**SAMPLE – For Reference Only –** This sample is a redacted copy of a work statement accomplished under a NITAAC GWAC. A Statement of Work (SOW) is typically used when the task is well-known and can be described in specific terms. Statement of Objective (SOO) and Performance Work Statement (PWS) emphasize performance-based concepts such as desired service outcomes and performance standards. Whereas PWS/SOO's establish high-level outcomes and objectives for performance and PWS's emphasize outcomes, desired results and objectives at a more detailed and measurable level, SOW's provide explicit statements of work direction for the contractor to follow. However, SOW's can also be found to contain references to desired performance outcomes, performance standards, and metrics, which is a preferred approach. The Table of Contents below is informational only and is provided to you for purposes of outlining the PWS/SOO/SOW. **This sample is not all inclusive, therefore the reader is cautioned to use professional judgment and include agency specific references and regulations to their own PWS/SOO/SOW.**

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Statement of Work

Data Warehouse and Business Intelligence Support Services

# Background

## <AGENCY>

The <AGENCY> is an independent agency of the U.S. Government, established by the XXX. <AGENCY> funds research and education in science and engineering. It does this through grants, contracts, and cooperative agreements to more than XXX colleges, universities, and other research and/or education institutions in all parts of the United States. <AGENCY> accounts for about XX percent of federal support to academic institutions for basic research.

Each year, <AGENCY> receives approximately XXX new or renewal support proposals for XXX, XXX, and XXX projects; it makes approximately XXX new awards. These typically go to XXX, XXX, XXX, XXX, and XXX.

<AGENCY> occupies XXX.

The XXX (the Board) is the governing board of <AGENCY>. The Board is composed of XX part- time members, appointed by the President and confirmed by the Senate. They are selected on the basis of their eminence in basic, medical, or social sciences, engineering, agriculture, education, research management or public affairs. The <AGENCY> Director serves on the Board, ex officio. Other <AGENCY> senior officials include a Deputy Director who is appointed by the President with the advice and consent of the U.S. Senate, and XXX Assistant Directors. In addition to the XXX Board, <AGENCY> is divided into over XXX organizational divisions that support the various staff and program offices and is structured as follows:

* + - * <AGENCY> Director
      * <AGENCY> Deputy Director
      * XXX staff Offices serving the Office of the Director
      * XXX Directorates
      * XXX functional Offices oriented to financial or administrative support areas.

<AGENCY>’s mission is to fund research and education in science and engineering disciplines while supporting programs to strengthen the scientific and engineering research potential. Mission activities include receiving research proposals, conducting peer review through the use of panels or electronic messaging, and awarding funds to institutions and their principal investigators.

<AGENCY> does not conduct research or operate laboratories; however, through partnerships with other agencies, states, advisory committees, and academia, it funds research and education in science and engineering. It does this through grants, contracts, and cooperative agreements to more than XXX colleges, universities, and other research and/or education institutions in all parts of the United States.

<AGENCY> serves as a common ground for members of the scientific community by providing a collective point of information for current affairs and accounting for approximately 20 percent of federal support to academic institutions for basic research.

For more information about <AGENCY> please visit our website.

## Organizational Background

The Contractor will provide support to the XXX, a division within <AGENCY>’s XXX. The mission of XXX is to provide information systems, human resource management, and general administrative and logistic support functions to the <AGENCY> community of scientists, engineers, and educators as well as to the general public.

XXX has primary technical responsibility for the technical direction of the work described herein. XXX is responsible for <AGENCY>-wide IT systems development and maintenance as well as the infrastructure necessary to support these systems. XXX within XXX is presently organized into XXX Branches, as listed below:

* + 1. The XXX Branch provides systems development, database management, and related services for the administrative systems within the agency.
    2. The XXX Branch provides office automation software product research, user support, and Help Desk activities.
    3. The XXX Branch manages the operational activities of the XXX Program and other university-<AGENCY>-agency-industry activities.
    4. The XXX Branch provides management and technical support for central systems operation and distributed systems planning.
    5. The XXX Branch provides systems development, database management, and related services for applications that primarily support the research directorates within the agency.
    6. The XXX Branch provides coordinated support for agency wide information technology initiatives in the areas of security, enterprise architecture, policy and plans, investment planning and management, and responds to information technology and information management requirements specified in Federal law, guidance, and regulations.

## Project Background

This acquisition will replace an existing contract providing on-site Data Warehouse and Business Intelligence (DW/BI) support services. In addition to performing development, operations, and maintenance, it is expected that this acquisition will improve <AGENCY>’s ability to analyze its data.

<AGENCY> wishes to partner with a vendor that can deliver DW and BI Services in a timely, cost effective and efficient manner.

### Infrastructure Environment

<AGENCY> has a total workforce of about XXX at its XXX, headquarters, including approximately XXX career employees, XXX scientists from research institutions on temporary duty, XXX contract workers and the staff of the XXX office and the Office of the Inspector General. <AGENCY>’s population is varied and is heavily staffed by XXX. Nearly XXX of the XXX are on temporary (term) one to two (1-2) years duty at <AGENCY>. Consequently, we have many employees who are sophisticated in computing, are pressured by their short tenure, and must learn our environment quickly in order to be productive. We also have a segment of staff, whether temporary (term) or permanent, who tend to explore and test new tools. Although the ultimate goal is to provide a standardized desktop computing environment, given this corporate culture, central-computing services must remain flexible and accommodating.

<AGENCY> supports a heterogeneous desktop environment; however, the standard <AGENCY> desktop computer is using XXX based on an <AGENCY> standard image, Microsoft Active Directory Group Polices, and is configured according to the United States Government Configuration Baseline (USGCB) as well as <AGENCY>-specific functional and security requirements. <AGENCY> also supports a significant number of Macintosh desktop or laptop computers. Similarly, to <AGENCY> desktops, the <AGENCY> IT infrastructure is fairly diverse, with XXX, XXX and XXX servers, multiple storage vendors and a variety of configurations.

<AGENCY>’s technological infrastructure is in a state of transition.

* + - * <AGENCY>’s standard set of application development tools is evolving from the XXX Application servers to XXX and XXX Application servers; from client-server applications to XXX interfaces
      * <AGENCY> is taking significant steps to standardize, consolidate, and virtualize servers and systems to simplify management and improve service levels
      * <AGENCY> is adjusting systems and services to fully accommodate the federal government workforce with increased telework and mobile requirements
      * Finally, <AGENCY> is planning a complete refresh of our network and voice services to be aligned with the future <AGENCY> headquarters XXX.

### Security Environment

<AGENCY> maintains a defense-in-depth security environment that provides successive security controls as a user progresses through the security architecture. <AGENCY> has a separate operational security group responsible for vulnerability management, monitoring, and management of intrusion detection systems, along with incident response/reporting.

<AGENCY> maintains a firewall, an intrusion detection capability, managed security services, active anti-virus/anti-spyware on the desktop. Laptops are encrypted for protection of data, web traffic is filtered, and a security event/log management to provide more incident detection capability is being deployed.

<AGENCY> maintains an active vulnerability management program that includes scheduled and un-scheduled vulnerability scans XXX, and a mature process for ensuring that identified vulnerabilities are analyzed and mitigated.

### Cultural Environment

Support teams must to be able to communicate with <AGENCY> staff and customers on a wide range of technical questions. Because <AGENCY> staff and customers represent a very wide range of computer skills, levels of responsibility, and job pressures, it is important to be sensitive to customer perception, to be tactful in tense situations, and to diffuse tensions and complaints. Support teams must listen attentively and patiently to a wide range of questions and requests; log them specifically and correctly; and respond with tact and consideration. Questions range from consultations that can be solved over the phone, to very complex problems or questions that may require escalation to the appropriate specialist(s).

Customer follow-up and proper closures are considered critical in the delivery of quality and timely customer service. Customer satisfaction is paramount. <AGENCY> cannot stress enough the importance of customer service support programs to ensure a positive customer experience.

# Scope of Services

The Contractor shall provide support to the Government’s contracting representative(s) and project team by supporting areas of operational significance called out within this document.

<AGENCY> is procuring Data Warehouse and Business Intelligence (DW/BI) Support Services. These services are organized into the following areas of support:

1. Transition and Transformation Services
2. Contract and Program Management Services
3. Operations and Maintenance Services)
4. Projects
5. Infrastructure Support
6. Surge Labor
7. Other Direct Costs / Travel
8. Hardware / Tools
9. Contract Access Fee

At all times, the Government will retain primary technical responsibility for the technical direction of the work described herein. The current DW/BI program supports business administration, human resource, and <AGENCY> program data.

Contractors shall provide services to support organization specific solutions and will be working with customers on site to support seamless integration of structured and/or unstructured internal and external data. Contractors may offer Data Management, Performance Management, Proactive Business Intelligence, Enterprise Application Integration Solutions, etc.

The Contractor is expected to:

1. **Provide BI Information Delivery**
   * + Reporting — Reporting provides the ability to create formatted and interactive reports, with or without parameters, with highly scalable distribution and scheduling capabilities. Provide a wide array of reporting styles (e.g., financial, operational and performance dashboards). Support access and fully interact with BI content delivered consistently across delivery platforms including the Web, mobile devices, and common portal environments
     + Dashboards — Provide this subset of reporting that includes the ability to publish formal, Web-based, or mobile reports with intuitive interactive displays of information, including dials, gauges, sliders, check boxes and traffic lights. These displays indicate the state of the performance metric compared with a goal or target value.
     + Ad hoc query — Provide the capability, which enables end-users to ask their own questions of the data, without relying on IT to create a report. In particular, the Contractor must have a robust semantic layer to allow end-users to navigate available data sources. The support shall include a disconnected analysis capability that enables end-users to access BI content and analyze data remotely without being connected to a server-based BI application.
     + Search-based BI — Provide a search index to both structured and unstructured data sources and map them into a classification structure of dimensions and measures (often, but not necessarily leveraging the BI semantic layer) that end-users can easily navigate and explore using a search (Google-like) interface. This capability extends beyond keyword searching of BI platform content and metadata.
     + Mobile BI — Provide the capability that delivers report and dashboard content to mobile devices (e.g., smartphones and tablets) in a publishing and/or interactive (i.e., bidirectional) mode, and takes advantage of the interaction mode of the device (i.e., tapping, swiping and so on) and other capabilities not commonly available on desktops and laptops, such as location awareness.
2. **Perform BI Analysis**
   * + Online analytical processing (OLAP) — Provide end-users to analyze data with extremely fast query and calculation performance, enabling a style of analysis known as "slicing and dicing.”
     + Interactive visualization — Support the end-user’s ability to display numerous aspects of the data more efficiently by using interactive pictures and charts, instead of rows and columns.
     + Predictive modeling and data mining — Provide end-users support to classify categorical variables and to estimate continuous variables using advanced mathematical techniques. Provide integration of models easily into BI reports, dashboards and analysis, and business processes.
     + Scorecards — Provide support to take the metrics displayed in a dashboard a step further by applying them to a strategy map that aligns performance indicators with a strategic objective.

