

TRANSFORMATION TWENTY-ONE TOTAL TECHNOLOGY NEXT GENERATION (T4NG)

PERFORMANCE WORK STATEMENT (PWS) DEPARTMENT OF VETERANS AFFAIRS

**Office of Information & Technology**

**Information Technology (IT) Operations and Services (ITOPS) Infrastructure Franchise Fund Support Services**

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# BACKGROUND

The Department of Veterans Affairs (VA), Office of Information & Technology (OIT), Information Technology (IT) Operations and Services (ITOPS), Infrastructure Operations (IO) strives to provide high quality, effective, and efficient Information Technology (IT) services to those responsible for providing care to the Veterans at the point-of-care as well as throughout all the points of the Veterans’ health care in an effective, timely and compassionate manner. VA depends on Information Management/Information Technology (IM/IT) systems to meet mission goals.

The consolidation of ITOPS IO’s data centers is a primary area of focus within ITOPS IOs’ continuous improvement plan, one that will help VA meet its federal mandate to reduce the number of data centers across the country. These efforts will also allow for improved redundancy and increased availability.

ITOPS IO currently supports Information Technology Resource Management (ITRM) Facilities, Service Management and Planning (SMP) and Enterprise Project Management Office (EPMO), Enterprise Command Operations (ECO), End User Operations (EUO) and Electronic Health Record Modernization (EHRM).

ITOPS IO is a customer centric organization focused on efficiently delivering secure and high availability infrastructure solutions in support of VA’s mission. A key objective of this task order (TO) is to meet VA’s Strategic Goals through services attained on this TO.

# APPLICABLE DOCUMENTS

The Contractor shall comply with the following documents, in addition to the documents in Paragraph 2.0 in the T4NG Basic Performance Work Statement (PWS), in the performance of this effort***:***

1. AITC Handbook 0320.01/3, Comprehensive Emergency Management Program.
2. AAC Directive 6205, AAC IT Incident Management.
3. AITC Directive 6500/1, Information Security Program.
4. AITC Handbook 6500.03/2, Contingency Planning (CP).

# SCOPE OF WORK

The Contractor shall provide the services necessary to support the professional services and solutions offered to ITOPS IO and its customers to include data center operations, systems security, systems architecture services, hardware/software technical knowledge, technical infrastructure services, enterprise applications management services, data center IT facilities, connectivity support, service desk/configuration management database support, and command center support. ITOPS IO is evolving to a DevSecOps and Product Line Management model, focused on efficiently delivering secure and high availability infrastructure solutions in support of VA’s mission. Under PWS Task 5.9, the Contractor shall play a critical role in VA’s Infrastructure Operations Modernization strategy, which is tied to VA’s DevSecOps strategy. The Contractor shall partner with VA leadership to create baseline metrics, a roadmap structure to bring a technical cross-team support, digital modernization strategies, and the reporting and analytics to improve modern application architectures within ITOPS IO. The Contractor shall focus, at a minimum, on the following areas: Site Reliability Engineering (SRE), Infrastructure as Code (IaC) Implementation, and Immutable Infrastructure.

In support of reorganization efforts, IO collaborates with ITRM, SMP, ECO, EPMO, and EHRM. As a result, ITOPS IO support services will be evolving throughout the TO where performance and support may be adjusted to support consolidating, transforming, and modernizing IT infrastructure across the enterprise. VA IT infrastructure modernization efforts include managing data, migration efforts to the cloud, improving cybersecurity, digitizing business processes, and decommissioning legacy systems.

## APPLICABILITY

This TO effort PWS is within the scope of T4NG Basic PWS paragraph(s) 4.1 Program Management, Strategy, Enterprise Architecture and Planning Support, 4.2 Systems/Software Engineering, 4.6 Enterprise Network, 4.7 Enterprise Management Framework, 4.8 Operations and Maintenance, 4.9 Cyber Security, 4.11 Information Technology Facilities

## ORDER TYPE

The effort shall be proposed on a hybrid Firm-Fixed Price (FFP) and Time-and-Materials (T&M) basis. All travel shall be on a Cost Reimbursable basis. Tasks set forth under PWS Sections 5.6 through 5.7 shall be performed on a T&M basis. All tasks 5.1 through 5.9 shall be performed in the base and option periods.

Overtime premium will not be approved under this order. It will not be approved for individual Contractor personnel exceeding his/her tour of duty. Additional hours may be performed with COR approval for T&M CLINs only.

# PERFORMANCE DETAILS

## PERFORMANCE PERIOD

The PoP shall be 12 months from date of award, with four 12-month option periods and one Optional Task. The overall Period of Performance shall not exceed 60 months.

## PLACE OF PERFORMANCE

ITOPS IO provides support services to the following data centers:

**Major Data Center Locations:**

1. Austin Information Technology Center (AITC) including tenants National Cemetery Administration (NCA) and South Park
2. Hines Information Technology Center (HITC)
3. Philadelphia Information Technology Center (PITC)
4. Quantico Information Technology Center (QITC)
5. Capital Region Readiness Center (CRRC) (Martinsburg VA Medical

Center campus, Martinsburg, WV)

**National Data Center Programs-Regional Data Center Locations:**

1. Sacramento, CA
2. Englewood (Denver), CO
3. Brooklyn, NY
4. Orlando, FL
5. Cleveland, OH
6. Temple, TX
7. North Little Rock, AR

**Third Party Data Centers:**

1. Other Data Centers (Contracted or acquired) and ITOPS IO 3rd party host providers

**Remote Locations**: (Remote support for systems owned that may reside outside of ITOPS IO Data Centers, i.e. VA Medical Centers, Regional Offices, and other VA mission support centers.) Physical location of the data centers may be within the listed city or a suburb and more than one data center may be located in each city.

1. Anchorage, AK
2. Birmingham, AL
3. Montgomery, AL
4. Tuscaloosa, AL
5. Tuskegee, AL
6. Fayetteville, AR
7. Little Rock, AR
8. North Little Rock, AR
9. Phoenix, AZ
10. Prescott, AZ
11. Tucson, AZ
12. Fresno, CA
13. Livermore, CA
14. Loma Linda, CA
15. Long Beach, CA
16. Los Angeles, CA
17. Martinez, CA
18. Mather, CA
19. Menlo Park, CA
20. North Hills, CA
21. Oceanside, CA
22. Palo Alto, CA
23. Redlands, CA
24. Sacramento, CA
25. San Diego, CA
26. San Francisco, CA
27. San Jose, CA
28. Aurora, CO
29. Denver, CO
30. Englewood, CO
31. Grand Junction, CO
32. Newington, CT
33. West Haven, CT
34. Washington, DC
35. Wilmington, DE
36. Bay Pines, FL
37. Cape Coral, FL
38. Gainesville, FL
39. Lake City, FL
40. Miami, FL
41. Orlando, FL
42. Pensacola, FL
43. St. Petersburg, FL
44. Tampa, FL
45. West Palm Beach, FL
46. Atlanta, GA
47. Augusta, GA
48. Decatur, GA
49. Dublin, GA
50. Honolulu, HI
51. Des Moines, IA
52. Iowa City, IA
53. Boise, ID
54. Chicago, IL
55. Danville, IL
56. Hines, IL
57. Marion, IL
58. North Chicago, IL
59. Evansville, IN
60. Ft. Wayne, IN
61. Indianapolis, IN
62. Marion, IN
63. Leavenworth, KS
64. Topeka, KS
65. Wichita, KS
66. Lexington, KY
67. Louisville, KY
68. Baton Rouge, LA
69. New Orleans, LA
70. Pineville, LA
71. Shreveport, LA
72. Bedford, MA
73. Boston, MA
74. Braintree, MA
75. Brockton, MA
76. Chelmsford, MA
77. Leeds, MA
78. Baltimore, MD
79. Perry Point, MD
80. Augusta, ME
81. Ann Arbor, MI
82. Battle Creek, MI
83. Detroit, MI
84. Iron Mountain, MI
85. Saginaw, MI
86. Minneapolis, MN
87. St. Cloud, MN
88. St. Paul, MN
89. Columbia, MO
90. Kansas City, MO
91. Poplar Bluff, MO
92. St. Louis, MO
93. Biloxi, MS
94. Jackson, MS
95. Ft. Harrison, MT
96. Asheville, NC
97. Durham, NC
98. Fayetteville, NC
99. Kernersville, NC
100. Salisbury, NC
101. Fargo, ND
102. Grand Island, NE
103. Lincoln, NE
104. Omaha, NE
105. Manchester, NH
106. East Orange, NJ
107. Lyons, NJ
108. Albuquerque, NM
109. Pasay City, Philippines
110. Las Vegas, NV
111. North Las Vegas, NV
112. Reno, NV
113. Albany, NY
114. Batavia, NY
115. Bath, NY
116. Bronx, NY
117. Brooklyn, NY
118. Buffalo, NY
119. Canandaigua, NY
120. Montrose, NY
121. New York, NY
122. Northport, NY
123. Rochester, NY
124. Syracuse, NY
125. Wappingers Falls, NY
126. Chillicothe, OH
127. Cincinnati, OH
128. Cleveland, OH
129. Columbus, OH
130. Dayton, OH
131. Parma, OH
132. Muskogee, OK
133. Oklahoma City, OK
134. Portland, OR
135. Roseburg, OR
136. White City, OR
137. Altoona, PA
138. Butler, PA
139. Coatesville, PA
140. Erie, PA
141. Lebanon, PA
142. Philadelphia, PA
143. Pittsburgh, PA
144. Wilkes-Barre, PA
145. San Juan, PR
146. Providence, RI
147. Charleston, SC
148. Columbia, SC
149. North Charleston, SC
150. Ft. Meade, SD
151. Hot Springs, SD
152. Sioux Falls, SD
153. Memphis, TN
154. Mountain Home, TN
155. Murfreesboro, TN
156. Nashville, TN
157. Smyrna, TN
158. Amarillo, TX
159. Austin, TX
160. Big Spring, TX
161. Dallas, TX
162. El Paso, TX
163. Ft. Worth, TX
164. Harlingen, TX
165. Houston, TX
166. Kerrville, TX
167. Lancaster, TX
168. San Antonio, TX
169. Temple, TX
170. Waco, TX
171. Salt Lake City, UT
172. Hampton, VA
173. Richmond, VA
174. Salem, VA
175. Sterling, VA
176. White River Junction, VT
177. Seattle, WA
178. Spokane, WA
179. Tacoma, WA
180. Vancouver, WA
181. Walla Walla, WA
182. Green Bay, WI
183. Madison, WI
184. Middleton, WI
185. Milwaukee, WI
186. Tomah, WI
187. Beckley, WV
188. Clarksburg, WV
189. Huntington, WV
190. Martinsburg, WV
191. Cheyenne, WY
192. Sheridan, WY

Efforts under this Task Order (TO) shall be performed on-site at the major data centers at VA ITOPS IO supported facilities as set forth above. Remote support may be interchangeable between datacenters; and if required, with prior concurrence from the Contracting Officer’s

Representative (COR). The Contractor shall be required to provision/transition security clearances, physical and system access in accordance with VA security processes.

## TRAVEL OR SPECIAL REQUIREMENTS

The Government anticipates travel under this effort through the period of performance. All travel will be on a cost reimbursable, no fee basis. Travel and per diem shall be in accordance with the Federal Travel Regulations (FTR) and requires advanced concurrence by the COR. Each Travel Request shall be submitted using VA applicable request portal prior to travel and shall submit copies of all supporting receipts claimed on the invoice. The Government will not reimburse local travel, which is travel within a 50-mile radius of an assigned duty location.

## CONTRACT MANAGEMENT

All requirements of Sections 7.0 and 8.0 of the T4NG Basic PWS apply to this effort. This TO shall be addressed in the Contractor’s Progress, Status and Management Report as set forth in the T4NG Basic contract.

## GOVERNMENT FURNISHED PROPERTY

The Contractor shall be provided access to all available Government furnished information, facilities, material, equipment, or services as required to accomplish the efforts in the PWS for all on-site support. Contractor shall provide Personal Protective Equipment (PPE) that is deemed personal in nature (e.g. safety boots).

This on-site support shall include office space, desk, chair, computer, shared printer, and requisite consumable materials (i.e. office supplies).

The Contractor may be provided keys or codes for access to the Government facility, and if so, shall control, track, and protect these keys and codes. Upon completion of the POP, all keys and/or access badges to the Government facility shall be turned in to the COR.

The Contractor may have access to ITOPS IO currently installed version Microsoft Word, Excel, Visio, PowerPoint, and SharePoint as available.

The Government has multiple remote access solutions available to include Citrix Access Gateway (CAG), Site-to-Site Virtual Private Network (VPN), and RESCUE VPN.

The Government’s issuance of Government Furnished Equipment (GFE) is limited to Contractor personnel requiring direct access to the network to: development environments; install, configure and run Technical Reference Model (TRM) approved software and tools (e.g., Oracle, Fortify, Eclipse, SoapUI, WebLogic, LoadRunner); upload/download/ manipulate code, run scripts, and apply patches; configure and change system settings; check logs, troubleshoot/debug, and test/QA.

### Computing Device

When necessary, the Government will furnish one IT computing device (desktop or laptop) for use by the Contractor to access VA networks, systems, or applications to meet the requirements of this PWS. The overarching goal is to determine the most cost-effective approach to providing

needed access to the VA environment coupled with the need to ensure proper Change Management principles are followed. Contractor personnel shall adhere to all VA system access requirements for on-site and remote users in accordance with VA standards, local security regulations, policies and rules of behavior. Contractors may be issued up to two monitors depending on the site and mission requirements. GFE shall be approved by the COR and VA Resource Lead on a case-by-case basis prior to issuance.

Based upon the Government assessment of remote access solutions and requirements of this TO, the Government estimates that the following GFE will be required by this TO:

1. 1000 Laptops
2. 2000 Monitors
3. 1000 Cell/Smart Phones

### IT Accessories

The Government will not provide IT accessories including but not limited to Mobile Wi-Fi hotspots/wireless access points, additional or specialized keyboards or mice, headsets, laptop bags, extra charging cables, extra Personal Identity Verification card readers, peripheral devices, or additional Random Access Memory (RAM). The Contractor is responsible for providing these types of IT accessories in support of the TO as necessary and any VA installation required for these IT accessories shall be coordinated with the COR.

Contractors shall be responsible for providing Contractor Resources with headsets.

* 1. Headsets must be compatible with Windows 10 or the most current operating system VA has installed
  2. Headsets must use the standard built-in drivers
  3. Headsets cannot require additional software or drivers be installed on VA-owned equipment for them to function
  4. VA Compatible headset: PLANTRONICS BLACKWIRE C3220 Wired Headsets

### Smart or Mobile phone

Cell phones may be required as determined by VA COR and Resource Lead. In the case where there are mobility needs, the Contractor shall request approval from the VA Resource Lead. If approved, the VA may provide a VA-issued Smart or Mobile phone.

The Status of Government Furnished Equipment Report under the T4NG Basic Contract requirements is applicable to this TO and shall be delivered to the COR/VA Resource Lead as required.

## SECURITY AND PRIVACY

All requirements in Section 6.0 of the T4NG Basic PWS apply to this effort. Specific TO requirements relating to Addendum B, Section B4.0 paragraphs j and k supersede the corresponding T4NG Basic PWS paragraphs, and are as follows

1. The vendor shall notify VA within 24 hours of the discovery or disclosure of successful exploits of the vulnerability which can compromise the security of the

Systems (including the confidentiality or integrity of its data and operations, or the availability of the system). Such issues shall be remediated as quickly as is practical, but in no event longer than 10 days.

