, Extranet access, Citrix Metaframe via dialup and Internet, Web-based e-mail). These services provide access for approved remote FRTIB employees and associated contractors to internal FRTIB applications behind the FRTIB firewall. The following table identifies the Remote Access roles and responsibilities that Contractor and FRTIB will perform.

Table 58. Remote Access Roles and Responsibilities

Remote Access Roles and Responsibilities	Contractor	FRTIB
1. Recommend Remote Access policies and procedures	X	
2. Develop and document in the Standards and Procedures Manual Remote Access procedures that meet requirements and adhere to defined policies	X	
3. Review and approve Remote Access standards, policies, and procedures		X

Remote Access Roles and Responsibilities	Contractor	FRTIB
4. Install, test, provide technical support, administration and security administration for Remote Access hardware and Software	X	
5. Provide testing support for defined FRTIB applications that will be made available via Remote Access	X	
6. Provide technical assistance and subject matter expertise as required by FRTIB infrastructure staff and Third Party solution providers for Remote Access products and solutions	X	
7. Perform system or component configuration Changes necessary to support Remote Access Services	X	
8. Perform Remote Access application upgrades (e.g., service packs, hot fixes, dot releases, major upgrades)	X	
9. Install, test, provide technical support, database administration and security administration for Remote Access applications	X	

4.2.1.2.6. Database Administration

Database Administration Services are the activities associated with the maintenance and support of existing and future databases. This includes responsibility for managing data, namely data set placement, database performance, and data recovery and integrity at a physical versus logical level. The following table identifies the Database Administration roles and responsibilities that Contractor and FRTIB will perform.

Table 59. Database Administration Roles and Responsibilities

Database Administration Roles and Responsibilities	Contractor	FRTIB
1. Recommend database administration requirements and policies including authorization requirements for End Users, roles, schemas, etc., and approve Change requests	X	
2. Develop and document in the Standards and Procedures Manual Database Administration procedures that meet requirements and adhere to defined policies	X	
3. Review and approve Database Administration standards, policies, and procedures		X

Database Administration Roles and Responsibilities	Contractor	FRTIB
4. Provide security administration including managing role and End UserEnd User database permissions in accordance with FRTIB policies	X	
5. Perform database backups per FRTIB standards, policies, and procedures	X	
6. Perform database restores from export dumps or backups	X	
7. Create/refresh development/test/QA databases from production data	X	
8. Execute authorization Service Requests, such as access to specific schemas, table spaces, queries, quotas, etc.	X	
9. Define and provide database creation, configuration, upgrade, patches and refresh requirements	X	
10. Approve database creation, configuration, upgrade, patches and refresh requirements		X
11. Execute database creation, configuration, upgrades, patches and refresh	X	
12. Execute all database system-level Changes (initialization parameters)	X	
13. Execute all schema Changes for all instances	X	
14. Define and provide database data definition requirements for applications (IMAC for tables, triggers, attributes, etc.)	X	
15. Approve database data definition requirements for applications (IMAC for tables, triggers, attributes, etc.)		X
16. Execute database data definition requirements for applications (MAC for tables, triggers, attributes, etc.)	X	
17. Maintain documentation for all database instance parameters and system settings	X	
18. Maintain consistent database parameters and system settings across all like instances; consistency must be maintained according to established development to QA to production life cycle	X	
19. Define database definition and manipulation requirements for applications and developer schemas	X	
20. Approve database definition and manipulation requirements for applications and developer schemas		X

Database Administration Roles and Responsibilities	Contractor	FRTIB
21. Execute database data definitions for applications and developer schemas	X	
22. Define and execute database performance and tuning scripts, and keep database running at optimal performance for FRTIB's workload	X	
23. Implement and administer appropriate database management tools across all database instances. Performance metrics and historical data must be available for trending and reporting over a minimum of 6 months	X	
24. Identify and resolve locking conflicts, latch contention, rollback requirements, etc., for all database instances	X	
25. Provide technical assistance and subject matter expertise to FRTIB application developers and Third Party provider support	X	
26. Provide data dictionary expertise, End User data assistance, Data Warehouse Metadata definition, data mapping functions and creation of data cubes	X	
27. Review and approve data dictionary expertise, End User data assistance, Data Warehouse Metadata definition, data mapping functions and creation of data cubes		X
28. Monitor database and generate automatic Service Desk Trouble Tickets for Problems	X	
29. Open, track and manage to Resolution all database Problems and Incidents	X	
30. Patch database Software as needed according to established development to QA to production life cycle	X	
31. Manage database communication Software configuration, installation and maintenance	X	
32. Provide database storage management	X	
33. Define database backup schedules, retention periods, levels (i.e., full, incremental or differential)	X	
34. Approve database backup schedules, retention periods, levels (i.e., full, incremental or differential)		X
35. Execute FRTIB's database backup and recovery policies	X	
36. Execute FRTIB database restorations as needed	X	

4.2.1.2.7. Middleware Administration

Middleware Administration Services are the activities associated with the maintenance and support of existing and future Middleware (e.g., JBoss, ColdFusion, IIS, .NET). The following table identifies the Middleware Administration roles and responsibilities that Contractor and FRTIB will perform.

Table 60. Middleware Administration Roles and Responsibilities

Middleware Administration Roles and Responsibilities	Contractor	FRTIB
1. Define Middleware requirements and policies	X	
2. Approve Middleware requirements and policies		X
3. Develop and document in the Standards and Procedures Manual Middleware Administration procedures that meet requirements and adhere to defined policies	X	
4. Review and approve Middleware Administration procedures		X
5. Define authorization requirements for End Users, roles, objects, etc., and approve Change requests	X	
6. Approve authorization requirements for End Users, roles, objects, etc., and approve Change requests		X
7. Implement Middleware configurations	X	
8. Create, alter and delete application object Changes	X	
9. Establish and maintain configuration and system parameters in a consistent manner across like server environments	X	
10. Execute processes for the proper maintenance and functioning of Middleware systems (e.g., load balancing, tuning, configuration management)	X	
11. Execute authorization Change requests	X	
12. Execute Middleware creation, upgrade and refresh	X	
13. Execute all Middleware system-level Changes (i.e., initialization parameters)	X	
14. Execute all object Changes for all instances	X	

Middleware Administration Roles and Responsibilities	Contractor	FRTIB
15. Maintain consistent Middleware parameters and system settings across all like instances according to established development to QA to production life cycle	X	
16. Implement and administer appropriate Middleware management tools across all Middleware instances	X	
17. Patch Middleware Software as needed, according to established development to QA to production life cycle. Correlate internal Change request to Contractor tracking codes	X	
18. Provide Middleware communication Software configuration, installation and maintenance	X	

4.3 Exclusions

The following items are specifically excluded from this SOW:

a. None

4.4 Service Management

4.4.1. Objectives

A key objective of this agreement is to attain service-level requirements (SLRs). Written reports to FRTIB regarding Contractor's compliance with the SLRs specified in this SOW Schedule are required.

4.4.2. Service-Level Requirements (SLRs)

The following minimum Service levels are required at the end of the Transition Period. Contractor must consistently meet or exceed the following SLRs. **All times referenced are in U.S. Eastern Time**.

Table 61. Incident/Problem Resolution SLRs

Definition	Refer to Table 41 Incident/Problem Resolution SLRs in Cross Functional section.

Table 62. System Availability SLRs

Definition	System Availability is defined as the availability of in-scope infrastructure components required to conduct the normal business operation of FRTIB application systems including processors (e.g., mainframe CPU, memory, storage), external storage, system Software and Network connection. Excludes scheduled maintenance. Availability will be measured based on the availability of FRTIB applications to conduct normal business operation and is for the single unit and is not the availability of the aggregated systems.
Pre-scheduled Downtime Requirements	All pre-scheduled system downtime, unless otherwise agreed upon in advance by FRTIB, will occur: a. For the systems with 24×7×365 requirements—all pre-scheduled maintenance is performed based on FRTIB's Change Management policy b. For systems having non-24×7×365 requirements—pre-scheduled maintenance is performed outside of the normal System Availability time frame

System Availability Service-Level Requirements			
System	**Service Measure**	**Performance Target**	**SLR Performance %**
Mainframe OS and Subsystems	Per System Availability	Sun.–Sat., 0000–2400	99.99%
Windows Production Servers (Critical)	Per Server Availability	Sun.–Sat., 0000–2400	99.97%
Windows Production Servers (Non-critical)	Per Server Availability	Mon.–Fri., 0400–1900	99.95%
Unix Production Servers	Per Server Availability	Sun.–Sat., 0000–2400	99.97%
QA/Test Systems and Servers	Per Server Availability	Mon.–Sat., 0400–1900	98%

System Availability Service-Level Requirements			
System	**Service Measure**	**Performance Target**	**SLR Performance %**
Development Servers	Per Server Availability	Mon.–Sat., 0400–1900	95%
	Formula	Availability (%) = 100% – Unavailability (%) Where Unavailability is defined as: (Σ Outage Duration × 100%) ÷ (Performance Target – Planned Outage)	
	Measurement Interval	Measure Daily	
	Reporting Period	Report Monthly	
	Measurement Tool	TBD	

Table 63. Application Platform Response Time SLRs

Definition	Online response time for critical online applications including ERP, data warehouse, financial, HTTP, etc. Online Response Time is defined as the time that it takes from the receipt of the request to the completion of the response to that request.

Application Platform Online Response Time Service-Level Requirements			
Application Platform	**Service Measure**	**Performance Target**	**SLR Performance %**
Mainframe	Online Response Time	80% of transactions complete ≤1.5 sec 95% of transactions complete ≤2.5 sec 99.9% of transactions complete ≤3.5 sec	99.9%

Application Platform Online Response Time Service-Level Requirements			
Application Platform	**Service Measure**	**Performance Target**	**SLR Performance %**
Production Unix	Online Response Time	90% of transactions complete ≤0.5 seconds 95% of transactions complete ≤1.0 seconds 100% of transactions complete ≤3.0 seconds	99.5%
Production Windows	Online Response Time	90% of transactions complete ≤1.0 seconds 95% of transactions complete ≤1.5 seconds 100% of transactions complete ≤3.0 seconds	99.5%
Internet Web Service	End-to-End Response Time	50% of transactions complete ≤5.0 sec 80% of transactions complete ≤30 sec 99.9% of transactions complete ≤2 min	99.9%
	Formula	Performance = Transactions completed within Performance Target ÷ Total Transactions	
	Measurement Interval	Measure at 30 minute intervals	
	Reporting Period	Report Monthly	
	Measurement Tool	TBD	

Table 64. Batch Processing SLRs

Definition	Scheduled Production Batch: jobs include system setup, execution and completion of normally scheduled production batch jobs, including Daily Processing. Demand and Test Batch: jobs include time for system setup and initiation of job execution for ad hoc requests, non-standard and non-prescheduled batch jobs.

Batch Processing Service-Level Requirements			
Batch Processing Type	**Service Measure**	**Performance Target**	**SLR Performance %**
Scheduled Production Batch	Per Scheduled Time	90% of core jobs completed per approved schedule 95% of core jobs completed per approved schedule plus one hour 100% of core jobs completed per approved schedule plus two hours	99.9%
On Demand Production Batch	Response Time	30 minutes to initiation	99%
On Demand Dev/Test Batch	Response Time	30 minutes to initiation	95%
	Formula	Total number of jobs completed within Performance Target ÷ Total number of jobs executed during Measurement Interval	
	Measurement Interval	Measure Daily	
	Reporting Period	Report Monthly	
	Measurement Tool	TBD	

Table 65. Output Delivery SLRs

Definition	FRTIB requires data output for a variety of output delivery formats and destinations, as well as processing requirements (includes remote printing and print to file). Confirmation of delivery and reporting of output volumes is required. Various Contractor systems/servers direct output to remote printers and other enterprise systems (fax, pager, e-mail) at various locations, with output delivered to the appropriate system according to FRTIB-approved schedules and without errors.

OUTPUT DELIVERY SLRs			
Output Delivery Type	**Service Measure**	**Performance Target**	**SLR Performance %**
Mainframe Production Print	Transmitted	Early Prenote: By 0630 next morning True Up: By 0600 next morning Late Prenote: By 1200 next day	99.9%
Account Balances	Transmitted	Daily by 0600	99.9%
Accounting Feeds	Transmitted	Daily by 0600	99.9%
Notices	Transmitted	Daily by 0600	99.9%
Agency Reports	Transmitted	Daily by 0600	99.9%
	Formula	Number of jobs completed within Performance Target ÷ Total number of scheduled jobs	
	Measurement Interval	Measure Weekly	
	Reporting Period	Report Monthly	
	Measurement Tool	TBD	

Table 66. General Administrative Functions SLRs

Definition	Routine Data Center functions that are required to meet FRTIB's workload requirements.

General Administrative Functions Service-Level Requirements			
General Administration Task	**Service Measure**	**Performance Target**	**SLR Performance %**
Set up or modify job scheduler definition and dependencies	Response Time	Next Business Day (all daily requests)	98.0%
One-time schedule Change for existing scheduled jobs	Response Time	2 hours (all daily requests)	98.0%
Setup/Modify End User ID or Authorization changes. (NOTE: Password Resets are NOT included in this SLR)	Response Time 1–5 User IDs 6–10 User IDs >10 User IDs	2 Business Days 3 Business Days per agreed upon time	95.0%
Removal of End User IDs and authorization	Response Time	2 Hours	99.9%
Notification of Incident Priority Level 1 Outage to Service Desk	Response Time	10 minutes of discovery	99.9%
	Formula	Number of requests completed within Performance Target ÷ Total of all requests occurring during Measurement Interval	
	Measurement Interval	Measure Weekly	
	Reporting Period	Report Monthly	
	Measurement Tool	TBD	

Table 67. System Administration SLRs

Definition	Actions by Contractor for proactive monitoring and intervention to minimize capacity bottlenecks and activities required to implement system capacity and operational usage Change requests.

System Administration Service-Level Requirements			
System Administration Task	**Service Measure**	**Performance Target**	**SLR Performance %**
Advise FRTIB of need to allocate additional processing resources based on pre-defined parameters and observed growth patterns	Proactive monitoring and reporting to FRTIB of need to increase capacity	Sustained average daily CPU utilization approaches 70% of installed processor capacity—Inform FRTIB within 1 Business Day	99.0%
On-Demand CPU Processing capability Change requests	Elapsed Time	Increases/decreases of ±20% of baseline CPU processing capability within 2 days	99.0%
Provide predictive advice to FRTIB of CPU utilization compared to installed capacity and the need to acquire additional CPU resources based on observed growth patterns	Proactive monitoring and reporting to FRTIB of need to procure additional CPU capacity	3 months notice in advance of forecasted 80% CPU utilization	99.0%
Advise FRTIB of need to allocate additional storage resources based on pre-defined parameters and observed growth patterns	Proactive monitoring and reporting to FRTIB of need to increase capacity	Total monthly storage capacity utilization measured in GBs used approaches 80% of installed capacity—Inform FRTIB within 1 Business Day	99.0%
On-Demand disk storage capacity Change requests	Elapsed Time	Increases/decreases of ±10% of installed storage capacity within 7 Business Days	99.0%

System Administration Service-Level Requirements			
System Administration Task	**Service Measure**	**Performance Target**	**SLR Performance %**
Provide predictive advice to FRTIB of storage utilization compared to installed capacity and the need to acquire additional storage based on observed growth patterns	Proactive monitoring and reporting to FRTIB of need to procure additional storage capacity	3 months notice in advance of forecasted 80% storage utilization	99.0%
Deploy service/security patches/antivirus updates necessary to fix/repair environment vulnerabilities	Response Time	Same Business Day as signoff, subject to agreed-upon Change Management procedures	99.0%
Capacity/Performance Trend Analysis and Reporting across all platforms	Monthly measurement/ analysis and periodic notification on resource utilization and trends for critical system resources	Monthly analysis reports Interim reports on rapidly developing events and trends identification	99.0%
	Formula	Number of requests completed within Performance Target ÷ Total of all requests occurring during Measurement Interval	
	Measurement Interval	Measure Weekly	
	Reporting Period	Report Monthly	
	Measurement Tool	TBD	

Table 68. Server Software Refresh SLRs

Definition	Software refresh for all upgrades and new releases.

Server Software Refresh Service-Level Requirements			
Server Software Refresh	**Service Measure**	**Performance Target**	**SLR Performance %**
Notification of Provider Software upgrades and new releases	Response Time	Within 30 days after Software Provider announcement	95.0%
Implementation of service packs and updates to “dot” releases	Response Time	Within 60 days after approved by FRTIB	95.0%
Implementation of version or major release updates	Response Time	Within 120 days after approved by FRTIB	95.0%
Notification of Provider end of support statement	Response Time	Within 30 days after Software Provider announcement	95.0%
	Formula	Number of requests completed on time ÷ Total of all requests occurring during Measurement period	
	Measure Interval	Measure Monthly	
	Reporting Period	Report Monthly	
	Measurement Tool	TBD	

Table 69. System Hardware Updates and Refresh SLRs

Definition	Measure Contractor performance of maintaining a consistent deliverable to End Users by change of technology.

System Hardware Updates and Refresh Service-Level Requirements			
Updates/Refresh	**Service Measure**	**Performance Target**	**SLR Performance %**
Refresh for servers and storage	Response Time	According to agreed to refresh schedule	95.0%
	Formula	Total number of events completed within Performance Target ÷ Total number of events scheduled, due or required	
	Measurement Interval	Measure Weekly	
	Reporting Period	Report Monthly	
	Measurement Tool	TBD	

Table 70. Database Administration SLRs

Definition	Performance of all Database Administration tasks including, but not limited to, Software installation, patching, performance monitoring and tuning, instances creation and refresh, and recovery operations. For Service level measurement, production requests MUST be executed within the highest Service level.

Database Administration Service Level Requirements			
Administration Type	**Service Measure**	**Performance Target**	**SLR Performance %**
Instance Creation and Refresh	Elapsed Time	Create = 2 Business Days Refresh = 1 Business Day	95%
Create End User ID, Grants, Revokes, Create table space, other data definition requests	Elapsed Time	2 hours (1–5 requests daily) 4 hours (6–10 requests daily) 2 Business Days >10 daily Based on a per-database request	95%
Schema changes and stored procedures	Elapsed Time	1 Business Day Based on a per-database request	95%
Database Refresh Type	**Service Measure**	**Performance Target**	**SLR Performance %**
Individual patches and requisite patches per database	Elapsed Time	Per agreed to schedule within Availability SLR	95%
Service packs and updates to “dot” releases	Elapsed Time	Per agreed to schedule within Availability SLR	95%
Version or major release updates	Elapsed Time	Per agreed to schedule within Availability SLR	95%

Database Administration Service Level Requirements			
Administration Type	**Service Measure**	**Performance Target**	**SLR Performance %**
	Formula	Total number of events completed within Performance Target ÷ Total number of events scheduled, due or required	
	Measurement Interval	Measure Weekly	
	Reporting Period	Report Monthly	
	Measurement Tool	TBD	

4.4.3. Reports

The following reports, in addition to monthly SLR compliance, are required.

Table 71. Data Center Reports

Report Description	Frequency
Data Center Operations Processes and Procedures (Included in Comprehensive SOP Manual)	Annually
Daily Job Execution Summary Report	Daily
Usage Showback Report	Monthly

5.0 Data Network Management Services

Data Network Management services are the services and activities, as detailed in the following SOW, required to provide and support FRTIB data network environment as described in the sections below. FRTIB expects that the loss of any single data network component or provider shall not cause an outage at any FRTIB location. Contractor responsibilities include, but are not limited to, the design/engineering, provisioning, management, administration and troubleshooting of the following Data Network services:

- **Wide Area Network (WAN) Services**
  WAN services include the provision and monitoring and management of networks that interconnect two or more separate facilities that span a geographic area larger than a campus or metropolitan area. Transmission facilities include, but are not limited to, dedicated Internet connections, Internet-based VPNs, MPLS, and dial-up connections. Contractor works with public carriers and other FRTIB circuit providers on behalf of FRTIB to ensure delivery of WAN services. Support of any network services-related work required by designated carriers, to support the FRTIB network, is considered within the scope of services.

- **Local Area Network (LAN) Services**
  LAN services include the provision and monitoring and management of networks that are usually confined to a single facility or portion of a facility. LAN components include Dynamic Host Control Protocol (DHCP)/Domain Name Server (DNS) and Wireless LANs supporting all network traffic originating from desktop devices, local file and print servers, application servers, database servers, peripherals, firewalls/routers, other network devices and other user premise devices. This service ends at, but does not include, the LAN attached device network card at the desktop.

- **Virtual Private Network (VPN) Services**
  VPN services include the provision and monitoring and management of methods for remote users and business partners to securely connect to the Network and Data Center Computing Services over the public Internet. This service includes dedicated site-to-site VPN connectivity on a shared public IP network. It requires industry-/Internet-based standards for security to create and preserve privacy, data integrity, and authenticity. The VPN service must be highly scalable.

- **Network Security Services**
  Network Security Services include the provision and support of methods that provide security to physical and logical devise connected to the network. Security services

include Firewall, Intrusion Detection/Prevention, Penetration/Vulnerability testing, and Protocol Gateways.

- **Management Services**
  Management services include the provision and support of a suite of activities that spans all aspects of system security and networking levels in terms of system and component management and monitoring, information protection, component-addressing methods, access control, and change control.

- **Quality of Service**

  Quality of service (QoS) services are used to differentiate among traffic flows when congestion occurs, providing better performance for some while degrading the performance of others. They are often used for converged networks that must support real-time traffic, such as Voice over Internet Protocol (VoIP), along with transaction traffic and batch traffic.

In addition to the Services described in this SOW, Contractor is responsible for providing the Services described in the Cross-Functional Services section.