## Service Objectives

The following are the key service objectives <AGENCY> expects from performance of Data Warehouse/Business Intelligence Services. The objectives are considered performance indicators by which <AGENCY> measures value of the IT organization and its inputs and outputs.

* + - * Maintain alignment with <AGENCY> business needs by thoroughly planning, and executing activities in an effective, flexible, and responsive manner;
      * Provide leadership, creativity, and innovation in service delivery;
      * Advance and improve standards, processes and use of approved tools;
      * Achieve seamless integration across all Information Technology Service Areas (e.g., Applications, Infrastructure, IT Management and Security) among Contractors and <AGENCY> personnel;
      * Attain results as measured performance standards;
      * Maintain cost effective services that are on par with industry practices;
      * Provide rapid response and support for new initiatives and requests; and
      * Drive toward Zero Defects.

## Partnership Philosophy

In addition to meeting the objectives listed above and the requirements outlined in this Statement of Work (SOW), the Contractor is encouraged to:

* + - * Provide for continuous improvements so as to consistently advance awareness and understanding of Quality to <AGENCY>’s business and technical issues; and
      * Continuously seek to improve on the effectiveness and efficiency of the services delivered; and work collaboratively with other Contractors, Government agencies, and business partners.

## Staffing

<AGENCY> desires leaders and experts capable of proactively identifying, promoting, implementing, and communicating the advancement of solution engineering and maintenance. As such, the Contractor is encouraged to:

* + - * Provide a team of experienced resources that can fulfill a variety of activities ranging from subject matter disciplines and research to expertise and skills in planning and implementation.
      * Provide flexibility in resources assigned. That is, where appropriate, maintain continuity through a mix of senior-, mid-, and junior-level staff experienced in supporting requirements in an environment similar to the size and complexity of the <AGENCY>. However, as technologies change, <AGENCY> expects that the Contractor will adjust resources and provide ad hoc expertise for projects and other short-term assignments.
      * Establish continuous support and continuity through cross-training to ensure there are no impacts due to planned or unplanned staff changes.
      * Be proactive in establishing and maintaining operational guides that document the
      * <AGENCY> organization, responsibilities, and processes that can be used to train resources, transfer knowledge, and create the basis for knowledge management.
      * Replace, modify, and/or add staffing resources as needed in a timely, profession and consistent manner.

# BI System Environment

The Business Intelligence system is a distributed, multi-tier system. Several XXX databases are hosted in a multi-server XXX containers or XXX. Structured data is inserted into the XXX procedures.

Table . Business Intelligence Components

| **Business Intelligence Components** | **Description** |
| --- | --- |
| Hardware Platforms | XXX |
| Operating Systems | XXX |
| Databases | XXX |
| Middleware/Webserver | XXX |
| ETL System | XXX |
| Analytics/Reporting Tools | XXX |
| Storage | XXX |
| Network | XXX |
| Development Tools | XXX |

<AGENCY> has developed a Data Warehouse based mainly on XXX databases residing on XXX equipment running XXX Operating System. XXX supports commercial off-the-shelf (COTS) products (XXX, XXX, XXX, etc.) and is based primarily on servers running XXX Operating System.

<AGENCY> is transitioning from XXX to XXX as the next generation database management system to support both central applications and commercial off-the-shelf products appropriately. XXX runs on XXX. The conversion of legacy systems from XXX to XXX has not begun at this time.

## General Requirements

The Contractor shall perform all the management and administrative tasks to satisfy the requirement of this SOW while adhering to all <AGENCY> and Federal policies.

### Standards and Common Practices

The following standards will be followed, as applicable to the specific tasks for which they are intended.

1. Continuous Improvement Program Assets <Website Reference and Link has been removed > – Contractor will use the XXX template for a given activity when one is available
2. Section 508 Standards
3. IT Security Policies
4. OMB Circulars:
   * + - * A-11, Part 7, Planning, Budgeting, and Acquisition of Capital Assets;
         * A-109, Major Systems Acquisitions;
         * A-123, Management Accountability and Control;
         * A-127, Financial Management Systems; and
         * A-130, Management of Federal Information Resources National Institute of Standards and Technology (NIST) 800-37 Guidelines for the Security Certification and Accreditation of Federal Information Technology Systems.

### Property Management

The Contractor is responsible for maintaining an inventory of the Government equipment in their possession. This information shall be reported quarterly.

### Electronic Communications with <AGENCY>

The Contractor shall be capable of communicating electronically using an <AGENCY> compatible e-Mail system to communicate with the COR, the CO, and Performance Monitors, as applicable.

All deliverables shall be submitted using secure electronic means or by other means as directed by the COR and if requested in hardcopy in formats compatible with standard <AGENCY> productivity products (e.g., MS Office products).

The Contractor shall comply with all applicable Government laws and regulations including, but not limited to, <AGENCY> policies and procedures, the Clinger-Cohen Act; Paper Reduction Act; Paperwork Elimination Act; the Performance and Results Act; and, Section 508 of the Americans with Disabilities Act.

### After Hours Support and Emergency Requirements

Services critical to sustaining server operations may require routine support and ad hoc support outside of the normal business hours. As required by the COR, the Contractor shall staff to fill after hour needs, and when it is necessary, the Contractor shall respond to unscheduled problems outside of business hours. For unplanned, after-hours support, the Contractor shall:

* + - * Acknowledge initial contact via email/telephone within 15 minutes. Off-hours contact will be via mobile devices (i.e., Blackberry, phone).
      * Respond to emergencies or other activities that require the performance of services outside of the standard service hours.
      * Respond on-site within two (2) hours of initial contact, as necessary.
      * Support Software maintenance releases.

### Access to <AGENCY> Facilities

The Government has the right to restrict and control access to its facilities, property, and data, including those that are identified in this SOW. Access privileges will be tailored to individual Contractor personnel responsibilities. The Government will be the final authority in determining access privileges. The Government’s exercise of its right to grant and revoke the access of particular individual(s) to its facilities, or parts thereof, shall not constitute a breach or change to the Contract, regardless of whether said individual(s) are employed by the Contractor, and regardless of whether said individual(s) are precluded from performing work under the resulting Contract.

### Records Maintenance and Reporting

The Contractor shall create and maintain files (e.g., records, reports, and logs) documenting the processing of work and associated information. Federal laws, regulations, and the direction of the COR shall govern access to this information.

The Contractor shall make files available to the COR upon request within a reasonable time (depending upon the circumstance and nature of the request) but no later than five (5) business days of receipt of the request. The Contractor shall maintain all records including files, documents, and working papers provided by the Government and/or generated for the Government in the performance of this SOW. These records shall be maintained in a format approved by the COR. In the event of default, or non-performance, the Government will have immediate access to records in order to ensure mission support is not interrupted. All such records shall be checked into the Government documentation management tool, properly versioned and turned over to the Government at the completion or termination of the Contract.

The Contractor shall respond to <AGENCY> requests for information, including scheduled (programmed) and ad hoc (un-programmed) requests, from the COR. The Contractor shall refer all requests for support to the COR if received from other Government personnel prior to responding. The Contractor shall submit to the COR programmed and un-programmed information.

Upon notification by the COR, the Contractor shall provide management and technical information including, but not limited to, technical evaluation of suggestions and/or alternatives, fact sheets, audits, Congressional inquiries, one-time reports, materials, equipment, facilities, property inventories and other listings, and equipment maintenance records.

All records, files, reports, and data deemed proprietary by the Contractor shall be marked accordingly. The Government will make the final determination of the appropriateness of proprietary claims by the Contractor.

### Government and Contractor Interfaces

To ensure smooth and cooperative operations, the Contractor shall continuously facilitate cross- team communications across the functional areas described in this SOW. Additionally, due to the need to manage this effort as an integrated function, and given the complexity of the networking structure and interdependence of the various systems used by <AGENCY>, the Contractor shall coordinate and work closely with other Contractors and with Government employees as specified by the COR. The Contractor shall provide seamless, well-coordinated service delivery across Government and Contractor boundaries.

# Work Statement

## Transition and Transformation Services

### Transition-In

The Contractor shall be responsible for transitioning current operational responsibilities and open projects to its control. Transition activities include planning, discovery, and programmatic functions (e.g., Contract Management, Human Resource Management, Quality Assurance, etc.) necessary to transfer all logistical and technical support to the new Contractor’s operations.

Transition shall include all activities necessary to establish Back Office Support (e.g., finance and accounting) or to other Contractor resources (e.g., Personnel, Subcontractors, Vendors).

At a minimum, the Contractor shall be responsible for and produce a Transition Plan that addresses steps / phases of implementation; time management; controls for managing cost, schedule, risk; and identifying any requirements that might be placed upon, <AGENCY>, or other parties.

The transition preparation and phase-in period shall be 90 calendar days. During this period, the Contractor shall plan and manage those activities necessary to transition service from the existing service provider. Immediately after the notice to commence work, the Contractor shall perform due diligence through inventory of all <AGENCY> assets, system configuration information, current operations, and documentation. The Contractor shall document and provide findings to the Government in a Transition Plan. The plan shall include what has been accomplished related to the transition and what remains outstanding, including any issues that need to be addressed. The Transition Plan shall transfer service responsibility to the Contractor at the end of the maximum ninety-day (90-day) transition timeframe, upon which the Contractor shall assume responsibility for operational, technical, and financial performance.