1. When the Security Fixes involve installing third party patches (such as Microsoft OS patches or Adobe Acrobat), the vendor will provide written notice to VA that the patch has been validated as not affecting the Systems within 10 working days. When the vendor is responsible for operations or maintenance of the Systems, they shall apply the Security Fixes within 10 days.

### POSITION/TASK RISK DESIGNATION LEVEL(S)

In accordance with VA Handbook 0710, Personnel Security and Suitability Program, the position sensitivity and the level of background investigation commensurate with the required level of access for the following tasks within the PWS are:

**Position Sensitivity and Background Investigation Requirements by Task**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Task Number** | **Tier 1 / Low Risk** | | | **Tier 2 / Moderate Risk** | **Tier 4 / High Risk** | | |
| 5.1 |  | | |  |  |  |  |
| 5.2 |  | | |  |  | | |
| 5.3 |  | | |  |  |  |  |
|  | | |
| 5.4 |  | | |  |  | | |
| 5.5 |  | | |  |  | | |
| 5.6 |  | | |  |  | | |
| 5.7 |  |  |  |  |  | | |
| 5.8 |  |  |  |  |  | | |
| 5.9 |  |  |  |  |  | | |

A High/BI is currently needed, for all Security, Network, and IT Administration positions requiring access to critical systems and for other positions as identified by the COR on an “as required” basis.

The Tasks identified above, and the resulting Position Sensitivity and Background Investigation requirements identify, in effect, the Background Investigation requirements for Contractor individuals, based upon the tasks the particular Contractor individual will be working. The submitted Contractor Staff Roster must indicate the required Background Investigation Level for each Contractor individual based upon the tasks the Contractor individual will be working, in accordance with their submitted proposal.

Background investigations shall only be conducted for personnel performing on current projects under this task order.

## TECHNICAL PROFICIENCY

The Contractor shall provide personnel that are fully trained in their assigned technical field of expertise and maintain technical proficiency and currency during the TO period of

performance. If the Contractor requires training, the acquisition of this training shall be the Contractor’s responsibility.

Government required training (example: privacy awareness / elevated privileges) shall be provided through Talent Management System (TMS).

All personnel performing work shall possess experience in the disciplines and technical areas described in each task which are related to the design, analysis, engineering, operation, maintenance, and security of the Data Centers.

It is the responsibility of the Contractor to provide Contractor support personnel and subcontractors who have the required educational background, experience, VA or DoD security clearance, and access authorization or combination thereof to meet the labor category descriptions under this TO for the T&M tasks.

Certain skilled experience professional and/or technical personnel are essential for accomplishing the work to be performed. The labor categories identified below are considered to be key to supporting this effort and shall not be removed from the TO effort, replaced or added to the TO without a compelling reason and without written notification to the COR and Contracting Officer (CO).

If any change to the labor categories identified below becomes necessary (substitutions or additions), the Contractor shall immediately notify the COR and/or CO in writing, accompanied by the resume, if applicable, of the proposed replacement personnel who shall be of at least substantially equal ability and qualifications as the individuals currently performing in that category. It is expected that substitution or replacement of all the personnel outlined below will not occur within the first 90 days after date of TO award.

The Contractor shall provide technical proficiency and expertise for the critical labor categories listed below as described in the related sections of the PWS. Descriptions can be found in the T4NG Labor Category (LCAT) Description.

1. Project Manager
2. Program Manager
3. Senior Systems Administrator
4. Systems Administrator
5. Application Administrator
6. Database Administrator, Sr.
7. Senior Cyber Security Specialist
8. Software/Systems Architect, Sr.
9. Senior Security Analyst

# SPECIFIC TASKS AND DELIVERABLES

The Contractor shall perform the following:

## DATA CENTER OPERATIONS (FFP)

The Contractor shall support the day to day data center operations as required and as defined in

* 1. sub-paragraphs below for the AITC.

For information purposes, below are the historical Full Time Equivalent (FTE) positions anticipated during the period of performance of this TO based on historical data and current knowledge:

Austin, Texas

* (6) Program Manager
* (2) Project Analyst
* (1) Project Manager
* (1) Program Analyst, Senior
* (3) Administrative/Clerical Assistants III
* (2) Technical Systems Architect, Expect
* (1) Product Analyst, Senior

Hines, Illinois

* (1) Project Manager

Remote

* (1) Administrative/Clerical Assistant III
* (1) Program Analyst, Expert
* (1) Project Analyst
* (1) Program Manager

### PROJECT MANAGEMENT

#### Contractor’s Progress, Status and Management Report

The Contractor shall provide a Project Manager (PM) who shall serve as the manager of the FFSS TO and shall be the Contractor’s single point of contact for VA CORs and ITOPS IO management. The PM shall manage the tasks, schedules, and analyzing work discrepancies, communicating policies, purposes, and goals of the organization to the Contractor personnel for all projects. The PM shall analyze and resolve programmatic issues, facilitate information exchange, and enhance management coordination as coordinated with the COR and VA Resource Lead(s). This support shall include managing on-site and off-site Contractor support, any tracking of resources across projects, all training compliances, transitioning, onboarding and off-boarding of Contractor support, and scheduling to ensure 24x7x365 Support Services for VA’s data center operations for resolution of issues.

The Contractor PM shall:

1. Conduct VA Project Progress Reviews (PPR).
2. Provide Monthly Management Reports.
3. Track deliverables across projects.
4. Maintain burn rates for all CLINs and Contractor Resource divisions.
5. Coordinate, escalate and resolve project issues (e.g. risk, resources, scheduling).
6. Attend status meetings and providing status reports to project stakeholders with COR coordination.
7. Maintain a document management system, e.g. SharePoint, to track project deliverables to avoid reliance on the transmission of large files via email.
8. Track and maintain Non-Disclosure Agreements (NDAs) for all Contractor Resources.
9. Track all Contractor support:
   1. Follow all documented processes and procedures utilized by ITOPS IO.
   2. Meet all service level agreements (SLA), response and call back timeframes such as for responding to system failures and metrics in Section 6.1 of the PWS.
   3. Report all hours worked into IO’s Time Reporting Application on a daily basis for all Contractor Resources on T&M and Firm-Fixed-Price CLINs.
   4. Meet all task schedules including non-standard work schedule(s) as required. Schedules include nights, weekends, and holidays in accordance with ITOPS IO requirements a non-standard work schedule, if required. Work may be required beyond normal duty hours, including nights, weekends, and holidays as necessary.
   5. Comply with all ITOPS IO policies and processes including ProPath when applicable.
   6. Comply with and support all Federal, VA and local security regulations and policies, security regulations and policies.
   7. Track performance against the PWS requirements and performance metrics.
   8. Follow established change request processes.
   9. Maintain a real-time Contractor Resource list that tracks all active, inactive, resigned, separated, and terminated Contractor Resources. The list shall be accessible to the VA COR Team and be current and accurate at all times.
10. Provide a Program Management Office (PMO) to support the Project Manager functions for managing the program across all ITOPS IO sites, and across all identified functions and major initiatives. The Contractor (e.g. PMO) shall:
    1. Ensure compliance with all contract and government regulations (i.e. Section 2).
    2. Monitor and track performance of Contractor Resources on a daily basis.
    3. Maintain up-to-date VA training and individual certifications for all Contractor Resources.
    4. Respond to customer data calls.
    5. Support all Resource Requests and Travel Requests in the Light Electronic Action Framework (LEAF) or applicable request portal.
    6. Coordinate and upload Monthly Status Reports for all FFP and T&M Contractor Resources.

#### Contractor Project Management Plan

The Contractor shall deliver a Contractor Project Management Plan (CPMP) that lays out the Contractor’s approach, timeline, and tools to be used in execution of this TO effort. The CPMP should take the form of both a narrative and graphic format that displays the schedule, milestones, risks, and resource support. The CPMP shall include how the Contractor shall coordinate and execute planned, routine, and ad-hoc data collection reporting requests as identified in the PWS. The initial baseline CPMP shall be concurred upon and updated in accordance with Section B of the TO. The Contractor shall maintain the CPMP throughout the period of performance and provide updates semiannually to the COR for approval. In addition, the CPMP shall contain:

1. Staffing Plan
2. Communication Plan
3. Contractor Organization Chart
4. Risk Management Plan
5. Work Breakdown Structure

**Deliverable:**

A. Contractor Project Management Plan with supplemental plans/charts

#### Contractor’s Progress, Status and Management Monthly Report

The Contractor shall submit a Contractor’s Progress, Status, and Management Report; Contract Performance Report; Status of Government Furnished Equipment Report; and Personnel Contractor Manpower Report for each individual TO on a quarterly basis, unless otherwise specified by a TO’s PWS section. Contractor shall also provide a Monthly Burn Rate Report detailing all tasks and charges on a monthly basis. All TO reports shall be tailored to the tasks and deliverables for each PWS section.

**Deliverable:**

1. Contractor’s Progress, Status and Management Report
2. Monthly Burn Rate by Organization/Pillar

#### Technical Kickoff Meeting

A technical kickoff meeting shall be held within 10 calendar days after TO award. The Contractor shall coordinate the date, time, and location (can be virtual) with the Contracting Officer (CO), as the Post-Award Conference Chairperson, the VA Resource Leads, as the Co- Chairperson, the Contract Specialist (CS), and the COR. The Contractor shall provide a draft agenda to the CO and VA PM at least five (5) calendar days prior to the meeting. Upon Government approval of a final agenda, the Contractor shall distribute to all meeting attendees. During the kickoff-meeting, the Contractor shall present, for review and approval by the Government, the details of the intended approach, work plan, and project schedule for each effort via a Microsoft Office PowerPoint presentation. At the conclusion of the meeting, the Contractor shall update the presentation with a final slide entitled “Summary Report” which shall include notes on any major issues, agreements, or disagreements discussed during the kickoff meeting and the following statement “As the Post-Award Conference Chairperson, I have reviewed the entirety of this presentation and assert that it is an accurate representation and summary of the discussions held during the Technical Kickoff Meeting for the ***Franchise Fund Support Services.*** The Contractor shall submit the final updated presentation to the CO for review and signature within three (3) calendar days after the meeting. The Contractor shall also work with the CS, the Government’s designated note taker, to prepare and distribute the meeting minutes of the kickoff meeting to the CO, COR, and all attendees within three (3) calendar days after the meeting. The Contractor shall obtain concurrence from the CS on the content of the meeting minutes prior to distribution of the document.

#### Transition Out Plan (Optional Task)

Upon execution of this optional task, the Contractor shall conduct analysis, create the strategy, and develop the plans and products needed to successfully transition the provision of services. The Contractor shall:

* + - * 1. Minimize transition impact to the user community.
        2. Ensure no breaks in service availability.
        3. Maintain existing service quality and performance levels.
        4. Ensure a transparent and seamless transition.
        5. Maintain support and meet delivery milestones of ongoing projects.
        6. Minimize operations and maintenance (O&M) cost overlaps.
        7. Ensure that the IT security posture during transition is maintained at current levels without creating gaps and/or vulnerabilities.
        8. Ensure no service disruption or degradation during transition.

The Contractor shall develop and provide a Transition Out Plan covering transition out activities to include strategies and processes needed to maintain continuity of operations and quality of service during the transition in period. The Contractor shall then implement the detailed transition strategies and processes needed to enable at transfer of services from the incumbent service provider to the service platform without disruption to ongoing support levels.

The Contractor shall develop and implement detailed transition. For planning purposes, the overall transition period shall not exceed 60 days. Transition of operational capabilities is to be completed within 60 days.

At the request of the COR, the Contractor shall conduct an inventory of GFE and IT assets; establish management processes and controls; and other tasks the Contractor and/or COR deem necessary to support the transition.

**Deliverable:**

A. Transition Out Plan

#### Administrative Support

The Contractor shall provide support to ITOPS IO within the data center including tasks such as: posting timecards; monitoring Service e-mail box; distribution of mail, both paper and e-mail; developing travel and training documents; and copying and reproduction. Any soft or hard copy deliverables required shall be delivered to the COR/VA Resource Lead.

The Contractor shall perform the following:

1. Submit timecards weekly and reconcile monthly for monthly invoices.
2. Review timecards that cannot be processed because of inaccuracies due to typos or incorrect timecard entry; if required, contact the employee or the employee's supervisor to resolve. The Contractor shall perform daily research and correction of discrepancies for employees.
3. Facilitate and schedule appointments, coordinate meetings and reserve conference space for personnel as well as performing meeting set-up and other coordination activities. New, recurring, rescheduling or cancellation of meetings and/or appointments shall be scheduled the same day the request is received.
4. Prepare interoffice correspondence and maintain administrative filing system for the Service with an internal administrative control, e.g. ensure that new information is added to administrative files and databases are maintained and disposition of outdated file materials or transfer files to inactive storage.
5. Prepare and maintain operating and desk procedures, methods, standards, policy memoranda and techniques concerning administrative procedures within the Service, and recommend required changes and adjustment to assure proper and accomplishment of Service goals and objectives.
6. Maintain the Service e-mail box by taking action on each message.
7. Prepare, edit and/or conduct reviews for recurring and one-time reports, suspense items, date sensitive actions and correspondence required for the various functions of the Service. The Contractor shall ensure final documents are routed or mailed to the designated source(s) after receipt of all required concurrence/approvals.
8. Answer the telephone, take messages, respond to routine inquiries, and direct calls to staff.
9. Copy, bind, and collate documents and ensure distribution and mailing.
10. Handle travel arrangements, approximately three times per month, for Service Chief and employees of the Service as needed. The travel arrangements include preparing the travel request. The travel request shall be finalized by Government Service employees after all steps have been taken. Upon completion of travel, complete travel voucher to include: mileage calculation, adherence to proper format, obtaining appropriate finance and supervisor's approval. The travel voucher shall be finalized by Government Service employees after all steps have been taken.
11. Obtain and monitor the use of services/supplies for the Service. The Contractor shall track office supplies, gathering requests for office supplies, answering questions concerning policies and procedures related to office supply services. The Contractor shall ascertain the need of subordinate offices and coordinate tracking requests for office supplies to meet the office's needs.
12. Prepare supply reports, correspondence and fact sheets for use by Service in support of decision making.

#### Support Infrastructure Project Management

The Contractor shall support the project management requirements for the technical and facilities infrastructure by providing engineering services to fulfill technical infrastructure and maintenance project responsibilities in support of the ITOPS IO Data Centers. Additionally, the Contractor shall act as the day-to-day liaison for infrastructure and maintenance activities on assigned projects, as required, for maintaining operations of the ITOPS IO facilities. On occasion, the Contractor shall provide back-up coverage to the Engineering Technicians or provide services to other managers within ITOPS IO and its customer base.