5.1 Service Environment

5.1.1. Scope of Services and Infrastructure to be Supported

The following sub-sections and related SOW Appendices describe and scope the network environment to be supported. Service Environment Appendices are to be maintained and reviewed with FRTIB by Contractor and made available to FRTIB on a quarterly basis.

5.1.2. Hardware and Software

a. A listing and description of all supported network hardware is provided in Appendices D.1.1 - D.1.3— Data Network Hardware.
b. A listing and description of the supported network software and utilities is provided in Appendix D.2—Data Network Software.
c. A listing of supported network circuits is provided in Appendix D.3—Data Network Circuits
d. A listing of other data network topology appendices is provided Appendix D.4—Data Network Topology.

e. A network topology diagram describing the supported network components is provided in Appendix D.4.1—Network Topology.
f. A site topology diagram describing the supported site components is provided in Appendix D.4.2—Site Topology.
g. A network boundaries topology diagram describing the supported network boundaries is provided in Appendix D.4.3—Network Boundaries Topology.
h. A low level network design document describing the data center architecture, disaster recovery site, remote sites, the MPLS WAN with DMVPN, and the security architecture is provided in Appendix D.4.4—FRTIB Network Low Level Design v2.0.

5.1.3. Service Locations

A description and location of all FRTIB facility and office locations requiring network services is provided in Appendix D.5 - Client Facility Locations.

5.1.4. Policies, Procedures and Standards

A description of the FRTIB policies, procedures and standards with which Network Services will comply is provided in Appendix D.6 –Data Network Policies Procedures and Standards, Appendix D.6.1–FRTIB Network Low Level Design v2.0, and Appendix D.6.2–System Engineering LifeCycle.

5.1.5. Agreements and Licenses

A list of Network related agreements and licenses to be supported is provided in Appendix D.7 – Data Network Agreements and Licenses.

5.1.6. Work-In-Progress/Transition

Network related initiatives in progress that are included in the scope of this document and are the responsibility of Contractor to complete within the time frames specified by FRTIB are listed in Appendix D.8 – Data Network Related Work in Progress.

5.1.7. Future initiatives

Other Network related initiatives considered but not in process are included in Appendix D.9 – Data Network Related Future Initiatives.

5.1.8. Baseline Information

FRTIB's projected network usage is presented in Appendix D.10 – Data Network Baseline Projections. These business requirements represent FRTIB's most realistic projection of the service requirements for Day 1 implementation based on a combination of past trends and current anticipated overall business direction over the term of the contract.

5.2 Data Network Services Requirements

5.2.1. Service Descriptions and Roles & Responsibilities

5.2.1.1. General Responsibilities

The following table identifies General roles and responsibilities associated with this SOW including the network components listed above. An "X" is placed in the column under the party that will be responsible for performing the task. Contractor responsibilities are indicated in the column labeled "Contractor."

Table 72. General Roles and Responsibilities

General Roles and Responsibilities	Contractor	FRTIB
1. Recommend data network requirements, services, and standards based on industry best practices	X	
2. Review and approve requirements, services, and standards for data network services		X
3. Perform business liaison function to FRTIB operational units		X
4. Recommend network capacity thresholds	X	
5. Approve network capacity planning thresholds		X
6. Provide capacity and performance reports on a quarterly basis	X	
7. Procure/provision all network components and circuits		X
8. Maintain all network components and circuits	X	
9. Report performance against service-level requirements	X	

5.2.1.2. Design/Engineering

The following identifies the activities, roles and responsibilities associated with Engineering/Development services that are specific to this schedule. Additional activities include:

Table 73. Design/Engineering Roles and Responsibilities

Design/Engineering Roles and Responsibilities	Contractor	FRTIB
1. Develop network design, engineering and security testing and integration procedures that meet requirements and adhere to defined policies	X	
2. Approve network design engineering, security testing and integration procedures		X
3. Prepare network design, engineering and security, plans and schedules to support new and enhanced applications, architectures and standards	X	
4. Review and approve network design, engineering and security plans and schedules		X
5. Approve the scheduling of all changes to the network environment		X
6. Coordinate with FRTIB and affiliated entities, and public carriers, as required	X	

5.2.1.3. Asset Acquisition and Network Services Provisioning

Asset Acquisition and Network Service Provisioning is associated with acquiring network equipment and circuits. The following table identifies the underlying roles and responsibilities associated with Asset Acquisition and Network Services Provisioning activities.

Table 74. Asset Acquisition and Network Service Provisioning Roles and Responsibilities

Network Provisioning Roles and Responsibilities	Contractor	FRTIB
1. Order and expedite WAN circuits, equipment and services as defined by FRTIB		X
2. Configure WAN/LAN (hardware, software) prior to installation	X	
3. Document router configuration files and IP addressing schemas	X	
4. Develop and document network provisioning requirements and policies	X	
5. Approve network provisioning requirements and policies		X
6. Provide capacity planning assistance to develop network resource requirements projections	X	
7. Manage inventory and transition of network circuits to/from	X	

public carriers		
8. Manage the performance of public carriers (and other third parties) to meet defined schedules, project plans, SLRs etc.		X
9. Report on the performance of public carriers (and other third parties) to meet defined schedules, project plans, SLRs etc.	X	
10. Ensure that all new circuits, devices and software provisioned are included in configuration management documentation	X	

5.2.1.4. Network Operations and Administration

Operations activities include network systems management and troubleshooting (e.g. performance, problem, change and capacity monitoring), bandwidth management, protocol usage statistics (e.g. identify top talkers by protocol), working with public carriers and other circuit providers to perform any operations activities (e.g. provisioning, problem management), and managing and maintaining all Network Service computing resources (e.g. hardware, operating system software and applications) that are required to provide Designated Services. Administration services include activities, such as managing router configurations, firewalls, Internet Protocol (IP) addresses and related services (e.g. DNS/DHCP), asset management, including infrastructure software licenses, and physical (e.g. equipment) and logical (e.g. IP address change) IMACs.

The following table identifies the activities, roles and responsibilities associated with Network Operations and Administration that are specific to this Schedule.

Table 75. Network Operations and Administration Roles and Responsibilities

Network Operations and Administration Roles and Responsibilities	Contractor	FRTIB
1. Monitor and notify FRTIB of actual usage approaching capacity thresholds for network availability	X	
2. Order new network circuit(s) as needed		X
3. Coordinate installation of new circuit(s) into the network infrastructure	X	
4. Maintain LAN/WAN connectivity contained in the service environment	X	
5. Develop and document network administration requirements and policies	X	
6. Develop and document procedures for administration that meet requirements and adhere to defined policies and procedures	X	

7. Approve administration requirements, policies, and procedures		X
8. Perform day-to-day network operations and administration activities	X	
9. Manage all network devices in accordance with FRTIB's policies (including security oversight and change management policies)	X	
10. Maintain IP addressing schemes, router configurations, routing tables, VPN configurations, etc.	X	
11. Manage user accounts as needed for access and maintaining network resources (e.g. logon user-id and password maintenance) based on authorized service requests	X	
12. Maintain and provide audit information including access, general logs, application logs in accordance with FRTIB's security policies	X	
13. Ensure that network administration activities are coordinated through defined change management processes	X	

5.2.1.5. Network Monitoring and Reporting

The following table identifies the roles and responsibilities associated with Network Monitoring and Reporting services that are specific to this Schedule.

Table 76. Network Monitoring and Reporting Roles and Responsibilities

Network Monitoring and Reporting Roles and Responsibilities	Contractor	FRTIB
1. Develop and document requirements and policies for network monitoring and problem management	X	
2. Approve requirements and policies for network monitoring and problem management		X
3. Develop and document network monitoring and problem management procedures, including escalation thresholds, that meet requirements and adhere to defined policies	X	
4. Approve network monitoring and problem management procedures		X
5. Provide tools for monitoring network devices and traffic		X
6. Implement tools for monitoring network devices and traffic	X	

7. Implement measures for proactive monitoring and self-healing capabilities to limit network outages	X	
8. Monitor network per SLRs	X	
9. Identify network problems and resolve in accordance Incident and Problem Management Services, polices, procedures and SLRs	X	
10. Provide on-site staff at FRTIB facilities as required to perform maintenance and problem resolution activities	X	
11. Coordinate resolution of circuit problems with third parties, including public carriers, ISP, and associate contractors using the network	X	

5.2.1.6. Documentation

Required document types that are specific to this section include network system specifications and topologies (for example, router configurations, firewall policies, routing diagrams/IP addressing tables, hardware/software listings, etc.), detailed circuit location information (e.g. circuit ID including LEC access ID, location, speed), detailed documentation showing all firewall policy, group, object, etc. information, and “as-built” documentation for all network devices (including firewalls) that are deployed in development, test, QA, production or other technical environments.

The following table identifies the roles and responsibilities associated with Documentation activities that are specific to this Schedule.

Table 77. Documentation Roles and Responsibilities

Documentation Roles and Responsibilities	Contractor	FRTIB
1. Recommend documentation requirements	X	
2. Approve documentation requirements		X
3. Provide documentation as required by FRTIB	X	

5.2.1.7. Network Security Services

5.2.1.7.1. Firewall Management

Contractor provides Firewall Management Service including firewall engineering and management and access control list engineering and management in compliance with

FRTIB's policies and standards. The following table identifies roles and responsibilities associated with the Firewall Management services.

Table 78. Firewall Services Roles and Responsibilities

Security Firewall Services Roles and Responsibilities	Contractor	FRTIB
1. Recommend best practice firewall policies	X	
2. Develop FRTIB specific firewall policies and requirements	X	
3. Approve firewall policies		X
4. Provide services in conformance to firewall policies and requirements	X	
5. Perform firewall engineering and firewall security design	X	
6. Assess firewall security and propose alternative security designs	X	
7. Review and approve firewall security designs		X
8. Review and approve firewall ACL policies		X
9. Develop recommendations for improved security	X	
10. Review and approve recommendations for improved security		X
11. Provide Access Control Lists (ACL)		X
12. Maintain Access Control Lists (ACL) in accordance with FRTIB Policies	X	
13. Perform periodic audit of Access Control Lists (ACL) and firewall security designs in accordance with FRTIB security policies	X	

5.3 Exclusions

The following items are specifically excluded from this statement of work:

a. None

5.4 Service Management

5.4.1. Objectives

A key objective of this agreement is to attain service-level requirements (SLRs). Written reports to FRTIB regarding Contractor's compliance with the SLRs specified in this SOW Schedule are required.

5.4.2. Service Level Requirements (SLRs)

The following minimum service levels are required at the end of the Transition Period. Contractor must consistently meet or exceed the following SLRs. Exceptions causing SLR non-compliance will be discussed in the monthly service level review meeting as referenced in Section 3.3.1.3.4 Service Level Monitoring and Reporting. **All times referenced are in U.S. Eastern Time**.

Table 79. Incident/Problem Resolution SLRs

Definition	Refer to Table 41 Incident/Problem Resolution SLRs in Cross Functional section.

Table 80. Network Availability SLRs

Definition	Network Availability is defined as the time during which the network is fully functioning as specified below and normal business operations can be carried out with no data loss, downtime, or performance degradation. All performance criteria are to be measured on a ***per facility service location*** – criteria is ***not*** to be aggregated and averaged for all facility service locations.
Pre-scheduled downtime requirements	All pre-scheduled maintenance is performed between the period beginning Sunday 0000 to 0400.

Network Availability SLRs			
Service Type	**Service Measure**	**Performance Target**	**SLR**
Internet Access Availability	Availability	Sun-Sat, 0000-2400	99.99%
Client Facility Location Availability - Critical Locations	Availability	Sun-Sat, 0000-2400	99.99%
Client Facility	Availability	Sun-Sat, 0000-2400	99.90%

Network Availability SLRs			
Service Type	**Service Measure**	**Performance Target**	**SLR**
Location Availability - Standard Locations			
LAN Availability	Availability	Sun-Sat, 0000-2400	99.90%
VPN Availability	Availability	Sun-Sat, 0000-2400	99.99%
	Formula	Availability(%) = 100% - Unavailability (%) Where Unavailability is defined as: (Σ Outage Duration x 100%) ÷ (Schedule Time – Planned Outage)	
	Measurement Interval	Monitor Continuously, Measure Daily, Report Monthly	
	Measurement Tool	TBD	

Table 81. Network Performance SLRs

Definition	Network Performance includes the ability of the network components to deliver data timely and accurately. All performance criteria are to be measured on a ***per circuit and component basis***– criteria is ***not*** to be aggregated and averaged for all circuits and network components. Maximum packet size is 128 bytes.

Network Performance SLRs			
Performance Type Per Circuit	**Service Measure**	**Performance Target**	**SLR**
Network Transit Delay	Elapsed Time – one way transit delay from ingress and egress ports on premise devises.	Critical: 120 ms Standard: 150 ms	Critical: 99.99% Standard: 99.95%
Packet Delivery Ratio	Successful packet transmission	Critical: 99.9% Standard: 95%	Critical: 99.99% (data loss ≤ 0.01%)

Network Performance SLRs			
Performance Type Per Circuit	**Service Measure**	**Performance Target**	**SLR**
			Standard: 99.95% (data loss ≤ 0.05%)
Jitter	Variation in timing, or time of arrival, of received packets.	Critical: 1 ms Standard: 10 ms	Critical: 99.99% Standard: 99.95%
Critical: Voice over IP, SIP/RTP Standard: Business applications Best Effort: Internet traffic	Formula – Transit Delay	NTD = t2 – t1 Where: t1 is the time when a packet leaves the ingress premise, and t2 is the times when the packet arrives at the egress premise	
	Formula – Packet Delivery	Packet Delivery Ratio = 1 minus PDR Where: “PDR” = Packets delivered/ packets sent.	
	Formula – Jitter	$J_1 = \triangle T_i - \triangle T_i'$ Where: J_1 is for two consecutive packets i and i+1 and, T_i = time 1st byte of packet is received by the source port (ingress time) T_{i+1} = time 1st byte of packet i+1 is received by the source port (ingress time) T_i' = time 1st byte of packet is received by the destination port (egress time) T_{i+1}' = time 1st byte of packet i+1 is received by the destination port (egress time) and $\triangle T = T_{i+1} - T_i$ ($\triangle$ is the time interval between packets at ingress $\triangle T = T_{i+1}' - T_i'$ ($\triangle$ is the time interval between packets at egress	
	Measurement Interval	Monitor every 5 minutes, Measure Daily, Report Monthly	

Network Performance SLRs			
Performance Type Per Circuit	Service Measure	Performance Target	SLR
	Measurement Tool	TBD	

Table 82. Network Administration Services SLRs

Definition	Routers and circuits to be managed proactively using either product-specific or proprietary network monitoring and management tools. Measurement for these network components is 24x7x365 requirement. Pre-scheduled maintenance is preformed according to the published maintenance window schedule, with the ability to reschedule based on network availability requirements from the various FRTIB groups or clients.

Network Administration Services SLRs			
Administration Task	Service Measure	Performance Target	SLR
Network Service capacity reallocation or change	Proactive monitoring and preemptive intervention to advise FRTIB of need to increase capacity.	Sustained avg. daily utilization reaches 60% of installed capacity	98%
IMAC– Implement service packs and updates to “dot” releases	Overall Schedule	Mon–Sun 0700–1800	<4 hours 98.00%
IMAC—Implement version or major release updates	Overall Schedule	Mon–Sun 0700–1800	<24 hours 98.00%
IMAC—service addition or change as scheduled under Change Control	Elapsed Time Upon Circuit and/or Network Equipment Delivery	Increases of installed capacity within 2 months Decreases of	95.00%

Network Administration Services SLRs			
Administration Task	**Service Measure**	**Performance Target**	**SLR**
process		installed capacity within 2 months	
Adding/deleting Contractor user accounts	Response Time	Sun-Sat, 0000–2400 <2 hours	99.99%
Firewall Management Implementation of approved firewall changes related to changing, adding/deleting firewall rules.	Response Time	Emergencies: ≤2 hours Standard Requests: <1 business day	99.00%
	Formula	Transactions completed within Performance Target / Total Transactions	
	Measurement Interval	Monitor Continuously, Measure Daily, Report Monthly	
	Measurement Tool	TBD	

5.4.3. Reports

The following reports, in addition to monthly SLR compliance, are required.

Table 83. Network Service Reports

Report Description	Frequency
Penetration Testing Assessment Results Report	Periodic
Vulnerability Testing Assessment Results Report	Periodic
Data Network Operations Processes and Procedures (Included in Comprehensive SOP Manual)	Annually
Data Network Capacity Performance Report	Monthly
Data Network Capacity Thresholds Recommendations	Quarterly

Report Description	Frequency
Network Design, Engineering and Security, Plans and Schedules	Periodic
Report on the Performance of Public Carriers	Monthly

6.0 Voice Network Services

Voice Network services are the services and activities, as detailed in the following SOW, required to provide and support FRTIB with a number of Voice Network services. Contractor is responsible for, operation and management of current and emerging Voice Network including but not limited to the following services:

- Desk Phone
- Voice Network:
  - Local Service (dial tone)
  - Long Distance (e.g. private line, public switched)
- Voice Messaging
- Directory Services
- Voice Conferencing
- Video Conferencing
- Inbound Toll-free Service
- Contact Center Services, including:
  - Interactive Voice response (IVR)
  - Automated Call Distribution (ACD)
  - Computer Telephony Integration (CTI)

In addition to the service described in this Voice Network section, the Contractor is responsible for providing the services described in the Cross Functional Services section.

6.1 Service Environment

6.1.1. Scope of the Infrastructure to be Supported

The following sub-sections specify the appendices and other relevant materials containing details of Voice Network environment. These Service Environment Appendices are to be maintained by Contractor and made available to FRTIB on a quarterly basis.

6.1.2. Hardware and Software

a. A listing and description of all hardware to be supported is provided in Appendix E.1--Voice Network Hardware.
b. A listing and description of the software and utilities to be supported is provided in Appendix E.2 – Voice Network Software.
c. A listing and description of the Voice Network circuits to be supported is provided in Appendix E.3 – Voice Network Circuits.
d. A listing and description of the voice data sets and applications to be supported are provided Appendix E.4 - Voice Communications Applications and Data Sets.

6.1.3. Service Locations

A description and location of all FRTIB facility and office locations requiring Voice Network services is provided in Appendix E.5 – Client Facility Locations.

6.1.4. Policies, Procedures and Standards

RESERVED

6.1.5. Voice Network Systems Features and Functions

RESERVED

6.1.6. Agreements and Licenses

A list of Voice Network related agreements and licenses is provided in Appendix E.8 – Voice Network Software Licenses.

6.1.7. Work-In-Progress

FRTIB currently has a number of Voice Network related initiatives in progress that are included in the scope of this document. Contractor has the responsibility to complete these projects within the time frames specified by FRTIB. A list of these projects is provided in Appendix E.9 – Voice Network Related Work in Progress.

6.1.8. Future initiatives

Other Voice Network related initiatives considered but not in process are included in Appendix E.10 - Voice Network Related Future Initiatives.

6.1.9. Voice Network Baseline Information

FRTIB's current Voice Network utilization and projected inbound and outbound usage is presented in Appendix E.11-Voice Network Baselines. These business requirements represent FRTIB's most realistic projection of the service requirements for Day 1 implementation based on a combination of past trends and current anticipated overall business direction over the term of the contract.

6.2 Voice Network Services Requirements

6.2.1. Service Descriptions and Roles & Responsibilities

In addition to the services, activities, and roles and responsibilities described in –Section 3.0 Cross Functional Services, Contractor is responsible for the following Voice Network services, activities and roles and responsibilities.

6.2.1.1. General Responsibilities

The following table identifies the General roles and responsibilities associated with this SOW. An "X" is placed in the column under the party that will be responsible for performing the task. Contractor responsibilities are indicated in the column labeled "Contractor."

Table 84. General Roles and Responsibilities

General Roles and Responsibilities	Contractor	FRTIB
1. Provide Voice Network strategies, policies and requirements		X
2. Provide Voice Network design and engineering to meet FRTIB strategies and requirements	X	
3. Approve Voice Network design and engineering		X
4. Provide, operate and manage current and emerging Voice Network Services required to meet FRTIB's business and operational requirements as they evolve	X	
5. Install, maintain, and provide problem resolution for all Voice Network services	X	
6. Procure voice network components and carrier services		X
7. Provide connectivity through methods such as traditional wired, wireless and emerging methodologies	X	
8. Ensure only FRTIB end points are exclusively registered to	X	

General Roles and Responsibilities	Contractor	FRTIB
the network and reporting		
9. Procure and own all Voice Services related hardware, software, and peripherals		X
10. Manage and maintain the equipment lines and circuits for all FRTIB locations	X	
11. Coordinate with inter-exchange carriers to provide connectivity	X	

6.2.1.2. Desk Phone Service

Desk Phone services are necessary to provide telephone services to employees throughout FRTIB facilities. Services include providing planning and assessment, implementation, training and ongoing monitoring and management of the telephone services.

The telephone and auxiliary equipment includes feature rich single-line telephones, multi-line telephones, consoles, and auxiliary equipment, which also include headsets, speakerphones, and add-on modules. Desk Phone service allows authorized callers to receive incoming calls and to make intra-campus, inter-campus, outside local, outside long distance, and international calls (limited stations). The following table identifies the roles and responsibilities associated with Desk Phone Service.

Table 85. Desk Phone Service Roles and Responsibilities

Desk Phone Service Roles and Responsibilities	Contractor	FRTIB
1. Provide Desk Phone requirements (e.g. number of sets, functions and features)		X
2. Provide Desk Phone design and engineering to meet FRTIB requirements	X	
3. Approve Desk Phone design and engineering		X
4. Provide end to end internal and external phone connectivity including hardware and/or peripherals	X	
5. Ensure Emergency 911 services function properly from all desk phones	X	
6. Provide adaptive voice Network equipment as required by laws affecting the support of the disabled		X
7. Ensure adaptive voice Network services are working as required by laws affecting the support of the disabled	X	
8. Manage and maintain private dial plan	X	

6.2.1.3. Voice Network Services

Voice Network Services include Local Service and Long Distance Service to FRTIB phone users with local, intrastate, interstate, and international calling from FRTIB's facilities. Long distance calls are those that terminate at locations outside the caller's local calling area to locations in the United States (domestic) and to foreign countries (international). Long Distance services include the planning and assessment, implementation, and ongoing management necessary to deploy long distance services enterprise wide. The following table identifies the roles and responsibilities associated with Long Distance Service.