Objectives for transition include:

* + - * No break in current service levels,
      * No delay in support for new and ongoing projects, and
      * Existing <AGENCY> projects shall continue as is, unless the Government directs changes.

During the phase-in period, the Contractor shall organize, plan, and recruit personnel for remaining outstanding positions as well as mobilize resources, develop procedures, and accomplish all actions necessary to commence full performance of the services at the end of the transition period.

During the phase-in period, the Contractor shall:

* + - * Establish program and project management Standard Operating Procedures (SOPs). Content may include: Quality Control (QC), work assignments, approval authorities, workflow, functional relationships between the Government and the Contractor, functional relationships between the Contractors’ organizational elements (including Subcontractors), and any other information needed for efficient and uniform performance.
      * Recruit, hire, and on-board necessary personnel
      * Attend post-award meetings as required

**Deliverables** include:

* + - * Draft Transition Plan (as proposed by the Contractor in the response to the SOW)
      * Final Transition Plan (as accepted by the Government, after contract award)
      * Resource Plan
      * Resource report
      * Daily status report
      * Program and project management SOPs
      * Draft service performance measures
      * Final service performance measures

The Contractor shall provide a statement of assumption of Full Operational Capability (FOC) upon completion of the Transition-In period.

### Transition-Out

Toward the end of the Contract term, the Contractor may be required to support a successor Contractor, see FAR 52.237-3. In addition, during contract performance the Government’s needs or requirements could potentially alter the support efforts required by this contract. The Contractor shall cooperate to affect an effective, orderly, and efficient Transition-In / Transition-Out to any such successor Contractor during a Transition-In / Transition-Out period to be specified by the Contracting Officer. The Contractor shall be required to phase out the existing contract turning over total contract control to the new Contractor in a well-organized, systematic, and planned manner. The incumbent Contractor shall meet as necessary with the new Contractor. All contractor personnel shall support the efforts established by the Transition-In / Transition-Out Team. Both Contractors shall develop a joint Transition-In / Transition-Out Plan of critical areas to be satisfied, that will be initialed and dated by both parties.

The Contractors shall provide a statement of transfer of Full Operational Capability (FOC) upon completion of the Transition-Out period.

## Contract and Project Management Services

Program and project management services include contract administration and compliance, audit, back-office related activities (e.g., invoicing), account management, program management, and other recurring routine functional tasks to plan, control and ensure technical objectives are delivered on schedule and within defined budgets. These services include a number of common Information Technology life cycle support and management practices that the Contractor shall provide by coordinating and communicating Solution Engineering, Maintenance, and Operational activities with other Contractors and <AGENCY> personnel performing work across all service areas. <AGENCY> intends to maintain a high-performing organization with integrated project teams and cross-functional services that will leverage such practices.

### Program and Project Management Responsibilities

<AGENCY> requires the use of systematic program and project management methodology during the execution of solution engineering services. The methodologies shall use frameworks based on best practices such as SEI-CMMI and the Project Management Institute (PMI) frameworks for project management. The Contractor shall maintain the information that relates the business and technical components. Business management and reporting shall focus project activities and their impact on budgeted work, planning and control, overall performance, and conformance to contractual requirements. The technical component shall focus on areas such as data gathering, requirements definition; technical design; development; testing, installation, interoperability, operational support, and management of software as Government asset.

The Contractor shall provide the day-to-day management of the project and deliver the means, methods, and resources to meet the Contract end point requirements and the intermediate requirements that the Contracting Officer’s Representative (COR) and/or Performance Monitor(s) determined are value-added and necessary to achieve project success. The following table identifies program management roles and responsibilities associated with the Administrative Support Services.

Table . Program and Project Management Roles and Responsibilities

| **Program and Project Management Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Fulfill Information Resource Management Strategic Plan, Circular A-130, and OMB reporting requirements | No | Yes |
| 1. Provide services that support <AGENCY> business needs, technical requirements end-user requirements in planning and reporting under the <AGENCY> strategic plan for Information Resource Management. | Yes | No |
| 1. Comply with <AGENCY> policies and standards and regulations applicable to <AGENCY> for information, information systems, personnel and resource management, physical and logical security | Yes | No |
| 1. Develop, maintain, and communicate the Contractor’s resourcing strategy | Yes | No |
| 1. Provide appropriate levels of skilled and knowledgeable resources necessary to meet service objectives and requirements of the SOW – including unplanned surges in workload (e.g., emergencies, projects, backlog) | Yes | No |
| 1. Provision quarterly account management reviews between <AGENCY> Executives and Contractor Executive personnel | Yes | No |
| 1. Identify activities and dependencies where the Contractor has reliance on <AGENCY> and / or 3rd party resources, tools, and processes | Yes | No |
| 1. Communicate opportunities and / or risks associated with identified activities and dependencies for which the Contractor has reliance on other parties | Yes | No |
| 1. Segregation of costs and activities by job codes to permit management and reporting of labor hour expenditures and tracking of allocations, or other resources and related costs. | Yes | No |
| 1. Ensure sufficient cost visibility for both the Government and the Contractor to ensure quality across all activities (e.g., Transition, Implementation, Continuing Operations, and any disengagement support). | Yes | No |
| 1. Accumulate data to report on costs, schedule, resources, deliverables, and performance (quality) and risks. | Yes | No |
| 1. Control all costs, schedule, resources, deliverables, and performance for projects and immediately advise the COR, Contract Officer (CO), and designated Performance Monitors, as appropriate, of any problem(s) that arise or may imperil or impede performance | Yes | No |
| 1. Provide impact assessments (e.g., financial impact, schedule, resource, risk levels) for all change requests or regulatory requirements | Yes | No |
| 1. Approve changes to cost, schedule, and resource baselines. | No | Yes |
| 1. Attend meetings and / or conferences as required by <AGENCY> or is necessary to conform to contract and regulatory requirements | Yes | No |
| 1. Provide availability during normal hours of operation to plan, direct, and control the overall management functions. | Yes | No |
| 1. Within 30-minute notice, during normal work hours, meet with the COR, in person or as otherwise agreed upon by the COR, to discuss status or problems. After normal working hours shall be available within 60 minutes to meet the COR or designated alternate after notification to coordinate any necessary actions. | Yes | No |
| 1. Provide daily status, weekly summaries, and detailed project reviews showing, at a minimum: Cost projections, schedule attainment, accomplishments, and deliverables, planned activities, and risks. | Yes | No |
| 1. Provide, maintain, and update project plans, identifying critical path dependencies, major critical milestones, cost and schedule, project deliverables, and tracking (e.g., project earned value) for Projects and for ongoing Service Delivery | Yes | No |
| 1. Provide mutually agreed to reports that enable invoice reconciliation | Yes | No |
| 1. Determine EVM application to individual projects | No | Yes |
| 1. Provide monthly reports performance metrics determined by the COR | Yes | No |
| 1. Provide monthly milestone achievement review and performance reports | Yes | No |
| 1. Provide mutually agreed to reports that capture Service Requests demands and measure of ability to satisfy demand. | Yes | No |
| 1. Define performance metrics and reporting cycles | No | Yes |
| 1. Develop improvement plans for services that do not meet standards | Yes | No |
| 1. Develop Privacy classification, prioritization and workflow, communication, escalation, and reporting processes | No | Yes |
| 1. Compliance with <AGENCY> Privacy and information Access management policies and procedures – recommend changes as appropriate | Yes | No |
| 1. Participate and support Security Reviews, IV&V, and / or Quality Assurance (QA) compliance assessments | Yes | No |
| 1. Support reviews for Authority to Operate and / or Accreditation Reviews per NIST 800-53A | Yes | No |
| 1. Report on participation in technical interchange meetings for exchanges on new technology insertion, functional requests, and change control meetings (e.g., impact on interoperability, risks, and recommendations). | Yes | No |
| 1. Manage BI users’ information for sharing and discussing information, BI content, and results, and/or manage hierarchies and metrics via discussion threads, chat, and annotations, either embedded in the BI platform or through integration with collaboration, social software, and analytical MDM. | No | Yes |
| 1. Support the management of BI users’ information for sharing and discussing information, BI content and results and /or manage hierarchies and metrics via discussion threads, chat, and annotations, either embedded in the BI platform or through integration with collaboration social software and analytical MDM. | Yes | No |

### Performance Management

An objective of this SOW is to attain and utilize performance metric data as a management control tool. No positive or negative incentives are attached to these performance metrics however they shall be reported monthly. The contractor is also encouraged to propose, define, capture, and report relevant performance metrics that would be beneficial to effective management of this work.

Table . Performance Measure Monitoring Roles and Responsibilities

| **Performance Measure Monitoring Roles and Responsibilities** | **Provider** | **<AGENCY>** |
| --- | --- | --- |
| 1. Approve and document performance measures, acceptable quality levels and reporting cycles | No | Yes |
| 1. Document performance measure requirements and agreements | Yes | No |
| 1. Report on performance improvement results | Yes | No |
| 1. Coordinate performance measure monitoring and reporting with designated <AGENCY> representative(s) and third-party vendors, as required | Yes | No |
| 1. Measure, analyze, and provide management reports on performance relative to acceptable quality levels | Yes | No |
| 1. Develop performance improvement plans where appropriate | Yes | No |
| 1. Review and approve performance improvement plans, or where directed by the CO or COR | No | Yes |
| 1. Implement performance improvement plans | Yes | No |
| 1. Review and approve performance measures and performance reports | No | Yes |
| 1. Follow existing mechanisms for continuous improvements and equitable service management (e.g., Balance Scorecard, Value Engineering, Engineering Change Process, Service Request Reviews) – recommend changes as appropriate | Yes | No |

### BI Governance Model

<AGENCY>’s BI Governance model is new and evolving. The Contractor shall provide support in the development and maintenance of BI Governance at <AGENCY>. The following table identifies the roles and responsibilities associated with the BI governance model services.