The Contractor shall:

1. Facilitate activities for the month to include the verification of power load requirements, load balance, and computer room power related activities for the next month.
2. Prepare correspondence, memoranda and reports required by ITOPS IO standards or other directives provided.
3. Prepare Contractor progress reports.
4. Establish and maintain assigned project files for the Facilities Management Section. Maintenance includes the development and upkeep of spreadsheets to track project schedules, material delivery, project(s) progress, modifications, and cost estimates.
5. Review and report on assigned maintenance activities
6. Provide engineering technical support on projects.
7. Review invoices for accuracy of progress payment requests, travel, and other cost charges on assigned projects. Any resource supporting this activity specifically must have a Non-Disclosure Agreement on file due to possible exposure to proprietary data. The Contractor shall research inquiries from customers and Contractors on payments. All invoices shall be accepted and approved by Government COR/VA Resource Lead (s).
8. Perform engineering and cost analyses related to proposed projects. The Contractor shall research online or other sources for market research information and prepare results for VA Resource Lead(s).
9. Review assigned project plan for content, code compliance, cost, schedule, and procedures, ensuring required documentation is included, and provide recommendations for quality assurance on reviewed projects.
10. Meet weekly with Facilities Management Section to discuss status of work.
11. Meet with VA Resource Leads on an as needed basis to discuss problems and concerns, status of work, changes in assignments or other project related issues.
12. Coordinate receiving final work products on assigned projects for completion, providing punch lists for incomplete projects, and perform follow-up activities until project is approved by COR/VA Resource Lead (s). Acceptance of final work products shall be through Government COR/VA Resource Lead (s).
13. Meet with customers to gather or determine needs and make recommendations for project tasks and schedule.
14. Schedule and oversee the installation of products and obtain acceptance and approval from a Government representative.
15. Adhere to TO specifications, office policies and procedures by reporting any noted discrepancies to the responsible Government manager.

### Business Continuity Program Support

The Contractor shall provide Business Continuity Program (BCP) support for Business Continuity Management programs at Infrastructure Operations (ITOPS IO) data centers by organizing and managing Business Continuity (BC) project initiatives. The Contractor shall utilize a Work Breakdown Structure (WBS), to include coordinating routine updates to the detailed information supporting the Business Continuity procedures, which includes:

1. Contact lists,
2. Personnel assignments lists,
3. Hardware and software specifications,
4. Disaster recovery procedures,
5. Application testing procedures,
6. Application infrastructure diagrams,
7. Vital records inventory lists,
8. Off-site backup schedules,

The Contractor shall coordinate electronic access to business continuity plans and procedures and administer the ITOPS IO’s software packages containing the BC plans. The Contractor shall coordinate all software installations with the appropriate VA systems administrators and security managers prior to introducing new VA approved software to the ITOPS IO network. The Contractor shall maintain the BCP software including all administrative and security controls at the application level including:

1. Creating user accounts,
2. Establishing and maintaining security profiles in the application,
3. Training users,
4. Monitoring plans,
5. Facilitating planning,
6. Installing software release updates

The Contractor shall:

1. Support Virtual Corporation’s Sustainable Planner business continuity management software and create reports using VA’s Crystal Reports.
2. Maintain professional certification such as Disaster Recovery International’s (DRI) Certified Business Continuity Professional (CBCP) certification or equivalent training or experience at the Contractor’s expense.
3. Design and maintain Business Contingency Plans including designing and maintaining the ITOPS IO VA management approved written Business Contingency (BC) plans for emergency preparedness, disaster recovery, and business resumption. The Contractor shall design the format of the plans based on guidance received from ITOPS IO Program office coordinated with COR and with ITOPS IO Government approval, then coordinate the creation, maintenance, and testing of the VA management approved ITOPS IO’s BC plans with the VA stakeholders.
4. Conduct Gap Analysis, including conducting full business continuity gap analysis for all levels of the ITOPS IO for each major business function, and for each critical system, the Contractor shall assure that all business continuity steps are conducted including
   1. Risk assessments,
   2. Business impact analysis,
   3. Continuity strategy development,
   4. Plan creation (emergency preparedness, disaster recovery, and business resumption),
   5. Required BC training,
   6. Plan maintenance,
   7. Tabletop testing and/or disaster recovery exercise

The Contractor shall document process weaknesses determined by the analysis and implement process improvements as approved by the COR/VA Resource Lead.

1. Conduct tests and exercises including ensuring that all technical components of the Business Continuity plans are successfully tested at least annually, or whenever changes are made to those components. The Contractor shall plan and coordinate at least one simulation exercise a year, involving all critical systems, applications and business units including:
   1. An annual test of selected computer systems at the designated hot sites
   2. Establishing the testing schedule and coordinating the testing with all VA corporate datacenter offices, other involved Government agencies and offices
   3. Documenting and provide to the COR the results of all tests and exercises
   4. Identifying and recommending any enhancements to the Business Continuity plans and procedures.
2. Review, analyze and recommend processes and procedures for current VA management approved business processes, directives and handbooks, and other business policies and practices for Infrastructure Operations. The Contractor shall also participate in examining, and if deemed appropriate by the Government, reengineering existing VA management approved processes to improve ITOPS IO. All recommendations shall be reviewed and approved by Government representatives prior to implementing any change. Based on Government approval, the Contractor shall establish and implement VA management approved processes relating to BC for the ITOPS IO data center hot sites.
3. Comply with training requirements to include specific Business Continuity responsibilities, and report training status to ITOPS IO management.
4. Execute emergency procedures including providing 24x7x365 on-call support for any emergency which may require activation of all or part of the Business Continuity plans in the event that activation is required, serving as liaison between the Crisis Management team (i.e. senior management) and the Business Continuity teams (i.e. the teams recovering operations at the alternate facilities and the teams restoring operations at the alternate workspace recovery site).
5. Maintain VA Sustainable Planner Software including managing the BCM program utilizing VA Sustainable Planner software for core documentation, planning, and audit compliance.

## CYBERSECURITY MANAGEMENT (FFP)

The Contractor shall perform support services within the ITOPS IO Cybersecurity Management Division. This division is charged with establishing a centralized cybersecurity program to address cybersecurity with ITOPS IO’s projects. As required within the sub-tasks below, the Contractor shall provide 24x7x365 support across three shifts to provide 24x7x365 (except for Federal holidays where support will be provided on a call back basis). If not stated, support services are required during normal business hours only.

Some cybersecurity tasks are currently accomplished utilizing various tools, technologies, and processes that are not standardized across ITOPS (i.e. enterprise on prem and cloud, Business Partner Extensions environments). Not all IT cybersecurity functions are currently managed under a standardized set of processes and technologies or in a centralized format. In some cases, more than one process exists for a single function. In other cases, while a process or cybersecurity system exists, its use is not commonplace at all applicable sites.

The Contractor shall perform systems cybersecurity tasks, described below, including User Network Monitoring; Information Assurance; Technical Cybersecurity; and Vulnerability Assessment.

For informational purposes related to widespread support required, historically, the systems cybersecurity tasks are supported by the below historical Full Time Equivalent (FTE) positions:

Remote or On-Site Resources

* (26) Cyber Security Specialist, Sr.
* (32) Security Analyst, Sr.
* (1) Technical Writer/Editor, Sr.
* (1) Program Manager
* (4) Project Manager
* (3) Software/Systems Architect, Senior
* (1) Project Analyst
* (1) Administrative/Clerical Assistant III

### ITOPS IO Cybersecurity Management Network Security

ITOPS protect mission critical Veteran data and systems across enterprise that support the VA mission. The Contractor shall provide VA Core Hours and 24x7x365 technical cybersecurity protection as required in support of these Network Cybersecurity efforts. Place of Performance will be onsite or remote as required per Section 4.2 and cloud FedRAMP Software-as-a-Service, Platform-as-a-Service and Cybersecurity-as-a-Service.

#### Network Cybersecurity Tools

The ITOPS environment requires coverage to manage cybersecurity tools and the growing network cybersecurity responsibilities across ITOPS to include Biomedical, Special Purpose, Internet of Things and Operational Things in order to secure Veterans’ data and important VA systems 24x7x365. The ITOPS Cybersecurity Management Network Security Service Line has non-shift VA core hours staff across different cybersecurity specialist and three-shift for 24x7x365 for continuous cybersecurity incident response support needs. The Contractor shall provide non-shift VA core hours staff and 24x7x365 support services. The Technical Cybersecurity support is to be onsite or remote across any VA facility.

**VA Core Hours Cybersecurity Staff** – Reference Section 5.2.1.2 & Section 5.2.1.3.

**1st Shift** - The Contractor shall keep cybersecurity tools tuned and coordinated with the necessary cybersecurity posturing. The support services required include analyzing current cybersecurity tools and enterprise environments to ensure all cybersecurity environments needing attention get the attention required per policy and customization across enterprise

cybersecurity infrastructure. The Contractor 1st shift team shall also handle critical/important day-to-day Change Request management and ITOPS project involvement. The Contractor 1st shift team shall also handle current and future cybersecurity tool architecture design.

**2nd & 3rd Shifts** - The Contractor shall keep cybersecurity tools tuned and coordinated with the necessary cybersecurity. The support services required include analyzing current cybersecurity tools and enterprise environments to ensure all cybersecurity environments needing attention get the attention required per policy and customization across enterprise cybersecurity infrastructure. The Contractor support 2nd and 3rd shift teams shall also handle critical/important day-to-day Change Request management and ITOPS project involvement. The Contractor 2nd and 3rd shift teams shall also handle current and future cybersecurity tool architecture design.

#### Network Cybersecurity

The ITOPS IO Network Cybersecurity relies on advanced tuning of existing IT cybersecurity products to detect, protect, respond, integrate, automate, orchestrate, and continue supporting the existing cybersecurity echo-system. Coordination and Incident Response processes in support of VA requirements tie-in enterprise Cybersecurity Monitoring groups and processes to include but not limited to ServiceNow, Remedy, Information Cybersecurity Officers (ISOs) and the VA Cybersecurity Operations Center (CSOC).

The ITOPS IO cybersecurity infrastructure will be interconnected among the different ITOPS locations (i.e. enterprise on prem and cloud, Business Partner Extensions) in a separate private cybersecurity network. Each data center’s cybersecurity network will be separated by a firewall to only allow other data center cybersecurity network connectivity using VA’s existing network. This allows for the separation of environments to keep event log data as required by policy to where only designated INFOSEC personnel have access into this cybersecurity network from the various ITOPS network locations. The redundancy for each ITC will include Intrusion Protection Systems / Intrusion Detection Systems (IPS/IDS), vulnerability and compliance assessment tools, Security Information and Event Management (SIEM), Web Application Firewall (WAF), dedicated malware protection architecture, Network Access Control (NAC), virtualization cybersecurity, and the core infrastructure for the cybersecurity network along with cybersecurity personnel to overlap and provide the 24x7x365 support needed.

Incident response procedures and processes across ITOPS will follow the process that the rest of VA uses, including integrating with OIS CSOC. Incident tracking is performed using traditional helpdesk software and processes, example ServiceNow and Remedy.

The centralization of cybersecurity tools, processes and incident handling provides the in-depth cybersecurity posture and metric information needed for ITOPS environments. Standardizing on these tools may require additional training by the contractor for other cybersecurity staff at the sites.

Contractor shall provide administrative support for the full lifecycle management of the Network Cybersecurity Standard Operating Procedures. This will also include Microsoft SharePoint content management and Microsoft TEAMS subject matter expertise to manage all Network Cybersecurity TEAMS groups, channels and TEAMS meetings. VA training Network Cybersecurity Talent Management Service administrator assigning team trainings that are one- time, reoccurring and ad-hoc trainings. Service Line team meeting coordinator and minute subject matter expert for all three shifts in section 5.2.1.1. These tasks and any other office management tasks directed by the Network Security Service Line Manager or Delegation of Authority in place of Network Security Service Line Manager.

In support of these Network Cybersecurity efforts, the Contractor shall perform the following tasks daily:

1. Perform assessments and compliance activities using central managed vulnerability scan engines to perform operating systems, network devices, databases and applications assessments.
2. Perform collection and analysis of all operating systems logs, network device logs, network flows, intrusion prevention and intrusion detection, vulnerability assessment, network firewall, web application firewall and virtual environment logs and provide centralized correlation, alerting, log archiving, asset discovery and behavior analysis configuration using Security Information and Event Manager (SIEM) or equivalent cybersecurity capabilities.
3. Perform real-time network and system protection, detection and log analysis using Intrusion Prevention System/Intrusion Detection System (IPS/IDS) or equivalent sensors centrally managed providing network awareness and vulnerability intelligence.
4. Perform web application vulnerability assessments and reporting using web application assessment software, which also provides web application cybersecurity intelligence to the Web Application Firewall solution.
5. Perform real-time web application protection against SQL injection attacks, malicious bots, zero-day attacks, data loss and defacement protection and any other Web Application attacks that exist including Payment Card Industry Data Cybersecurity Standard (PCI DSS) compliance using Web Application Firewall technology. PCI compliance and reporting are performed by VA.
6. Perform end user device threat containment and access control to ensure VA cybersecurity policies and restrictions in the Information Technology Center network using Network Access Control technology are adhered.
7. Perform real-time network and system malware protection, detection and log analysis using Malware Protection System.
8. Prepare and conduct status briefings and resolve issues in support of senior managers and VA leadership upon request from COR/VA RESOURCE LEADs.
9. Review and maintain Standard Operating Procedures for the Intrusion Prevention Systems Intrusion Detection Systems (IPS/IDS), Security Information and Event Manager (SIEM), Vulnerability Scanning, Assessments and Reporting tool, Incident Response, Web Application Firewall (WAF), VMware or equivalent, Network Admission Control Systems (NAC), Malware Protection System (MPS) and any other ITOPS IO ICSM Network Cybersecurity activities and processes that may need SOP’s reviewed and maintained.
10. Perform database monitoring activities using machine learning technologies.
11. Perform network risks and analytics integrate with SIEM technologies.

#### Cybersecurity Analytics

ITOPS IO Technical Cybersecurity Service Line provides IT Cybersecurity threat reporting and analytics on IPS/IDS, SIEM, Web Application Firewall (WAF), Malware Protection System (MPS), Network Admission Control Systems (NAC) and IT Cybersecurity threat information to ITOPS, ITOPS customer and other VA national groups.

The Contractor shall provide Incident Management, which shall include incident ticket reporting along with any as needed daily, weekly and monthly reports to maintain the same general tasking and service request management related to ITOPS IO Cybersecurity Management reporting tasks.

In support of the ITOPS IO cybersecurity analytics efforts, the Contractor shall provide the following support services including:

1. As Needed: Conversion, culling, and creation of electronic ITOPS IT Cybersecurity threat data from IPS/IDS, SIEM, WAF, MPS, NAC, and Vulnerability data into manual or automated reporting. The reporting format will be via VA PowerPoint templates.
2. As Needed: Preparing ITOPS IT Cybersecurity threat reports at VA management’s discretion. The reporting format will be After Action Report or Situational Awareness Report in PowerPoint, Microsoft Word or any other report format needed per VA guidance.
3. Continuously: Customizing automated dashboards primarily within SIEM infrastructures for internal ITOPS use, IO customer use and VA use.

### Technical Writing

The Contractor shall provide technical writing support to include:

1. Reviewing and updating on an annual basis approximately 30 ITOPS IO Security policies to ensure written policies correctly reflect VA security policy updates. All

changes shall be provided to COR/VA Resource Lead or VA stakeholder for review and approval prior to any updates. Using ITOPS IO currently installed version of Microsoft Word, Excel, Visio, PowerPoint, SharePoint, Teams and other ITOPS IO currently supported tools for documentation (approximately 900) such as any specific configuration instructions, specifications, hardware and software requirements, implementation plans, version description, interface requirements/guide, administrative support guide, troubleshooting guides, user/analyst guide and physical and logical layer diagrams as necessary. This would be supporting approximately 300 applications with approximately three (3) different documents for each application.

### ITOPS IO Cybersecurity Management Audit Support

The Audit Support group provides risk services support to VA OIT/ITOPS/IO and plays a key role in meeting VA’s operational cybersecurity and compliance requirements IAW Federal Information Modernization Act/Federal Information Systems Controls Audit Manual (FISMA/FISCAM) directives.