Table 86. Voice Network Services Roles and Responsibilities

Voice Network Services Roles and Responsibilities	Contractor	FRTIB
1. Provide Voice Network Services strategies and requirements		X
2. Provide Voice Network Services design and engineering to meet FRTIB strategies and requirements	X	
3. Approve Voice Network Services design and engineering		X
4. Provide and provision Carrier Network Services		X
5. Provide usage monitoring and reporting	X	

6.2.1.4. Voice Messaging

Voice Messaging services are the efficient exchange of messages between two or more people enterprise wide. The following table identifies the roles and responsibilities associated with Voice Messaging services.

Table 87. Voice Messaging Services Roles and Responsibilities

Voice Messaging Roles and Responsibilities	Contractor	FRTIB
1. Provide Voice Messaging Services strategies and requirements		X
2. Provide Voice Messaging Services design and engineering to meet FRTIB strategies and requirements	X	
3. Approve Voice Messaging Services design and engineering		X
4. Provide Voice Messaging Services	X	
5. Provide Voice Messaging usage monitoring and reporting	X	
6. Provide Voice Messaging storage capacity management	X	
7. Provide Voice Messaging retention management per FRTIB requirements and external regulations	X	

Voice Messaging Roles and Responsibilities	Contractor	FRTIB
8. Conduct mailbox moves, adds and changes	X	
9. Maintain mailboxes configurations by user	X	
10. Provide new user training material	X	

6.2.1.5. Directory Service

Directory Services provide FRTIB telephone users with vital communication information and tools including external directories such as white pages and yellow pages. Features include a repository of directory information for internal as well as FRTIB external contacts. The following table identifies the roles and responsibilities associated with Directory Services activities.

Table 88. Directory Services Roles and Responsibilities

Directory Services Roles and Responsibilities	Contractor	FRTIB
1. Provide Directory Services strategies and requirements		X
2. Provide recommendations to meet FRTIB strategies and requirements	X	
3. Approve Directory Services recommendations		X
4. Provide a secure and searchable online directory service with real time updates	X	
5. Provide Intranet access to the directory	X	
6. Provide administrative support for Online Directory services to maintain and update the directory in accordance with agreed upon service levels	X	
7. Perform monthly audits of online directory for employee, contractor and Contractors to ensure data integrity	X	
8. Provide white pages and yellow page directories annually	X	

6.2.1.6. Voice Conferencing Services

Voice Conferencing Services within FRTIB voice network provide FRTIB users with conference capabilities. Services include the planning and assessment, implementation, training, and ongoing management necessary to implement Conferencing Service. An array of features will be supported with the delivered services. The following table identifies the roles and responsibilities associated Conferencing Services.

Table 89. Voice Conferencing Services Roles and Responsibilities

Voice Conferencing Services Roles and Responsibilities	Contractor	FRTIB
1. Develop Voice Conferencing Services strategies and requirements		X
2. Design Voice Conferencing Services to meet FRTIB strategies and requirements	X	
3. Approve Voice Conferencing Services		X
4. Provide Voice Conferencing Services, including support for the setup of conferencing sessions	X	
5. Create and maintain a monthly summary report by host, including: conference types, total number of connects, total number of minutes, total call charges, total feature charges, and total charges	X	
6. Create and maintain a year-to-date (YTD) summary report by host, including: conference types, total number of connects, total number of minutes, total call charges, total feature charges, and total charges	X	

6.2.1.7. Video Conferencing Services

Video Conferencing Services provide FRTIB users with video conference capabilities. Services include the planning and assessment, implementation, training, and ongoing management necessary to implement Video Conferencing Service. An array of features will be supported with the delivered services. The following table identifies the roles and responsibilities associated Video Conferencing Services.

Table 90. Video Conferencing Services Roles and Responsibilities

Video Conferencing Services Roles and Responsibilities	Contractor	FRTIB
1. Develop Video Conferencing Services strategies and requirements		X
2. Design Video Conferencing Services to meet FRTIB strategies and requirements	X	
3. Approve Video Conferencing Services		X
4. Provide support for the following: ▪ Point-to-point calls ▪ Multi-point calls ▪ Presentation capabilities, such as PowerPoint and laptop presentations, electronic whiteboard integration, document	X	

Video Conferencing Services Roles and Responsibilities	Contractor	FRTIB
camera, and VCR presentations		
5. Integrate teleconferencing into video conference meetings upon request	X	
6. Monitor and support calls in progress	X	
7. Maintain and manage video conference calendar and scheduling	X	
8. Manage and maintain video room calendar	X	
9. Manage video room clock coordination	X	
10. Provide monthly reports of the number of bridged calls	X	
11. Provide provisioning support for Video Conferencing services	X	
12. Provide new user training material	X	

6.2.1.8. Contact Center Service

Contact Center Service provides Toll-free call processing and call flow with integrated ACD, IVR, Contact Management System, and future CTI support and CRM integration for FRTIB's contact centers (currently the ThriftLine for TSP participants). This does not include the Service Desk related to TESS Services. Services include planning and assessment, implementation, and ongoing management necessary to deploy Contact Center Services enterprise wide. The following table identifies roles and responsibilities associated with Contact Center Service activities.

Table 91. Contact Center Service Roles and Responsibilities

Contact Center Services Roles and Responsibilities	Contractor	FRTIB
1. Provide Contact Center Services strategies and requirements		X
2. Recommend Contact Center Services to meet FRTIB strategies and requirements	X	
3. Approve Contact Center Services		X
4. Provision Contact Center Services		X
5. Configure Contact Center Services	X	
6. Provide Inbound Toll Free Services		X
7. Provide administrative support for Inbound Toll Free services	X	
8. Coordinate with internal customers and external carriers to fulfill requests concerning toll-free services including new orders, cancellations, moves, adds and changes (MAC's)	X	

Contact Center Services Roles and Responsibilities	Contractor	FRTIB
9. Design and implement customized call flow	X	
10. Manage call allocation policy		X
11. Perform agent/queue moves, adds and changes, including desktop connectivity	X	
12. Design all queues based on customer requirement that provide Agent mobility	X	
13. Provide call flow and queue design documentation to each Business Unit	X	
14. Provide consultation to contact center owners in developing new or modifying existing ACD applications	X	
15. Provide the following traffic analysis and call reports: ▪ 800 in-bound network traffic summary report ▪ Call detail hourly summary ▪ Call detail traffic summary ▪ Report by each 800 number ▪ Call detail traffic summary by state ▪ Trunk utilization for all trunk groups ▪ Call detail by location ▪ Call completion analysis ▪ Resellers summarized traffic by number ▪ Call prompter summary ▪ Traffic by number and date ▪ Unassigned routing termination number (RTN) ▪ Dial number by RTN	X	
16. Monitor IVR functionality, host and PBX connectivity	X	
17. Provide IVR reports on system, network and application availability	X	
18. Generate call volume trend report for all applications including weekly call volumes for decodes, accounts payable and expense reports	X	
19. Provide and maintain monthly reports of all IVR status including hardware (spare, in-use) critical parts, software, interfaces, and scripts by Business Unit	X	
20. Provide an attempted (offered) and handled call volume summary	X	
21. Provide duration, call transferred and abandoned call reports	X	
22. Provide weekly line usage reports with call volume by port	X	

Contact Center Services Roles and Responsibilities	Contractor	FRTIB
number		

6.2.1.9. Operations, Administration and Management

Operations, administration, and management of the Voice Network Services includes explanation of outages, management of user accounts, security management, and installs, moves, adds, and changes. The following identifies roles and responsibilities associated with Operations, Administration and Management services that are specific to this Schedule.

Table 92. Operations and Administration Roles and Responsibilities

Operations and Administration Roles and Responsibilities	Contractor	FRTIB
1. Provide FRTIB with a detailed explanation of outages that identify the regional impact, source of outage, and preventative measures being taken to prevent future similar outages	X	
2. Manage user accounts (e.g. account set up, password resets, account deletions and terminations) and provide administrative support (Online Directory services to maintain and update the directory in accordance service levels) for all services contained in this SOW according to FRTIB information security policies	X	
3. Provide proactive and reactive Voice Services security management and reporting	X	
4. Provide physical and logical installations, moves, adds and changes (IMACs)	X	

6.3 Exclusions

The following items are specifically excluded from this statement of work:

a. None

6.4 Service Management

6.4.1. Objectives

A key objective of this agreement is to attain service-level requirements (SLRs). Written reports to FRTIB regarding Contractor's compliance with the SLRs specified in this SOW Schedule are required.

6.4.2. Service Level Requirements (SLRs)

The following minimum service levels are required at the end of the Transition Period. Contractor must consistently meet or exceed the following SLRs. Exceptions causing SLR non-compliance will be discussed in the monthly service level review meeting as referenced in Section 3.3.1.3.4 Service Level Monitoring and Reporting. **All times referenced are in U.S. Eastern Time**.

Table 93. Incident/Problem Resolution SLRs

Definition	Refer to Table 41 Incident/Problem Resolution SLRs in Cross Functional section.

Table 94. Voice Network Service Availability SLRs

Definition	Availability of the voice Network, including all internal circuits, external interfaces (e.g., T1 PRI port) and all associated hardware (includes blocked calls), but exclusive of external circuits (e.g., carrier access circuits)

Voice Network Availability SLRs			
Service Type	**Service Measure**	**Performance Target**	**SLR**
Overall System Availability	Availability per location	Sun-Sat, 0000-2400	99.99%
Local Service	Availability per location	Sun-Sat, 0000-2400	99.99%
Long Distance	Availability per location	Sun-Sat, 0000-2400	99.99%
Incoming (Inbound) Toll-Free	Availability per location	Sun-Sat, 0000-2400	99.99%

Voice Network Availability SLRs			
Service Type	**Service Measure**	**Performance Target**	**SLR**
	Formula	Availability(%) = 100% - Unavailability (%) Where Unavailability is defined as: (Σ Outage Duration x 100%) ÷ (Schedule Time – Planned Outage)	
	Measurement Interval	Measure Weekly, Report Monthly	
	Measurement Tool	TBD	

Table 95. Service Responsiveness SLRs

Definition	The ability of Contractor to respond to, process, and fulfill client-requested changes and reconfiguration of various types of voice services.

Service Responsiveness SLRs			
Service Type	**Service Measure**	**Performance Target**	**SLR**
Technology Solution Design	Elapsed time	≤ 2 weeks of request	99.9%
Turnup Access Line upon delivery of carrier circuit	Elapsed time	≤ 15 business days of request	95%
Network Service capacity reallocation or change	Proactive monitoring and preemptive intervention to advise FRTIB of need to increase capacity.	Sustained avg. daily utilization reaches 70% of installed capacity	98%
User Account Changes	Elapsed time	≤ 4 hours of request	99%

Service Responsiveness SLRs			
Service Type	Service Measure	Performance Target	SLR
IMACs (non desk top hardware)	Elapsed time	≤ 2 business days of request	99%
	Formula	Number of requests successfully completed per Service Type within Performance Target/Total number of requests per Service Type occurring during the Measurement Interval	
	Measurement Interval	Measure Weekly, Report Monthly	
	Measurement Tool	TBD	

6.4.3. Reports

The following reports, in addition to monthly SLR compliance, are required, to be completed by the Contractor.

Table 96. Voice Network Reports

Report Description	Frequency
Voice Network Operations Processes and Procedures (Included in Comprehensive SOP Manual)	Annually
Voice Long Distance Usage Report	Monthly
Private Dial Plan	Annually
Voice Messaging Usage Report	Monthly
Voice Conferencing Usage Report	Monthly
Contact Center Traffic Analysis Report	Monthly
IVR System Availability Report	Monthly
Call Volume Trend Report (All Applications)	Quarterly

Report Description	Frequency
IVR Status Reports (Hardware, Software, Interfaces, Scripts)	Quarterly
Call Center Duration, Call transferred and Abandoned Report	Monthly
Call Center Weekly line Usage Report	Monthly

7.0 End User Services

This section sets forth the services, roles and responsibilities, service environment, and performance levels of the Service Contractor for End User Services. End User Services include support for FRTIB and potentially user owned devices including:

- Desktop (fat & thin) computer hardware and associated software
- Laptop/notebook computer hardware and associated software
- Virtual desktop and associated software
- Smartphone hardware devices and software
- Tablet computer hardware and software
- FRTIB office printers, including multifunctional devices (printer/fax/copier/scanner)
- IP telephony station devices
- FRTIB-provided home office desktops and printers
- Business productivity Software and FRTIB applications that are part of FRTIB-standard approved computing device image(s)
- Applications that are not part of the core image and approved by FRTIB

Support Services include:

- Remote and desk side support to Authorized Users
- Perform Install-Move-Add-Changes
- Track the inventory of End User Devices
- Track warranty and licenses for End User Devices
- Deploy and manage End User hardware
- Deploy and manage End User software & licenses
- Deploy and manage standard images
- Technical Orientation / training for new FRTIB employees on existing systems

In addition to the Services described in this section, the Contractor is responsible for providing the Services described in the Cross-Functional Services section.

7.1 Service Environment

The following sub-sections and related Service Environment Appendices further describe and scope the End User environment to be supported. These Service Environment Appendices are to be maintained by Contractor, and reviewed with FRTIB, and updated by Contractor and made available to FRTIB on a quarterly basis.

7.1.1. Hardware and Software

a. A listing of all the end user hardware to be supported is provided in Appendix C.1—End User Hardware.
b. A listing of all the end user software and core images to be supported is provided in Appendix C.2—End User Software & Core Images.

7.1.2. Service Locations

A description and location of all FRTIB's facilities and office locations requiring End User Services is provided in Appendix C.3—Client Facility Locations.

7.1.3. Policies, Procedures and Standards

The policies, procedures and standards with which End User Services will comply are provided in Appendix C.4-Policies, Procedures, and Standards.

7.1.4. Agreements and Licenses

A list of End User and Desktop-related agreements and licenses that the Contractor is required to assume, transfer or transition is provided in Appendix C.5—End User Agreements and Licenses.

7.1.5. Work In Progress

FRTIB currently has a number of End User related initiatives in progress that are included within the scope of this document and may impact Services. A list of these projects is provided in Appendix C.6—End User Related Work in Progress.

7.1.6. Future Initiatives

Other End User related initiatives considered but not in process are included in Appendix C.7—End User Related Future Initiatives.

7.1.7. Baseline Information

FRTIB's current End User utilization and projected usage is presented in Appendix C.8—End User Devices Baseline Projections. These business requirements represent FRTIB's projection of the Service requirements for Day 1 implementation based on a combination of past trends and current anticipated overall business direction over the term of the Agreement.

Note: A "thin" device is a network-connected device that does not have its own storage, and most computation is performed by the server. A "fat" device is one that does have its own storage, and it performs its own computations locally.

FRTIB will retain control over distributed computing refresh and replenishment, and will provide the Contractor with an environment that has an age distribution in line with the details in the table below.

Table 97. End User Services Infrastructure Age Distribution

System	No more than 10% older than
Desktops	5 years
Laptops	4 years
Smartphones / Blackberrys	3 years
Tablets	3 years

7.2 End User Services Requirements

7.2.1. Service Descriptions and Roles and Responsibilities

In all the tables in this section, an "X" is placed in the column named "Contractor" to indicate that the Contractor will be responsible for performing the task.

7.2.1.1. General Responsibilities

Table 98. General Roles and Responsibilities

General Roles and Responsibilities	Contractor	FRTIB
1. Define End User device requirements and policies and approve changes		X

General Roles and Responsibilities	Contractor	FRTIB
2. Provide office space at FRTIB headquarters for end user deskside technicians		X
3. Recommend Services and standards for supporting the End User Devices	X	
4. Review and approve Services and standards for supporting the End User environment/End Users		X
5. Procure and own all in-scope hardware and software (e.g., operating system, personal productivity and office automation Software)		X
6. Deploy and manage in-scope hardware and software	X	
7. Support End User data backup, storage and recovery services	X	
8. Provide Level 2 support for in-scope hardware and software as coordinated through the Service Desk	X	
9. Provide remote and desk side support to FRTIB Authorized Users as needed to fulfill service requirements	X	
10. Provide Incident determination, Root Cause Analysis and Resolution	X	
11. Manage and maintain inventory of in scope software licenses using FRTIB inventory software	X	
12. Manage and maintain inventory of in scope hardware, including asset tagging and recording using FRTIB inventory software	X	
13. Provide and integrate automated barcode scanning capability with FRTIB inventory software	X	
14. Establish and procure appropriate equipment sparing requirements and spares inventory levels for all in-scope hardware equipment, to meet temporary capacity needs and Service Level Requirements		X
15. Manage and maintain spare inventory for in scope Hardware devices, advising FRTIB of inventory levels of in-scope hardware in accordance with FRTIB policies and procedures	X	
16. Approve requests for new devices, spare components or peripherals		X

General Roles and Responsibilities	Contractor	FRTIB
17. Fulfill requests for replacement devices, components or peripherals from the spares inventory	X	
18. Provide ad hoc fulfillment of FRTIB-approved new devices, components or peripherals that are	X	
19. Refresh new devices as part of ongoing refresh process	X	
20. Provide advice to FRTIB or other Service Providers as required, on: ▪ The analysis of a business need or proposed solution ▪ Options assessment, input on appropriate solutions ▪ Potential impact on enterprise architecture, infrastructure, business process, information requirements, specific applications ▪ Potential impact on performance ▪ Technical feasibility ▪ High-level sizing	X	

7.2.1.2. Core Software Image Build and Deployment Services

Core Software Image Build and Deployment Services are the activities associated with building and deploying Core Software Images. Core Software is defined as the suite of Software programs used to build FRTIB-defined standard images for a supported device (e.g., OS Software, office productivity and messaging Software, security tools, remote connectivity Software) (**"Core Software"**).

Table 99. Core Software Image Build and Deployment Roles and Responsibilities

Core Software Image Build and Deployment Roles and Responsibilities	Contractor	FRTIB
1. Define Core Software Build and Deployment requirements and policies		X
2. Develop and document in the Operations Manual Core Software Build and Deployment procedures that meet requirements and adhere to defined policies	X	
3. Review and approve Core Software Build and Deployment procedures		X
4. Provide technical assistance for defining Core Software Image(s) specifications for in-scope Hardware	X	

Core Software Image Build and Deployment Roles and Responsibilities	Contractor	FRTIB
5. Develop and document detailed technical Specifications that define and support the build, test and deployment plans for the standard Core Software Image(s)	X	
6. Review and approve standard Core Software Image Specifications		X
7. Build Core Software Images for in-scope hardware	X	
8. Conduct system-level and End User testing of Core Software Image(s) to validate that they perform in accordance with the approved specifications and can be deployed successfully and operate with all supported applications, hardware and Software	X	
9. Review and approve Core Software Image testing results		X
10. Approve Core Software Image(s) for deployment		X
11. Provide necessary utilities/tools to maintain and ensure compliance with Core Software Image deployment/management policies and procedures	X	
12. Develop scripts and macro programs to automate standard FRTIB processes as appropriate (e.g., upgrading desktop images)	X	
13. Manage deployment efforts using formal project management tools, methodologies and standards (e.g., ITIL change and configuration management practices)	X	
14. Deploy approved Core Software Image(s) on applicable hardware	X	
15. Support and administer FRTIB standard software distribution tools	X	
16. Recreate End User desktop environment to previous state including base build plus all End User-specific features, functions and applications, as required	X	
17. Automate Core Software Image deployment processes (e.g., remote electronic upgrading of desktop images)	X	
18. Conduct deployment reviews and provide results to FRTIB	X	
19. Review and approve results of deployment reviews		X

7.2.1.3. Non-Core Desktop Software Build and Deployment Services

Non-Core Desktop Software Build and Deployment Services are the activities associated with building and deploying Non-Core Software.

Table 100. Non-Core Desktop Software Build and Deployment Roles and Responsibilities

Non-Core Desktop Software Build and Deployment Roles and Responsibilities	Contractor	FRTIB
1. Define Non-Core Software Build and Deployment requirements and policies		X
2. Develop and document in the Operations Manual Non-Core Desktop Software Image Build and Deployment procedures that meet requirements and adhere to defined policies	X	
3. Review and approve Non-Core Desktop Software Image Build and Deployment procedures		X
4. Provide technical assistance for defining Non-Core Desktop Software Image Specifications and deployment plans	X	
5. Review and approve Non-Core Desktop Software Image Specifications and deployment plans		X
6. Build FRTIB Non-Core Desktop Software Image	X	
7. Conduct End User testing of Non-Core Desktop Software Image(s) to validate that they perform in accordance with the approved Specifications and can be deployed successfully and operate with all supported applications, hardware and Software	X	
8. Approve Non-Core Desktop Software Image(s) for deployment		X
9. Manage deployment efforts using formal project management tools, methodologies and standards (e.g., ITIL change and configuration management practices)	X	
10. Develop scripts and macro programs to automate standard FRTIB processes as appropriate (e.g., upgrading desktop images)	X	
11. Approve scripts and programs to automate the build and deployment process		X

Non-Core Desktop Software Build and Deployment Roles and Responsibilities	Contractor	FRTIB
12. Electronically or manually deploy approved Non-Core Desktop Software Image(s) on applicable Hardware	X	
13. Conduct Non-Core Desktop Software deployment reviews and provide results of reviews to FRTIB	X	
14. Review and approve results of Non-Core Desktop Software deployment reviews		X

7.2.1.4. Install, Moves, Adds, Changes (IMACs)

IMAC Services are the activities associated with providing routine installations, relocations, changes to configuration, and removal of End User Hardware and Software.