Table . BI Governance Model Roles and Responsibilities

| **BI Governance Model Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Provide alternatives and recommend governance model approach | Yes | No |
| 1. Approve governance model approach | No | Yes |
| 1. Support governance model | Yes | No |
| 1. Assess and report on model effectiveness | Yes | No |

### Data Management

The Contractor shall provide data management support at <AGENCY>. The following table identifies the roles and responsibilities associated with the data management services.

Table . Data Management Roles and Responsibilities

| **Data Management Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Develop a Master Data Management (MDM) Plan | Yes | No |
| 1. Approve the MDM Plan | No | Yes |
| 1. Metadata management — Provide a robust way to search, capture, store, reuse and publish metadata objects such as dimensions, hierarchies, measures, performance metrics and report layout objects. | Yes | No |
| 1. Approve the metadata management approach | No | Yes |
| 1. Coordinate and provide the Extract, Transform and Load (ETL) of data and information from other Federal agencies. | Yes | No |

### Training

The Contractor shall provide:

* + - * Computer Assisted Training to access by <AGENCY> staff and <AGENCY> support contract staff to review at their pace.
* The Contractor shall provide multimedia training as specified herein. Training shall be provided via the Internet on a trusted web site. The Web Based training shall allow end-users to train from the web site and have the ability to download a version of the training for execution on a standalone mac or windows-based computer. The training shall instruct the students how to operate, configure and execute the BI capabilities that the Contractor is responsible for under this Contract. (e.g., access BI data from Excel, create ad-hoc queries, save query results, imbed data into Power Point and Excel, etc.). The Contractor shall provide the web-based training with updates no less than once per base and option period of the Contract. Training updates may include the addition of new or modified BI tools and other types of training updates, as necessary.
  + - * Classroom training for 8- 20 people at a time.
* The Contractor shall provide classroom training as specified herein. Training shall be provided by a qualified instructor in a conference room / classroom setting at <AGENCY> Headquarters, unless otherwise specified by the COR. The training shall instruct the students how to operate, configure and execute the BI capabilities that the Contractor is responsible for under this Contract (e.g., access BI data from Excel, create ad-hoc queries, save query results, imbed data into Power Point and Excel, etc.). The Contractor shall update this curriculum, as necessary.
  + - * In person Training for <AGENCY> staff (train the Trainer) and individual End-Users.
* The Contractor shall provide informal one-on-one training to Senior <AGENCY> Executive, Staff or Contractors on a case-by-case as directed.

## Operations and Maintenance Services

Solution Operations and Maintenance Services include but are not limited to routine and on-going updates, changes, patches, and fixes. Such changes may result from changes to systems, changes to data, customer requirements change, other identified problems, and needs to address Information Assurance (IA) and Vulnerability issues. The Contractor shall provision for such changes as part of its ongoing operations and support. The Contractor shall conform to existing <AGENCY> standards and software development life cycle.

Additionally, the Contractor acknowledges and agrees that certain applications under this Agreement have regulatory implications and require compliance with a variety of federal regulatory bodies and regulations hereunder. <AGENCY> shall identify relevant, applicable laws and regulations and Contractor shall comply with such laws and regulations in the provision of services, using methodologies as agreed to between the Contractor and Government or required by applicable laws and regulations and reasonably directed by <AGENCY> in order to maintain compliance with any such law or regulations.

<AGENCY> will, to the extent practicable, provide to the Contractor reasonable information regarding applicable laws and regulations and will specify (with reasonable supporting detail) any of the current Applications that are (i) to its knowledge not compliant with the applicable laws and regulations then in force; or (ii) not required to be so compliant. To the extent that any Applications are not compliant with such laws and regulations, the Contractor and Government will determine the actions required to make such Applications compliant in accordance with the Change Control and In-Scope Service Request Procedures, as applicable.

Application maintenance services consist of the services described in the following subsections the Contractor’s shall include these activities as part of its ongoing Service Delivery support to <AGENCY>.

### 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 are Tier 3 technical assistance.

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

Table . Technical and Customer Support Activities Roles and Responsibilities

| **Technical and Customer Support Activities**  **Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Follow existing maintenance and repair policies and procedures, and recommend changes as appropriate | Yes | No |
| 1. Approve maintenance and repair policies and procedures | No | Yes |
| 1. Review and approve “application maintenance plan”, including any and all revisions to the “plan” (e.g., committed, and proposed work schedules) | No | Yes |
| 1. 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 | Yes | No |
| 1. Provide technical and functional support to <AGENCY> application development groups and other groups as directed by <AGENCY> IT | Yes | No |
| 1. Notify IT of changes and upgrades to third party application systems | Yes | No |
| 1. Perform diagnostics on software and services | Yes | No |
| 1. Perform routine system management on applications | Yes | No |
| 1. Recommend DBMS tuning changes (i.e., schedule, resource requirements) | Yes | No |
| 1. Provide corrective maintenance support, as required, in accordance with Section [4.3.1](#_bookmark32) and approved maintenance policies | Yes | No |
| 1. Provide preventive maintenance support, as required, in accordance with Section [4.3.3](#_bookmark34) and approved maintenance policies | Yes | No |
| 1. Provide adaptive maintenance support, as required, in accordance with Section [4.3.4](#_bookmark35) and approved maintenance policies | Yes | No |
| 1. Provide perfective maintenance support, as required, in accordance with section [4.3.5](#_bookmark36) and approved maintenance policies | Yes | No |
| 1. Provide release packaging support, as required, in accordance with section XXX, and approved maintenance policies | Yes | No |
| 1. Approve release packaging of software changes | No | Yes |
| 1. Assist help desk with coordination of customer support activities | Yes | No |
| 1. Establish priority of Service Requests | No | Yes |
| 1. Follow <AGENCY> Technical Change Management procedures associated with maintenance and support | Yes | No |

### Corrective and Emergency Maintenance

Corrective and Emergency Maintenance includes the repair of defects to applications in production use by Contractor and/or <AGENCY> and to enable such applications to provide the required functionality. Full recovery of the application(s) is to be completed unless otherwise approved by <AGENCY> and is to cover files/deliverables, such as:

* + - * User interface changes
      * Changes to system interfaces
      * Application functional changes
      * Recommend database changes related to enhancements
      * Modification to standard query structure
      * Report development.

### Preventive Maintenance

The Contractor shall be responsible for Preventive Maintenance. Preventive Maintenance covers events, which if not addressed proactively, could impact applications in production, such as:

* + - * Changing business volumes
      * Staying on the most current release or as directed by <AGENCY>
      * Application of system patches
      * Proactive performance tuning
      * Pre-production execution simulation
      * Special testing for events, such as:
        + Planning and preparing for upcoming production activities (e.g., heavy usage period for internal and external applications, etc.)
        + Public holidays,
        + End of financial year,
        + End of calendar year, and
        + Daylight savings time.

The Contractor shall include and incorporate activities necessary for preventive maintenance in its routine and ongoing service delivery planning and support and shall work with <AGENCY> to prioritize such identified preventive maintenance activities.

### Adaptive Maintenance

The Contractor shall be responsible for Adaptive Maintenance. Adaptive Maintenance is defined as activities that ensure application performance and system interoperability is not affected by changes to interfacing applications, infrastructure, new applications, COTS software packages, or by process changes – which if not addressed proactively, could impact applications in production, such as:

* + - * Upgrades of operating software,
      * New/changed equipment,
      * Changes to the data center, hosting platforms and supporting technologies, and
      * Interface changes.

### Perfective Maintenance

The Contractor shall be responsible for Perfective Maintenance. Perfective Maintenance is defined as those activities associated with Application Development, Maintenance, and Enhancement that ensure applications operate at peak efficiency with particular focus on areas such as:

* + - * System CPU hours,
      * Use of Virtual Machines,
      * General performance tuning,
      * Storage space,
      * Response time,
      * Load and stress of the system and
      * Database performance tuning.

The Contractor shall coordinate and communicate application designs and changes with functional groups and the infrastructure service delivery teams.

### Release Packaging

Release packaging activities are the activities associated with the packaging of software changes into suitable releases, by application, as approved by <AGENCY>. The Contractor shall be responsible for Software version control, both electronic and manual. The Contractor shall assess the frequency and practicality of releases and recommend efficient and effective packaging. The Contractor shall follow, update, and recommend changes in an ongoing process for the implementation of a 12-month release timetable (with associated variation and tracking mechanisms). The ongoing process and the initial 12-month timetable are to be approved by <AGENCY>.

### Service Support

#### Software Configuration Management

Software configuration management is the identification and maintenance of system components and the relationships and dependencies among them. Such activities include, but are not limited to:

* + - * Automatic capture and storage of application-to-component and component-to- component relationships
      * 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 table identifies the roles and responsibilities associated with Configuration Management services.

Table . Software Configuration Management Roles and Responsibilities

| **Software Configuration Management Activities Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Follow established configuration management policies and procedures. Review policies and procedures to remain consistent with the SEI CMM Software Configuration Management Key Process Area (KPA) – recommend changes as appropriate | Yes | No |
| 1. Review and approve modified configuration management policies and procedures | No | Yes |
| 1. Develop and maintain a configuration management plan including build schedule | Yes | No |
| 1. Review and approve configuration management plan | No | Yes |
| 1. Perform configuration management activities throughout the software development life cycle | Yes | No |
| 1. Review configuration management results | No | Yes |

#### Technical Change Management

Technical 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. Technical Change Management also includes services required to appropriately manage and document changes to the underlying application development environment components. These include but are not limited to the following:

* + - * **Library Management**—the classification, control, and storage of the physical components of an application
      * **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
      * **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.
      * **Asset Management**—the management and reporting for related agreements and licenses used within the <AGENCY> approved architecture.

Any changes to the baseline project plan or committed maintenance or enhancement dates must be managed by the Technical Change Management process and approved by <AGENCY>. This shall include systems and methods for formal and documented Technical Change Management procedures, document management, tracking of assets and approval levels necessary to authorize changes (e.g., a change to the scheduled end date for a particular work product). The Contractor shall utilize <AGENCY> change request (CR) process, which includes 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 Technical Change Management services.