#### IT Audit Management

The Contractor shall provide VA continuous audit management support for the Office of Inspector General (OIG), Internal Revenue Service (IRS), Government Accountability Office (GAO), and Payment Card Industry (PCI) related audits. Provide full range of documentation/ Provided By Customer (PBC) evidence request for ITOPS external/internal compliance audits and assessments. Contractor shall have experiences to include but not limited to a Certified Information Systems Auditor certification (CISA) and Certified Information Systems Security Professional (CISSP).

Contractor shall:

* + - * 1. Develop, maintain, and update audit standard operating procedures (SOPs). All changes shall be provided to COR/VA RESOURCE LEAD or VA stakeholder for review and approval prior to finalizing any updates.

Provide VA audit Enterprise Control Leader (ECL) duties for assigned security controls following VA Quality Performance Reporting (QPR) guidance.

Provide VA audit Enterprise Control Provider duties for assigned security controls following VA Quality Performance Reporting (QPR) guidance.

* + - * 1. Create and publish audit management reports and metrics identifying current audit status and after-action remediation/reporting on a weekly or on request with a 98 percent accuracy rate with little to no rework.

Coordinate and document activities of auditors and ITOPS IO resources for audit interview oversight by attending interviews and documenting interview conversations.

Provide daily PBC evidence collection from all current and future utilized SIEM tools.

* + - * 1. Participate in all pre and post audit activities for FISMA/FISCAM Audit Support.

### ITOPS IO Enterprise Common Controls Solutions (ECCS)

The Contractor shall provide 24x7x365 support as required to the Enterprise Common Controls Solutions (ECCS) service line within the IO Cybersecurity Management Division. The IO Cybersecurity Management, ECCS Service Line provides support for the 1800+ NIST security control assessment procedures and delivers those provided as common controls to 735+ VA information systems in the GRC tool. Services include the identification and documentation of enterprise provided common controls, documentation support, cybersecurity support, compliance support and continuous monitoring support performed in accordance to the VA’s Authorization Requirements SOP. Working closely with the ITOPS IO Cybersecurity Management Network Security team, contractor will augment documentation of device management for enterprise security tools and some 1.4 million + security devices.

Contractor shall ensure the Contractor-provided analysts maintain subject matter expertise level of a Certified Authorization Professional (CAP®) on related criteria and guidance such as Federal Information Systems Management Act (FISMA), NIST Special Pubs, OMB Memorandum, Privacy Act, HIPAA, applicable VA directives and handbooks.

Contractors for the Enterprise Common Controls Solutions (ECCS) service line shall:

1. Be responsible for the identification, assessment, and maintenance of assessment procedures test results and evidence that will be provided for inheritance by the Common Control Provider in the GRC tool.
2. Communicate the requirements for each control/assessment procedure to system stakeholders. Suggest, discuss, and analyze the proper evidence to show compliance and determine if the procedure is provided enterprise wide.
3. Review and update control implementation guidance in the VA Knowledge Service and eMASS tool.
4. Follow the objectives outlined in the VA’s Authorization Requirements SOP and to stay up to date with training that will assist in meeting this expectation and the application of the Risk Management Framework.
5. Utilize the VA’s GRC tool.
6. Periodically perform user-acceptance testing of the tools and features within the Governance Risk and Compliance (GRC) tool utilized for A&A processes.
7. Perform the GRC System Steward role in support of an Information System Owner for enterprise cybersecurity information systems.
8. Maintain an understanding of the management of organizational risk using the Risk Management Framework.
9. Manage the information system of record in the GRC tool
10. Perform continuous monitoring of the assessment procedures provided for inheritance by working with information system stakeholders to review and analyze change, and then update security artifacts as needed.

### Cybersecurity Management -Continuous Diagnostics and Mitigation (CDM) Program Support

The CDM Program Support Service Line provide program and project management support to VA IOT/ITOPS/IO in support of the DHS sponsored and coordinated Continuous Diagnostics and Mitigation (CDM) program which will fundamentally strengthen the cybersecurity posture of VA networks and systems.

#### Cybersecurity Program Support

The Contractor shall provide Program Support by creating, analyzing, evaluating, reviewing, and collaborating on various cybersecurity project implementations across the VA in support of the IO, ICSM, and CDM program initiatives. The tasks shall require an extensive knowledge and experience with Microsoft SharePoint, Microsoft Office Suite (Word, Excel, PowerPoint), project management understanding, and ITIL fundamentals.

The Contractor shall be responsible for:

1. Review and update VA security documents to align with recommendations and best practices from sources including OMB, NIST, DHS, CISA and other sources as relevant.
2. Attend all VA, ITOPS, IO, ICSM and CDM meetings and training as designated by manager.
3. Create and review program management documentation for quality and accuracy, provide timely responses to data requests from groups both internal and external to the VA
4. Provide notification to management for concurrences within the stated due date. Tasks can range from the 30 minutes to answer to multiple days to compile the data using various tools and systems.
5. Review VA technical directives, Standard Operating Procedures (SOP) and other program documentation as a routine cycle and update templates and processes as required.
6. Create business cases based on risk, cost, value in support of ICSM strategic vision, plans and operations.
7. Coordinate with internal VA resources and external entities including DHS, contracted integration teams, and vendors on ongoing and future projects in support of ICSM and CDM based initiatives.

### Cybersecurity Management Enterprise Vulnerability Management Solutions (EVMS)

The ITOPS IO Cybersecurity Management EVMS Service Line Manager dedicated vulnerability management program and group handling vulnerability management programmatic non- technical non-operating system access or scanning.

In support of EVMS efforts, the Contractor shall:

1. Participate in group discussions or meetings.
2. Identify, provide analysis and communication on vulnerability trend data for VA leadership reporting.
3. Provide reporting on all OIT infrastructure vulnerability assessment activities and deliver to COR or assigned VA RESOURCE LEAD(s) as required
4. Design and develop the web portal API to manage the various aspects of tenable vulnerability activities across the data centers.

Perform ITOPS Cybersecurity metrics development and reporting activities on a weekly, monthly, and quarterly basis depending on the report window and for approximately 10 ad-hoc reports per week. All changes shall be provided to COR/VA RESOURCE LEAD or VA stakeholder for review and approval prior to any updates required below:

1. Define measurements to gauge the effectiveness of information cybersecurity operations in the environment of VA, ITOPS and systems hosted within IO locations.
2. Gather data from applicable sources; analyze the data and compare against established benchmarks and targets.
3. Create debrief vehicle such as PowerPoint presentation, dashboard, or diagrams.
4. Present resulting information to leadership and customer stakeholders to aid in decision making, accountability, resource allocations.
5. Develop and maintain internal process documentation, training (videos/presentations) and customer-facing SOP.
6. Maintaining/updating metrics development and reporting templates and forms
7. Reviewing submitted metrics development and reporting documentation
8. End-to-end process coordination of individual metrics development and reporting
9. Creating and publishing metrics development and reporting management reports and metrics
10. Maintaining online library of individual metrics development and reporting documents.
11. Utilize expert level experience to create custom SQL queries for SQL based database management systems.
12. Utilize expert level experience with reporting platforms, such as Crystal Reports, Cognos, SharePoint BI, JasperSoft, Governance Risk Compliance (GRC) type tools, and Business Objects.

### ITOPS IO Authorization Support (AS)

The Contractor shall provide 24x7x365 support as required to the Authorization Support (AS) Service Line within the IO Cybersecurity Management Division. The Authorization Support (AS) Service Line provides Assessment and Authorization (A&A) services for some 140 + VA information systems. These services include documentation support, cybersecurity and compliance support, audit support, and continuous monitoring support performed in accordance to the VA’s Authorization Requirements SOP.

Contractor shall ensure the Contractor-provided analysts maintain subject matter expertise level of a Certified Authorization Professional (CAP®) on related criteria and guidance such as Federal Information Systems Management Act (FISMA), NIST Special Pubs, OMB Memorandum, Privacy Act, HIPAA, applicable VA directives and handbooks and local directives and handbooks.

Contractors in Authorization Support (AS) Service Line shall:

1. Be responsible for the identification, assessment, and maintenance of assessment procedures test results and test evidence in the Governance Risk and Compliance (GRC) tool for information systems.
2. Communicate the requirements for each control/assessment procedure to system stakeholders. Suggest, discuss, and analyze the proper evidence to show compliance.
3. Perform the GRC System Steward role in support of an Information System Owner for applications, and facilities
4. Manage the information system in the GRC tool including but not limited to
   1. system security categorization,
   2. documenting security control compliance and implementation status,
   3. creation, update, and tracking of POA&M items,
   4. upload and management of required artifacts, and
   5. initiating workflows and package submission
5. Follow the objectives outlined in the VA’s Authorization Requirements SOP and to stay up to date with training that will assist in meeting this expectation.
6. Utilize the VA’s GRC tool.
7. Monitor timelines throughout the Authority to Operate (ATO) lifecycle including action items, data calls and work with information system stakeholders to ensure timelines are met.
8. Work with information system Subject Matter Experts (SMEs) and project stakeholders to ensure required artifacts are created and updated as needed for enterprise applications and facilities, including but not limited to
   1. System Security Plan
   2. Information System Contingency Plan
   3. Disaster Recovery Plan
   4. Risk Assessment Reports
   5. Privacy Threshold Analysis
   6. Privacy Impact Assessment
   7. Incident Response Plan
   8. Configuration Management Plan
   9. Security Configurations Checklists
   10. Interconnection Security Agreement / Memorandum of Understanding (ISA/MOU)
   11. Security Impact Analysis
   12. Authorizing Official Decision Briefs
9. Ensure information system compliance (e.g., ensure that system security configuration guidelines are followed, compliance monitoring occurs) and verify that application software/network/system security postures are implemented as stated, document deviations, and recommend required actions to correct those deviations
10. Perform continuous monitoring of facility and application specific security assessment procedures by working with information system stakeholders to review an analyze change and then update security artifacts as needed
11. Provide assessment support before, during, and after an information system’s Audit, Security Control Assessment (SCA), and/or other VA-mandated reviews.

### Onsite Support

#### Tier 2 Onsite Support

The Contractor shall provide onsite security support services. The Contractor shall provide these onsite support services on a daily basis during standard hours of operation.

The Contractor shall:

1. Update security documents that adapt VA protocols to be in compliance with NIST guidelines (e.g., NIST SP 800-53, Revision 4 control families).
2. Use vulnerability assessment, SCCM, SCOM, and SQL reports and product logs to locate workstations and servers that have inventory, deployment, patching or other issues, and then use provided scripts, tools, and vendor products to troubleshoot and resolve the issue and verify resolution.
3. Build and deploy packages and maintain collections using SCCM.
4. Provide specific vulnerability remediation support for all devices, including laptops, workstations, printers, and network devices (including mobile devices), based on the Regional Director’s priorities, and remediate 98 percent of all new vulnerabilities.
5. Provide onsite or remote as agreed upon by COR/VA RESOURCE LEAD, patch and vulnerability support using SSCM and other tools. This includes MS patching, vulnerability assessment scan remediation, unauthorized software remediation, baseline image deficiencies, etc.

The Contractor support shall include:

1. Analysis of Tenable Nessus scan results.
2. Vulnerability remediation as required by the Regional Director or designee that cannot be done in an automated fashion according to VA standards.
3. Coordination with stakeholders as needed to remediate the user system or server.
4. Troubleshoot any problems or issues that arise with Windows and Macintosh desktops/laptops from the network drop to the desktop/laptop, prioritizing systems infected with viruses.
5. Troubleshoot any problems or issues that arise with Windows and Macintosh desktops/laptops from the network drop to the desktop/laptop prioritizing systems infected with viruses.
6. Respond to alert notification or escalation of an issue from members of the VACO ITSS team, determine the probable cause of the issue, and take the appropriate intervention action(s) to restore the Windows and Macintosh desktop/laptop to operational status.
7. Support the MAC operating system and various Apple tools and applications.
8. Provide operating system updates for Windows and Macintosh desktops/laptops.
9. Provide graphical user interface-level instruction or demonstration with Mac OS X Server configuration and server administration for VA staff.

#### Tier 3/4 Onsite Support

The Contractor shall provide on-site, expert technical and security support services and resolve issues that cannot be resolved by Tier 1 and Tier 2 support.

The Contractor shall provide:

1. Server administration and patching
2. Virtualization (VMware or HyperV)
3. Advanced SCCM (reporting and installing software packages/patches) E. IBM Endpoint Manager (BigFix)
4. Microsoft Excel fluency, including pivot tables
5. Vulnerability scanning (Nessus or similar)
6. Networking: Local Area Network (LAN), Wide Area Network (WAN), TCP/IP, DNS, DHCP, subnets, CIDR
7. Advanced Active Directory administration and maintenance, domain administration-level experience
8. Database fundamentals (Microsoft Access or SQL Server), including reports and queries
9. Scripting (Microsoft PowerShell preferred)
10. Server imaging, developing standard images, automated deployment
11. Microsoft Certified System Engineer (MCSE)
12. Vulnerability Remediation in excess of 8000 vulnerabilities monthly The Contractor shall support:
    1. Provide Windows and Linux systems support:
       1. Remotely resolve vulnerability issues on servers and workstation systems with both Tier 1 and Tier 2 personnel.
       2. Resolve server and desktop vulnerability patching issues for each month’s Microsoft Security Patch Change Requests.
       3. Ensure servers and workstation systems conform to VA baselines.
       4. Remediate and test a solution implemented for specific vulnerabilities as required by the Regional Director or Designee.
       5. Continuously remediate and test solutions implemented for security deficiencies on VA’s network infrastructure, database platforms, and web application servers, as identified by NSOC’s Nessus scans.
       6. Ensure that Microsoft Certified System Engineer (MCSE), or equivalent, certifications are up-to-date and current.
       7. Ensure that Microsoft Certified Solutions Associate (MCSA) and Security + and/or Certified Information Systems Security Professional (CISSP) and/or Certified Information Security Manager (CISM), or equivalents, certifications are up-to-date and current.

**Deliverable:**

A. Monthly Vulnerability Remediation Report

## DELETED

## SYSTEMS ARCHITECTURE SERVICES (FFP)

For information purposes, below are the historical Full Time Equivalent (FTE) skill sets within the provided Labor Categories in the Pricing Spreadsheet:

Austin, Texas

* (1) Project Manager
* (2) System Architect

Martinsburg, West Virginia

* (1) Software/Systems Architect, Sr

Remote

* (1) Systems Architect

### Infrastructure Technology Architecture (ITA)

Infrastructure Technology Architecture (ITA) is the primary IO franchise fund entry point for customers requesting products, services, and hosting support. Architects collaborate with stakeholders to provide infrastructure solution designs and project cost estimates. The ITA Team manages requests to identify technical, financial, and staffing resources required to ensure OIT

compliant request fulfillment. ITA Architects validate resource increases for current state operational system environments, work with customers to define the best technical fit and right- size requirements to accomplish desired results. The ITA team works in partnership with ITOPS, EPMO and other service providers to offer guidance, and validates VA IT Process Request (VIPR) routing and approval processes.