Table 101. Install, Moves, Adds, Changes (IMACs) Roles and Responsibilities

Install, Moves, Adds, Changes, Deletes (IMACs) Roles and Responsibilities	Contractor	FRTIB
1. Define IMAC requirements and policies		X
2. Develop and document in the Operations Manual IMAC procedures that meet requirements and adhere to defined policies	X	
3. Review and approve IMAC procedures		X
4. Conduct pre-installation and site survey activities (e.g., Network connectivity, power, data jack preparation) for customizing, moving, installation or removing of devices in accordance with the procedures and specific IT Service Request	X	
5. Build, configure and test the system in accordance with the standard hardware configuration(s) and Software Image and in accordance with the procedures and specific IT Service Request	X	
6. Perform hardware and Software IMACs and re-installations in accordance with the specific IT Service Request, procedures and other application policies (e.g., security policies)	X	
7. Install new or enhanced in-scope Hardware and peripherals, and configurations, connect cables from distributed devices to the network point-of-presence	X	

Install, Moves, Adds, Changes, Deletes (IMACs) Roles and Responsibilities	Contractor	FRTIB
8. Conduct data and application migration that is necessary due to any hardware or Software IMACs and re-installations	X	
9. Update all management tools (e.g., asset management database) with required data	X	
10. Provide basic End User, and other site staff orientation as needed when deploying in-scope Hardware in-scope Software in accordance with FRTIB policies and procedures	X	
11. Coordinate with Service Desk and all other necessary Service Providers, Third-Party and FRTIB support organizations to manage all IMAC IT Service Requests to Resolution and Closure	X	

7.2.1.5. Desk Side Technical Support

Desk Side Technical Support Services are the activities associated with the provision, dispatch and management of Services provided at the physical workplace of the Authorized User, or other such location designated by FRTIB. FRTIB requires Desk Side support for all Authorized Users at the FRTIB head office location. All other desk side support outside the FRTIB head office location will be provided on a Project basis. The following table identifies the Desk Side Technical Support roles and responsibilities.

Table 102. Desk Side Technical Support Roles and Responsibilities

Desk Side Technical Support Roles and Responsibilities	Contractor	FRTIB
1. Define Desk Side Technical Support requirements and policies		X
2. Develop and document in the Operations Manual On-Site Technical Support procedures that meet requirements and adhere to defined policies	X	
3. Review and approve Technical Support procedures		X
4. Coordinate with the Service Desk and all other necessary Service Providers, Third-Party and FRTIB support organizations to manage all On-Site Technical Support requests to Resolution and Closure	X	
5. Coordinate with End User or other site staff to schedule On-Site Technical Support visit in response to an Incident or IT Service Request	X	

Desk Side Technical Support Roles and Responsibilities	Contractor	FRTIB
6. Escalate to appropriate level 2 or level 3 technician(s) in response to an Incident or IT Service Request as required	X	
7. Troubleshoot, diagnose and Resolve Incidents for devices, including removing and/or repairing physically broken or inoperable Hardware	X	
8. Conduct appropriate tests of repaired Hardware to ensure the device is operating appropriately	X	
9. Obtain End User acknowledgment for completion of IT Service Request	X	

7.2.1.6. Back Up and Restore Services

Back Up and Restore Services are the activities associated with the planning and management of ongoing backups of End User data, periodic restores, and testing of restore procedures. The following table identifies the Back Up and Restore roles and responsibilities.

Table 103. Back Up and Restore Roles and Responsibilities

Back Up and Restore Roles and Responsibilities	Contractor	FRTIB
1. Recommend SP-standard Backup and Restore procedures	X	
2. Develop, document and maintain in the Operations Manual the Contractor procedures related to Back Up and Restore procedures that meet FRTIB requirements and adhere to FRTIB policies	X	
3. Review, provide additional procedures as required and approve Storage and Data Management procedures		X
4. Provide data backup and storage Services for all Desktop data	X	
5. Monitor and control backup performance according to technical Specifications, Backup and Restore policies, and perform tuning as required	X	
6. Maintain and improve backup storage resource efficiency	X	
7. Maintain data set placement and manage data catalogs	X	
8. Perform data and file backups and restores per established procedures and SLRs	X	
9. Perform scheduled backups of specified folder paths on each Authorized Users per provisioned backup schedule	X	

Back Up and Restore Roles and Responsibilities	Contractor	FRTIB
10. Provide capability for ad hoc user-initiated backups	X	
11. Provide capability for users to configure the scope of user data backed up via user-initiated processes	X	
12. Provide backup failure notification to FRTIB	X	
13. Conduct periodic tests of data restore as per defined SLRs	X	
14. Provide and develop a plan and process to handle loss of data	X	
15. Provide and develop a plan and process to address backup or restore failure	X	

7.2.1.7. Operations and Administration Services

Operations and Administration Services are the activities related to ongoing management of the distributed computing environment to meet FRTIB operational needs and comply with FRTIB policies and procedures.

The following table identifies additional roles and responsibilities associated with Operations and Administration Services activities that are specific to End User Services.

Table 104. Operations and Administration Services Roles and Responsibilities

Operations and Administration Roles and Responsibilities	Contractor	FRTIB
1. Apply required patches and fixes to Core and Non-Core in scope Software	X	
2. Maintain hardware and software asset information including warranty and license information and workstation configurations	X	

7.2.1.8. Special Support Services

Special Support Services are the infrequent activities associated with special installation/deployment, maintenance, support, Break/Fix, Software and other technical training, upgrades, etc., for the following:

- VIP support for designated FRTIB Executives/VIPs. This can include support in the home or other remote locations.
- Periodic events (e.g., annual and interim meetings, Board meetings, annual/monthly events).

7.3 Exclusions

The following items are specifically excluded from this service:

- Procurement or disposal of end user devices or handheld computing devices and associated System Software, or Business productivity Software and FRTIB applications that are part of FRTIB-standard approved computing device image(s).

7.4 Service Management

7.4.1. Objectives

A key objective of this agreement is to attain service-level requirements (SLRs). Written reports to FRTIB regarding Contractor's compliance with the SLRs specified in this SOW Schedule are required.

7.4.2. Service Level Requirements (SLRs)

The following minimum Service levels are required at the end of the Transition Period. The Contractor must consistently meet or exceed the following SLRs. Exceptions causing SLR non-compliance will be discussed in the monthly service level review meeting as referenced in Section 3.3.1.3.4 Service Level Monitoring and Reporting. **All times referenced are in U.S. Eastern Time.**

Table 105. Incident/Problem Resolution SLRs

Definition	Refer to Table 41 Incident/Problem Resolution SLRs in Cross Functional section.

Table 106. Software Installation SLR

Software Installation			
Request	**Service Measure**	**Performance Target**	**SLR Performance %**
End User Software	Elapsed Time to Deploy	1 business day (1-10 requests daily) 2 Business Days >10 daily	95.0%

Software Installation			
Request	**Service Measure**	**Performance Target**	**SLR Performance %**
End User Operating System (service packs and non-critical security patches)	Elapsed Time to Deploy	1 business day (1-10 requests daily) 2 Business Days >10 daily	95.0%
End User Operating System upgrades	Elapsed Time to Deploy	As per agreed schedule	95.0%
Core Software	Elapsed Time to Upgrade	As per agreed schedule	95.0%
Service/Security Patches and Antivirus Updates	Elapsed Time to Update to Target Population for Each Deployment. Measured from approval for deployment by FRTIB to successful deployment for End Users who connect to the Network during the specified time frame	≤1 calendar day	99% of target population updated within one Calendar Day
	Formula	Number of instances within Performance Target ÷ Total number of instances during Measurement Interval = “Percent (%) Attained”	
	Measurement Interval	Service/Security Patches and Antivirus Updates: Measure Daily All other measures: Measure Monthly	
	Reporting Period	Report Monthly	

Software Installation			
Request	**Service Measure**	**Performance Target**	**SLR Performance %**
	Measurement Method	TBD	

Table 107. Install, Moves, Adds, Changes—End User Devices

Definition	Defined as an Installation, Move, Add or Change of any hardware or software included within the scope of End User Services.

Installs, Moves, Adds, Changes			
Request	**Service Measure**	**Performance Target**	**SLR Performance %**
Urgent request	Elapsed Time to Deploy	1 day	95.0%
1–10 in a single request	Elapsed Time to Deploy	Within 2 days of request	95.0%
More than 10 in a single request	Date and Time Scheduled	As agreed case-by-case	95.0%
	Formula	Number of instances within Performance Target ÷ Total number of instances during Measurement Interval = “Percent (%) Attained”	
	Measurement Interval	Measure Monthly	
	Reporting Period	Report Monthly	
	Measurement Method	TBD	

Table 108. Backup and Restore SLRs

Definition	Backup and Restore is defined as the ongoing activities to perform backups of End User data for the entire in-scope environment when connected to FRTIB's network either on premise or via VPN, and test the restoration of the data periodically to ensure the availability of complete, accurate and reliable data in order to support Disaster Recovery objectives.

Backup and Restore Service-Level Requirements			
Service Level	**Service Measure**	**Performance Target**	**SLR Performance %**
Backup Availability	Percentage	The availability of backup services during the business day, excluding pre-defined maintenance windows	99%
Applications and Data Backup Adherence	Schedule	Adherence to the backup schedules for all pre-determined backup activities	100%
Backup Success	Percentage	The percentage of all backups that are verified as all available data and configuration elements being successfully backed-up and identical to the source data and configuration	99%
Restoration Test Adherence	Schedule	Adherence to the pre-defined test schedules for restoration procedures	100%
Restoration Test Success	Percentage	The number of data restore test operations that are verified as all data elements being successfully restored and identical to the backup data	99%
	Formula	Availability (%) = 100% - Unavailability (%) Where Unavailability is defined as: (Σ Service outage Duration x 100%) ÷ (Schedule Time – Planned Service outage)	

Backup and Restore Service-Level Requirements			
Service Level	**Service Measure**	**Performance Target**	**SLR Performance %**
	Measurement Interval	Backup - Measure Daily Restore – Measure Monthly	
	Reporting Period	Report Monthly	
	Measurement Tool	TBD	

7.4.3. Reports

The following reports, in addition to monthly SLR compliance, are required.

Table 109. End User Services Reports

Report Description	Frequency
Asset Management Inventory Reports (by user, by device type)	Quarterly
End User Services Operations Processes and Procedures (Included in Comprehensive SOP Manual)	Annually
Build, Test and Deployment Plans for the Standard Core Software Image(s), including Detailed Technical Specifications	Periodic
End User Device Data Loss Plan and Process	Annually
Asset Management Inventory Reports (End User Devices)	Quarterly

8.0 Service Desk Services

Service Desk Services are the Services and activities, as further detailed in this section, required to coordinate and respond to Incidents and Service Requests made by FRTIB information technology (IT) Service Tower End Users and technical staff located in North America. Contractor Service Desk is responsible for providing a toll-free Service Desk single point of contact (SPOC) and for providing end-to-end ownership (e.g., logging, tracking, Resolution and reporting) of Service Desk Incidents and Service Requests. Service Desk Incidents and Service Requests can be resolved by Service Desk staff or may need to be escalated to more-specialized entities for Resolution, such as FRTIB staff, a Contractor or other designated Third Parties.

Also included is improved IT customer service and incident resolution speed through expanded service hours, self-service abilities and skilled Service Desk staff in the areas of industry-standard IT products, as well improve FRTIB efficiency and effectiveness by adopting Contractor-leveraged knowledge databases and best practices in the areas of customer reporting, logging, tracking, resolving of IT incidents and service requests. The Services are required to improve efficiency and effectiveness by early identification and addressing of root causes of technical Incidents including working with specialized entities for Resolution such as FRTIB staff, a Contractor or other designated Third Parties, before they become trends.

In addition to the Services described in this section, the Contractor is responsible for providing the Services described in the Cross-Functional Services section, especially Event/Incident Management and Problem Management.

The types of Calls to be handled by Contractor Service Desk include:

- Infrastructure Incidents:
  - Hardware
  - Systems Software (i.e., operating systems, utilities)
- Applications Incidents and “How To” support for:
  - Packaged (COTS) office productivity Software
  - FRTIB business applications
- Password Support:
  - Resets
  - Requests for account privilege change requests
  - Requests for End User account activation, suspension and termination

- Service Requests
  - IMAC requests

8.1 Service Environment

8.1.1. Scope of the Service Environment to Be Supported

This paragraph describes the scope of Services described in Section 2. This includes Assets, facilities and locations, personnel, policies and procedures, licenses and agreements, work-in-progress and future initiatives. The following sub-sections and related Service Environment Appendices further describe and scope the Service Desk Services environment to be supported. These Service Environment Appendices are to be maintained by Contractor, reviewed with FRTIB, updated by Contractor and made available to FRTIB on a quarterly basis.

Contractor shall provide Service Desk Services specified in this Schedule for the following FRTIB IT Service Towers:

- Data Center Services
- End User Services
- Data Network Services
- Voice Network Services
- Applications Services
- Recordkeeping Services
- Cross Functional Services

8.1.2. Service Desk Supported Hardware and Software

A list of FRTIB Service Desk supported Software and hardware is provided in Appendix F.1—Service Desk Supported Hardware and in Appendix F.2—Service Desk Supported Software.

8.1.3. Service Desk Supported Hardware and Software

A list of Service Desk Software, tools and knowledge databases used in the delivery of Service Desk Services to FRTIB is provided in Appendix F.3—Service Desk SW Tools and Knowledge Databases.

8.1.4. Service Locations

A description of the FRTIB facility and office locations for which Contractor shall provide Service Desk Services is provided in Appendix F.4—Client Facility Locations.

8.1.5. Policies and Procedures

The policies and procedures with which Contractor shall provide Service Desk Services are provided in Appendix F.5—Service Desk Policies Procedures and Standards.

8.1.6. Required Languages

English is the current required language.

8.1.7. Agreements and Licenses

A list of Service Desk-related agreements and licenses that the Service Provider is required to assume, transfer or transition is provided in Appendix F.6—Service Desk Agreements and Licenses.

8.1.8. Work-In-Progress

FRTIB currently has a number of IT initiatives in progress that are included within the scope of this SOW and may affect Service Desk Services. Such projects are the responsibility of Contractor to complete within the time frames specified by FRTIB. A list of these projects is provided in Appendix F.7—Service Desk Related Work in Progress.

8.1.9. Future Initiatives

Other IT related initiatives considered but not in process are included in F.8—Service Desk Related Future Initiatives.

8.1.10. Service Desk Baseline Information

FRTIB's current Service Desk utilization and projected usage is presented in Appendix F.9—Service Desk Baseline Projections. These business requirements represent FRTIB's most realistic projection of the Service requirements for Day 1 implementation based on a combination of past trends and current anticipated overall business direction over the term of the Agreement.

8.2 Service Desk Services Requirements

8.2.1. Service Descriptions and Roles and Responsibilities

In addition to the Services, activities, and roles and responsibilities described in Section 3.0 Cross-Functional Services, Contractor is responsible for the following Service Desk Services.

8.2.1.1. General Responsibilities

The following table identifies the general roles and responsibilities associated with this SOW. An "X" is placed in the column under the Party that will be responsible for performing the task. Contractor responsibilities are indicated in the column labeled "Contractor."

Table 110. General Roles and Responsibilities

General Roles and Responsibilities	Contractor	FRTIB
1. Provide expert Level 1 assistance to inquiries on the features, functions and usage of hardware and Software per Appendix F.1—Service Desk Supported Hardware and Appendix F.2—Service Desk Supported Software	X	
2. Identify, escalate (e.g., Level 2 and Level 3 escalation), manage Incident Resolution and Close Incidents and Service Requests including those escalated to Third Parties	X	
3. Provide appropriately trained Service Desk staff for Level 1 and Level 2 remote support to meet FRTIB requirements	X	
4. Coordinate the Root Cause Analysis process on recurring and Priority 1 and 2 Incidents	X	
5. Establish Operating Level Agreements (OLAs) with local support teams and provide to FRTIB	X	

8.2.1.2. Service Desk End User Services

8.2.1.2.1. Single Point of Contact

Single Point of Contact Services provide toll-free support for logging, tracking, Resolution and reporting of Service Desk Incidents and Service Requests for all FRTIB-supported environments. The following table identifies the SPOC roles and responsibilities that Contractor and FRTIB will perform.

Table 111. SPOC Roles and Responsibilities

SPOC Roles and Responsibilities	Contractor	FRTIB
1. Define Service Desk policies and standards		X
2. Recommend SPOC procedures	X	

SPOC Roles and Responsibilities	Contractor	FRTIB
3. Develop, document and maintain in the Standards and Procedures Manual SPOC Contractor procedures that meet FRTIB requirements and adhere to FRTIB policies	X	
4. Review and approve SPOC procedures		X
5. Utilize FRTIB-provided service request and incident management system(s) to collect, track and manage Service Requests and Service Desk Incidents received by the Service Desk	X	
6. Provide SPOC call-in access via a toll-free number (e.g., IVR, ACD) for all Service Desk Services described in this SOW for all FRTIB IT Service Towers and FRTIB Sites	X	
7. Provide SPOC and coordination for all Incident reports and requests for information and Service (e.g., IMACs) in the Service Towers supported under this SOW	X	
8. Provide multiple alternative communications channels, including voice messages, e-mail and intranet. In the case of Voice Communications Services, any IVR system must allow for immediate exit from the system and live communication with a Service Desk agent	X	
9. Record and redirect out-of-scope Service Tower Incidents and Service Requests	X	

8.2.1.2.2. Service Desk Operations and Administration

Service Desk Operations and Administration Services are the activities associated with providing a stable Service Desk environment and to effectively and efficiently perform procedures to ensure IT Services meet SLR targets and requirements. The following table identifies the Service Desk Operations and Administration roles and responsibilities that Contractor and FRTIB will perform.

Table 112. Service Desk Operations and Administration Roles and Responsibilities

Service Desk Operations and Administration Roles and Responsibilities	Contractor	FRTIB
1. Define Service Desk Operations and Administration requirements and policies		X

Service Desk Operations and Administration Roles and Responsibilities	Contractor	FRTIB
2. Develop, document and maintain in the Standards and Procedures Manual Service Desk Operations and Administration procedures that meet requirements and adhere to defined policies	X	
3. Review and approve Service Desk Operations and Administration procedures		X
4. Provide additional Resources as needed during planned and unplanned critical events	X	
5. Track/manage/report Service Desk utilization	X	
6. Provide escalation contact list(s) for FRTIB contacts		X
7. Maintain and provide escalation contact list(s) for all Service Towers (including Third Parties such as Contractors and service Contractors)	X	
8. Issue broadcasts or other notices to provide status updates as required for planned and unplanned events	X	
9. Provide End User or manager online/portal access to Service Requests and Incident reports	X	
10. Develop and execute procedures for conducting End User Satisfaction surveys in accordance with the Service-Level Requirements	X	
11. Review and approve procedures for conducting End User Satisfaction surveys		X
12. Maintain a continuous improvement program that improves Service Desk Service delivery	X	
13. Work with Contractor operational and technical staff and FRTIB to identify solutions that minimize the need to call the Service Desk (e.g., additional End User training, Self-Help Support opportunities, Root Cause Analysis)	X	
14. Review and approve solutions that minimize the need to call the Service Desk		X
15. Coordinate and make available environment documentation (i.e., Network configuration, and inventory of Software to be supported)	X	

8.2.1.2.3. Service Request

Service Request Services are the activities associated with end-to-end Incident Management processes including escalation to Level 2 and Level 3 specialists through a defined process, including Contractor's primary resources, Third Parties, such as hardware and Software suppliers, other Third Party service Contractors as well as FRTIB's internal technical support resources. The following table identifies the Service Request roles and responsibilities that Contractor and FRTIB will perform.

Table 113. Service Request Roles and Responsibilities

Service Request Roles and Responsibilities	Contractor	FRTIB
1. Recommend Service Request procedures	X	
2. Identify and describe priorities, response and Resolution targets for Service Requests that have differing impacts		X
3. Develop, document and maintain in the Standards and Procedures Manual Service Request procedures, including procedures to receive and respond to FRTIB Service Request Calls according to defined prioritization and Resolution targets, that meet FRTIB requirements and adhere to FRTIB policies	X	
4. Review and approve Service Request procedures		X
5. Ensure that responses to Service Requests are based on priority and impact rather than the method used to notify the Service Desk (e.g., telephone, e-mail, fax, direct input to Service Request system by End Users)	X	
6. Provide a system to document, manage and track all Service Requests and inquiries regardless of the means by which the Service Request is submitted (e.g., telephone, e-mail, fax, direct online input by End Users)		X
7. Maintain a system to document, manage and track all Service Requests and inquiries regardless of the means by which the Service Request is submitted (e.g., telephone, e-mail, fax, direct online input by End Users)	X	
8. Provide end-to-end Service Request identification, categorization, prioritization, escalation, resolution (management) and Closure process including those escalated to Third Parties	X	

Service Request Roles and Responsibilities	Contractor	FRTIB
9. Perform Password Resets as required, in accordance with FRTIB's security policies	X	
10. Verify acceptance of Services by contacting the End User to confirm results and level of satisfaction	X	
11. Verify that all records (e.g., inventory, asset and configuration management records) are updated to reflect completed/Resolved Service Request (e.g., IMACs)	X	
12. Provide authorization for Closing of Service Requests	X	
13. Send Service Requests Closure notices per FRTIB policies	X	

8.2.1.2.4. Remote Device and Software Management

Remote Device and Software Management Services are the activities associated with managing, maintaining and troubleshooting devices and Software remotely over the Network to minimize the need to dispatch technical personnel for Incident Resolution. The following table identifies the Remote Desktop Management roles and responsibilities that Contractor and FRTIB will perform.