Table . Technical Change Management Roles and Responsibilities

| **Technical Change Management Activities Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Follow existing procedures associated with <AGENCY> authorized change requests – recommend changes as appropriate | Yes | No |
| 1. Review and approve the change request process | No | Yes |
| 1. Authorize changes in project scope and procedures | No | Yes |
| 1. Develop maintenance production release plan and schedules | Yes | No |
| 1. Review maintenance production release plan and schedules | No | Yes |
| 1. Manage in scope Service Requests from initial request to production | Yes | No |
| 1. Ensure software coding approvals are received from the designated <AGENCY> IT personnel and COTR | Yes | No |
| 1. Assist <AGENCY> with documentation and communicate Technical Change Management processes and procedures | Yes | No |
| 1. Provide detailed documentation and plans for scheduling software releases | Yes | No |
| 1. Manage documentation changes to the underlying application development environment and perform library management, version control and handoff procedures to functional groups and customers | Yes | No |
| 1. Provide impact analysis associated with proposed project changes, third party agreements and licenses. Escalate to the COTR all changes that affect license use or terms. | Yes | No |
| 1. Manage and report changes to the baseline, project plan, or committed maintenance or enhancement dates as it relates to in scope services, <AGENCY> domains, and enterprise systems | Yes | No |
| 1. Prepare all <AGENCY> change requests using ClearQuest | Yes | No |
| 1. Approve system changes | No | Yes |
| 1. Update asset management records, monitor usage, and provide asset management support in monitoring licenses for expiration, idled status, or other issues. Notify the COTR as soon as such issues are discovered. | Yes | No |

#### Capacity Management

Capacity Management is responsible for ensuring that the capacity of the Contractor team’s ability to perform matches the evolving demands of <AGENCY> 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 service requirements
      * Conducting risk assessment of capacity recommendations
      * Identifying financial impacts of capacity plans
      * Undertaking tuning activities
      * Development of long- and short-term staffing plans
      * Adherence to <AGENCY> priorities

The following table identifies Capacity Management roles and responsibilities associated with Service Delivery.

Table . Capacity Management Roles and Responsibilities

| **Capacity Management Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Establish comprehensive capacity management planning process | No | Yes |
| 1. Review and approve capacity management planning process | No | Yes |
| 1. Define, develop, and implement tools that allow for the effective capacity monitoring/trending of applications and IT components | Yes | No |
| 1. Identify future business requirements that will alter capacity requirements | No | Yes |
| 1. During the Transition period the Contractor shall prepare and provide to <AGENCY> a ninety (90) day rolling forecast of resource demand and capacity | Yes | No |
| 1. Update capacity plans as required | Yes | No |
| 1. Assess capacity impacts when adding, removing, or modifying applications | Yes | No |
| 1. Continually monitor IT resource usage to enable proactive identification of capacity and performance issues | Yes | No |
| 1. Capture trending information and forecast future <AGENCY> capacity requirements based on <AGENCY> defined thresholds | Yes | No |
| 1. Recommend and forecast changes to capacity to improve service performance | Yes | No |
| 1. Assess impact/risk and cost of capacity changes as it relates to in scope activities | Yes | No |
| 1. Approve capacity related recommendations | No | Yes |
| 1. Maintain capacity levels to optimize use of existing IT resources and minimize <AGENCY> costs to deliver service requirements | Yes | No |
| 1. Ensure adequate capacity exists within the IT environment to meet performance requirements taking into account daily, weekly, and seasonal variations in capacity demands | Yes | No |

#### IT Service Continuity and Service Recovery Services

Contractor must demonstrate that it will consistently meet or exceed <AGENCY> IT continuity and service recovery requirements and shall comply with any federal requirements on Continuity and Disaster Recovery (DR).

The following table identifies IT Service Continuity and Service Recovery Services roles and responsibilities associated with Service Delivery (IT Service Continuity and Service Recovery).

Table . IT Service Continuity and Service Recovery Roles and Responsibilities

| **IT Service Continuity and Service Recovery**  **Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Define <AGENCY> IT service continuity and service recovery strategy, requirements, and scenarios | No | Yes |
| 1. Recommend best practice IT service continuity and service recovery strategies, policies, and procedures | Yes | No |
| 1. As needed, assist <AGENCY> in other IT continuity and emergency management activities | Yes | No |
| 1. Assign System Classification for purposes of continuity directives | No | Yes |
| 1. Develop and maintain a detailed SR plan to achieve SR requirements. Plan shall include plans for data, back-ups, storage management, and contingency operations that provides for recovering <AGENCY>’s systems within established recovery requirement timeframes after a disaster affects <AGENCY>’s use of the Services. | No | Yes |
| 1. Define data (e.g., File System, Database, Flat Files) replication, backup, and retention requirements | No | Yes |
| 1. Establish processes to ensure SR plans are kept up to date and reflect changes in <AGENCY> environment | No | Yes |
| 1. Review & Approve SR plan | No | Yes |
| 1. Establish SR test requirements | No | Yes |
| 1. Perform scheduled SR tests per <AGENCY> policies | Yes | No |
| 1. Coordinate involvement of users for SR testing | No | Yes |
| 1. Participate in SR tests | Yes | No |
| 1. Track and report SR test results to <AGENCY> | Yes | No |
| 1. Review & approve SR testing results | No | Yes |
| 1. Develop action plan to address SR testing results | Yes | No |
| 1. Approve action plan | No | Yes |
| 1. Implement action plan and provide on-going status until completion | Yes | No |
| 1. Initiate the SR plan in the event of an <AGENCY> SR situation per the SR policies and procedures | No | Yes |
| 1. Initiate the SR plan in the event of a Contractor SR situation and notify <AGECY> per DR policies and procedures | Yes | No |
| 1. Coordinate with <AGENCY> during a Contractor SR situation per SR policies and procedures | Yes | No |

#### Incident & Problem Management

Incident and Problem Management includes the activities associated with restoring normal service operation as quickly as possible and minimize the adverse impact on business operations, thus ensuring that the best possible levels of service quality and availability are maintained.

The Contractor shall institute procedures for minimizing the adverse impact of incidents and problems on <AGENCY> that are caused by errors in the applications and shall implement actions that prevent the recurrence of Incidents related to those errors. The Contractor shall establish procedures for identifying root cause of incidents and then initiate actions to improve or correct the situation.

The Contractor support shall be provided as follows:

* + - * Level 1 Support – no support is required
      * Level 2 Support – no support is required
      * Level 3 Support – Contractor shall perform a detailed root cause analysis and assess overall impact with respect to incidents and problems relating to the applications, which cannot be resolved by the Level 1 or Level 2 Support teams. The Level 3 Support Team is also responsible for modifying code, if required, to correct the identified defect and performs necessary acceptance testing before reissuing the code for general use.

The Contractor shall be responsible for Level 3 Support.

The following table identifies Incident and Problem Management roles and responsibilities associated with Service Support (Incident & Problem Management).

Table . Incident & Problem Management

| **Incident and Problem Management Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Level 1 Support | No | Yes |
| 1. Level 2 Support (in-scope applications only) | No | Yes |
| 1. Level 3 Support (in-scope applications only) | Yes | No |
| 1. Help Desk Ticket issuance and management | No | Yes |
| 1. Follow existing Incident and Problem management policies and procedures – recommend changes as appropriate | Yes | No |
| 1. Approve Incident and problem management policies and procedures | No | Yes |
| 1. Establish operations and service management QA and control programs that are consistent with <AGENCY> QA and control policies and processes | Yes | No |
| 1. Approve operations and service management QA and control programs | No | Yes |
| 1. Perform Contractor QA and quality control programs | Yes | No |
| 1. Coordinate support activities with the <AGENCY> Help Desk | Yes | No |
| 1. Establish incident/problem classification by Severity Level | No | Yes |
| 1. Establish incident/problem workflow, escalation, communication, and reporting processes that achieve the performance requirements | Yes | No |
| 1. Review and approve incident/problem classification, prioritization and workflow, communication, escalation, and reporting processes | No | Yes |
| 1. Configure, and operate incident and problem management system that tracks incidents | No | Yes |
| 1. Provide access and input capabilities to incident and problem tracking system to allow for incident/problem monitoring and ad hoc reporting | Yes | No |
| 1. Manage details and resolution of assigned ticket for entire incident/problem life cycle including detection, interaction with other support functions (Levels 1 and 2), interaction with infrastructure operations, diagnosis, status reporting, repair, and recovery | Yes | No |
| 1. Ensure incident resolution activities conform to defined change control procedures | Yes | No |
| 1. Manage handoffs of workflow and incidents including the involvement of third-party providers (e.g., vendors, public carriers, ISP) | Yes | No |
| 1. Coordinate problem resolution with <AGENCY> and third parties (e.g., public carriers, ISP) | Yes | No |
| 1. Perform Contractor Root Cause Analysis of incidents, including engaging <AGENCY> teams as required, document findings and take corrective actions for in scope services. Resolve problem and/or substantiate that all reasonable actions have been taken to prevent future reoccurrence | Yes | No |
| 1. Periodically review the state of open problems and the progress being made in addressing problems | No | Yes |
| 1. Participate in problem review sessions and provide listing and status of problems categorized by problem impact | Yes | No |
| 1. Authorize ticket closure of <AGENCY> initiated tickets | No | Yes |
| 1. Identify possible enhancement opportunities for improved operational performance and potential cost savings | Yes | No |
| 1. Approve projects to implement operational improvements | No | Yes |

#### Root Cause Analysis

Contractor shall develop, implement, and maintain a Root Cause Analysis (RCA) process and perform the activities required to diagnose, analyze, recommend, and take corrective measures to prevent recurring problems and/or trends.

The following table identifies RCA roles and responsibilities associated with Service Support (Root Cause Analysis).