Contractor shall:

1. Perform comprehensive technical analysis for enterprise-level projects and initiatives in support of the VA mission. Review proposed infrastructure designs and recommend improvements and enhancements to the design. Support the development of Service Line transition strategies, and action plans to ensure key agency infrastructural architectures.
2. Provide requirements gathering, guidance, direction, technical expertise, and support to members of project team(s). Requirements are evaluated throughout the project lifecycle. Facilitate ongoing requirements validation and verification throughout the systems engineering lifecycle. Conduct IT system reviews then interpret and translate customer requirements into operational capabilities. Consult with customers to evaluate functional requirements and manage customer requests to identify associated technical, financial, and labor resources required to ensure OIT compliant request fulfillment.
3. Utilize requirements development techniques as appropriate to accomplish the analysis and specification of requirement statements that accurately and completely express needs. Requirements development techniques include but are not limited to the following: direct elicitation from customer/user interaction such as interviews and requirements building workshops; participation in business process modeling activities; mining existing system functionality; use cases; scenarios; and prototyping.
4. Provide oversight and support for IT enterprise infrastructure services within a system engineering framework that ultimately affect the plans, goals, and effectiveness of supported projects.
5. Collaborate effectively with internal and external stakeholders to define requirements for IT project efforts. Provide infrastructure solution designs and project component estimates. Validate resource increases for current state operational system environments, work with customers to define the best technical fit and right-size requirements to accomplish desired results.
6. Interface with subject matter experts in order to determine additional enterprise requirements (e.g., security, privacy, Section 508, Enterprise Architecture (EA), etc.) as applicable to VA projects. Organize infrastructure planning for systems hardware and/or software necessary to support new initiatives or provide changes in existing systems/applications. Designs technical refresh solutions for existing systems nearing end of life (EOL).
7. Produce and present architecture solutions worksheet (ASW) with 90% accuracy/approval rate without need for rework or mistake correction.
8. Contractor must log weekly work activity notes for their currently assigned tickets. These logged notes will provide a minimum baseline of documented progress.
9. Unless otherwise excused, Contractor will coordinate and be responsible to attend weekly staff meetings, Configuration and Architecture Discussion (CAD) committee, ASW reviews, and internal training sessions.
10. Facilitate the successful exchange of information between stakeholders and all interested parties by coordinating and facilitating meetings and sessions to ensure that all critical parties are informed of, and involved in, key infrastructure requirements development and validation activities. Coordinates systems planning discussions with vendors, project managers, and higher-level staff in order to support project changes. Contractor will respond within 24 hours to manager requests for information and assigned action items.
11. Duties require the independent application of processes and methods for a broad range of IT activities for in-depth analysis of IT issues. Infrastructural Architecture design involves a complex integration of technical factors. Contractor will handle competing activity tasks and will occasionally require departure from standard practice. Our success is measured by the number of tickets completed, systems successfully designed, aged systems refreshed, customers supported. Contractor will manage assigned work projects and produce ASW’s within 60 days of work ticket assignment.

### Infrastructure Architecture Team

The Contractor shall provide support as part of the Architecture Team. The Architecture Team is responsible for collaborating with stakeholders to provide infrastructure solution designs and project cost estimates. The Architecture Team combines Networking and Infrastructure expertise to support on-premise customer products thru: architecture guidance, best practices, capacity planning, and OIT compliant request fulfillment. The Architecture Team requests to identify technical, financial, and staffing resources required to ensure OIT compliant request fulfillment.

The Architecture Team provides best practice architectural design guidance across multiple applications and projects with ability to host complex, multi-tier applications in enterprise Information Technology Centers (ITC)s. The Architecture Team provides best practice architectural design guidance across multiple applications and projects with ability to host complex, multi-tier applications at ITCs. The Architecture Team maps business objectives to application/architecture requirements with working knowledge of the Franchise Fund hosting model. The Architecture Team works in partnership with ITOPS, EPMO and other service providers to offer guidance, and validates VA IT Process Request (VIPR) routing and approval processes.

Contractor shall:

1. Perform comprehensive technical analysis for enterprise-level projects and initiatives in support of the VA mission. Review proposed infrastructure designs and recommend improvements and enhancements to the design. Support the development of hosting strategies, and action plans to ensure key agency infrastructural architectures.
2. Provide requirements gathering, guidance, direction, technical expertise, and support to members of project team(s). Requirements are evaluated throughout the project lifecycle. Facilitate ongoing requirements validation and verification throughout the systems engineering lifecycle. Conduct IT system reviews then interpret and translate customer requirements into operational capabilities. Consult with customers to evaluate functional requirements and manage customer requests to identify associated technical, financial, and labor resources required to ensure OIT compliant request fulfillment.
3. Ensure the integration of all system components (applications, databases, storage, networking, operating system, virtual server, and/or hardware) within system designs are interoperable and meet the system requirements; consider risks and assumptions, documenting and communicating effectively
4. Utilize requirements development techniques as appropriate to accomplish the analysis and specification of requirement statements that accurately and completely express needs. Requirements development techniques include but are not limited to the following: direct elicitation from customer/user interaction such as interviews and requirements building workshops; participation in business process modeling activities; mining existing system functionality; use cases; scenarios; and prototyping.
5. Collaborate, monitor, and provide support for IT enterprise infrastructure services within a systems engineering framework that ultimately affect the plans, goals, and effectiveness of supported projects.
6. Collaborate effectively with internal and external stakeholders to define requirements for IT project efforts. Provide infrastructure solution designs and project component estimates. Validate resource increases for current state operational system environments, work with customers to define the best technical fit and right-size requirements to accomplish desired results.
7. Interface with subject matter experts and determine additional enterprise requirements (e.g., security, privacy, Section 508, Enterprise Architecture (EA), etc.) as applicable to VA projects. Organize infrastructure planning for systems hardware and/or software necessary to support new initiatives or provide changes in existing systems/applications. Designs technical refresh solutions for existing systems nearing end of life (EOL).
8. Contractor shall log weekly work activity notes for their currently assigned tickets. These logged notes will provide a minimum baseline of documented progress.
9. Unless otherwise excused, Contractor will coordinate and be responsible to attend weekly staff meetings, Configuration and Architecture Discussion (CAD) committee, ASW reviews, and internal training sessions.
10. Facilitate the successful exchange of information between stakeholders and all interested parties by coordinating and facilitating meetings and sessions to ensure that all critical parties are informed of, and involved in, key infrastructure requirements development and validation activities. Coordinates systems planning discussions with vendors, project managers, and higher-level staff in order to support project changes. Contractor will respond within 24 hours to manager requests for information and assigned action items.
11. Duties require the independent application of processes and methods for a broad range of IT activities for in-depth analysis of IT issues. Infrastructural Architecture design involves a complex integration of technical factors. Contractor will handle competing activity tasks and will occasionally require departure from standard practice. Our success is measured by the number of tickets completed, systems successfully designed, aged systems refreshed, customers supported. Contractor will manage assigned work projects and produce deliverables within 60 days of work ticket assignment.

### System Architecture Benefit Delivery Network System:

Infrastructure Operation (IO), Mainframe Service Lines is responsible for the support of the Benefits Delivery Network (BDN) system. The system consists of Bull and IBM mainframe computers, the Bull front-end GCOS Network Service Processors (GNSPs) and Main Ways Service Network Processors (SNPs), the BDN Virtual Tape Solution (VTS), the Super Migration Gateway (SMGW) Red Hat Linux computers, and nationwide Microsoft Personal Computers (PC’s). The SMGW provides the communications network to the GNSPs via the routers and the wide area network (WAN). The BDN, impacts 532 million veteran’s benefits/month, to include Forever GI Bill, Colmery, other education benefits, re-certification and 4 major Regional Offices (RO's).

The Contractor shall be able to manage time responsibly and distribute time equally amongst tasks

1. Installing, Maintaining, Administering and Customizing Bull Mainframe General Comprehensive Operating System 8 (GCOS8), HELIOS Operating System, TP8 Transaction Processing, Integrity Control, and I-D-S/II Database Software monthly.
   1. Bull GCOS8 software including, but not limited to: installing GCOS8 HELIOS SR8.0; maintaining and customizing GCOS8 software components; managing GCOS8 hardware configurations using G8CM (Configuration Manager); using Bull utility programs such as UTL8, PARS8, and Persue8; managing FMS catalog and file structures.
      1. Description of system requirement for the entire set up within an organization
      2. Document any System design changes and notify all stakeholders
      3. Analyze system integration boundaries, restrictions and customize solution for client requirements, detailing resolutions in layman terms, to include compatibility of the system to interconnecting environment/systems. Establish a Bull system measurement and tuning functions including use of Bull system monitors WMON, CCMON, and MEMON.
      4. Identify and resolve Bull system problems of a highly technical nature under

critical time constraints. Establish possible issues and resolutions regarding high demand issues and sudden system failure/crashes.

* + 1. Define system upgrades and prepare for future addition with minimal or no more than a 2% down time.
    2. Coordinating troubleshooting activities with other technical support staff and/or vendors under high-pressure circumstances.
    3. Provide guidance to computer programmers, analysts, administrators, operators or communications technicians to avoid recurrence of Bull system problem.
    4. Prepare a variety of reports, studies, correspondence, and other documents to convey complex and technical and administrative information for internal/external distribution.
  1. TP8 administration including, but not limited to: configuring TP8 workstations; monitoring TP8 processing; fine tuning resource allocation; problem resolution involving TP8 workstations, support files, or TPRs.

1. Communicate technical and complex information (especially related to SMGW processing) and provide instruction to groups and individuals.
2. SMGW subject matter expert representative on a team that spans functional organizations.
3. Verify After Journals and Accounting Journals and Set Recovery Mark SRMK is executed for all Workstations monthly and as need for trouble shooting.
   1. Ensure all connections to external environments/ interconnecting systems are functional, both test and production every two hours.
   2. Report new Transition Process Routines (TPR) displays or dumps every two hours.
   3. Integrity Control administration including, but not limited to: establishing system and application program environment; balancing resource usage; providing restart and recovery support;

Using commands:

1. WMON – TP8 Workstation Monitor
2. TPST – TP8 Monitor Similar to the DMIV-TP Monitor (TPST)
3. MEM-MON (MEMON) – Memory Monitor is excellent tool to determine system workload.
4. CC-MON (CCMON) – Concurrency Control Utilization Monitor will help to identify causes of processing delays that result from Data Base Access Conflicts between Concurrently executing jobs/processes.
   1. I-D-S/II database administration including, but not limited to: design, translation, and implementation of database structure; mapping of database files onto mass storage devices; monitoring database activity, growth, and performance; creation and maintenance of processes to unload, reload, save, and restore database files.
5. Verify Define Data Base (DDBA) commands and Set Recovery Mark (SRMK) commands are executed for both the RDPC and TCS TP8 Workstations every two hours.
6. Report SRMK command every hour and verify Update Journal History File (UPJH) command is executed.
7. Responsible for installing, customizing, implementing, maintaining, and providing user support of the following software products:
8. Hyper channel
9. GLINK
10. DPF8
11. Waterloo Tools
12. ACI8
13. SAFE
14. GTEA
15. SR8.0 GCOS8 operating system and administration
16. Startup configuration to be able to perform Initialize and Edit (system BooT cold and warm)
17. File management system to be able to create, delete user ID’s and create, delete files on different formats.
18. GMAP programing
19. Time Sharing subsystem, installation and user support
20. Installation and support Tape management System (TMS)
21. Virtual tape system
22. Distributed Sysout (DPF8)
23. Standard packaging Tools
24. Text Editor programing
25. Job Control language (JCL)
26. Gcos8 Operator Commands and functions
27. Hyper Channel
28. Bulk Media Conversion (tools and utilities)
29. GCOS 8 file Transfer (FTP8)
30. GCOS8 Data management to work on a volume set Environment creating, deleting and adding volume set
31. Unix System Administrator to support GGATEs , Print Server

## INFRASTRUCTURE OPERATION (IO) BUSINESS OFFICE SUPPORT SERVICES (FFP)

The IO Business Office provides a full range of financial management, budget customer contract, cost accounting, asset management, administrative contract management and business continuity support. For information purposes, below are the historical Full Time Equivalent (FTE) skill sets within the provided Labor Categories in the Pricing Spreadsheet.:

Austin, Texas

* (3) Business Analyst, Sr.
* (2) Business Process Technician
* (2) Product Analyst, Sr.
* (1) Program Analyst, Expert
* (3) Program Analyst, Sr.
* (1) Program Manager
* (5) Project Analyst
* (1) Release Manager
* (1) System Administrator, Sr
* (1) Technical Writer/Editor, Sr.
* (2) Software/Systems Architect, Senior

### Information Technology (IT) Asset Management (ITAM) Support

The Contractor shall provide technical support services with the IT Service Management (ITSM) framework for Infrastructure Operations (IO). This includes IT Asset Management (ITAM) for software (SW), hardware (HW), Application, Business and Support, and ITAM Practice Specialists.

#### Operational Support

The Contractor shall provide operation support to include tracking, maintaining, and analyzing acquisition actions for the sustainment of Commercial off-the-shelf (COTS) software, hardware and service contracts. ITAM processes approximately 550 IT COTS hardware, software and service acquisition actions throughout the acquisition life cycle, with 60% of the actions taking place in the 1st and 4th quarter of each fiscal year.

The contractor shall:

1. Enter, track approximately 550 acquisition actions into the Forecast of Opportunities and Requirements Center for Excellence (FORCE) system or replacement systems.
2. Retrieve approximately 400 ITAM Hardware (HW), Software (SW), and Services team invoices from Invoice Payment and Processing System (IPPS).
3. Ensure invoices are complete and accurate against the contract award and deliverables provided by awardee.
4. Recommend certification or rejection of invoices to Contracting Officer Representative (COR) in accordance with FAR 32.905.
5. File all invoice documentation in the applicable repository and update all required tools and/or trackers.
6. Provide COR notification for all invoices exceeding 20 days.
7. Create and execute up to 550 ARM requests and modifications per fiscal year (surging during 1st and 4th quarters) in the Budget Tracking Tool (BTT)
8. Create BTT ARM requests within 24 hours of notification; then manage, and complete BTT ARM tasks as they come available throughout the day.
9. Gather and analyze information and enter data into the Light Electronic Action Framework (LEAF) form, update Contract Action information as needed. This repository requires monthly updating (surging during 1st and 4th quarters).
10. Provide support to the ITAM LEAF Administrator with maintenance, customer issues with individual LEAF Portals, modifying and review of LEAF User Guides and the LEAF Aging Report following-up and updating Requests that have stalled within the approval process.
11. Coordinate and track FFSS Monthly Status Report reviews with VA Resource Leads.

#### Program Support

The Contractor shall provide Program Support by creating, analyzing, evaluating, proof-reading, reviewing, and collaborating on various technical, procurement processes, procedures, user

guides for ITAM Applications, and/or acquisition and professional documents created and used by ITAM staff and Franchise Business Office.

The contractor shall:

* + - * 1. Create, modify, and manage Microsoft SharePoint sites. Provide guidance on best practices and the most efficient uses of SharePoint.
        2. Unless otherwise excused, Contractor will coordinate and be responsible to attend weekly staff meetings and training as designated by ITAM.
        3. Review and distribute an average of 60 OIT, IO and Internal ITAM TASKS, ACTIONS, Audit Requests, Requests for Information (RFI) throughout the year.
        4. Provide notifications and concurrences to management for data calls and information requests within the stated due date. Tasks can range from the simple 30 minutes to answer to multiple days to compile the data using various tools and systems used by OIT.
        5. Review and coordinate with ITAM staff on 40 plus Standard Operating Procedures (SOP) biannually and update templates and processes as required.
        6. Create business cases to include strategic plans and contingency operations.
        7. Integrate and test new solutions as they pertain to Contracting Officer COR management.

#### Administrative Support

The Contractor shall provide administrative support to include processing notifications, tracking data, data call management, personnel access requests, and maintenance of data repositories.