Table 114. Remote Device and Software Management Roles and Responsibilities

Remote Device and Software Management Roles and Responsibilities	Contractor	FRTIB
1. Define policies for the use of Service Desk remote control tools		X
2. Develop, document and maintain in the Standards and Procedures Manual Service Desk Remote Device and Software Management procedures that meet requirements and adhere to defined policies	X	
3. Review and approve Remote Device and Software Management procedures		X
4. Resolve Incidents and diagnose underlying Problems using remote-control capability and when possible implement corrective actions to Resolve Problems. If Resolution is not possible, escalate per the escalation procedures.	X	
5. Utilize remote controls to manage and update Software,	X	

Remote Device and Software Management Roles and Responsibilities	Contractor	FRTIB
and to maintain configuration and inventory information		
6. Utilize remote control tools to manage and enforce compliance with standards	X	
7. Assist in enabling the enforcement of compliance to standards and the appropriate optimization of devices and software		X

8.2.1.2.5. Installs, Moves, Adds, Changes (IMAC)

IMAC Services are the activities associated the end-to-end management and coordination of IMAC Service Requests including gathering the business requirements, providing authorization, logging the request, and facilitating fulfillment. All authorized IMAC requests are passed automatically to the local support team depending on the location and the product or Service being requested. Local support team could be Contractor, FRTIB, or a combination depending on location. Examples of IMACS include, without limitation, adding PCs and moving local printers and a telephone. The following table identifies the Installs, Moves, Adds, Changes (IMAC) roles and responsibilities that Contractor and FRTIB will perform.

Table 115. Installs, Moves, Adds and Changes (IMAC) Roles and Responsibilities

Installs, Moves, Adds, Changes (IMAC) Roles and Responsibilities	Contractor	FRTIB
1. Recommend IMAC procedures	X	
2. Develop, document and maintain in the Standards and Procedures Manual IMAC Contractor procedures that meet FRTIB requirements and adhere to FRTIB policies	X	
3. Review and approve IMAC procedures		X
4. Receive and track IMAC Service Requests	X	
5. Obtain the requisite approvals from the relevant FRTIB stakeholders	X	
6. Confirm the requirements and scope and acquire FRTIB approval of the IMAC Service Request	X	
7. Contact the End User and schedule an appropriate, agreed time for the work to take place	X	
8. Approve IMAC schedule		X
9. Coordinate approved IMAC requests with local support	X	

Installs, Moves, Adds, Changes (IMAC) Roles and Responsibilities	Contractor	FRTIB
teams for delivery of IMAC services		
10. Track and report status of IMAC requests	X	
11. Contact End User to confirm completion of IMACs and satisfaction	X	
12. Verify completion of IMACs		X

8.2.1.2.6. Self-Help Support

Self-Help Support Services are the activities associated with IVR capabilities, out-of-prime-time voice messaging with guaranteed call-back response, Intranet-based automated Self-Help Support, etc. The following table identifies the Self-Help Support roles and responsibilities that the Contractor and FRTIB will perform.

Table 116. Self-Help Support Roles and Responsibilities

Self-Help Support Roles and Responsibilities	Contractor	FRTIB
1. Define Self-Help Support requirements and policies		X
2. Develop, document and maintain in the Standards and Procedures Manual Self-Help Support Contractor procedures that meet FRTIB requirements and adhere to FRTIB policies	X	
3. Review and approve Self-Help Support procedures		X
4. Implement Self-Help Support capabilities that enable End Users to perform self-service including Password Resets and other administrative functions, “How To” support through End User access to knowledge bases and online Incident status checking	X	
5. Monitor and review the effectiveness of Self-Help Support capabilities and usage		X
6. Develop and provide recommendations for improvements to Self-Help Support capabilities	X	
7. Review and approve recommendations for improvements to Self-Help Support capabilities		X
8. Implement approved recommendations for improvements to Self-Help Support capabilities	X	

8.2.1.2.7. Catalog Procurement

Catalog Procurement Services are the activities associated with developing and maintaining an online product catalog available to approved End Users for the procurement of approved products. The following table identifies Catalog Procurement Services roles and responsibilities that Contractor and FRTIB will perform.

Table 117. Catalog Procurement Services Roles and Responsibilities

Catalog Procurement Services Roles and Responsibilities	Contractor	FRTIB
1. Define Catalog Procurement requirements and policies		X
2. Recommend Catalog Procurement procedures	X	
3. Develop, document and maintain in the Standards and Procedures Manual Catalog Procurement procedures that meet FRTIB requirements and adhere to FRTIB policies	X	
4. Review and approve Catalog Procurement procedures		X
5. Provide an electronic product catalog system, and ordering function that is accessible to FRTIB End Users		X
6. Support and maintain an electronic product catalog, and ordering function that is accessible to FRTIB End Users	X	
7. Define content and approve pricing for product catalog		X
8. Validate and process product requisitions (e.g., validate accuracy of request or requisition, obtain proper approvals from FRTIB create orders from requisitions)	X	
9. Provide ongoing tracking and reporting on the status of all requisitions	X	
10. Place product orders based on processed requisitions per approved procedure	X	
11. Provide order fulfillment estimate and commitment date	X	
12. Provide ongoing tracking and reporting on the status of all orders	X	
13. Provide order tracking and reporting to order close out per procedures	X	

8.2.1.2.8. Exception Requests

Exception Requests Services are the activities associated with fulfilling End User requests for products or Services that are outside of standard FRTIB policies. The following table identifies the Exception Requests roles and responsibilities that the Contractor and FRTIB will perform.

Table 118. Exception Requests Roles and Responsibilities

Exception Requests Roles and Responsibilities	Contractor	FRTIB
1. Define Exception Requests policies and requirements		X
2. Develop, document and maintain in the Standards and Procedures Manual Exception Requests process, procedures and required forms that meet FRTIB requirements and adhere to FRTIB policies	X	
3. Review and approve Contractor Exception Requests procedures		X
4. Document Exception Requests in Service Desk Incident management system, collect and analyze the request, recommend Exception Request action and process the request to fulfillment or denial, and advise the originator of the status	X	
5. Review and approve exception requests		X
6. Take the necessary action to implement the request.	X	
7. Provide Exception Requests status to requestor when approved	X	

8.2.1.3. Other Responsibilities

8.2.1.3.1. Planning and Analysis

Planning and Analysis Services are the activities associated with providing FRTIB the most appropriate and effective level of Service, through ongoing Planning and Analysis. The following table identifies Planning and Analysis roles and responsibilities that Contractor and FRTIB will perform.

Table 119. Planning and Analysis Roles and Responsibilities

Planning and Analysis Roles and Responsibilities	Contractor	FRTIB
1. Identify and recommend Service Desk solution that best meets FRTIB business needs and expense/service level expectations	X	

Planning and Analysis Roles and Responsibilities	Contractor	FRTIB
2. Review and approve recommended Service Desk solutions		X
3. Perform operational planning for Service Desk capacity and performance purposes	X	
4. Determine transitional plan and issues regarding facilities, layout and integration with other non-consolidated Service Desks (e.g., sales and agency technical services)	X	
5. Perform analysis of FRTIB environment, including acquiring FRTIB management team feedback, to identify the appropriate sets of skills, training and experience needed by Service Desk staff	X	

8.2.1.3.2. Service Desk Reporting

Service Desk Reporting Services are the activities associated with the preparation of and access to Service Desk reports that are based on defined criteria. The following table identifies Service Desk Reporting Services roles and responsibilities that the Contractor and FRTIB will perform.

Table 120. Service Desk Reporting Services Roles and Responsibilities

Service Desk Reporting Services Roles and Responsibilities	Contractor	FRTIB
1. Recommend a list of Service Desk management reports	X	
2. Review and approve list of Service Desk management reports		X
3. Report on Service Desk statistics and trends as specified in the Standards and Procedures Manual (e.g., Service Request volumes and trends by types of End Users)	X	
4. Report on trends in Service Requests indicating a need for training	X	
5. Audit report results and Service Desk operations periodically		X
6. Provide online/portal access to FRTIB Service Desk reports	X	

8.3 Exclusions

The following items are specifically excluded from this SOW:

- Contractor-owned or FRTIB-provided end point devices utilized by contractors

8.4 Service Management

8.4.1. Objectives

A key objective of this agreement is to attain service-level requirements (SLRs). Written reports to FRTIB regarding Contractor's compliance with the SLRs specified in this SOW Schedule are required.

8.4.2. Service-Level Requirements (SLRs)

The following minimum Service levels are required at the end of the Transition Period . **All times referenced are in U.S. Eastern Time**.

Table 121. Incident/Problem Resolution SLRs

Definition	Refer to Table 41 Incident/Problem Resolution SLRs in Cross Functional section.

Table 122. Service Desk Availability SLRs

Definition	Service Desk Availability refers to the required time frames during which certain Services provided by the Service Desk must be available to End Users, and response to automatically generated Service Desk Incidents must be achieved. IT Operations and Technical Staff Support includes all of the Services defined in all of the Service Towers provided by IT professionals. For example, a console operator in the data center has an issue and calls the service desk, or an applications developer has an issue with their desktop and calls the service desk.

Service Desk Availability

Service Desk Availability	Service Measure	Performance Target	SLR Performance %
1) Automated Password Support 2) End User Support 3) IT Operations and Technical Staff Support	Schedule	1) Sun.–Sat., 0000–2400 2) Mon.–Fri., 0600–1900 3) Sun.–Sat., 0000–2400	99.95%
	Formula	Availability (%) = 100% – Unavailability (%) Where Unavailability is defined as: (Σ Outage Duration × 100%) ÷ (Schedule Time – Planned Outage)	
	Measurement Interval	First Month—Measure Daily Thereafter—Measure Daily	
	Reporting Period	First Month—Report Weekly Thereafter—Report Monthly	
	Measurement Tool	TBD	

Table 123. Response Time SLRs

Definition	Response Time is the number of seconds or cycles it takes an End User to connect with Contractor's contact center representative. Contractor shall provide toll-free telephone lines in adequate quantity to handle call volume; ACD system(s) to record call date, time and duration information; and electronic interfaces to all systems for monitoring and reporting.

Response Time			
Service Desk Responsiveness	**Service Measure**	**Performance Target**	**SLR Performance %**
Speed-to-Answer	Phone Response Time	≤20 seconds	98%

Response Time			
Service Desk Responsiveness	**Service Measure**	**Performance Target**	**SLR Performance %**
Call Abandonment Rate	Phone Response Time	≤5%	100%
E-Mail Response Rate	Online Response Time	≤1 hour	98%
Voice Mail Response Rate	Voice Mail Response Time	≤30 minutes	98%
	Formula	Number of events per event Type within Performance Target ÷ Total number of events per Type during Measurement Interval = "Percent (%) Attained"	
	Measurement Interval	First Month—Measure Daily Thereafter—Measure Daily	
	Reporting Period	First Month—Report Weekly Thereafter—Report Monthly	
	Measurement Tool	TBD	

Table 124. Incident SLRs

Definition	First contact resolution is the percent of calls completed by level 1 agents, incident closure notification is the time elapsed following the resolution of an incident, and root cause analysis is the review of recurring level 1 and level 2 incidents.

Incident			
Service Desk Incident Resolution	**Service Measure**	**Performance Target**	**SLR Performance %**
First Contact Resolution	First Contact Resolution Percentage	80% with <5% recalls	N/A

Incident			
Service Desk Incident Resolution	**Service Measure**	**Performance Target**	**SLR Performance %**
Incident Closure Notice (via e-mail and/or phone)	Elapsed Time	<20 minutes following Incident Resolution	98.0%
Root Cause Analysis	Schedule	Provide monthly review of recurring and Level 1 and 2 Incident areas and Resolutions	100.0%
	Formula	Number of instances within Performance Target ÷ Total number of instances during Measurement Interval = "Percent (%) Attained"	
	Measurement Interval	First Month—Measure Daily Thereafter—Measure Daily	
	Reporting Period	First Month—Report Weekly Thereafter—Report Monthly	
	Measurement Tool/Source Data	TBD	

Table 125. Password Reset and Service Request SLRs

Definition	Password reset is the elapsed time to complete the reset, procurement request is the elapsed time to enter the request within the procurement system, and service request is the elapsed time to acknowledge the request.

Password Reset and Service Request			
Password Reset and Service Request Tasks	**Service Measure**	**Performance Target**	**SLR Performance %**
Password Reset	Elapsed Time	Completed within 5 minutes of receipt of request	95.0%

Password Reset and Service Request			
Procurement Request	Elapsed Time	Request entered within 1 Business Day	95.0%
Service Request Response Time	Elapsed Time	Request acknowledgement within one hour	95.0%
	Formula	Number of instances within Performance Target ÷ Total number of instances during Measurement Interval = "Percent (%) Attained"	
	Measurement Interval	First Month—Measure Daily, Report Weekly Thereafter—Measure Daily, Report Monthly	
	Reporting Period	First Month—Report Weekly Thereafter—Report Monthly	
	Measurement Tool	TBD	

Table 126. Client Satisfaction SLRs

Definition	Client satisfaction is the determination of FRTIB's level of approval and acceptance of IT services being provided.

Client Satisfaction			
Client Satisfaction	**Service Measure**	**Performance Target**	**SLR Performance %**
Periodic Sample	Response/ Distribution Rate	10% of closed Service Desk Incidents surveyed within 48 hours of closing ticket	N/A
Periodic Sample Satisfaction	Client Satisfaction Rate	End Users surveyed should be very satisfied or satisfied	90%
Scheduled Survey (conducted annually)	Client Satisfaction Rate	End Users surveyed should be very satisfied or satisfied	90%

Client Satisfaction			
Client Satisfaction	**Service Measure**	**Performance Target**	**SLR Performance %**
	Formula	1. For periodic sample: Number of responses with a very satisfied or satisfied rating ÷ total number of responses 2. For periodic sample satisfaction: Sum of survey results from each participant ÷ total number of participants responding to periodic sample 3. For scheduled annual survey: Sum of survey result from each participant ÷ total number of participants responding to scheduled survey	
	Measurement Interval	Periodic Sample—Measure Monthly	
	Reporting Period	Report Monthly	
	Measurement Method/Source Data	TBD	

8.4.3. Reports

The following reports, in addition to monthly SLR compliance, are required.

Table 127. Service Desk Services Reports

Report Description	Frequency
Service Desk Process and Procedures (Included in Comprehensive SOP Manual)	Annually
Service Desk Utilization Report	Monthly
IMAC Report	Monthly
Catalog Requisitions and Order Status Report	Monthly

Report Description	Frequency
Service Desk Statistics and Trends Report	Monthly
Trends for Training Report	Quarterly
Service Desk Audit Report	Monthly

Schedule B: Business Applications and Recordkeeping

9.0 Application Services

Application services are the activities, as detailed in the following SOW, required to provide FRTIB the following general Application life cycle services:

Application Lifecycle Management Services – Activities which are essential to perform that pertain to both Application Development (AD) and Application Operations and Maintenance Services (AO&M), including project management, application architecture, IA security and compliance, defect tracking, user training, and continual service improvement

Application Development - Activities associated with development of new applications and major enhancements.

Application Maintenance Services - Activities associated with repairing defects and developing minor functional enhancements. Application services are classified as Application Maintenance Services when the work effort is less than 20 person-days for production application programs and systems.

In addition to the Services described in this section, the Contractor is responsible for providing the Services described in the Cross-Functional Services section.

9.1 Service Environment

9.1.1. Scope of the Infrastructure to be Supported

The following sub-sections and related SOW Appendices further describe and scope a number of Application Services elements to be supported. Service Environment data and Appendices are to be maintained by Contractor and made available to FRTIB on a quarterly basis.

9.1.2. Applications to be Supported

a. A listing of current staffing for all existing FRTIB applications included in the scope of this agreement is detailed in Appendix G.1.1—Application Programs Databases – FTE Support.

b. All existing FRTIB applications, programs, and databases included in the scope of this agreement are detailed in Appendix G.1.2—Application Programs Databases – Inventory.

9.1.3. FRTIB Facilities

As development phases of various FRTIB applications are completed, applications maybe be deployed to support geographically dispersed FRTIB office locations in the U.S. Provider is expected to provide staffing resources to support these implementation activities.

a. A listing of FRTIB office locations is provided in Appendix G.2—Client Facility Locations – Site Locations

9.1.4. Contractor Facilities (U.S. Onshore)

Contractor is responsible for providing all necessary facilities for U.S. onshore development teams to perform the application development and support services. Additionally, Contractor is responsible for establishing an area within its U.S. onshore facilities, dedicated for use with the FRTIB development environment that is physically and logically separated, secured and protected from access to any and all individuals not directly working on the FRTIB project personnel. This area must also be fully fire and environmentally protected and backed up.

Contractor also establishes, documents, and demonstrates a robust disaster recovery plan that includes provisions for backup facilities, utilities, staffing, telecommunications, etc.

FRTIB obtains and/or provides the necessary development hardware and software operating and application platform infrastructure, application development tools, testing tools, change and configuration management tools, project management and reporting tools, and other hardware and software (the “Development Environment Components”) required to establish and support the Application Development Product(s) development and testing environment within the Contractor facilities. This includes appropriately sized hardware, as well as appropriate license quantities, types and revision levels of application development, testing and runtime environment software.

Provided such Development Environment Components are Generic Components that are not proprietary to, restricted for use with, and/or unique to the FRTIB Application Development Product(s) business environment, the Contractor provides all such Development Environment Components at no charge to FRTIB.

However, in the event that any components are Non-Generic or are otherwise proprietary, restricted and/or unique to the FRTIB development environment, then FRTIB and the

Contractor determine an equitable method for the acquisition and disposition of such components.

To the extent appropriate, Development Environment Components are dedicated for use on the FRTIB Application Development Product(s) environment for the duration of the development project.

a. FRTIB specific and generic development environment components are provided in Appendix G.3.1—Generic and Generic Development Environment Components – Generic and Appendix G.3.2—Specific and Generic Development Environment Components – Specific (COTS).

9.1.5. Policies, Procedures and Standards

a. FRTIB policies and procedures with which Application Services will comply are provided in Appendix G.4—Application Policies Procedures and Standards
b. FRTIB application development tools, database and middleware standards are provided in Appendix G.5—Application Development Tools and Standards.

9.1.6. Agreements and Licenses

a. A list of existing Application related agreements and licenses is provided in Appendix G.6—Application Agreements and Licenses.

9.1.7. Work in Progress

FRTIB currently has a number of Applications related initiatives in progress that are included in the scope of this document and are the responsibility of Contractor to complete within the time frames specified by FRTIB. A list of these projects is provided in Appendix G.7—Work in Progress.

9.1.8. Future initiatives

Other Applications related initiatives considered but not in process are included in Appendix G.8—Applications Related Future Initiatives.

9.1.9. Baseline Information

FRTIB’s current Application utilization and projected usage is included in Appendix G.9—Applications Baseline Projections. These business requirements represent FRTIB’s most realistic projection of the Service requirements for Day 1 implementation based on a combination of past trends and current anticipated overall business direction over the term of the Agreement.

9.2 Application Services Requirements

9.2.1. Application Development Services, Roles & Responsibilities

9.2.1.1. Project Management Services

The Contractor provides Project Management Services as it relates to the development of a new application and logical database, as well as maintenance of existing in-production applications and logical databases. The Contractor shall utilize and manage any changes to the baseline project plan through FRTIB prescribed methods and procedures. The Contractor performs the following activities in support of Program Management (as defined by PMBOK) Services:

Project Management Services	Contractor	FRTIB
1. Project Integration Management	X	
2. Project Scope Management	X	
3. Project Time Management	X	
4. Project Cost Management	X	
5. Project Quality Management	X	
6. Project Human Resource Management	X	
7. Project Communications Management	X	
8. Project Risk Management	X	
9. Project Procurement Management	X	

9.2.1.2. Application Strategy, Architecture and Planning

Application Strategy, Architecture and Planning services are defined as setting overall Application Strategy, high level Application Architecture and planning associated with the Application Portfolio. Architecture services are comprised of maintaining the Application, Data and Integration Architectures. This includes all customer application modules, module configurations, system interfaces, and logical databases. The Contractor maintains frequent and close coordination in the progress of all FRTIB enterprise architecture-related projects and provide functional and technical support to develop and update operational, systems, and technical architectures.