Table . Root Cause Analysis Roles and Responsibilities

| **Root Cause Analysis Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Identify requirements and policies for RCA (e.g., events that trigger an RCA) | No | Yes |
| 1. Follow existing procedures for performing an RCA that meet requirements and adhere to defined policies – recommend changes as appropriate | Yes | No |
| 1. Approve RCA procedures | No | Yes |
| 1. Engage other non-Contractor resources in RCA | Yes | No |
| 1. Conduct proactive trend analysis to identify recurring problems | Yes | No |
| 1. Track and report recurring problems or failures and provide associated consequences of problems if there is a business impact to <AGENCY> | Yes | No |
| 1. Recommend solutions to address recurring problems or failures | Yes | No |
| 1. Approve solutions to address recurring problems or failures | No | Yes |
| 1. Flag and track until closure all incidents that require RCA | Yes | No |
| 1. Identify root cause of incidents and recommend appropriate resolution action | Yes | No |
| 1. Approve solutions to address incidents and prevent recurrence | No | Yes |
| 1. Provide status report detailing the root cause of and procedure for correcting recurring problems | Yes | No |

## Development and Maintenance of Data Warehouse and Business Intelligence Infrastructure

The DW/BI systems are maintained by the XXX Infrastructure support group and are located within <AGENCY>’s secured onsite Data Center. However, the DW/BI Support Services Contractor is expected to assist in the configuration and tuning of the technical infrastructure used for the DW/BI applications and the installation of DW/BI software and related support products. As such, the Contractor will need to regularly interact and work in collaboration with the XXX Infrastructure support group including other Contractors that support <AGENCY>’s infrastructure.

The Government anticipates fully transitioning this activity to the XXX Infrastructure support group during the life of this contract.

The DW/BI System is comprised of Sun Solaris servers running Oracle OBIEE product suite. In addition, the DW/BI platform utilizes <AGENCY>’s SAN and network infrastructure. The DW/BI environment is comprised of both virtual and physical Unix and Windows servers supporting the DW/BI Service Area.

The Contractor shall work with the <AGENCY> IT organization and its’ Infrastructure Support Contractor to determine physical access to the DW/BI Development, Test and Production environments.

The DW/BI Infrastructure support team performs the following tasks that include, but are not limited to:

* + - * Design and engineering, Configuration Management, and Capacity Planning
      * Performance engineering & monitoring
      * Event management of reported service outages and management escalation for the DW/BI Development and Test environment

The following table identifies Infrastructure support roles and responsibilities associated with Infrastructure Support Services.

Table . DW/BI Infrastructure Support Services Roles and Responsibilities

| **DW/BI Infrastructure Support Services Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Financial responsibility for Infrastructure and assets | No | Yes |
| 1. Architectural approval and decisions on asset refresh or upgrades | No | Yes |
| 1. Define server and storage provisioning requirements and policies | No | Yes |
| 1. Define server security policies | No | Yes |
| 1. Support provision of physical and/or virtual servers and storage for use in the DW/BI infrastructure environments | Yes | No |
| 1. Manage event and workload processes across all platforms | Yes | No |
| 1. Participate and support the Disaster Recovery and Backup planning and execution | Yes | No |
| 1. Provide liaison support to all <AGENCY> maintenance contracts and are the point of contact for restoration of services for the DW/BI infrastructure | Yes | No |
| 1. Provide coordination that supports DW/BI applications test-to- production deployment/migration activities | Yes | No |
| 1. Support the implementation and coordinate all changes to the DW/BI infrastructure | Yes | No |
| **Monitoring Operations Roles and Responsibilities** | **Empty Cell** | **Empty Cell** |
| 1. Define monitoring requirements and policies | No | Yes |
| 1. Support development of document ”run books” that detail operation and monitoring procedures needed to meet mandated requirements and adhere to defined internal policies that will migrate with the systems as they enter into the Production environment | Yes | No |
| 1. Develop and document ”run books” that detail operation and monitoring procedures needed to meet mandated requirements and adhere to defined internal policies that will migrate with the systems as they enter into the Production environment | No | Yes |
| 1. Review and approve monitoring and run book procedures | No | Yes |
| 1. Support build process and final server configurations documentation | Yes | No |
| 1. Identify and report problems that include (but are not limited to:) system, file, disk, memory, and application problems | Yes | No |
| 1. Provide troubleshooting, repair or escalation of problems that occur in the DW/BI infrastructure | Yes | No |
| **Environment Management Roles and Responsibilities** | **Empty Cell** | **Empty Cell** |
| 1. Define Configuration Management process | No | Yes |
| 1. Adhere to the <AGENCY> Configuration Management process | Yes | No |
| 1. Support the patching process, participate in the system acceptance process, participate in the migrate of DW/BI systems to the production environment, etc. | Yes | No |
| 1. Support the execution of technical changes to all DW/BI environments as needed | Yes | No |

## Projects

The Contractor shall perform studies, analyses and provide other technical services in support of XXX objectives. Such studies/analyses may include, but are not limited to logistics/supportability, engineering, financial, operational, and business processes. The Contractor shall perform non-recurring engineering studies and analyses to evaluate the viability of potential solutions, alternatives to various technical issues and challenges, and emerging products or technology. The Contractor shall perform the evaluation of unproven technology applications and identification of potential risks. The development of pre-production or COTS- based prototypes may be required.

The Contractor shall furnish schedules and budgets for various project work as defined by <AGENCY>.

Potential Projects that could occur during the life of this contract may include the following:

* + - * The Contractor shall perform assessments of various pilot projects. These assessments could focus upon the economic, technological or a combination of both factors in determining their viability. The Government sponsor would provide assessment criteria for the success of a particular pilot project at the time of release of this project.
      * The Contractor shall perform an assessment of the current BI Infrastructure and determine if it will support the <AGENCY>’s BI goals, as outline by the Government. The Government would release specific requirements when this project is released.
      * Specific <AGENCY> Program Areas (e.g., HR, Director’s Office, Polar, etc.) unique requirements

Data warehouse/business intelligence projects consist of processes and work activities outlined in the sections that follow. Upon satisfactory approval, the artifacts are to be placed into a technical baseline repository under Configuration Management control and monitored to all applicable Information Assurance (IA) standards.

The activities outlined below shall be rigorously planned to ensure conformance to existing standards incorporated by this contract, and to established customer requirements; these activities shall be considered “complete and successful” upon acceptance of the required artifacts for the phase at the associated/relevant milestone review (i.e., Project Initiation Review, Requirements Review, Design Review, etc.).

<AGENCY> is currently transitioning from a traditional waterfall development to an Agile/Iterative development methodology. The Contractor shall endeavor to promote continuous improvements by leveraging the latest in software assurance, lean Design, Agile concepts, and industry best practices in Develop and Test. The Contractor shall maintain quality through updated software skills for personnel, and through continual training coupled with conducting regular code reviews, performing static code analysis as well as with comprehensive unit, integration, performance, and regression testing to deliver on-time releases with minimal defects. The software life cycle and processes can be further tailored over time to accommodate lessons learned, new best practices, enhance quality and to achieve delivery of more capability faster as efficiencies are realized.

### Strategy, Architecture, Planning and Analysis

Planning and analysis services are the activities associated with the research of new application development, trends, and changes in market conditions; and include investigation of opportunities to improve the efficiency, effectiveness and quality of <AGENCY>’s applications. These services also include setting overall Application Strategy, high-level application architecture and planning associated with the application portfolio. The Contractor may support development of the Enterprise, Data, Application, and Infrastructure Architectures Technical Reference Models. The Contractor may be involved in enterprise architecture assessments as well as infrastructure assessments. The Contractor may support the development of strategies and governance processes for architectures. Architecture services are comprised of maintaining the application, data, and integration architectures. The results of all reports shall be shared with <AGENCY>.

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

Table . Planning and Analysis Roles and Responsibilities

| **Planning and Analysis Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Assess processes and methods | Yes | No |
| 1. Audit and validate processes and methods | No | Yes |
| 1. Conduct semiannual technical reviews. One review shall be completed no later than 30 days prior to the anniversary date of the contract and the second at the midpoint of each contract year. | Yes | No |
| 1. Maintain Technical Baselines | Yes | No |
| 1. Monitor technical trends through independent research; document and report on products and services with potential use for <AGENCY> | Yes | No |
| 1. Perform business liaison function to operational units | Yes | Yes |
| 1. Perform business planning for capacity and performance in advance of annual <AGENCY> financial planning | Yes | No |
| 1. Provide quarterly updates on capacity and performance against annual plans | Yes | No |
| 1. Approve Plans and changes to capacity | No | Yes |
| 1. Recommend overall systems development life cycle process improvements, including those for which <AGENCY> retains responsibility | Yes | No |
| 1. Perform an annual portfolio analysis to identify and recommend applications rationalization, consolidation, sun-setting, etc. [conduct within 30 days after each contract renewal] | Yes | No |
| 1. Facilitate annual technical interchanges and business planning sessions to establish standards, architecture, and project initiatives | Yes | No |
| 1. Participate in annual technical interchanges and business planning sessions to establish standards, architecture, and project initiatives | Yes | No |
| 1. Perform application operational assessments for capacity and performance purposes and coordinate with Infrastructure Vendors | Yes | No |
| 1. Participate in application security planning meetings and produce application security plans | Yes | No |
| 1. Recommend potential improvements to application security architecture | Yes | No |
| 1. Perform application security planning for development tasks | Yes | No |
| 1. Identify possible product and software tool enhancement opportunities for improved performance, stability, and potential cost savings | Yes | No |
| 1. No later than the end of Transition, establish a system of metrics for consistent and repeatable software release planning of effort and /or project estimation using a commercial project estimation tool | Yes | No |
| 1. Approve projects to implement product enhancement opportunity | No | Yes |
| 1. Follow established Software Development Life cycle (SDLC) standards, procedures and use standard tool set in the execution of the SDLC | Yes | No |
| 1. Decision on “end state” application architecture | No | Yes |
| 1. Develop and maintain application roadmap | No | Yes |
| 1. Develop and maintain release schedules | Yes | No |
| 1. Participate in application architecture planning and recommend application architecture design | Yes | No |
| 1. Document functions, workflows, architecture, and dependencies | Yes | No |
| 1. Identify application integration architecture and stakeholders | No | Yes |
| 1. Identify data conversion architecture | Yes | No |
| 1. Recommend software technologies, packages, and tools within the framework of this section as required | Yes | No |
| 1. Evaluate, recommend, and select software technologies, packages, and tools within the framework of this section as required | Yes | Yes |
| 1. Conduct market research and feasibility studies for the implementation of new technologies | Yes | No |
| 1. Project definition and critical decisions affecting Applications | No | Yes |
| 1. Provide architecture approvals | No | Yes |
| 1. Collaborate with infrastructure architecture team | Yes | No |
| 1. Recommend changes to Architecture (if required by <AGENCY>, supported by impact assessment, business case and / or tradeoff analysis) | Yes | No |
| 1. Manage a <AGENCY> IT standards review board | No | Yes |
| 1. Approve changes to business and technical architecture, or IT standards | No | Yes |
| **Data Architecture Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| 1. Define definitions for <AGENCY> data and stores (logical, schemas, models) for transactional and reporting requirements | No | Yes |
| 1. Develop and maintain physical database(s) | Yes | No |
| 1. Analyze application data models against <AGENCY> requirements and report results to <AGENCY> | Yes | No |
| 1. Review results of data model evaluations and provide feedback | No | Yes |
| 1. Conduct data quality assessments (no less than quarterly) – share results with <AGENCY> | Yes | No |
| 1. Audit data and quality assessments | Yes | No |
| **Application Integration Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| 1. Develop and maintain functional integration architecture (FIA) | Yes | No |
| 1. Develop and maintain enterprise application integration (EAI) architecture | Yes | No |
| 1. Provide FIA and EAI recommendations and professional support services as relates to in scope services | Yes | No |
| **Application Software License Management Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| 1. Manage <AGENCY> software license inventory and report (no less than quarterly) | Yes | No |
| 1. Manage Contractor software license inventory and report to <AGENCY> (no less than quarterly) | Yes | No |
| 1. Manage software budget for licenses and recurring maintenance agreements | Yes | No |
| 1. Financial Responsibility for <AGENCY> Software Licenses | No | Yes |
| 1. Financial Responsibility for Contractor supplied Software Licenses | Yes | No |
| 1. Negotiate <AGENCY> software licenses and maintenance contracts | No | Yes |
| 1. Manage third party OEM/vendor contracts and relationships | No | Yes |
| 1. Provide primary interface to third parties (e.g., software vendors, subcontractors) as required to coordinate support activities (e.g., software vendor support) | Yes | No |
| 1. Approve license and maintenance contracts or changes thereto | No | Yes |
| 1. Manage all IT contract services that are not the responsibility of Contractor within the framework of this section | No | Yes |