Contractor shall:

1. Submit ServiceNow requests for onboarding and off boarding of ITAM staff to include required accesses and Government Furnished Equipment (GFE).
2. Route Access Forms for signatures and communicate with various VA Staff concerning application accesses and GFE.
3. Process Visitor Requests for guest entrance to AITC.
4. Create new and manage existing Outlook distribution list, email groups and group email boxes.
5. Review ITAM SharePoint site monthly to ensure links, announcements and information within the SharePoint site is up to date and relevant.
6. Utilize Microsoft Office Suite (Word, Excel, SharePoint, PowerPoint, TEAMS)
7. Update various ITAM spreadsheets and tools with the ability to analyze contract information from multiple sources.

#### ITAM Practice Specialists

The contractor shall provide support to the ITAM Practice Specialists Team. The ITAM Practice Specialists are responsible for the tracking of over 25,000 IO hardware and software assets with an annual increase of 10 percent. The ITAM Practice Specialists uses IT Service Management (ITSM), ServiceNow, ITAM Modules’ which is comprise of the Software Asset Management

(SAM), Hardware Asset Management (HAM) and Contract Management (CM) applications. The ITAM Practice Specialists are responsible for capturing and updating the manufacturers, vendors, warranty support contact and contract information throughout the asset lifecycle. The ITAM Practice Specialists are also responsible for providing asset oversight to Infrastructure Operations (IO) and IT Asset Management stakeholders. The contractor shall be well verse in ServiceNow, the Microsoft Office Suite and other needed VA tools. The contractor shall collaborate with Service Management Office (SMO), internal and external IO customers.

In support of IO ITAM internal & external IO customers, the Contractor shall:

1. Contribute continuous improvement recommendations for the existing tools being used within the organization. Provide support by troubleshooting issues by interfacing with SMO for support of IO ITAM assets, Configuration Items (CI)s, and Reports. Provide technical knowledge support to the SNOW IT Asset Management Tools Administrators with an IO perspective.
2. Provide IO users support of the SNOW Asset DBs/the CMDB/reporting tools by interacting with SMO for IO Data Calls, HW/SW procurements and capturing of lifecycle of their assets. Managing the financial and contractual data over the full lifecycle in the SNOW tool. Provide loading, validating, and updating IO IT Asset Management data manually and/or using a data importer tool. Including doing manual data input for Franchise Fund (FF) Business Services Configuration Items (CI)s.
3. Assist with training IO customers (internal / external) on the functionality of SNOW tools in support of IO hardware and software assets and their financials. Utilize the report generator in SNOW to produce data call reports, Ad Hoc reports, and dashboards. Provide support for reports to be created / pulled from the SNOW Tools for ITOPS IO managed applications.
4. Maintain, update and / or create the required support documentation for Operation. Creating and updating of Standard Operating Procedures (SOP)s for ITAM Practice Specialists. Perform the ongoing definition of processes and procedures around IO’s IT Asset Management (ITAM) processes. Any changes to processes or procedures shall be reviewed and concurred by the assigned VA RESOURCE LEAD.
5. Execute change and configuration management for all IO Assets and Configuration Items (CI)s within the SNOW tools. Required change tickets or Incident Requests documentation is produced and delivered timely. Monitoring of assigned change tickets through their completion. Document in the change tickets if current due date cannot be met. Acknowledge tickets in 24 hours or less.
6. Scope of workload could expand to onboarding of new customers and their assets, other data centers, management of Appropriated Assets and their lifecycle. Keep VA RESOURCE LEAD informed of difficult and/or controversial issues and unique problems and Project tasks.

### Project Controls Engineering Services

The Contractor shall provide Project Controls Engineering (PCE) supports requirements that are based on additional ITOPS IO support requirements, re-organizations, resource turnover, new customized software development demands, and additional software development of ETML in order to support an increase of data-integrated application interfaces to the Project Controls Engineering Application Suite. The Contractor shall perform timekeeping Application Administration, Application Integration and Custom Reports.

#### Timekeeping Application Administration

The Contractor shall:

1. Monitor the timekeeping website for new and current service packs, software upgrades, version updates, as well as any other identified updates required for the time tracking site. The Contractor shall review, schedule and implement those service packs, software upgrades, version upgrades and any other identified updates required for the timekeeping system to ITOPS IO’s environment within thirty days of posting to the website. The

Contractor shall follow ITOPS IO processes and procedures for implementing such changes as project management, release, and configuration management, opening a Change Request, coordinating notification of changes, impacts and other documentation.

1. Provide timekeeping Training: All training should include a PowerPoint

Presentation and SharePoint site with documentation of training as well as short cuts listings.

The Contractor shall:

* 1. Create and ‘keep current’, a set of training materials geared towards new users. These materials will be self-guided for the trainee.
  2. Provide mentoring, training, and one-on-one sessions to customers on how to effectively use and maneuver in the Timetracking Application Suite. Training is accomplished with an introductory PowerPoint presentation maintained by the Contractor. This presentation is furnished to the new user (both FTEs and other Contractors); new users follow directions in the PP presentation and direct questions or requests for assistance to the Contractor. New users average 3-4 per week, with around 1300 total IO users posting their timecards within the system. When it is necessary to migrate to a new version, release, service pack, or apply software upgrades to the timekeeping system, the Contractor shall train all staff on the use of new or changing features.
  3. Provide support and ensure new versions, releases, service packs, or software upgrades to the system follow standard IO-wide processes for Release Management and Change Management.
  4. Provide advice, training, and one-on-one demonstration or instruction to staff concerning the creation of activities in the timekeeping system, assignment of estimated hours to each activity, and coordination of releases for each application.
  5. Provide one-on-one demonstration or instruction to the desktop staff on how to troubleshoot timecard issues with the desktop and web clients.

#### Application Integration

The Contractor shall develop and manage enterprise application integration programs requiring the use of Transact SQL stored procedures, SQL server DTS, COM/DCOM and XML to implement the following:

1. Maintain Single Sign on capabilities through Active Directory and Lightweight Directory Access Protocol (LDAP) within the currently deployed time keeping Application Suite and its integrated Oracle components, so that once a customer has logged onto their workstation, they will automatically be given access to the time tracking Application Suite.
2. Support interfaces to the system, as required and authorized by IO management.

#### Custom Reports

The Contractor shall provide develop and produce the following reports on a daily, weekly or monthly basis as described below:

1. ITOPS IO Delinquent Timesheet History (monthly) – a report that identifies all delinquent timesheets grouped by Supervisor. The Contractor shall notify ITOPS IO Section Supervisors individually, and on a weekly basis, when Contractor assigned staff are late in submission of timesheets.
2. ITOPS IO Labor Task Distribution (monthly) – a report that includes the allocation of IO Actual Labor Units across internal and external projects. The date ranges for this report should span the 1st calendar day of each month to the last calendar day of each month.
3. ITOPS IO Contractor Monthly Time Report– Consolidated – a report that extracts
4. Official Timesheet Data used by Contractor’s PMO to validate Individual Contractor Prepared Month Reports. Report is subsequently used by CORs to validate Contractor Invoices.
5. Labor Billing Extract (monthly) – a report produced in Excel providing detailed timesheet information of billable labor activities (including time period, data source, resource ID, resource name, bill code, project ID, MCC, application function code, application code, activity ID, activity name, rate, hours, and $ total). The report is due to the Business Office (Revenue Management) by 10:00am on the first working day of each month.
6. Create ad hoc reports based on data stored in timekeeping system.

All ongoing daily reporting shall be provided by close of business of the following business day to the COR/VA RESOURCE LEAD(s) via electronic submission. All ongoing weekly

reporting shall be provided by close of business 2 business days after the reporting period and to the COR via electronic submission. All ongoing monthly reporting shall be provided by close of business on the 15th day of each month (with the exception of the Labor Billing Extract which is due by 10:00am local time on the first business day of each month) and to the COR via electronic submission.

**Deliverables:**

1. ITOPS IO Delinquent Timesheet History
2. ITOPS IO Labor Task Distribution
3. ITOPS IO Contractor Monthly Time Report
4. Labor Billing Extract

### Financial Administrative Support Services

The Contractor shall provide support to the IO Appropriated Budget Office. IO Appropriated Budget Office is responsible for an average of 200 Appropriated acquisition packages annually. The Contactor shall provide non-inherently governmental financial administrative support services in budget planning, budget execution, and acquisition support for Infrastructure Operations. The Contractor shall:

1. Download and check Budget Operating Plan (BOP) daily for budget items due within 120
2. Ensure all budget items have a requisition package number and linked to Budget Tracking Tool (BTT) strip
3. Send emails to PM/COR to initiate LEAF entry and to validate budget item is still needed.
4. Verify the Period of Performance’s (PoP) and term of item.
5. Identify discrepancies in LEAF and notify PM/COR
6. Review BOP for obligations and Purchase Order (PO) numbers until award
7. Contact COR or CO for copy of final contract to upload to SharePoint
8. Monitor IPPS for invoices and notify COR or SME to take action if over 5 days
9. Check and review new entries daily. Notify COR/PM if discrepancies are found.
10. Ensure pillar and technical reviews are completed, provide reminders to Approver or AO for all actions over 3 or more days
11. Review and check all required documents have been uploaded by package builder (LEAF)
12. Follow up on required actions for package builder
13. Ensure all acquisition packages and GPCs purchases adhere to the VAAR Part 802 (Kingdomware Rule).
14. If not funded (no strip on BOP), notify budget manager or designee. Once all approvals are completed, wait for strip to be created and funded
15. Add comments to LEAF request as necessary
16. Obtain ARM approval for all funded packages and coordinate with BTT admin staff for funding document. Upload copy into LEAF request. Ensure LEAF workflow moved forward
17. Double check all documents uploaded to FORCE, ensure all required field are accurate before submitting to TAC.
18. Ensure all required fields are entered in to the BTT requisition packages
19. Download the ARM approvals and upload into the LEAF Portal
20. Initiate 2237 funding documents
21. Provide FITARA Level 1 follow up and obtain market research memo or ACQ plan strategy or letter of intent
22. Follow up on FITARA Level 2 requirements in BTT ARM, upload all documents into FORCE and submit to contracting.
23. Provide follow up on all packages submitted to TAC daily, identify changes, discrepancies, and provide SME/COR notification of requirement status as required.
24. Update information on the BTT strip ensure the use of correct format.
25. Provide monthly performance report to SME of work accomplished and current status
26. Provide follow up on all packages submitted to TAC daily, identify changes, discrepancies, and provide SME/COR notification of requirement status as required.

### Customer Agreement Management Support

The Contractor shall provide business services program support to Customer Agreement Management (CAM) at Infrastructure Operations (ITOPS IO) data centers by assisting with creating and continually monitoring customer agreements. CAM is responsible for an annual average of 17 customers agreements and 150 modification, which encompass services for 250 plus systems.

The Contractor shall:

1. Prepare agreements, modifications, rough order of magnitude estimates, and other business documents.
2. Continually monitor agreements and projections, including researching variances and documenting those variances of revised projections in monthly variance reports.
3. Research and respond to customer inquiries regarding agreement estimates, invoices, business documents, and other business-related matters as necessary.
4. Gather and analyze data for annual business planning process.
5. Maintain and track unique identifiers assigned to business/application service data and its relationship to the VA System Inventory.
6. Provide/report timely and accurate status updates for assigned tasks, to include agreement and modification logs, and Change Requests.
7. Maintain and track workload and customer agreement data within IT financial management system / database.
8. Participate in special projects related to business office operations.

### Franchise Fund Budget Office (FBO) Support

The Contractor shall provide support to the Franchise Fund Budget Office (FBO). FBO is responsible for the oversight and management of all franchise fund financial and contractual operations. The Contractor shall manage, track, and analyze business and IT projects with significant business impact within the IO Business Office.

1. Use cost estimators to create overall cost versus benefit analyses.
2. Gather data and conduct data analysis in response to various data calls from OIT.
3. Liaise between the IO Business Office, divisions, and customers.
4. Integrate and test new solutions.
5. Create business cases to include strategic plans and contingency operations.
6. Use FBO business data to plan, analyze, and evaluate the effectiveness of operating programs.
7. Use source data to evaluate the effectiveness of programs and business processes.
8. Use qualitative and quantitative analytical skills to assess the effectiveness of the operations.
9. Analyze data to present program status and make recommendations on improving business processes. All recommendations shall be delivered to the COR or assigned VA Resource Lead.
10. Utilize FBO tools (FORCE, LEAF, BTT ARM, SharePoint and etc.) for data analytics to support ITOPS IO Data Calls.

### Cost Management Support

The Contractor shall provide business and financial services support to Cost Management at Infrastructure Operations (ITOPS IO) data centers by assisting with planning, monitoring, and reporting on the budget operating plan (BOP). Cost Management is responsible for the planning

and executing of an annual budget of over $500M. The Contactor shall provide non-inherently governmental financial administrative support services in budget planning, budget execution, and acquisition support for Infrastructure Operations.

The Contractor shall:

1. Prepare budget operating plans, post expenses, obligations, and updates to the BOP daily.
2. Plan and facilitate budget update meetings and provide meeting minutes.
3. Continually monitor the BOP and make projections, including researching variances and documenting revised projections in monthly variance reports daily.
4. Research and respond to customer inquiries regarding budget estimates, invoices, business documents, and other business-related matters as necessary daily.
5. Gather and analyze data for annual business planning process.
6. Provide reports timely and accurate to include status updates for assigned tasks, unliquidated obligations, and pending receivables.
7. Download financial reports and check Budget Operating Plan (BOP) daily for budget items due within 30 days
8. Send emails to PM/COR to validate budget item is still needed.
9. Verify the Period of Performance’s (PoP) and term of item.
10. Review and check all required documents and all documents have been uploaded by package builder (LEAF).
11. Review BOP for obligations and Purchase Order (PO) numbers until award daily.
12. Contact COR or CO for copy of final contract for reference.
13. Check and review new LEAF entries daily. Notify COR/PM if discrepancies are found.
14. Run LEAF reports and report on open actions daily.
15. Initiate and modify ,approximately 500, 2237 and 1358 funding documents annually.
16. Provide monthly performance report to Resource Lead of work accomplished and current status
17. Use cost estimators to create overall cost versus benefit analyses weekly and as required.
18. Gather data and conduct data analysis in response to various data calls from the business office.
19. Liaise between the IO Business Office, pillars, and customers.
20. Integrate and test new solutions.
21. Plan, analyze, and make recommendation to the effectiveness of current operating procedure
22. Use source data to evaluate the effectiveness of programs and business processes.
23. Use qualitative and quantitative analytical skills to assess the effectiveness of the operations.
24. Analyze data to present program status and make recommendations on improving business processes. All recommendations shall be delivered to the assigned VA Resource Lead.
25. Utilize VA tools for data analytics to support Cost Management operations.
26. The contractor shall use Excel, PowerPoint, Word, Power BI or VA replacement application to submit financial reports to VA Resource Lead
27. The contractor shall use current IT financial management system to report financial information to the VA Resource weekly.
28. Contractor shall utilize VA tools to complete daily tasks (such as Microsoft Suite, LEAF, ARM, Apptio, BTT)

## TECHNICAL INFRASTRUCTURE SERVICES (T&M)

As required within the sub- tasks below, the Contractor shall provide 24x7x365 across three shifts to provide 24x7x365 (Federal holiday support will be provided on an as needed basis). If not stated, support services are required during normal business hours only.