The Contractor specifies architecture requirements and maintain architectural artifacts for elements such as systems and data interfaces, interoperability requirements, business

process modeling notation and identify regulatory and best practice standards compliancy requirements to support IA Policy and Planning

The following table identifies roles and responsibilities associated with Application Strategy, Architecture and Planning activities. Planning and Analysis

Table 128. Planning and Analysis Roles and Responsibilities

Planning and Analysis	Contractor	FRTIB
1. Assess process re-engineering methodologies		X
2. Conduct semiannual technical reviews	X	
3. Monitor technical trends through independent research; document and report on products and services with potential use for FRTIB	X	
4. Conduct feasibility studies for the implementation of new technologies	X	
5. Perform business liaison function to operational units		X
6. Perform business planning for capacity and performance		X
7. Recommend overall systems development life cycle process improvements, including those for which FRTIB retains responsibility	X	
8. Perform an annual portfolio analysis to identify and recommend applications rationalization, consolidation, sunsetting, etc.	X	
9. Conduct annual technical and business planning sessions to establish standards, architecture and project initiatives		X
10. Participate in annual technical and business planning sessions to establish standards, architecture and project initiatives	X	
11. Perform application operational assessments for capacity and performance purposes	X	
12. Recommend potential improvements to application security architecture	X	
13. Perform application security planning for development tasks	X	
14. Identify possible product and software tool enhancement opportunities for improved performance and potential cost savings	X	

Planning and Analysis	Contractor	FRTIB
15. Performing project estimation using a commercial project estimation tool that can size application projects and can categorize them by level of effort (e.g. minimal, medium, difficult)	X	
16. Approve projects to implement product enhancement opportunity		X
Application Architecture Roles and Responsibilities	**Contractor**	**FRTIB**
1. Maintain “End State” Application Architecture	X	
2. Develop and maintain Application Roadmap		X
3. Develop and maintain release specific Application Architectures	X	
4. Participate in Application Architecture planning and recommend Application Architecture design	X	
5. Document Functional and Technical Architecture	X	
6. Identify, develop ,and maintain Application Integration Architecture	X	
7. Identify Data Conversion Architecture		X
8. Recommend software technologies, packages, and tools within the framework of this Schedule as required	X	
9. Evaluate, recommend, and select software technologies, packages, and tools within the framework of this Schedule as required		X
10. Conduct feasibility studies for the implementation of new technologies		X
11. Provide Architecture consulting to and approval of proposed projects		X
12. Collaborate with Infrastructure Architecture team	X	
13. Manage FRTIB IT Standards Review Board		X
14. Approve IT standards		X
Data Architecture Roles and Responsibilities	**Contractor**	**FRTIB**
15. Develop and maintain data architecture, including high Level (e.g. entity vs field) Logical Data Model	X	
16. Evaluate Application Package Data Models against FRTIB requirements	X	

Planning and Analysis	Contractor	FRTIB
17. Review results of Application Package Data Model evaluations		X
18. Conduct Data Quality Assessments		X
Application Integration Architecture Roles and Responsibilities	**Contractor**	**FRTIB**
19. Develop and maintain Agency to Agency Integration Architecture		X
20. Develop and maintain Enterprise Application Integration (EAI) Architecture		X

9.2.1.3. Requirements Definition

Requirements definition services are the activities associated with the definition and assessment of user requirements that are used to determine detailed application design. The following identifies the roles and responsibilities associated with Requirements Definition services.

Table 129. Requirements Definition Roles and Responsibilities

Requirements Definition Roles and Responsibilities	Contractor	FRTIB
1. Act as primary point of contact with the business to define, gather, refine, and prioritize business requirements.	X	
2. Develop and document business requirements	X	
3. Approve business requirements documents		X
4. Conduct FRTIB interviews, group workshops and surveys to determine technical, functional and end user requirements	X	
5. Conduct value assessments of functional requirements and generate an impact analysis, including affected systems, alternative design scenarios, etc.	X	
6. Approve all functional requirements		X
7. Identify need for software upgrade conversion requirements for Commercial Off-The-Shelf (COTS) hardware and software and execute based upon a service request from FRTIB	X	

Requirements Definition Roles and Responsibilities	Contractor	FRTIB
8. Approve software upgrade conversion requirements for COTS hardware and software		X
9. Recommend application test plan (e.g. functional, volume, end-to-end, integration, stress, regression, system, and user acceptance test if applicable)	X	
10. Develop application test plan (e.g. functional, volume, end-to-end, integration, stress, regression, system, and user acceptance test if applicable)	X	
11. Approve application test plan (e.g. functional, volume, end-to-end, integration, stress, regression, system, and user acceptance test if applicable)		X
12. Define local adaptation deployment criteria and delivery requirements (i.e. laws/regulations).		X

9.2.1.4. Design Specifications

Design specification services produce design specifications that meet FRTIB technical architectural standards and identify and describe the most cost-effective solution to the implementation option under consideration. Contractor application design process and specifications:

a. Incorporate FRTIB's architectural guidelines into the design, including application extensibility, maintainability, scalability, robustness and reliability
b. Obtain FRTIB oversight and approval through coordination with the appropriate architectural or technical oversight authority.

The following table identifies roles and responsibilities associated with Design Specification services.

Table 130. High-Level Design Activities Roles and Responsibilities

High-Level Design Activities Roles and Responsibilities	Contractor	FRTIB
1. Create the high-level Design Document from the Business and Functional Requirements	X	
2. Evaluate COTS package solutions		X
3. Conduct COTS application evaluations to demonstrate support of requirements	X	

High-Level Design Activities Roles and Responsibilities	Contractor	FRTIB
4. Develop prototype application configuration settings to demonstrate support of requirements	X	
5. Approve prototype application configuration settings that demonstrate support of requirements		X
6. Provide high level requirements/criteria for extending prototyped application configuration settings to the full complement of configuration settings required to satisfy the complete business process		X
7. Provide application configuration instructions that support the prototype		X
8. Provide high-level logical and physical data model	X	
9. Review and accept the Business Requirements Document		X
10. Review and accept the Functional Requirements Document		X
11. Approve planned technology to support application		X
12. Provide application development and implementation cost and schedule estimates	X	
13. Develop overall project cost and schedule estimate		X

Table 131. Detailed Design Activities Roles and Responsibilities

Detailed Design Activities Roles and Responsibilities	Contractor	FRTIB
1. Define design standards and documentation	X	
2. Agree to design standards and documentation		X
3. Provide availability of FRTIB business and technical resources		X
4. Create the detailed Design Document from the Business and Functional Requirements and high-level design	X	
5. Create design to contain security features in compliance with FRTIB Security Policies, including external and FRTIB role based security models	X	
6. Provide planned technology design that specifies all components, program modules, data stores, interfaces, interface components and associated operations procedures for the application	X	

Detailed Design Activities Roles and Responsibilities	Contractor	FRTIB
7. Document and present implementation options evaluated as required by the Requirements Document to support the FRTIB Custom Code process	X	
8. Review and Approve detailed design documentation		X
9. Document technical requirements, logical and physical data models	X	
10. Review and approve technical requirements and physical data models for consistency with documented requirements		X
11. Develop test cases as defined in testing plan	X	
12. Approve test cases		X
13. Define implementation and deployment policies, project schedules and staffing requirements to meet deployment and delivery requirements	X	
14. Approve implementation, deployment policies, schedules and deployment staffing levels		X
15. Provide revised application development and implementation cost and schedule estimates	X	
16. Develop revised overall project cost and schedule estimate		X

9.2.1.5. Programming/Development

Programming and/or development services are the activities associated with the programming, development, scripting, configuring or customizing of application modules using the information from the previous phases as critical input. Programming and/or development can be accomplished by in-house custom development, customization of commercial off-the-shelf (COTS) products or implementation of COTS packages. The following table identifies the underlying roles and responsibilities associated with Programming and Development services.

Table 132. Programming and Development Roles and Responsibilities

Programming and Development Activities Roles and Responsibilities	Contractor	FRTIB
1. Review FRTIB existing technical standards (e.g. naming, Job Control Language (JCL), etc.)	X	

Programming and Development Activities Roles and Responsibilities	Contractor	FRTIB
2. Recommend programming, development, and technical documentation policies, procedures, and standards in conformance to SEI requirements where applicable	X	
3. Review and establish programming, development, and technical documentation policies, procedures, and standards		X
4. Review programming and development plans and procedures where there is an impact on other FRTIB entities/facilities		X
5. Establish overall programming and development project schedule	X	
6. Provide overall programming and development module delivery schedule for FRTIB acceptance	X	
7. Approve overall programming and development module delivery schedule		X
8. Perform all necessary technical design, programming, development, unit and string testing, scripting, configuring or customizing of application modules as required to develop and implement the design plans and specifications	X	
9. Perform application data base administration functions	X	
10. Recommend modifications and performance-enhancement adjustments to FRTIB system software and utilities based on FRTIB performance standards	X	
11. Manage all programming and development efforts using industry-standard project management tools and methodologies	X	
12. Conduct predetermined development status reviews and provide written report on results to FRTIB	X	
13. Review results of Contractor development reviews at FRTIB's discretion		X

9.2.1.6. Integration and Testing

Integration and testing services are the activities associated with the confirmation that the individual program components work together properly and as a whole perform their specified

functions. This includes application interfaces to other applications already in production at or being developed by FRTIB or outside parties as stated in the Requirements Documents. The following identifies the roles and responsibilities associated with Integration and Testing services.

Table 133. Integration and Testing Roles and Responsibilities

Integration and Testing Activities Roles and Responsibilities	Contractor	FRTIB
1. Approve all integration, user acceptance and application security testing plans for new and upgraded equipment, software or services		X
2. Create test cases, test data and perform all appropriate testing (unit testing, end-to-end testing, stress testing, regression testing)	X	
3. Create test environment and data where required by project, including demonstration of requirements traceability to verify the requirements as specified in the Requirements Document have been satisfied	X	
4. Review and approve testing		X
5. Coordination of User acceptance and assurance testing (e.g., gain user involvement, establish and define acceptance criteria, setting high-level test objectives, establish high level test scenarios, etc…)		X
6. Facilitate and support User Acceptance Test (establishing adequate test environment based on User Acceptance Criteria, preparing data to support test scenarios within modified system as well as managing the relationship with all interfaced systems necessary to conduct test, troubleshooting, support users to progress through scenarios, simulating interfaces or working with integrated systems to conduct end-to-end tests, support batch processing, exercise functionality, and report results) as prescribed by FRTIB.	X	
7. Conduct user acceptance testing		X
8. Validate all new and upgraded software or services for compliance with FRTIB Application Security Policies and Instructions		X

Integration and Testing Activities Roles and Responsibilities	Contractor	FRTIB
9. Manage the FRTIB functional, integration, and regression test environments and associated test data including creation and maintenance during the testing period	X	
10. Review testing results for compliance with policies, procedures, plans, and test criteria and metrics (e.g. defect rates, progress against schedule, etc.)		X
11. Provide shared access to the mutually agreed Defect Tracking System for purposes of allowing FRTIB to Initiate, track, and report FRTIB found defects (i.e., user acceptance testing).	X	
12. Notify Contractor in the event FRTIB notices a discrepancy between FRTIB's requirements and the requirements document or Contractor deliverables		X
13. Correct defects found as a result of testing efforts	X	
14. Conduct selective random independent testing, where the random selection includes some complex modules (i.e., independent verification and validation testing)		X
15. Staging systems before implementation	X	

9.2.1.7. Implementation and Migration

Implementation and data migration services are the activities associated with the installation and migration of new or upgraded components to the production environment as well as services for providing support for development of localization to region or state specific business practices and local, legal, regulatory and statutory needs. The following table identifies the roles and responsibilities associated with Integration and Testing services.

Table 134. Implementation and Migration Roles and Responsibilities

Implementation and Migration Activities	Contractor	FRTIB
1. Perform data migration from existing systems to new systems, by electronic methods	X	
2. Deliver user policies and procedures documentation		X
3. Conduct pre-installation site surveys	X	
4. Implement local adaptations to technical architecture or services provided	X	

Implementation and Migration Activities	Contractor	FRTIB
5. Install new or enhanced functions or features—hardware, software, peripherals and configurations where applicable	X	
6. Install new or enhanced hardware items, components, peripherals, or configuration and system management tools to operate with the support application environment	X	
7. Conduct pre-installation site surveys, including validation of site-specific functionality as defined in the Requirements Document(s)	X	
8. Assist FRTIB in support, implementation and deployment of FRTIB's Application and platform environment in all FRTIB geographies as defined in the Requirements Document(s) or a Service Request	X	
9. Coordinate deployment and support activities with FRTIB's parties as directed by the FRTIB Project Manager	X	
10. Conduct post implementation user acceptance		X
11. Provide system and user documentation	X	
12. Create detailed "Technical Go-Live" plan	X	
13. Create "go/no-go" checklist and conduct the "go/no-go" meetings		X
14. Approve production implementation "go/no-go" decisions		X
15. Deploy system	X	

9.2.1.8. Code Migration

Code Migration is the activity associated with promoting new and modified code, configuration and scripts, in support of new and existing applications through development, test and production. The following table identifies the underlying roles and responsibilities associated with code migration activities.

Table 135. Code Migration Roles and Responsibilities

Code Migration Roles and Responsibilities	Contractor	FRTIB
1. Recommend operations and administration procedures related to code migration	X	
2. Approve operations and administration procedures related to code migration		X

Code Migration Roles and Responsibilities	Contractor	FRTIB
3. Define test-to-production turnover requirements and instructions for each project or release	X	
4. Approve test-to-production turnover requirements and instructions via Change Management Group		X
5. Report on results from test-to-production activities if applicable	X	
6. Review reports on test-to-production results		X
7. Migration of code from development to test on an agreed upon basis	X	
8. Track migration status and notification	X	
9. Escalate and resolve issues with Contractor Services delivery team and development teams	X	
10. Participate in environment setup & decommissioning for new and changed environments	X	
11. Migrate defect correction code	X	

9.2.1.9. Software Configuration Management

Software configuration management is the identification and maintenance of system components and the relationships and dependencies among them. Such activities include:

a. Automatic capture and storage of application-to-component and component-to-component relationships

b. Maintenance of the history of those relationships and transformations required to appropriately manage and document (e.g., source control, version control, profiles, security plans) configuration changes affecting the application and its processing environment.

The following identifies the roles and responsibilities associated with Configuration Management services.

Table 136. Software Configuration Management Roles and Responsibilities

Software Configuration Management Activities Roles and Responsibilities	Contractor	FRTIB
1. Define configuration management policies and procedures	X	

Software Configuration Management Activities Roles and Responsibilities	Contractor	FRTIB
2. Review and approve configuration management policies and procedures		X
3. Perform configuration management activities throughout the development life cycle	X	
4. Review configuration management results		X

9.2.1.10. Application Change Management

While Change Management Services are also described in the Cross Functional Services section, there are specific application change management activities that are required. Application Change Management activities include services required to appropriately manage and document (e.g., impact analysis, version control, library management, turnover management, build management, parallel development) changes to the application(s) and any of the constituent components being developed. Change Management also includes services required to appropriately manage and document changes to the underlying application development environment components. These include the following:

a. Library Management—the classification, control and storage of the physical components of an application
b. Version Control—the maintenance, tracking and auditing of modifications to an application's components over time, facilitating the restoration of an application to prior development stages
c. Turnover Management—the automated promotion of software changes across different phases of the life cycle (e.g., development, unit test, systems test and production), including management of the approval process, production turnover and software migration control.

Any changes to the baseline project plan or committed maintenance or enhancement dates must be managed by the Change Management process and approved by FRTIB. This system includes formal and documented Change Management procedures, and defines the paperwork, tracking systems and approval levels necessary to authorize changes (e.g. a change to the scheduled end date for a particular work product). The most-common form of documentation is a project change request (PCR), which is a standard form describing the type of change/issue, the rationale behind it, and related schedule and cost changes.

The following table identifies the roles and responsibilities associated with Change Management services.

Table 137. Change Management Roles and Responsibilities

Change Management Activities Roles and Responsibilities	Contractor	FRTIB
1. Recommend procedures associated with FRTIB authorized project change requests	X	
2. Review and approve the Project Change Request Process		X
3. Authorize change in project scope and design		X
4. Review maintenance production release plan and schedules		X
5. Manage all Service Requests to production		X
6. Ensure custom code approvals are received from the designated FRTIB IT personnel	X	
7. Assist FRTIB with documentation and communicate change management processes and procedures	X	
8. Participate in scheduling releases	X	
9. Manage documentation changes to the underlying application development environment via use of library management version control and turnover management as described above	X	
10. Provide impact analysis associated with proposed project changes	X	
11. Manage changes to the baseline, project plan, or committed maintenance or enhancement dates		X
12. Prepare FRTIB system change request	X	
13. Approve system changes		X

9.2.1.11. Defect Tracking

Implement and maintain a documented and structured defect tracking and reporting methodology and process that encompasses all stages of the software development lifecycle (SDLC) including requirements definition, design and analysis, programming, testing (including regression testing), maintenance, and enhancement activities for all in-scope software being supported by the Contractor. This defect tracking and reporting methodology includes all levels of source code developed/supported by the Contractor including the unit, module, and system-level code to optimize the identification and resolution of application defects prior to delivery for testing to the Service Recipient of the system-level compiled object code.

Defect Management is required to ensure that the Contractor delivers compiled object code to the Service Recipient for system-level testing that is compliant with the systems specifications as approved by the Service Recipient and that the code does not contain any defects.

The Service Contractor's defect tracking methodology will incorporate the following components:

Table 138. Defect Tracking Roles and Responsibilities

Defect Tracking Roles and Responsibilities	Contractor	FRTIB
1. Defect tracking repository	X	
2. Identification and documentation	X	
3. Communication / escalation process	X	
4. Prioritization scheme	X	
5. Approve prioritization scheme		X
6. Evaluation and analysis	X	
7. Resolution and verification testing (including regression testing where appropriate)	X	
8. Reporting (defect density, defect age, defect trend) by type / priority	X	
9. Create and maintain FRTIB Training instances or clients as required by FRTIB	X	
10. Provide Service Desk agent training, including developing dialogue scripts	X	

9.2.1.12. Quality Control (QC) Services

The Service Contractor provides and performs the following Quality Assurance and Quality Control Services. Utilize a Quality Management System (QMS) framework that provides a standard, formal, and consistently applied approach for quality management, including quality requirements and criteria, key IT processes and their sequence and interaction, and the policies, criteria and methods for defining, detecting, correcting and preventing non-conformity and potential quality gaps.

Table 139. Quality Control (QC) Roles and Responsibilities

Quality Control (QC) Roles and Responsibilities	Contractor	FRTIB

Quality Control (QC) Roles and Responsibilities	Contractor	FRTIB
1. Establish, maintain, and update a QA and QC documentation repository where all QA and QC records, reports, and plans are stored and provide FRTIB free and open access to the repository at all times	X	
2. Identify, implement, and maintain standards, policies, processes, and practices for key IT processes to guide the Agency in meeting the intent of the QMS	X	
3. Develop and implement QA Process Implementation Plan	X	
4. Approve all QA and QC standards, policies, processes, practices, and Plans		X
5. Develop definitions and lists of the steps to be taken to ensure configuration control is maintained	X	
6. Evaluation and analysis	X	
7. Develop and implement QC processes to work with development teams to ensure clear, explicit, and accurate end user requirements are gathered to reduce / minimize the quality gap	X	
8. Conduct QC checks at critical points in the service delivery process to identify defects and/or errors in product, project, and work activity that can be rectified prior to implementation	X	
9. Perform QA monitoring and reporting of compliance of its services with designated standards, processes, and procedures	X	
10. Conduct QA reviews and postmortem analysis of work activities and project/product deliverables to identify areas for correction and opportunities for improvement	X	
11. Develop and document QA and QC process, work product, and service management refinement and improvement recommendations and implementation plans	X	
12. Implement all approved QA and QC refinement and improvement recommendations and plans in a manner that is transparent to FRTIB and its end users	X	
13. Identify and communicate any noncompliance QA or QC issues and ensure that actions are taken to resolve or correct those issues	X	

Quality Control (QC) Roles and Responsibilities	Contractor	FRTIB
14. Create QA and QC Compliance Reports and Communication Plans	X	
15. Distribute Communication Plans and QA and QC reports to FRTIB and all other appropriate parties	X	

9.2.1.13. Training and Knowledge Transfer

The Service Contractor provides Training Services associated with the improvement of skills through education and instruction. Delivery methods that the Service Contractor is required to offer for training include classroom style and computer-based instruction. This requirement for training includes the development of any training related documentation. The Service Contractor performs the following activities in support of Training Services. The following identifies activities and roles and responsibilities associated with Training and Knowledge Transfer services.

Table 140. Training and Knowledge Transfer Activities Roles and Responsibilities

Training and Knowledge Transfer Activities Roles and Responsibilities	Contractor	FRTIB
1. Develop training and knowledge transfer plan in the project plan	X	
2. Approve training and knowledge transfer plan in the project plan		X
3. Provide technical training assistance and knowledge transfer to existing FRTIB support personnel, during deployment as requested	X	
4. Provide training materials related to the technical aspects of the application to FRTIB as applicable	X	
5. Provide end user training content for FRTIB Applications	X	
6. Review and validate training content		X
7. Provide continuing end user training for improving “how-to-use” skills related to systems and applications	X	
8. Create and maintain FRTIB training instances/environments as required by FRTIB	X	
9. Provide Service Desk agent training, including developing dialogue scripts	X	

Training and Knowledge Transfer Activities Roles and Responsibilities	Contractor	FRTIB
10. Coordinating and managing all technical and operational training, including training facilities, materials, equipment, environments, instructors, scheduling, delivery and tracking. Stakeholders include, but are not limited to business unit users, supervisors, support, Service Desk, technical, operational, and training personnel	X	
11. Preparing and delivering train-the-trainer programs and the on-going training of personnel including but not limited to: o Security and approval training - training of developers on Security standards and security team approval processes o Workflow setup training o Configuration management training	X	

9.2.1.14. Documentation

Documentation services are the activities associated with developing, revising, maintaining, reproducing and distributing information in hard copy and electronic form that is performed as part of a Service Request. Documentation related to Application Services includes:

a. System specifications and documentation
b. End-user documentation
c. Site and system security plans
d. Updates and release notes

The following table identifies the roles and responsibilities associated with Documentation services.