### Requirements and Development

The tasks identified in this section are development methodology agnostic.

#### Requirements Definition

Requirements definition services are the activities associated with the definition and assessment of user requirements that are used to determine needed functionality and detailed application design.

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

Table . Requirements Definition Roles and Responsibilities

| **Requirements Definition Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Produce project plan(s) for new requirements | Yes | No |
| 1. Act as primary point of contact with the business sponsors to define, gather, refine, and prioritize business requirements. | No | Yes |
| 1. Define schema and identify information needed | Yes | No |
| 1. Document business requirements | Yes | No |
| 1. Approve business requirements documents | No | Yes |
| 1. Develop and document functional and technical requirements consistent with appropriate <AGENCY> application development life cycle | Yes | No |
| 1. Conduct <AGENCY> interviews, group workshops and surveys to determine technical, functional and end user requirements | Yes | No |
| 1. Develop functional and technical requirements documents, logical, physical data models, and identify appropriate methods for testing – including use cases | Yes | No |
| 1. Conduct value assessments of functional requirements and generate an impact analysis, including affected systems, alternative design scenarios, etc. | Yes | No |
| 1. Approve all functional and technical requirements | No | Yes |
| 1. Identify need for software upgrade conversion requirements for Commercial Off-The-Shelf (COTS) hardware and software and provide initial risk assessment and constraints on interoperability and implementation | Yes | No |
| 1. Approve software upgrade changes or conversion requirements for COTS hardware and software | No | Yes |
| 1. Define local adaptation deployment criteria and delivery requirements, performance, and security (i.e., laws/regulations). | No | Yes |
| 1. Follow established guidelines, standards, procedures and use standard templates in the delivery of work products | Yes | No |

#### Design Specifications

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

* + - * Incorporate <AGENCY>’s architectural guidelines into the design, including application extensibility, maintainability, scalability, robustness and reliability
      * Incorporate <AGENCY> oversight and approvals through coordination with the appropriate architectural groups, functional stakeholders, and / or technical liaisons.

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

Table . Design Activities Roles and Responsibilities

| **Design Activities Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| **Initial Design Activities Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| 1. Creation of the high-level design document from the business and functional requirements | Yes | No |
| 1. Develop and maintain a design change log to track design changes until final design approval | Yes | No |
| 1. Review and approve design documents | No | Yes |
| 1. Evaluate Application Design and / or COTS package solutions | Yes | No |
| 1. Conduct application evaluations and identify support requirements (e.g., Training, Help Desk, process) | Yes | No |
| 1. Develop prototype and / or application configuration settings to demonstrate compliance to requirements | Yes | No |
| 1. Approve prototype and /or application configuration settings | No | Yes |
| 1. Provide proposed requirements and measurement criteria for extending prototyped application configuration settings to the full complement of configuration settings required to satisfy the complete business process | Yes | No |
| 1. Documented details of application configuration instructions | Yes | No |
| 1. Provide logical data model | Yes | No |
| 1. Validate and approve logical data model | No | Yes |
| 1. Review alignment to business requirements document | No | Yes |
| 1. Review and accept the functional and technical requirements document | No | Yes |
| 1. Approve planned technology to support application | No | Yes |
| 1. Develop traceability matrices for functional and technical requirements | Yes | No |
| 1. Review and approve traceability matrices for functional and technical requirements | No | Yes |
| 1. Develop Plan of Action and Milestones, and provide cost and schedule estimates for in scope activities | Yes | No |
| 1. Develop final project/program cost and schedule estimate | Yes | No |
| 1. Develop “program expenditure request” and acquire approval | No | Yes |
| **Detailed Design Activities Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| 1. Follow existing design standards and documentation – recommend changes as appropriate | Yes | No |
| 1. Review and approve design standards and documentation | No | Yes |
| 1. Provide availability of <AGENCY> business and technical resources | No | Yes |
| 1. Conduct site surveys for design efforts as required by requirements document | Yes | No |
| 1. Create the detailed design document from the Business and Functional Requirements and high-level design | Yes | No |
| 1. Create design with security features in compliance with <AGENCY> Security policies, including external and <AGENCY> role-based security models | Yes | No |
| 1. Provide planned technology design that specifies all components, program modules, data stores, interfaces, interface components and associated operations procedures for the application | Yes | No |
| 1. Document and present implementation options evaluated as required by the requirements document to support the <AGENCY> custom code process | Yes | No |
| 1. Review and Approve detailed design documentation | No | Yes |
| 1. Document technical requirements, logical and physical data models | Yes | No |
| 1. Review and approve technical requirements and physical data models for consistency with documented requirements | No | Yes |
| 1. Develop test cases as defined in testing plan(s) | Yes | No |
| 1. Approve test cases and participants | No | Yes |
| 1. Define implementation and deployment procedures, project schedules and staffing requirements to meet deployment and delivery requirements | Yes | No |
| 1. Approve implementation, deployment procedures, schedules, and deployment staffing levels | No | Yes |
| 1. Provide revised application development and implementation cost and schedule estimates | Yes | No |
| 1. Develop and provide revised cost and schedule estimates for in scope activities using established standards and provided templates | Yes | No |
| 1. Final project cost estimate, project plan and schedule | No | Yes |

#### 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. All documents are to be developed for clarity and conciseness and allow the lay user to quickly comprehend the activities described.

Documentation related to application Services includes but is not limited to:

* + - * System specifications and SDLC related documentation – per <AGENCY> guidelines
      * Customer documentation
      * Site and system security plans
      * Regular updates to documentation and release notes
      * Online help files.
      * Work Break Down Structures
      * Configuration and architecture artifacts and records
      * General management and technical information including, but not limited to, technical evaluation of suggestions, fact sheets, audits, Congressional inquiries, one-time reports, materials, equipment, facilities, property inventories, briefing packages, readiness reviews, test summary reports, and other listings.

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

Table . Documentation Roles and Responsibilities

| **Documentation Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Use existing specifications and documentation format and content – recommend changes as appropriate per SEI requirements or other standards as identified (e.g., ISO 9000, ITIL, ISO 27000, NIST) | Yes | No |
| 1. Approve documentation format and content | No | Yes |
| 1. Provide system specifications and documentation | Yes | No |
| 1. Develop operational documentation, processing flows, and diagrams | Yes | No |
| 1. Provide artifacts and source documents for use in Enterprise Architecture | Yes | No |
| 1. Provide system installation, support, configuration, and tuning manuals | Yes | No |
| 1. Provide application hardware and system software requirements documentation | Yes | No |
| 1. Provide logical and physical data model(s) | Yes | No |
| 1. Provide End-User documentation | Yes | No |
| 1. Provide/maintain system and application security procedures | Yes | No |
| 1. Provide/maintain standard operating procedures | Yes | No |
| 1. Prepare updates and release notes | Yes | No |
| 1. Distribute updates and release notes to functional groups and customers | No | Yes |
| 1. Maintain document repository for all software development documentation | Yes | No |
| 1. Document version control for all documentation for which Contractor is responsible | Yes | No |
| 1. Update documents for application service recovery and compliance with continuity policies and directives | Yes | No |
| 1. Approve documented application service recovery process | No | Yes |
| 1. Approve all documentation delivered | No | Yes |
| 1. Scheduled (programmed) and ad hoc (un-programmed) requests for information from the COTR. | Yes | No |

#### 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 . Programming and Development Roles and Responsibilities

| **Programming and Development Activities Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Review <AGENCY> existing technical standards (e.g., naming, security classification, etc.) | Yes | No |
| 1. Review and follow programming, development, and technical documentation policies, procedures, and standards in conformance to Software Engineering Institute (SEI) requirements where applicable – recommend changes as appropriate | Yes | No |
| 1. Review and follow programming, development, and technical documentation policies, procedures, and standards– recommend changes as appropriate | No | Yes |
| 1. Review programming and development plans and procedures where there is an impact on other <AGENCY> entities/facilities | Yes | No |
| 1. Establish overall programming and development project/program schedule | Yes | No |
| 1. Provide programming and development schedule for in scope activities for <AGENCY> acceptance | Yes | No |
| 1. Approve overall programming and development schedule | No | Yes |
| 1. 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 | Yes | No |
| 1. Perform application data base administration functions | Yes | No |
| 1. Recommend modifications and performance-enhancement adjustments to <AGENCY> system software and utilities based on <AGENCY> performance standards | Yes | No |
| 1. Manage all programming and development efforts using industry-standard project management tools and methodologies | Yes | No |
| 1. Conduct predetermined development status reviews and provide written report on results to <AGENCY> | Yes | No |
| 1. Review results of Contractor development reviews at <AGENCY>’s discretion | No | Yes |

#### Integration and Testing

Integration and testing services are the activities associated with the confirmation that 1) the individual program components work together properly, 2) as a whole the applications perform their specified functions, 3) meet all performance requirements specified in tests plans, 4) are interoperable with platforms and products incorporated into the design, and 5) complete with end-user acceptance. This includes application interfaces to other applications and / or other platforms already in production at or being developed by <AGENCY>, or connectivity with outside parties as stated in the requirements documents.