For information purposes, below are the historical Full Time Equivalent (FTE) skill sets within the provided Labor Categories in the Pricing Spreadsheet.:

Austin, Texas

* Administrative /Clerical Assistant III
* Application Administrator
* Customer Service Engineer
* Customer Service Technician
* Database Administrator, Sr.
* Database Architect, Sr.
* Developer
* Developer, Expert
* Developer, Junior
* Developer, Senior
* Development Manager
* Disaster Recovery Analyst
* Electronic Library Assistant
* Electronic Librarian
* ERP Programmer,
* Network Administrator Sr.
* Network Engineer
* Program Analyst, Expert
* Program Manager
* Project Manager
* Software/Systems Architect, Sr.
* System Administrator
* System Administrator, Sr.
* System Administrator, Jr.
* System Engineer, Sr.
* Technical Applications/Systems Analyst
* Test Engineer
* Test Engineer, Sr.
* Training Developer
* Training Developer, Sr.
* Product Analyst, Senior
* Program Analyst, Senior
* Software Engineer
* System Architect
* Disaster Recovery Manager
* Security Analyst, Sr.
* System Installation Engineer

Hines, Illinois

* Administrative /Clerical Assistant III
* Application Administrator
* Customer Service Engineer
* Customer Service Technician
* Database Architect, Sr.
* Database Administrator, Sr.
* Developer
* Developer, Expert
* Developer, Junior
* Developer, Senior
* Development Manager
* Disaster Recovery Analyst
* Electronic Library Assistant
* Network Administrator Sr.
* Network Engineer
* Program Manager
* Project Manager
* Software/Systems Architect, Sr.
* System Administrator
* Technical Applications/Systems Analyst
* Test Engineer
* Test Engineer, Sr.
* Training Developer
* Training Developer, Sr.
* Product Analyst, Senior
* Program Analyst, Senior
* Software Engineer
* System Architect
* Disaster Recovery Manager
* Security Analyst, Sr.
* System Installation Engineer
* ERP Programmer
* Program Analyst, Expert
* Software Engineer, Sr.
* Software/Systems Architect, Sr.
* System Administrator, Sr.
* System Engineer, Sr.
* Technical Writer

Philadelphia, Pennsylvania

* Electronic Library Assistant
* Electronic Librarian
* Program Manager
* System Administrator, Sr.
* Network Administrator
* Network Engineer
* Database Administrator, Sr.
* Test Engineer
* Test Engineer, Sr.
* Training Developer
* Training Developer, Sr.

Quantico, Virginia

* System Administrator, Sr
* Network Administrator
* Network Engineer

Falling Waters, West Virginia

* Electronic Librarian Assistant
* Network Administrator, Sr.
* Network Engineer
* Program Manager
* System Administrator, Sr.

Remote/Virtual

* System Administrator, Sr
* System Administrator, Jr
* Project Manager
* System Engineer, Sr.
* Network Engineer, Sr.

### Windows Support

#### Windows Systems Administration

The Contractor shall provide 24x7x365 operating system administration across three shifts to provide 24x7x365 (except for Federal holidays where support will be provided on a call back basis) for the current MS supported Windows Operating Systems (OS) including the related software such as Internet Information Services (IIS) with each OS. The Contractor shall provide basic system administration activities and immediate troubleshooting efforts when contacted by the ServiceNow to ensure outages or incidents have been identified and are pending resolution within 24 hours for 2000+ Windows servers.

In support of OS system administration support the Contractor shall:

1. Use automated TRM approved provisioning tools (Orchestra or equivalent) to install operating systems on virtual servers.
   1. Follow existing SOPs
   2. Configure system and file systems in accordance with SOPs.
   3. Configure and implement backup client software.
   4. Install layered systems software, such as IIS, .Net, MS-SQL, Apache, Web Logic, Oracle Client, per instructions in SOPs.
2. Maintain existing operating systems.
   1. Patch OS on a monthly cycle with defined patch set per SOPs.
   2. Monitor and maintain adequate file system space for the operating system and application files.
   3. Administer service accounts and passwords.
   4. Monitor logs and system error logs. Remediate where skilled; elevate to more experienced administrators where necessary.
   5. Implement security hardening requirements and configurations per from VA counterpart instructions outlined in Service Requests and Change Requests.
3. Troubleshoot incidents and problems.
   1. Participate in troubleshooting / fault isolation teams to determine problem or issue.
   2. Work with other support Contractor maintenance/support’s lines and open a case after 30 minutes of researching problems without success in resolving the issue and engage more experienced system administrators to review situation.
   3. Correct OS related incidents and problems during coordinated maintenance windows based on instructions defined in ticket and maintenance plan.
4. Support general activities.
   1. Perform work tasks as instructed within ServiceNow change requests, service requests, incident and/or problem tickets.
   2. Communicate to project managers, team members, other technical administrators and/or end users the status of work performed and findings with tickets, incidents, and problems.
   3. Use administrative tools such as Microsoft System Center Operations Manager (SCOM) and Microsoft System Center Configuration Manager (SCCM) for monitoring and administering Windows servers.
5. Support alternate shifts to include swing and mid shifts, and, if appropriate, ensure that respective Contractor shifts and Government shifts are aligned. Swing shift begins mid-afternoon and mid shift begins around midnight. The Contractor shall also:
   1. Monitor and maintain monthly patching using various system and app logs. Use automated tools for checking on patch status per individual servers.
   2. Provide first and second responder action as defined in support SOPs for email and service desk alerts regarding system performance and degradation.
   3. Perform a visual check of all hardware components monitoring fault indicator lights and area temperature once nightly.
   4. Mid shift shall provide an email at the end of their shift sent to the Windows Team Leads defining any problems, incidents, or major activities that occurred through the night.

#### Windows Systems Management

The Contractor shall provide operating system management across three shifts, 24x7x365 (except for Federal holidays where support will be provided on a call back basis) for the current MS supported Windows Operating systems including the related

IIS with each OS, and, if appropriate, ensure that respective Contractor shifts, and Government shifts are aligned. The Contractor shall provide basic system

administration activities and immediate troubleshooting efforts when contacted by the ServiceNow to ensure outages or incidents are resolved as quickly as possible for 2000+ Windows servers, as well as work on teams with ITOPS IO customers and partners, end users, programmers and analysts, Database Administrators , and application and network administrators.

In support of the Windows OS system administration, the Contractor shall:

1. Perform operating system provisioning.
   1. Administer the automated operating system provisioning tools (Orchestra or equivalent). Create Standard Operating Procedures (SOPs) outlining how to provision the operating system on new standalone or virtual servers using the automated tools. Provisioning instructions will include virtual servers within VMware or Hyper-V.
   2. Configure hardware Redundant Array of Independent Disks (RAID) implementations on RAID controllers and disk storage shelves on standalone servers.
   3. Configure and implement host bus adapters (HBAs) for both SAN storage and SAN boot devices.
   4. Configure and implement multipath network interfaces.
   5. Install and configure system physical, logical, and dynamic disks for use in FAT32 and New Technology File System (NTFS) using Microsoft disk management tools.
   6. Install and configure software associated with a Microsoft clustered environment.
   7. Configure and implement backup client software. Create SOPs defining how to perform this activity.
   8. Install layered systems software such as IIS, .Net, MS-SQL, Apache, Web Logic, Oracle Client, etc.
2. Maintain existing operating systems.
   1. Create and maintain local SOPs related to daily Windows system administration related functions and obtain Government approval of SOPs periodically.
   2. Implement and administer patching automation tools.
   3. Patch OS on a monthly cycle using technologies to limit downtime and provide quick back out mechanism, currently IBM Endpoint Manager (IEM). Prepare SOPs defining how to perform patching activities and obtain Government approval of SOPs periodically.
   4. Upgrade OS as required for system applications or every 2.5 years, whichever occurs first.
   5. Install firmware upgrades as needed to resolve issues or on an annual basis, whichever occurs first.
   6. Reinstall operating systems after hardware refresh.
   7. Implement and administer configuration management tools to ensure systems maintain security compliance and baseline consistency.
   8. Implement and administer monitoring tools. Prepare SOPs on monitoring practices and procedures to adhere to when alerts occur and obtain Government approval of SOPs periodically.
   9. Monitor and maintain adequate file system space for the operating system and application files.
   10. Implement and administer Active Directory , (AD) Services, Dynamic Domain Name System (DDNS), and Group Policies.
   11. Create and maintain SOPs, on how to manage service accounts and passwords, and obtain Government approval of the SOPs, periodically.
   12. Create and maintain SOP on how to manage AD domain services, DDNS, and Group Policies, and obtain Government approval of the SOP periodically.
   13. Monitor and maintain system accounting files and logs and system error logs.
   14. Implement security hardening requirements and configurations to remediate security vulnerabilities listed in security audit and scan vulnerability reports; remediation must be accomplished within the timeframe defined in the report. Timeframes to remediate are based on the severity level of the finding such as: High within 60 days, Medium within 90 days, and Low within 120 days. Prepare Service Desk Manager (Service Now) tickets with instructions to be performed so other shifts can perform remediation during maintenance windows.
   15. Plan and document disaster recovery (DR) procedures and maintain documentation related to DR test and system changes.
   16. Perform knowledge transfer of critical Windows System administration tasks to ITOPS IO System Administrators.
   17. Monitor system performance and tune to optimize usage of system resources.
   18. Automate routine tasks through .BAT and PowerShell scripting.
3. Troubleshoot incidents and problems.
   1. Assist in required troubleshooting / fault isolation teams to determine problem or issue.
   2. Contact Contractor provided maintenance/support’s lines and open a case after 30 minutes of researching problems without success in resolving issues.
   3. Correct OS related incidents and problems during coordinated maintenance windows or immediately in the case where system is down.
   4. Participate and provide input in War Room or on Tiger Teams to troubleshoot difficult issues.
4. Support general activities.
   1. Assist in ITOPS IO support activities such as Disaster Recovery, data replication, infrastructure support activities such as documentation, develop architectural diagrams, and troubleshoot performance issues.
   2. Lead ITOPS IO sponsored initiatives, to include developing schedules and plans, communicating progress to management in both verbal and written formats, identifying barriers, and identifying and evaluating alternatives.
   3. Track and document all system changes, problems, issues, and work tasks within ServiceNow through Change Requests, service requests, incident and/or problem tickets.
   4. Participate and contribute at project meetings as subject matter expert (SME) for Windows system administration related areas.
   5. Communicate to project managers, team members, other technical administrators and/or end users the status and findings with tickets, incidents, and problems.
   6. Implement, configure, administer, and use administrative tools such as Microsoft System Center Operations Manager (SCOM) and Microsoft System Center Configuration Manager (SCCM) for monitoring and administering Windows servers.
5. Support alternate shifts, and, if appropriate, ensure that respective Contractor shifts and Government shifts are aligned. Alternate shifts consist of swing and mid shifts. Swing shift begins mid-afternoon and mid shift begins around midnight. The Contractor shall:
   1. Monitor and maintain monthly patching and backups, review patching and backup schedules and troubleshoot patching or backup issues using various system and application and tools. Use automated tools for reporting on patching and backup status per individual servers.
   2. Provide first and second responder action as defined in support SOPs for email and service desk alerts regarding system performance and degradation.
   3. Prepare scripts and run reports.
   4. Create configuration management modules for use in configuration management tool.
   5. Mid shift shall provide an email at the end of their shift sent to the Windows Team Leads defining any problems, incidents, or major activities that occurred through the night.

### VMware Systems Administration

The Contractor shall provide 24x7x365 day System Administration Support Services for ITOPS IO’s ITC’s VMware Infrastructure environment.

The Contractor shall:

1. Perform vSphere systems administration including vMotion, HA, DRS, VM Hardware Configuration and familiarity or usage of the latest versions of vSphere, FO Realize Operations Manager, vRealize Automation, Site Recover Manager, vSAN, and NSX.
2. Perform tasks including all aspects of managing a multi-clustered VMware environment including configuration, administration, and fault isolation.
3. Conduct system health checks, performance analysis, tuning and management of the VMware infrastructure.
4. Install, configure and deploy Microsoft and Linux servers within the VMware environment.
5. Accomplish the planning, installation, configuration, documentation and migration of the hot site ITOPS IO Disaster Recovery Plan (DRP) VMware servers using established ITOPS IO procedures and guidelines.
6. Develop technical and administrative documentation of plans and deployment strategies.
7. Provide disaster recovery expertise at the host level using Site Recovery Manager or ITOPS approved disaster recovery tools.
8. Plan, deploy, manage and optimize VMware ESXi platform.
9. Plan and perform the upgrade of all ITOPS IO supported environments to approved versions of VMware vSphere and ESXi based on COR or VA RESOURCE LEAD coordination as required.
10. Ensure that hosted VMware guests are kept accurate in the centralized configuration management database by providing accurate automated reports.
11. Evaluate overall VMware Capacity, recommend architecting solutions to increase overall capacity of the environment in order to ensure sufficient resources exist to support VA initiatives, and provide all recommendations to the COR/VA RESOURCE LEAD for review and approval prior to any changes.

### UNIX Systems

#### UNIX Systems Administration

The Contractor shall provide operating system administration across three shifts , and, if appropriate, ensure that respective Contractor shifts and Government shifts are aligned, 24x7x365 (except for Federal holidays where support will be provided on a call back basis), on the following UNIX variants: Red Hat Linux, Solaris, HP-UX, zLinux, and AIX. The Contractor shall provide advance system administration activities and immediate troubleshooting efforts when contacted by the Service Desk to ensure outages or incidents are resolved as quickly as possible for over 10,600 Linux Instances and 580 instancs of Solaris Unix Physical and Virtual servers.

The Contractor shall perform the following OS system administration support tasks:

1. Use automated provisioning tools (Kickstart, Jumpstart, or Ignite) to install operating systems on virtual servers.
   1. Follow Standard Operating Procedures (SOPs)
   2. Apply OS hardening according to VA Approved OS Baselines
   3. Configure system file systems in accordance with SOPs.
   4. Configure and implement backup client software.
   5. Install layered systems software, such as Apache, Web Logic, Oracle DB, Tuxedo per instructions in SOPs.
2. Maintain existing operating systems.
   1. Patch OS as required or identified with defined patch set per SOPs (vendor supplied patch sets, QFSDP firmware updates etc.).
   2. Monitor and maintain adequate file system space for the operating system and application files.
   3. Administer user accounts and passwords.
   4. Monitor logs and system error logs. Remediate where skilled; elevate to more experienced administrators where necessary.
   5. Implement security hardening requirements and configurations per instructions outlined in Service Requests and Change Requests.
   6. Use local Standard Operating Procedures (SOPs) related to daily UNIX system administration related functions.
3. Troubleshoot incidents and problems.
   1. Assist in troubleshooting / fault isolation teams to determine problem or issue.
   2. Contact Contractor maintenance/support’s lines and open a case after 30 minutes of researching problems without success in resolving the issue and engage more experienced system administrators to review situations.
   3. Correct OS related incidents and problems during coordinated maintenance windows based on instructions defined in ticket and maintenance plan.
4. General Activities
   1. Perform work tasks as instructed within ServiceNow’s change requests, service requests, incident and/or problem tickets.
   2. Communicate to project managers, team members, other technical administrators and/or end users the status of work performed and findings with tickets, incidents, and problems.
   3. Use VA supported administrative tools such as Nagios and or Oracle Enterprise Operations Center for monitoring and administering UNIX servers.
5. Provide 24x7x365 coverage where needed, which may require alternate shifts. Alternate shifts consist of swing and mid shifts. Swing shift begins mid-afternoon and mid shift begins around midnight. Responsibilities include the above tasks plus the following additional tasks:
   1. Monitor and maintain all backups using backup logs and Backup Applications/Tools used for this function. Use automated tools for checking on backup status per individual servers.
   2. Perform a visual check of all hardware components monitoring fault indicator lights and area temperature once nightly.
   3. Mid shift shall provide an email at the end of their shift sent to the Linux / UNIX Team Leads defining any problems, incidents, or major activities that occurred through the night.