Table 141. Documentation Roles and Responsibilities

Documentation Roles and Responsibilities	Contractor	FRTIB
1. Recommend specifications and documentation format and content	X	
2. Approve documentation format and content		X

Documentation Roles and Responsibilities	Contractor	FRTIB
3. Provide functional requirements definition documents and related data definitions and information flows that are required to supplement any other third-party software Contractor documentation	X	
4. Provide technical requirements documents that describe platform, architecture, and integration requirements for related solution components required to supplement software or hardware Contractor documentation	X	
5. Provide functional and technical requirements traceability matrices	X	
6. Provide use case scenarios to clarify the system design requirements	X	
7. Provide documentation that specifies all application components, program modules, data flows, inputs/outputs, dependencies, interface components, associated operations procedures, hardware/software platform requirements, management tools, application code base, and data and database schemas for the solution environment	X	
8. Documentation that specifies package and application development configuration choices and recommended options according to the consensus business rules developed during the Requirements Definition, including tuning parameters	X	
9. Business process support documentation and associated business rules	X	
10. Test cases and test script documents	X	
11. All unit, integration (end-to-end), user acceptance, stress and regression test plans	X	
12. Test result and report status, outcome, open issue, priority and risk documents	X	
13. Business unit-specific transition plans that encompass business process, operations (business and IT), and technology support plans that need to be in place to mitigate implementation risk	X	

Documentation Roles and Responsibilities	Contractor	FRTIB
14. Business unit-specific system and user documentation, including any changes to policies or procedures, as needed to supplement software and hardware Contractor documentation and provided in coordination with site-specific end user training activities	X	
15. Problem management processes for testing and implementation/ migration	X	
16. Action item lists of problems, categorization, priorities, responsibility, suggested action, due date, and problem status	X	
17. Clearly defined, efficient procedures for distribution and installation of changes	X	
18. Execution and backup plans as approved by FRTIB	X	
19. Operational procedures for interim and final implementation stages and cutover	X	
20. End-user and technical documentation on the use of application-specific toolsets and development methods	X	
21. Provide system and application security procedures	X	
22. Provide standard operating procedures and systems manuals	X	
23. Prepare and deliver updates and release notes to end users	X	
24. Document version control for all documentation for which Contractor is responsible	X	
25. Business continuity/disaster recovery plans and procedures to achieve continuity requirements. The Plan includes plans for data, backups, storage management, and contingency operations	X	
26. Approve documented application disaster recovery process		X
27. Approve functional requirements, technical requirements, traceability matrices, use case, technical systems design, testing, application transition plan, user/systems manuals, configuration, release notes, business continuity, disaster recovery, project planning, and security documentation		X
28. Provide comprehensive project plan, identifying all critical path dependencies and bottlenecks, staffing resources, major milestones and project deliverables	X	

Documentation Roles and Responsibilities	Contractor	FRTIB
29. Documented and verifiable evidence of security standards compliance, including all rights, permissions and security levels configured at the system, business unit, and end user level	X	
30. Technical documentation and materials related to test environment management, change control management and performance tuning	X	
31. Documented, maintained, and updated maintenance schedules and maintenance reports that include, but are not limited to: - Software version and installation location and patches applied	X	

9.2.2. Reserved

9.2.3. Application Maintenance Services

Application maintenance services are the activities associated with repairing defects and developing minor functional enhancements for production application programs and systems. Application maintenance services include all life-cycle support activities described in Section 3.1 above as applicable. Additionally, application maintenance services consist of the services described in the following subsections.

9.2.3.1. Corrective and Emergency Maintenance

The repair of defects to enable applications that are in production to provide the required functionality and to meet service levels. Full recovery, including the achievement of satisfactory service levels, of the application(s) is to be completed unless otherwise approved by FRTIB and is to cover files/deliverables, such as:

a. User interface changes
b. Changes to system interfaces
c. Application functional changes
d. Recommend database changes related to enhancements
e. Modification to standard query structure
f. Report development.

9.2.3.2. Preventive Maintenance

Preventative Maintenance covers events, which if not addressed proactively, could impact applications in production, such as:

a. Changing business volumes
b. Staying on the most current release or as directed by FRTIB
c. Application of system and application patches
d. Proactive performance tuning
e. Proactive archiving
f. Pre-production execution simulation
g. Special testing for events, such as:
    - Public holidays
    - End of financial year
    - End of calendar year
    - Daylight savings time

9.2.3.3. Adaptive Maintenance

Adaptive Maintenance activities ensure that application performance is not affected by changes to interfacing applications, new applications or packages, and technical environment changes, which if not addressed proactively, could impact applications in production, such as:

a. Upgrades of operating software
b. New/changed equipment
c. Interface changes.

9.2.3.4. Perfective Maintenance

Perfective Maintenance activities ensure that applications operate at peak efficiency with particular focus on areas such as:

a. System CPU hours
b. General performance tuning
c. Storage space
d. Response time
e. Archiving

f. Database performance tuning.

9.2.3.5. Release Packaging

Release packaging activities are the activities associated with the packaging of software changes into suitable releases, based on business need, as approved by FRTIB. Software version control, both electronic and manual, is included. Regularity of releases could vary depending upon size and urgency of individual changes having regard to risk mitigation. The Contractor develops an ongoing process for the implementation of a 3-month rolling weekly release timetable (with associated variation mechanism). The ongoing process and the initial 3-month rolling timetable are to be approved by FRTIB.

9.2.3.6. Technical and End User Support

Technical support services are the activities associated with expert technical assistance required for the tuning of support applications and utilities for optimal system performance. Also included is expert Tier 2 technical assistance for the FRTIB Service Desk for FRTIB end users and IT professionals.

The following table identifies the underlying roles and responsibilities associated with Technical and End-user support activities.

Table 142. Technical and End-user Support Roles and Responsibilities

Technical and End-user Support Activities Roles and Responsibilities	Contractor	FRTIB
1. Recommend maintenance and repair policies and procedures	X	
2. Approve maintenance and repair policies and procedures		X
3. Review and approve “Application Maintenance Plan”, including any and all revisions to the “Plan” (e.g., committed and proposed work schedules)		X
4. Execute “Application Maintenance Plan” for all categories of maintenance Services (e.g., Minor Enhancements, Corrective Maintenance, Preventative Maintenance, Adaptive Maintenance, and Perfective Maintenance) as described above	X	
5. Provide Technical and Functional Support to FRTIB IT and other groups as directed by FRTIB IT	X	
6. Notify IT of changes and upgrades to 3rd party application systems	X	
7. Perform diagnostics on software and services	X	

Technical and End-user Support Activities Roles and Responsibilities	Contractor	FRTIB
8. Perform routine system management on applications	X	
9. Recommend DBMS tuning changes	X	
10. Provide corrective maintenance	X	
11. Provide preventive maintenance	X	
12. Provide adaptive maintenance	X	
13. Provide perfective maintenance	X	
14. Provide release packaging of software changes	X	
15. Approve release packaging of software changes.		X
16. Assist Service Desk with coordination of user support activities	X	
17. Respond to escalated trouble ticket items in accordance with established procedures	X	
18. Establish priority of Service Requests		X
19. Follow FRTIB change management procedures associated with maintenance and support	X	

9.2.4. Monitoring, Reporting and Review Services

Monitoring and reporting services are the activities associated with the ongoing health checks, status reporting, and problem management (ongoing surveillance, tracking, escalation, resolution, and tracking of problems) of application support activities. Problem management activities described within this document require the Contractor to provide Tier 2 technical support in coordination with the Service Desk.

The following table identifies the underlying roles and responsibilities associated with Monitoring, Reporting and Review activities.

Table 143. Monitoring, Reporting and Review Roles and Responsibilities

Monitoring, Reporting and Review Activities Roles and Responsibilities	Contractor	FRTIB
1. Provide, maintain and update project plans, identifying critical path dependencies, major critical milestones, and project deliverablesas mutually agreed upon by the Parties for selected projects.	X	

Monitoring, Reporting and Review Activities Roles and Responsibilities	Contractor	FRTIB
2. Provide weekly status reviews and progress reports for selected mutually agreed to projects	X	
3. Provide monthly service-level performance reports against each Service Level Agreement, including trends for each and summary view	X	
4. Provide monthly milestone achievement review and performance reports	X	
5. Provide an electronic copy of an applications inventory being maintained	X	
6. Provide mutually agreed to reports to enable invoice reconciliation	X	
7. Provide mutually agreed to reports that capture service request demands and measure of ability to satisfy demand	X	
8. Provide mutually agreed reports that represent general health of environments (e.g., number of stranded transports, patches not yet applied) as well as reports that represent demand fulfillment in end-customer terms (e.g. defect corrections/change requests that have slipped against commitment, backlogged defects/change requests, Priority 1, 2, and Priority 3 defects)	X	
9. Define SLAs, problem Priority levels, and reporting cycles		X
10. Measure and analyze performance relative to requirements	X	
11. Develop improvement plans for services that do not meet Service Level Agreements	X	
12. Review improvement SLA plans		X
13. Implement improvement SLA plans	X	
14. Provide Service Request Response Time management reports (including a trend line) for new development work that reflects time to provide time and cost estimates	X	
15. Report productivity per developer/tester month by application (i.e. number of lines of code or function points), including trend line. Granularity (new work vs. maintenance) to be mutually agreed. Targets to be set post baseline.	X	
16. Report on Average Defect Response Time by Priority level	X	

9.3 Service Management

9.3.1. Objectives

A key objective of this agreement is to attain service-level requirements (SLRs). Written reports to FRTIB regarding Contractor's compliance with the SLRs specified in this SOW Schedule are required.

9.3.2. Service Level Requirements (SLRs)

The following minimum service levels are required at the end of the Transition Period. Contractor must consistently meet or exceed the following SLRs. Exceptions causing SLR non-compliance will be discussed in the monthly service level review meeting as referenced in Section 3.3.1.3.4 Service Level Monitoring and Reporting. **All times referenced are in U.S. Eastern Time**.

Table 144. Incident/Problem Resolution SLRs

Definition	Refer to Table 41 Incident/Problem Resolution SLRs in Cross Functional section.

Table 145. Application Development SLRs

Definition	Project Management tools and practices employed by Contractor for managing the application development work effort estimation and service request processes to ensure consistency, accuracy, and timeliness during the initial start-up period. Application Development Productivity Requirements that Contractor must meet during the initial start-up period for the application development work to minimize work defects and ensure timeliness of product delivery.

Application Development Service Level Requirements				
Service Type	**Service Measure**	**Performance Target**	**Minimum Performance %**	**Measurement Interval**

Application Development Service Level Requirements				
Service Type	**Service Measure**	**Performance Target**	**Minimum Performance %**	**Measurement Interval**
Project Estimation Methods and Tools Used for Cost and Schedule	Target	100% of all projects	100%	Monthly
Service Requests	Target Time	Deliver proposal within target time per FRTIB request	95%	Monthly
Milestone Completion – Milestones on the Critical Path	Completion Date	Completion of milestones by scheduled completion date	100%	Weekly
Milestone Completion – All Milestones NOT on Critical Path	Completion Date	Completion of milestones by scheduled completion date	95%	Weekly
Functional Requirements Met	Requirements Traceability Matrix	Complete Requirements Traceability Matrix	95%	Project Completion
Quality	Deviations from Specifications	Less than X errors/defects per Y lines of code found during UAT	95%	Monthly
	Formula	Performance = Transactions completed within required time/Total Transactions		
	Reporting Interval	Monitor Continuously, Report Monthly		
	Measurement Tool	TBD		

Table 146. Application Operations and Maintenance SLRs

Definition	Application Operations and Maintenance Service Level Requirements are the performance metrics related to the services that Contractor must provide on an ongoing basis in support of production applications in response to reported work defects and requests for changes in the Applications.

Application Operations and Maintenance Service Level Requirements				
Service Type	**Service Measure**	**Performance Target**	Minimum Performance %	**Measurement Interval**
Reliability of Application	Reliability	Criticality 1 Applications	99%	Daily
Reliability of Application	Reliability	Criticality 2 Applications	97%	Daily
Reliability of Application	Reliability	Criticality 3 Applications	95%	Daily
Response Time of the Application	Response Time From Entering Command to Result	As defined by FRTIB per application	95%	Daily
Service Requests	Delivery Reply	<48 hours	98%	Weekly
Incident Handling	Time to Respond (All Priority Levels)	<30 minutes	95%	Monthly
	Time to Resolve:			
	Priority Level 1	<2 hours	95%	Monthly
	Priority Level 2	<4 hours	95%	Monthly
	Priority Level 3	<6 hours or as prioritized by FRTIB	95%	Monthly

Application Operations and Maintenance Service Level Requirements				
Service Type	**Service Measure**	**Performance Target**	Minimum Performance %	**Measurement Interval**
Availability of Support Staff	Availability	As defined by FRTIB per application	98%	Weekly
Quality	Deviations	Number of major defects during system test per each application release as defined by FRTIB	99%	Monthly
	Formula	Performance = Transactions completed within required time/Total Transactions		
	Reporting Interval	Monitor Continuously, Report Monthly		
	Measurement Tool	[Specify monitoring and reporting tool(s) to be used]		

9.3.3. Reports

The following reports, in addition to monthly SLR compliance, are required.

Table 147. Application Services Reports

Description	Frequency
Application Services Process and Procedures (Included in Comprehensive SOP Manual)	Annually
Application Security Planning	Annually
Application Capacity and Performance Operational Assessments	Annually
Application Test Plan	Periodic
Applications Technical Trends Report	Quarterly
Design Standards	Annually

Description	Frequency
Technology Design (components, modules, interfaces, etc)	Annually
Test Cases and Testing Plan	Periodic
Development Status Report	Monthly
User Acceptance Test Results Report	Monthly
Detailed Technical “Go-Live” Plan	Periodic
Test to Production Report	Monthly
Defect Tracking Report	Periodic
QA Process Implementation Plan	Annually
QA Compliance Report	Monthly
Regression Test Plans	Periodic
Training and Knowledge Transfer Plan (in project plans)	Periodic
Test Result Report	Periodic
Maintenance Schedule Report	Monthly
Business Unit-Specific Transition Plans	Periodic
Weekly Maintenance Status Reports	Weekly
Monthly Milestone Report	Monthly
Invoice Reconciliation Report	Monthly
Service Request Demand Report	Monthly
General Health Report	Quarterly
Service Request Response Time Report	Monthly
Developer Productivity Report	Monthly
Defect Response Time Report	Monthly

10.0 Recordkeeping Services

FRTIB Recordkeeping for the Thrift Savings Plan (TSP) includes services that are considered business process functions that are enabled or augmented by the FRTIB systems, but are inherently non-IT services; for example, the processing of required minimum distributions. While this work might leverage the IT systems of the FRTIB, the essential nature of the work is a business process based work effort. As a result, it is critical that the service Contractor have experience and expertise in these business process services for defined contribution plans. Information regarding the TSP investment funds can be found on the tsp.gov website.

This section encompasses the core Recordkeeping functions, which are the processing of participant and plan-level transactions to include contributions, corrective adjustments, investment transactions, loans and other disbursements, and reporting.

Other important considerations, which may be unique to the TSP Recordkeeping environment, are tax-exempt funds, Senate pay date rules, the redesignation and recharaterization process, and the error correction process.

The business processing services included in this statement of work are:

- Required Minimum Distributions
- Refunds of Excess Contributions
- G Funds Transfer/Forfeiture
- Annual Tax Reporting
- Year End Processing
- Omni Scripting/Ad Hoc Reporting
- Audit Support
- Level 2 Functional Application Support
- Quarterly and Annual Participant Statement Processing

In addition to the Services described in this section, the Contractor is responsible for providing the Services described in the Cross-Functional Services section.

10.1 Service Environment

10.1.1. Scope of the Infrastructure to Be Supported

The following sub-sections and related Service Environment Appendices further describe and scope the Recordkeeping environment to be supported. These Service Environment

Appendices are to be maintained by the Contractor, and reviewed with FRTIB, and updated by the Contractor and made available to FRTIB on a quarterly basis.

10.1.1.1. Service Locations

All Recordkeeping Services are provided at Contractor-owned facilities. A listing of Contractor-owned, operated or subcontracted facilities providing Recordkeeping Services is provided in Appendix H.1—Provider Recordkeeping Facilities.

10.1.1.2. Policies, Procedures and Standards

The policies, procedures and standards with which Recordkeeping Services will comply are provided in Appendix H.2—Recordkeeping Policies Procedures and Standards, Appendix H.2.1—Directive 15, Appendix H.2.2—Directive 23, Appendix H.2.3—Directive 28, and Appendix H.2.4—Directive 42.

10.1.1.3. Agreements and Licenses

A list of Recordkeeping-related agreements and licenses is provided in Appendix H.3—Recordkeeping Agreements and Licenses for which FRTIB will retain ownership and responsibility. The current Recordkeeping maintenance contract is provided in Appendix H.3.1—Recordkeeping Maintenance Contract.

10.1.1.4. Work-In-Progress

FRTIB currently has a number of Recordkeeping related initiatives in progress that are included within the scope of this SOW and may impact Services. The Service Contractor (SP) will work with FRTIB per the terms of this Statement of Work to complete this work contained in Appendix H.4—Recordkeeping-Related Work in Progress.

10.1.1.5. Future Initiatives

Other Recordkeeping-related initiatives considered but not in process are included in Appendix H.5—Recordkeeping Related Future Initiatives.

10.1.1.6. Baseline Information

FRTIB's current Recordkeeping utilization and projected usage is presented in Appendix H.6—Recordkeeping Baseline Projections. These business requirements represent FRTIB's most realistic projection of the Service requirements for Day 1 implementation based on a combination of past trends and current anticipated overall business direction over the term of the Agreement.

10.1.2. Recordkeeping Service Requirements

10.1.2.1. Service Descriptions and Roles and Responsibilities

In addition to the Services, activities, and roles and responsibilities described in the Cross-Functional Services section, the following Recordkeeping Services are required.

10.1.2.1.1. General Responsibilities

The following table identifies general roles and responsibilities associated with this SOW. An "X" is placed in the column under the Party that will be responsible for performing the task. Contractor responsibilities are indicated in the column labeled "Contractor."

Table 148. General Roles and Responsibilities

General Roles and Responsibilities	Contractor	FRTIB
1. Check for regulatory, legislative, policy, or systems changes that affect the Recordkeeping process	X	
2. Recommend solutions in response to regulatory, legislative, policy, or systems changes that affect the Recordkeeping process	X	
3. Approve solutions in response to regulatory, legislative, policy, or systems changes that affect the Recordkeeping process		X
4. Implement solutions in response to regulatory, legislative, policy, or systems changes that affect the Recordkeeping process	X	

10.1.2.1.2. Required Minimum Distribution (RMD) Processing

Process and pay the RMD for those participants who are eligible for this based on employment status and age. There are three processes during the year. Those regular participants newly eligible for RMD have their first year RMD's processed in March of the following year. Beneficiary Participant (BPA) participants have their first year RMD issued before the end of the year. Every year those already making withdrawals who are RMD eligible are reviewed and if the amount that they withdrew is not sufficient to meet their RMD amount a residual amount is disbursed at the end of the year.

Table 149. Required Minimum Distribution Processing

Required Minimum Distribution Processing	Contractor	FRTIB
Annual Residual RMD		

1. Test RMD process by doing a “dry run”	X	
2. Identify eligible RMD population	X	
3. Provide RMD reports to FRTIB staff for potential RMD population	X	
4. Review and edit RMD report for potential RMD population and exclusions		X
5. Perform data cleanup based on FRTIB feedback	X	
6. Perform trial execution seven days in advance and provide results to FRTIB “accounting”	X	
7. Review and approve trial execution		X
8. Execute actual RMD process on the scheduled date	X	
9. Do a “sanity check” of the results versus the trial run	X	
10. Report actuals and any exceptions to FRTIB before everything goes to Omni Pay	X	
11. Review and approve actuals before everything goes to Omni Pay		X
12. Conduct and share with FRTIB a “lessons learned” session after each actual RMD process execution	X	
First Year RMD		
13. Test RMD process by doing a “dry run”	X	
14. Identify eligible RMD population	X	
15. Provide RMD reports to FRTIB staff for potential RMD population	X	
16. Review and edit RMD report for potential RMD population and exclusions		X
17. Perform data cleanup based on FRTIB feedback	X	
18. Perform trial execution seven days in advance and provide results to FRTIB “accounting”	X	
19. Review and approve trial execution		X
20. Execute actual RMD process on the scheduled date	X	
21. Do a “sanity check” of the results versus the trial run	X	
22. Report actuals and any exceptions to FRTIB before everything goes to Omni Pay	X	

23. Review and approve actuals before everything goes to Omni Pay		X
24. Conduct a “lessons learned” session after each actual RMD process execution	X	

10.1.2.1.3. Refund of Excess Contributions

Services include the refund of funds that are in excess of applicable IRS limits. There are two types of refunds. Systematic refunds are where the applicable contributions exceed IRS limits when the amounts from the uniformed services and civilian accounts are combined. Ad hoc refunds are when the participant requests a refund of excess funds based on the combined amounts between the TSP and an outside eligible plan in which they also participated. Report to employing agency details of any matching contribution that relates to the moneys refunded to the participant.

Table 150. Refund of Excess Contributions

Refund of Excess Contributions	Contractor	FRTIB
1. Identify participants who have exceeded IRS limits within the TSP	X	
2. Test excess contributions procedure against a single account prior to executing the actual procedure	X	
3. Review and approve test of excess contributions procedure against a single account prior to executing the actual procedure		X
4. Produce Refund of Excess Contributions reports and send to FRTIB staff	X	
5. Review and approve Refund of Excess Contributions report results		X
6. Execute actual Refund of Excess Contributions process on the scheduled date	X	
7. Report actuals and any exceptions to FRTIB and related match Agencies	X	
8. Review actuals		X
9. Provide details of any approved ad hoc returns		X
10. Perform ad hoc returns as specified and approved by FRTIB for participants who have exceed IRS limits between the TSP and an outside eligible plan	X	

Refund of Excess Contributions	Contractor	FRTIB
11. Perform forfeiture associated with matching contributions according to schedule provided by FRTIB	X	

10.1.2.1.4. G Funds Transfer/Forfeiture

For those receiving their first year RMD a notice is sent informing them that they must make a full withdrawal election (which can be a stream of monthly payments) by a certain date or their account will be declared abandoned and forfeited to the TSP. The money in the account is transferred to the G (Government Securities) fund to avoid any chance of investment risk and then if the deadline passes without the submission of the requisite withdrawal forms the account is abandoned. Participants may then file a request with the TSP to have that money restored without earnings to their account and that request must also include their withdrawal forms. The forfeiture is automatic based on the data in the system at time of forfeiture. The restoration is manual based on direction from FRTIB.