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

Table . Integration and Testing Roles and Responsibilities

| **Integration and Testing Activities Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Approve all integration, user acceptance and application performance and security testing plans for new and upgraded equipment, software, or services | No | Yes |
| 1. Create test cases, test data, and perform all appropriate testing (unit testing, end-to-end testing, stress testing, regression testing) | Yes | No |
| 1. 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 | Yes | No |
| 1. Outline (detailed) an application test plan (e.g., functional, volume, end-to- end, integration, stress, regression, system, and user acceptance test if applicable) and performance | Yes | No |
| 1. Develop application test plan (e.g., functional, volume, end-to-end, integration, stress, regression, system, and user acceptance test if applicable) and performance | Yes | No |
| 1. Approve application test plan (e.g., functional, volume, end-to-end, integration, stress, regression, system, user acceptance test (if applicable), performance and security | No | Yes |
| 1. Review and approve testing | No | Yes |
| 1. Coordinate User Acceptance Testing (UAT) (e.g., document extent of user involvement, establish and define acceptance criteria, set test objectives and parameters, define test scenarios) | Yes | No |
| 1. Facilitate and support UAT, to include 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 <AGENCY>. | Yes | No |
| 1. Conduct user acceptance testing | No | Yes |
| 1. Perform unit testing, integration, regression, stress, performance, and security testing | Yes | No |
| 1. Document and update Quality Assurance Plan (QAP) and quality controls with lessons learned | Yes | No |
| 1. Validate all new and upgraded software or services for compliance with <AGENCY> application Security policies and instructions | Yes | No |
| 1. Manage the <AGENCY> functional, integration, and regression test environments and associated test data including creation and maintenance during the testing period | Yes | No |
| 1. Perform IV&V of software tests | No | Yes |
| 1. Review testing results for compliance with policies, procedures, plans, and test criteria and metrics (e.g., defect rates, progress against schedule, etc.) | No | Yes |
| 1. Use existing defect tracking system for purposes of allowing <AGENCY> to initiate, track, and report <AGENCY> found defects (i.e., user acceptance testing). | Yes | No |
| 1. Notify Contractor in the event <AGENCY> notices a discrepancy between <AGENCY>’s requirements and the requirements document or Contractor deliverables | No | Yes |
| 1. Correct defects found as a result of testing efforts and retest | Yes | No |
| 1. Conduct selective random independent testing, where the random selection includes some complex modules (i.e., independent verification and validation testing) | No | Yes |
| 1. Documentation (e.g., Implementation and preparation guidance and coordination of implementation risks with service delivery groups) | Yes | No |
| 1. Stage systems before implementation (determined by project) | Yes | No |
| 1. Support and ensure preparation of <AGENCY> production environments for implementation | Yes | No |

### 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, rollout, and Testing services.

Table . Implementation and Migration Roles and Responsibilities

| **Implementation and Migration Activities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Conduct data gathering and develop implementation and rollout plans | Yes | No |
| 1. Approve plans for implementation and rollout | No | Yes |
| 1. Communicate implementation and rollout schedule and activities across <AGENCY> | No | Yes |
| 1. Perform data migration from existing systems to new systems | Yes | No |
| 1. Distribution of user policies and procedures documentation | No | Yes |
| 1. Conduct pre-installation site surveys | Yes | No |
| 1. Implement local adaptations to software architecture and services | Yes | No |
| 1. Assist Infrastructure groups in modifications to hardware and services | Yes | No |
| 1. Install new or enhanced functions or features—hardware, software, peripherals, and configurations where applicable | Yes | No |
| 1. Install new or enhanced hardware items, components, peripherals, or configuration and system management tools to operate with the support application environment | Yes | No |
| 1. Conduct pre-installation site surveys, including validation of site-specific functionality as defined in the Requirements Document(s) | Yes | No |
| 1. Assist <AGENCY> in support, implementation, and deployment of <AGENCY>’s application and platform environment in all <AGENCY> functional groups (e.g., Helpdesk Tiers 1,2, and 3) as defined in the requirements document(s) or a Service Request | Yes | No |
| 1. Coordinate deployment and support activities with <AGENCY>’s parties as directed by the <AGENCY> IT manager | Yes | No |
| 1. Perform data migration from existing systems to new systems using methods defined and approved in the project plan | Yes | No |
| 1. Update Document Library with final versions | Yes | No |
| 1. Provide support to customers and/or other support contractors affected | Yes | No |
| 1. Provide post-implementation support (e.g., training, documentation, and materials to other support groups – such as the <AGENCY> help desk). | Yes | No |
| 1. Conduct post implementation customer acceptance and satisfaction | No | Yes |
| 1. Distribute system and customer documentation | No | Yes |
| 1. Manage and adjust “rollout” plans and activities | Yes | No |
| 1. Approve production implementation changes and decisions during rollout | No | Yes |
| 1. Support and Assist in System changes and/or Deployment | Yes | No |

### Code Migration

Code Migration is the activity associated with promulgating new code, modified code, configuration changes, and scripts in support of new and existing applications through the phases of development, test, and production.

The following table identifies the roles and responsibilities associated with code migration activities.

Table . Code Migration Roles and Responsibilities

| **Code Migration Roles and Responsibilities** | **Contractor** | **<AGENCY>** |
| --- | --- | --- |
| 1. Recommend operations and administration procedures changes related to code migration | Yes | No |
| 1. Approve changes to operations and administration procedures related to code migration | No | Yes |
| 1. Define test-to-production turnover requirements and instructions for each project or release | Yes | No |
| 1. Approve test-to-production turnover requirements and instructions via a Technical Change Management group | No | Yes |
| 1. Report on results from test-to-production activities if applicable | Yes | No |
| 1. Review reports on test-to-production results | No | Yes |
| 1. Migrate code from development to test when required and identified in the project planning and requirements steps | Yes | No |
| 1. Track migration status and notification | Yes | No |
| 1. Escalate and resolve issues with services delivery team(s) and development team | Yes | No |
| 1. Support code integration from the Accept Phase to the Production Phase | Yes | No |
| 1. Participate in environment setup & decommissioning for new and changed environments | Yes | No |
| 1. Migrate defect correction code during warranty period | Yes | No |
| 1. Writing and Submitting Data Migration Requests (MR) / Action Requests (AIR) for the Infrastructure Team | Yes | No |

## Surge Labor

The Contractor will provide additional services for additional capacity as required by the Government. The Government estimates that this “surge” demand will not be greater than 20 percent of Operations and Maintenance and/or Contract and Program Management sections detailed above.

## Warranty Services

Warranty Services are the activities associated with correcting defects attributable to Contractor errors or negligence that are discovered within the Warranty Period of the deliverables, project work, or routine operational activities. The Warranty Period shall be for a minimum of 90-days after delivery and defined to begin at the time that project work is completed, deliverables are formally accepted by the authorized Government representative, or completion of routine work activities.

Warranty Services include the applicable life cycle support activities, as well as any activities necessary to repair errors/defects to enable systems to perform in accordance with OEM documentation, project specifications, or documented operational functionality.

The Contractor shall rework errors and defects at no charge to <AGENCY> provided that:

* + - * The problem encountered occurs within the Warranty Period and
      * The problem results in or reveals a Level 1 Incident or Nonconformity, or
      * The Contractor cannot demonstrate root cause attributable to other inputs

A Level 1 Incident is defined as, two (2) or more Customers impacted or potentially impacted by the same issue and/or Critical business impacted. Issues require immediate escalation and management notification. No immediate work around available.

Full correction of the application(s) defect shall be completed by Contractor unless otherwise approved by <AGENCY>, and corrections shall be captured as operational improvement lessons. Where necessary, the Contractor shall timely document and instruct its personnel in corrective actions.

Services include updating all appropriate documentation. Additionally, the Contractor shall provide monthly reports showing the amount of warranty work (number of defects and hours to correct, and impact to extended work week/time).

## Other Direct Costs / Travel

The Government will reimburse the Contractor on the basis of actual cost plus the Contractor’s approved Materials Handling fee for items approved by the COR.

## Hardware / Tools

This CLIN is needed to ensure that XXX and its support contractor retain the flexibility to rapidly procure the Tools and Equipment necessary to respond to emergencies and unmitigated risks that may disrupt mission critical <AGENCY> operations. This is the only circumstance this CLIN will be used. The Government will reimburse the Contractor on the basis of actual cost plus the Contractor’s approved Materials Handling fee for items approved by the COR.

# Referenced SOW Appendices

The following table identifies the Appendices of this document.

Table Referenced SOW Appendices

| **SOW Appendix** | **Description** |
| --- | --- |
| Appendix 1 | <AGENCY> BI/DW Architecture (includes physical and virtual servers) |
| Appendix 2 | <AGENCY> DW Enterprise Information Model |