Table 151. G Funds Transfer/Forfeiture

G Funds Transfer/Forfeiture Processing	Contractor	FRTIB
1. Identify/validate participants who have received a first year RMD	X	
2. Perform trial execution of G Funds Transfer	X	
3. Provide results of trial execution of G Funds Transfer to FRTIB accounting	X	
4. Check trial execution of G Funds Transfer for reasonableness	X	
5. Review and approve trial execution of G Funds Transfer		X
6. Perform actual execution of G Funds Transfer	X	
7. Report actuals and any exceptions to FRTIB of G Funds Transfer	X	
8. Review actuals of G Funds Transfer		X
9. Conduct a “lessons learned” session after each actual G Funds Transfer process execution	X	
10. Perform trial execution of Forfeiture	X	
11. Provide results of trial execution of Forfeiture to FRTIB accounting	X	
12. Check trial execution of Forfeiture for reasonableness	X	

G Funds Transfer/Forfeiture Processing	Contractor	FRTIB
13. Review and approve trial execution of Forfeiture		X
14. Perform actual execution of Forfeiture	X	
15. Report actuals and any exceptions to FRTIB of Forfeiture, including detailed participant-level data	X	
16. Review actuals of Forfeiture		X
17. Conduct and share with FRTIB a “lessons learned” session after each actual Forfeiture process execution	X	

10.1.2.1.5. Annual Tax Reporting

Perform annual tax reporting including generating the forms for participants, state summary and tax withholding reconciliation, creation of electronic file that will be transmitted to IRS. Perform sweeps and data cleanup as directed by FRTIB. At the end of each month perform a trail run of tax reporting (including data cleanup and reconciliation activities). Also perform corrected tax reporting for the prior tax years as needed. Prior to actual annual run, execute a full dress rehearsal based on actual data.

Table 152. Annual Tax Reporting

Annual Tax Reporting	Contractor	FRTIB
Monthly Trial Tax Reporting		
1. Produce trial tax reporting at the end of each month out of Omni Plus and Omni Pay	X	
2. Provide results to FRTIB	X	
3. Compare Omni Pay versus Omni Plus outputs	X	
4. Provide output comparison report to FRTIB	X	
5. Review output comparison report		X
6. Approve corrections suggested in the output comparison report		X
7. Make necessary corrections to Omni Plus	X	
8. Make necessary corrections to Omni Payments		X
9. Provide listing of disbursements where TIN may be EIN to FRTIB or designated third party	X	
10. Review listing of disbursements to determine for each TIN whether it is an EIN or SSN		X

Annual Tax Reporting	Contractor	FRTIB
11. Update Omni tax reporting files	X	
12. Identify potentially incorrect addresses and provide to FRTIB or designated third party	X	
13. Review potentially incorrect addresses and provide feedback		X
14. Update Omni per FRTIB direction	X	
15. Reconcile Omni tax withholding against taxes submitted to IRS		X
16. Review tax files for correctness		X
Annual Tax Reporting Dress Rehearsal	**Contractor**	**FRTIB**
17. Create tax reporting processing schedule	X	
18. Review and approve tax reporting processing schedule		X
19. Run ad hoc reports identifying various potential errors or problems	X	
20. Review results of ad hoc reports and provide direction for corrections		X
21. Make corrections to the Recordkeeping system as directed by FRTIB	X	
22. Produce tax reporting test file	X	
23. Review tax reporting test file for correctness		X
24. Reconcile Omni tax withholding against taxes submitted to IRS		X
Annual Tax Reporting	**Contractor**	**FRTIB**
25. Run ad hoc reports identifying various potential errors or problems	X	
26. Review results of ad hoc reports and provide direction for corrections		X
27. Make corrections to the Recordkeeping system as directed by FRTIB	X	
28. Produce tax reporting file	X	
29. Review tax reporting file for correctness		X
30. Prepare 1099R file to be used for form creation	X	
31. Review 1099R file to be used for form creation		X

Annual Tax Reporting	Contractor	FRTIB
32. Create 1099R forms for printing by print Contractor	X	
33. Transmit 1099R forms to the print Contractor	X	
34. Reconcile Omni tax withholding against taxes submitted to IRS		X
35. Produce and submit 945 and 945A forms to IRS		X
36. Transmit 945 and 945A forms to IRS		X
37. Submit tax withholding file to the IRS		X
Corrective Tax Reporting (Ad Hoc)	**Contractor**	**FRTIB**
38. Identify corrections to be made		X
39. Enter corrections into Omni Pay		X
40. Create pending corrections report when directed	X	
41. Verify pending corrections report		X
42. Produce corrected forms	X	
43. Produce quarterly corrections file for IRS	X	
44. Review and transmit quarterly corrections file to IRS		X

10.1.2.1.6. Year End Processing

Perform activities required to set up the system for the end of year and the start of the new year. This includes supporting tax reporting and RMD processing. Set dates in a text file for use in automatically creating transactions and showing proper date on notices. Set up business calendars. Perform several sweeps and resulting data clean-up. Accelerate remaining monthly payments so that the payment is issued in the proper tax year. Residual RMD payments are also processed prior to the last tax business day for the year.

Table 153. Year End Processing

Year End Processing	Contractor	FRTIB
1. Create year end processing schedule	X	
2. Review and approve year end processing schedule		X
3. Update approximately 15 text files as directed by FRTIB procedures	X	
4. Create approximately 15 price records	X	
5. Review and approve text files and price record updates		X

Year End Processing	Contractor	FRTIB
6. Run job to disburse monthly payments for the end of the year	X	
7. Run residual RMD process for BPA participants	X	
8. Run residual RMD process for the rest of the participants	X	
9. Perform annual tax reporting	X	
10. Run fourth quarter and annual statements process/jobs	X	
11. Review output for all jobs		X

10.1.2.1.7. Omni Scripting/Ad Hoc Reporting

Support FRTIB by producing ad hoc reporting requested by FRTIB. This may also include writing Omni Scripts to correct issues identified with the data (under proper controls). If dealing with any system/data issues, all responses are very time sensitive and any corrections must be accomplished quickly and correctly.

Table 154. Omni Scripting/Ad Hoc Reporting

Omni Scripting/Ad Hoc Reporting	Contractor	FRTIB
1. Define reporting or processing requirements		X
2. Recommend Omni Script/Ad Hoc Reporting solution design	X	
3. Approve Omni Script/Ad Hoc Reporting solution design		X
4. Develop Omni Script/Report	X	
5. Approve Omni Script/Report development		X
6. Run Omni Script/Report and provide output	X	
7. Review and approve Omni Script/Report output		X

10.1.2.1.8. Audit Support

Support FRTIB in responding to requests from FRTIB auditors. This may include sweeps to provide specified data. It may also be providing desk procedures and other documentation requested by auditors. Assist FRTIB in researching and resolving any problems or concerns identified by the auditors. This may also mean providing support for FRTIB during the actual meetings with the auditors. Due to limited time allotted for the audits this support is time sensitive requiring prompt action.

Table 155. Audit Support

Audit Support	Contractor	FRTIB
1. Define audit support reporting requirements		X
2. Recommend audit reporting solution design	X	
3. Approve audit reporting solution design		X
4. Develop ad hoc audit report	X	
5. Approve ad hoc audit report development		X
6. Run ad hoc audit report and provide output	X	
7. Review and approve ad hoc audit report output		X
8. Provide other information/documentation as requested by FRTIB	X	

10.1.2.1.9. Level 2 Functional Application Support

Functional Application Support provides level 2 support to the service desk for business process, transactional, and data management of the Recordkeeping system applications and databases.

Table 156. Level 2 Functional Application Support

Level 2 Functional Application Support	Contractor	FRTIB
1. Define and document Functional Application Support policies, standards, and requirements	X	
2. Approve Functional Application Support policies, standards, and requirements		X
3. Resolve escalated level 2 incidents/problems per the Incident Management and Problem Management processes defined in the Cross Functional SOW	X	

10.1.2.1.10. Quarterly and Annual Participant Statement Processing

Extract data from Omni to support generation of both annual and quarterly participant statements. Produce those statements using extracted data per design approved by FRTIB. Properly report on the current statement any reversals of activity that occurred in a prior statement period.

Table 157. Quarterly and Annual Participant Statement Processing

Quarterly and Annual Participant Statement Processing	Contractor	FRTIB
1. Define requirements and content of Quarterly and Annual Statements		X
2. Extract information from Omni Plus to statement processing storage area	X	
3. Update Statements based on new/changed requirements	X	
4. Provide test Statements to FRTIB	X	
5. Review and approve test Statements		X
6. Produce Quarterly Statements	X	
7. Produce Annual Statements	X	
8. Load files to AG	X	
9. Mail files to be issued to print Contractor	X	

10.1.2.1.11. Loan Default Processing

Loan Default Processing is a quarterly process to identify loans that are eligible for default, generate notifications, and execute the loan default program if applicable.

Table 158. Loan Default Processing

Loan Default Processing	Contractor	FRTIB
1. Run the sweep report to identify default eligible loans	X	
2. Produce notices for default eligible loans	X	
3. Review the sweep report results for default eligible loans		X
4. Produce loan default transactions with quarter end trade date	X	
5. Post loan default transactions to the Omni system	X	
6. Review loan default transactions for accuracy		X

10.1.2.1.12. Daily Processing

Daily Processing, including the Unified, is the process by which FRTIB updates participant records. These updates include updates to the Web, voice response, core Recordkeeping system, accounting, workflow, and generates activity reports used to trade with our asset

manager. This process is core to our system capability and must execute successfully every day per schedule.

Table 159. Daily Processing

Daily Processing	Contractor	FRTIB
1. Run a non-post production edit on the Recordkeeping system after Agency cutoff (approximately 6 AM)	X	
2. Provide early pre-notification of trades report based on Agency-submitted transactions	X	
3. Run a non-post production edit on the Recordkeeping system after Financial Transaction cutoff (12 Noon)	X	
4. Provide second pre-notification of trades report to include all financial transactions	X	
5. Extract transactions from online environment to batch after non-financial cutoff (6 PM)	X	
6. Calculate and submit fund prices		X
7. Process all of the transactions within the Unified	X	
8. Synchronize the online and batch environments as a result of the nightly Unified	X	
9. Load accounting information into general ledger and disbursement and tax reporting system	X	
10. Produce reports to the agencies with the results of the processing of agency transactions	X	
11. Produce accounting reports, including true up information from the processing of the Unified	X	
12. Produce participation and demographic reports	X	
13. Produce notices to participants resulting from participant-submitted transactions	X	
14. Transmit notice file to print Contractor	X	
15. Convert reports and notices to PDF and load into document imaging system	X	
16. Produce the disbursements file for Treasury	X	
17. Certify disbursements file to Treasury		X
18. Provide updated account balances and transaction information to the Web, IVR, and statement repository	X	

10.2 Exclusions

The following items are specifically excluded from this SOW:

a. None

10.3 Service Management

10.3.1. Objectives

A key objective of this agreement is to attain service-level requirements (SLRs). Written reports to FRTIB regarding Contractor's compliance with the SLRs specified in this SOW Schedule are required.

10.3.2. Service-Level Requirements (SLRs)

The following minimum Service levels are required at the end of the Transition Period. Contractor must consistently meet or exceed the following SLRs . **All times referenced are in U.S. Eastern Time**.

Table 160. Required Minimum Distribution SLR

Definition	The Required Minimum Distribution Processing function should be completed within the schedule as provided by FRTIB

RMD Service-Level Requirements			
RMD	**Service Measure**	**Performance Target**	**SLR Performance %**
RMD Processing	RMD Processing Schedule	Number of RMD Processing Events performed successfully per the Schedule with correct information	100%
	Formula	RMD Processing Events completed successfully per the Schedule with correct information ÷ Total RMD Processing Events Required	
	Measurement Interval	Measure Annually	

RMD Service-Level Requirements			
RMD	**Service Measure**	**Performance Target**	**SLR Performance %**
	Reporting Period	Report Annually	
	Measurement Tool	TBD	

Table 161. Refund of Excess Contributions SLR

Definition	The Refund of Excess Contributions Processing function should be completed within the schedule as provided by FRTIB

Refund of Excess Contributions Service-Level Requirements			
Refund of Excess	**Service Measure**	**Performance Target**	**SLR Performance %**
Refund of Excess Contributions Processing	Refund of Excess Contributions Processing Schedule	Number of Refund of Excess Contributions Processing Events performed successfully per the Schedule with correct information	100%
	Formula	Refund of Excess Contributions Processing Events completed successfully per the Schedule with correct information ÷ Total Refund of Excess Contributions Processing Events Required	
	Measurement Interval	Measure Annually	
	Reporting Period	Report Annually	
	Measurement Tool	TBD	

Table 162. Tax Reporting SLR

Definition	The Tax Reporting Processing function should be completed within the schedule as provided by FRTIB.

Tax Reporting Service-Level Requirements			
Monthly Trial Tax Reporting	**Service Measure**	**Performance Target**	**SLR Performance %**
Monthly Trial Tax Reporting Processing	Monthly Trial Tax Reporting Processing Schedule	Number of Monthly Trial Tax Reports performed successfully per the Schedule with correct information	100%
	Formula	Monthly Trial Tax Reports processed successfully with correct information ÷ Total Monthly Trial Tax Reports Processed	
	Measurement Interval	Measure Monthly	
	Reporting Period	Report Monthly	
	Measurement Tool	TBD	
Annual Tax Reporting	**Service Measure**	**Performance Target**	**SLR Performance %**
Annual Tax Reporting Processing	Annual Tax Reporting Processing Schedule	Annual Tax Report performed successfully per the Schedule with correct information	100%
	Formula	Annual Tax Reports processed successfully ÷ Total Annual Tax Report Processed	
	Measurement Interval	Measure Annually	
	Reporting Period	Report Annually	

Tax Reporting Service-Level Requirements			
Monthly Trial Tax Reporting	**Service Measure**	**Performance Target**	**SLR Performance %**
	Measurement Tool	TBD	
Quarterly Corrected Tax Reporting	**Service Measure**	**Performance Target**	**SLR Performance %**
Quarterly Corrected Tax Reporting Processing	Quarterly Corrected Tax Reporting Processing Schedule	Number of Quarterly Corrected Tax Reports performed successfully per the Schedule with correct information	100%
	Formula	Quarterly Corrected Tax Reports processed successfully with correct information ÷ Total Quarterly Corrected Tax Reports Processed	
	Measurement Interval	Measure Quarterly	
	Reporting Period	Report Quarterly	
	Measurement Tool	TBD	

Table 163. Year End Processing SLR

Definition	End of Year Processing function should be completed within the schedule as provided by FRTIB.

Year End Processing Service-Level Requirements			
Year End Processing	**Service Measure**	**Performance Target**	**SLR Performance %**

Year End Processing Service-Level Requirements			
Year End Processing	**Service Measure**	**Performance Target**	**SLR Performance %**
Year End Processing	Year End Processing Schedule	Number of Year End Reports performed successfully per the Schedule with correct information	100%
	Formula	Year End Reports processed successfully with correct information ÷ Total year End Reports Processed	
	Measurement Interval	Measure Annually	
	Reporting Period	Report Annually	
	Measurement Tool	TBD	

10.3.3. Reports

The following reports, in addition to monthly SLR compliance, are required.

Table 164. Recordkeeping Reports

Report Description	Frequency
RMD Report	Annually
RMD Actuals and Exceptions Report	Annually
Refund of Excess Contributions Reports	Annually
Refund Actuals and Exceptions Report	Annually
G Funds Transfer Actuals and Exceptions Report	Monthly
G Funds Forfeiture Actuals and Exceptions Report	Monthly
Trial Tax Report	Monthly
Omni Pay vs Omni Plus (B Records) Comparison Report	Monthly

Annual Tax Reporting Processing Schedule	Annually
Annual Tax Adhoc Report - Errors	Annually
Annual Tax Reporting Test File	Annually
Annual Tax Pending Corrections Report	Annually
Omni Script/Report	Monthly
Adhoc Audit Report	Periodic
Loan Default Sweep Report	Daily
Early Pre-notification of Trades Report	Daily
Second pre-notification of trades report	Daily
General Ledger Transactions Reports	Daily
Accounting Reports	Daily
Participation and Demographic reports	Daily

11.0 Appendices

The following appendices are required.

Table 165. Appendices

#	Appendix Name
B.1.1	Data Center Server Hardware - FRTIB (12-27-12)
B.1.2	Data Center Storage Hardware - FRTIB (12-27-12)
B.2	Data Center Software - FRTIB (12-27-12)
B.3	Client Facility Locations - FRTIB (12-27-12)
B.4	Data Center Procedures and Standards - FRTIB (12-27-2012)
B.4.1	FRTIB SBM User Guide
B.5	Data Center Agreements and Licenses - FRTIB (12-27-12)
B.6	Data Center Work in Progress - FRTIB (12-27-12)
B.7	Data Center Future Initiatives - FRTIB (12-27-12)
B.8	Data Center Baseline Projections - FRTIB (12-27-12)
D.1.1	Data Network Hardware - FRTIB - 12-26-12
D.1.2	Data Network Hardware - FRTIB (12-26-12)
D.1.3	Data Network Hardware - FRTIB (12-26-12)
D.2	Data Network Software - FRTIB (12-23-12)
D.3	Data Network Circuits - FRTIB (12-23-12)
D.4	Data Network Topology - FRTIB (12-23-2012)
D.4.1	Network Topology - FTIB (12-23-12)
D.4.2	Site Topology - FRTIB (12-23-12)
D.4.3	Network Boundaries Topology - FRTIB (12-23-12)
D.4.4	FRTIB Network Low Level Design v2.0 - FRTIB (12-23-12)
D.5	Client Facility Locations - FRTIB (12-23-12)
D.6	Data Network Policies Procedures and Standards - FRTIB (12-23-2012)
D.6.1	Data Network Operation Installation and Structured Cabling Guide- FRTIB

#	Appendix Name
	(12-23-12)
D.6.2	System Engineering LifeCycle - FRTIB (12-23-12)
D.7	Data Network Agreements and Licenses - FRTIB (12-23-12)
D.8	Data Network Related Work in Progress - FRTIB (12-23-12)
D.9	Data Network Related Future Initiatives - FRTIB (12-23-12)
D.10	Data Network Baseline Projections - FRTIB (12-23-12)
E.1	Voice Network Hardware - FRTIB (12-27-12)
E.2	Voice Network Software - FRTIB (12-27-12)
E.3	Voice Network Circuits - FRTIB (12-27-12)
E.4	Voice Communications Applications and Data Sets - FRTIB (12-23-12)
E.5	Client Facility Locations - FRTIB (12-27-12)
E.6	Reserved Voice Network Services Policies, Procedures and Standards
E.7	Reserved Voice Network Systems Features and Functions
E.8	Voice Network Software Licenses - FRTIB (01-08-13)
E.9	Voice Network Related Work in Progress - FRTIB (12-23-12)
E.10	Voice Network Related Future Initiatives - FRTIB (12-23-12)
E.11	Voice Network Baselines - FRTIB (01-08-13)
C.1	End User Hardware - FRTIB (12-23-12)
C.2	End User Software & Core Images - FRTIB (12-23-12)
C.3	Client Facility Locations - FRTIB (12-23-12)
C.4	End User Policies Procedures and Standards - FRTIB (12-23-2012)
C.5	End User Agreements and Licenses - FRTIB (12-23-12)
C.6	End User Related Work in Progress - FRTIB (12-23-12)
C.7	End User Related Future Initiatives - FRTIB (12-23-12)
C.8	End User Baseline Projections - FRTIB (12-23-12)
F.1	Service Desk Supported Hardware - FRTIB (12-23-12)
F.2	Service Desk Supported Software - FRTIB (12-23-12)

#	Appendix Name
F.3	Service Desk SW Tools and Knowledge Databases - FRTIB (12-23-12)
F.4	Client Facility Locations - FRTIB (12-23-12)
F.5	Service Desk Policies Procedures and Standards - FRTIB (12-23-2012)
F.6	Service Desk Agreements and Licenses - FRTIB (12-23-12)
F.7	Service Desk Related Work in Progress - FRTIB (12-23-12)
F.8	Service Desk Related Future Initiatives - FRTIB (12-23-12)
F.9	Service Desk Baseline Projections - FRTIB (12-23-12)
G.1.1	Application Programs Databases - FTE Support - FRTIB (12-23-2012)
G.1.2	Application Programs Databases - Inventory - FRTIB (12-23-2012)
G.2	Client Facility Locations - Site Locations - FRTIB (12-23-2012)
G.3.1	Specific and Generic Development Environment Components - Generic - FRTIB (12-23-2012)
G.3.2	Specific and Generic Development Environment Components - Specifc (COTS) - FRTIB (12-23-2012)
G.4	Application Policies Procedures and Standards - FRTIB (12-23-2012)
G.5	Application Development Tools and Standards - FRTIB (12-23-2012)
G.6	Application Agreements and Licenses - FRTIB (12-23-2012)
G.7	Work in Progress - FRTIB (12-23-12)
G.8	Applications Related Future Initiatives - FRTIB (12-23-12)
G.9	Applications Baseline Projections - FRTIB (12-23-2012)
H.1	Provider Recordkeeping Facilities - FRTIB (12-23-12)
H.2	Recordkeeping Policies Procedures and Standards - FRTIB (12-23-2012)
H.2.1	Directive 15
H.2.2	Directive 23
H.2.3	Directive 28
H.2.4	Directive 42
H.3	Recordkeeping Agreements and Licenses - FRTIB (12-26-12)
H.3.1	Recordkeeping Maintenance Contract

#	Appendix Name
H.4	Recordkeeping Related Work in Progress - FRTIB (12-23-12)
H.5	Recordkeeping Related Future Initiatives - FRTIB (12-23-12)
H.6	Recordkeeping Baseline Projections - FRTIB (12-23-12)