#### UNIX Systems Management

The Contractor shall provide operating system administration across three shifts, 24x7x365 (except for Federal holidays where support will be provided on a call back basis), on the following UNIX variants: Red Hat Linux, Solaris, HP-UX, zLinux, AIX, and other variants to be used by the VA. The Contractor shall provide system administration activities and immediate troubleshooting efforts when contacted by the Service Desk to ensure outages or incidents are resolved as quickly as possible for over 10,600 Linux Instances and 580 Solaris Unix instances of Physical and Virtual servers, as well as work on teams with IO customers and partners, end users, programmers and analysts, Database Administrators (DBAs), and application and network administrators.

The Contractor shall perform the following OS system administration support tasks:

1. Operating System Provisioning
   1. Administer the VA automated operating system provisioning tools, for example, (Kickstart, Jumpstart, or Ignite). Create Standard Operating Procedures (SOPs) outlining how to provision the operating system on new standalone or virtual servers using the automated tools. Provisioning instructions will include virtual servers within VMware, Logical Domains (LDoms), Zones, Physical Domains, Exadata etc.
   2. Configure hardware RAID implementations on Redundant Array of Independent Disks (RAID) controllers and disk storage shelves on standalone servers.
   3. Configure and implement host bus adapters (HBAs) for both SAN storage and SAN boot devices.
   4. Configure and implement multipath network interfaces.
   5. Install and configure system file systems such as ZFS, vxfs, Advanced File Systems, and software RAID managers such as Logical Storage Manager, Solaris Volume Manager, and Veritas Volume Manager.
   6. Install and configure software associated with a clustered environment.
   7. Cluster software may include Veritas Cluster Server (VCS), General
   8. Parallel File System (GPFS), Cluster File System (CFS), High Availability Cluster Multi-Processing (HACMP), Oracle Real Application Clusters (RAC), Symantec’s Veritas Storage Foundation for Oracle RAC.
   9. Configure and implement backup client software. Create SOPs defining how to perform this activity.
   10. Install layered systems software, such as Apache, Web Logic, Oracle DB, Tuxedo, etc.
2. Maintain existing operating systems.
   1. Create and maintain local Standard Operating Procedures (SOPs) related to daily Linux/UNIX system administration related functions.
   2. Implement and administer patching automation tools.
   3. Patch OS on a quarterly cycle or as required or identified with defined patch set per SOPs using technologies to limit downtime and provide quick back out mechanism, i.e.: Live Upgrade. Prepare SOPs defining how to perform patching activities.
   4. Upgrade OS as required for system applications or as identified by VA standards, whichever occurs first.
   5. Install firmware upgrades as needed to resolve issues or on an annual basis, whichever occurs first.
   6. Reinstall operating systems after hardware refresh.
   7. Implement and administer configuration management tools to ensure systems maintain security compliance and baseline consistency.
   8. Implement and administer monitoring tools. Prepare SOPs on monitoring practices and procedures to adhere to when alerts occur.
   9. Monitor and maintain adequate file system space for the operating system and application files.
   10. Implement and administer Directory Server for example, Centrify, (LDAP), and NFS servers.
   11. Create SOP on how to manage user accounts and passwords.
   12. Create SOP on how to manage NFS server and configure for use with clients.
   13. Monitor and maintain system accounting files and logs and system error logs.
   14. Implement security hardening requirements and configurations to remediate security vulnerabilities listed in security audit and scan vulnerability reports; remediation must be accomplished within the timeframe defined in the report. Timeframes to remediate are based on the severity level of the finding, high 60 days, medium 90 days, and low 120 days. Prepare ServiceNow tickets with instructions to be performed so other shifts can perform remediation during maintenance windows.
   15. Plan and document disaster recovery (DR) procedures and maintain documentation related to DR test and system changes.
   16. Perform knowledge transfer of critical Solaris/Linux/HP-UX System administration tasks to IO System Administrators.
   17. Monitor system performance and tune to optimize usage of system resources.
   18. Automate routine tasks through shell and Perl scripting.
3. Troubleshoot incidents and problems.
   1. Participate in troubleshooting / fault isolation teams to determine problem or issue.
   2. Contact Contractor maintenance/support’s lines and open a case after 30 minutes of researching problems without success in resolving issues.
   3. Correct OS related incidents and problems during coordinated maintenance windows or immediately in the case where system is down.
   4. Participate and provide input in War Room or on Tiger Teams to troubleshoot difficult issues.
4. General Activities
   1. Assist in IO support activities such as Disaster Recovery, data replication, infrastructure support activities such as documentation, develop architectural diagrams, and troubleshoot performance issues.
   2. Lead IO sponsored initiatives, to include developing schedules and plans, communicating progress to management in both verbal and written formats, identifying barriers, and identifying and evaluating alternatives.
   3. Track and document all system changes, problems, issues, and work tasks within ServiceNow through Change Requests, service requests, incident and/or problem tickets.
   4. Participate and provide input at project meetings as subject matter expert (SME) for UNIX system administration related areas.
   5. Communicate to project managers, team members, other technical administrators and/or end users the status and findings with tickets, incidents, and problems.
   6. Implement, configure, administer, and use VA administrative tools for monitoring and administering such as Nagios, and Oracle Enterprise Manager for Linux/UNIX servers.
5. Alternate Shifts
   1. Alternate shifts consist of swing and mid shifts. Swing shift begins mid-afternoon and mid shift begins around midnight. Responsibilities include the above tasks plus the following additional tasks:
   2. Monitor and maintain all backups using backup logs and Backup Applications/Tools used for this function. Use automated tools for checking on backup status per individual servers.
   3. Prepare scripts and run reports.
   4. Create configuration management modules for use in configuration management tool.
   5. Mid shift shall provide an email at the end of their shift sent to the Linux / UNIX Team Leads defining any problems, incidents, or major activities that occurred through the night.

### Database System Administration

Database Administration support must include assurance of 24x7x365 (except for Federal holidays where support will be provided on a call back basis) availability, troubleshooting, and tuning to ensure acceptable response times. Database Administration support in the form of advice and troubleshooting is provided to a wide range of individuals including customers, end users, programmers and analysts, System and Network Administrators as well as Database Administrators. The current supported database system technologies are ORACLE, SQLSERVER, MONGODB, IDMS and IDS2. Databases supported and administered may be hosted on-premises and in the cloud.

The Contractor shall:

1. Install/tailor new releases of and upgrades or patches to associated database management product software on various OS platforms such as Microsoft Windows, Oracle Solaris, Linux/Unix.
2. Install and configure database software components such as SQLServer Always On, Oracle Data Guard, Golden Gate and ASM.
3. Create and maintain database entities, including instances, databases, table spaces, and tables in support of ITOPS IO administered databases.
4. Make changes to the structure of database meta data and support any application changes.
5. Make recommendations of database migration path to ensure optimal performance and availability, which shall be provided to COR/VA RESOURCE LEAD(s) for review and approval prior to any migration.
6. Review performance of databases on the open systems and mainframe platforms and provide and implement COR/VA RESOURCE LEAD(s) approved recommendations for improved performance.
7. Write, modify, and debug database specific SQL and PL/SQL queries.
8. Where appropriate, coordinate database administration duties with System and Network Administrators to ensure compatibility with hardware and operating systems configurations.
9. Diagnose and correct problems that occur within databases and application interfaces.
10. Recommend strategies for problem notification and availability reporting in database software and applications. All recommendations shall be provided to COR/VA RESOURCE LEAD(s) for approval prior to any implementation.
11. Develop disaster recovery strategies, and execute or exercise backup/recovery, high availability and disaster recovery strategies. All recommended strategies shall be provided to COR/VA RESOURCE LEAD(s) for approval prior to any implementation.
12. Develop Security strategies consistent with VA regulations and policies and industry best practices. All recommended strategies shall be provided to COR/VA RESOURCE LEAD(s) for approval prior to any implementation.
13. Troubleshoot problems and take corrective action, coordinate Contractor specific technical support as necessary.
14. Support users, other software Contractor teams, and database administrators with problems, projects, and implementations.
15. Analyze database infrastructure to ensure compliance with VA security standards, database performance considerations, and reverse engineering of existing database environments.
16. When assigned to VA initiatives, develop schedules and plans, communicate progress to management in both verbal and written formats, identify barriers, identify and evaluate alternatives. The Contractor shall assist in fault isolation for database systems.
17. When required, develop and submit for approval Configuration Change Management Plans in accordance with ITOPS IO standards. The Contractor shall follow the change management process prescribed by the Chief, Database Support Services when making all changes to production systems.

### Enterprise Storage Support

The Contractor shall provide 24x7x365 storage administration for storage platforms including Hewlett Packard (HP), Hitachi, EMC, SUN and NetApp hardware, providing storage to International Business Machines (IBM) OS/390 and Open Systems operating system software to support the ITOPS IO infrastructure requirements to ensure 24/7X365 availability. The Contractor shall provide support in various enterprise storage management software including Enterprise Class Data Protection Applications (i.e. NetBackup and CommVault); HP Command View, HP StorageWorks Performance Advisor and HP Web Console, EMC Control Center, EMC Timefinder, EMC SRDF, Symmetrix Manager, Symmetrix Optimizer, Workload Analyzer, SAN Manager, EMC Navisphere, Snapview, Mirrorview, Storage Scope, Storage Scope File Level Reporter, SAN Advisor, Cisco Fabric Manager, Connectrix Manager and Automated Resources Manager utilizing GUI and command line utilities.

The Contractor shall:

1. Install and configure the storage host software
2. Provision and decommission SAN storage in accordance with the ITOPS IO approval process.
3. Configure and maintain the SAN storage environment to include switches, ensuring connectivity back to the server.
4. Maintain and maximize the storage infrastructure providing optimal availability, performance and disaster recovery readiness.
5. Develop, monitor and maintain the replication cycles for those customers that require a mission critical or essential disaster recovery plan.
6. Participate in the planning and execution of bi-annual Disaster Recovery exercises.
7. Develop and maintain storage capacity and chargeback reports in a timely manner.
8. Troubleshoot storage failures working closely with the host System Administrators and product Contractors to obtain a long-term resolution.
9. Diagnose and resolve complex problems involving software, servers, storage arrays, directors and switches.
10. Develop and maintain problem tracking and resolution via prescribed ITOPS IO methodology.
11. Monitor service results to identify common problems and/or trends in providing a "proactive" service support program, preventing potential problems.
12. Evaluate performance benchmarks, monitor workload and analyze results to ensure storage systems optimization.
13. Maintain pace with changing technology and make recommendations for upgrades as needed. Ensure the rigorous application of information security/information assurance policies, principles, and practices in the delivery of storage administration and customer support through proper configuration of hardware and software. All recommendations shall be provided to COR/VA RESOURCE LEAD(s) for approval prior to any implementation.
14. Develop and document enterprise storage SOPs including software configuration, implementation plans, and other various storage processes and procedures.
15. Manage accounts and access to the storage management software.
16. Manage the installation and integration of the storage fixes, updates, and enhancements. Plan and schedule installation of new or modified storage software. Research, test, and evaluate the impact of upgrades or changes.
17. Participate in user group meetings or conduct SME training in problem solving or storage management.
18. Conduct briefings on storage related hardware/software developments and technology advances to senior systems analysts, system programmers, database administrators and managers.
19. Coordinate all work with the ITOPS IO application programmers, systems programmers, and database administrators assigned to coordinate the applications, databases, and hardware platforms.
20. Provide a weekly project status report covering assigned projects.

### Mainframe Support

The Contractor shall provide mainframe systems administration (commonly referred to as a mainframe systems programmer) support for the ITOPS IO mainframe environments to ensure availability, including troubleshooting during non-peak hours and support during disaster recovery events.

#### Mainframe Support (z/OS and z/VM)

The Contractor shall work in a variety of mainframe areas such as z/OS and z/VM operating and systems software, IBM or equivalent mainframe hardware, mainframe performance and tuning tools, mainframe transaction processing software Customer Information Control System (CICS), mainframe communications subsystem components, mainframe and network attached printers, IBM and IBM compatible tape hardware and Direct Access Storage Devices (DASD) systems

and associated tape and disk management software tools. The Contractor shall support installation and maintenance of products from the following independent software vendors (ISV) currently in use and any future products added such as Action Software, Allen Systems Group, MicroFocus, BMC, Chicago-soft, CA, Computer Management Sciences, Compuware, Correlog, Dino Software, Elixir Technologies, IBM, Infor Global Solutions, Innovation Data Processing, Levi Ray and Shoup, MacKinney Systems, Merrill Consultants, Nearstar, Open Software Technologies, Oracle, Phoenix Software, Pitney Bowes, PKWARE, Rocket Software, RSD, Serena, Statistical Analysis System (SAS), Software Diversified, Sterling Commerce, Syncsort, Tectia, and Xerox.

The Contractor shall:

1. Install/implement new releases of IBM or equivalent-provided maintenance for components of the IBM or equivalent Mainframe Operating System.
2. Install/implement new releases and maintenance of Independent Software Contractor (ISV) software.
3. Research, analyze and resolve complex and persistent problems related to operating system and Independent Software Vendor (ISV) software in IBM or equivalent Mainframe environments and with integration of various hardware and software components (such as DASD, tape and printers) and applications.
4. Research, analyze, and provide recommendations for systems enhancements, performance improvements, and process improvements, and perform evaluations on hardware, software, operations, scheduling that impact system operation and performance, and provide all recommendations to and for approval by COR/VA RESOURCE LEAD(s) prior to any implementation
5. Monitor and analyze operating systems software and other software on the IBM or equivalent Mainframe Enterprise Servers to identify potential problem areas before problems surface.
6. Review applications running with the operating system software on the IBM or equivalent Mainframe Enterprise Servers to better understand the processing that takes place.
7. Document problems that occur on the IBM or equivalent Mainframe environment and the resulting solutions.
8. Provide information to ITOPS IO management, as requested and/or on a regular basis, related to availability, capacities and performance of the IBM or equivalent Mainframe Enterprise Server.
9. Review, monitor, set up or perform restart and disaster recovery procedures for the IBM or equivalent Mainframe environment, to include data and transaction recoveries.
10. Quantify Automatic Data Processing (ADP) capacity for both present and proposed utilization.
11. The Contractor shall coordinate and provide on-the-job training and information transfer to ITOPS IO employees acting as Systems Programmers.
12. Coordinate all work with ITOPS IO application programmers, systems programmers, and database administrators assigned to coordinate the applications, databases, and hardware platforms.
13. Configure, implement, and document new hardware or software being installed on the IBM or equivalent Mainframe Enterprise Server.
14. Write, execute, and analyze benchmark programs to test proposed new hardware or software features.
15. Establish and /or maintain multiple logical partitions (LPAR) on the IBM or equivalent Mainframe system.
16. Provide administration, maintenance and user support for a wide range of mainframe Contractor and custom system software to include disk and tape storage management, communications subsystems, version control software, statistical analysis software, user interface utilities and printing/report viewing.
17. Provide administration and maintenance of the complete z/VM environment to include all performance, security (z/VM RACF) and management tools to effectively provide a robust environment for supporting virtual Linux instances on the mainframe.
18. Install and maintain CA's security software (Top-Secret) on multiple Z/OS mainframe systems.
19. Monitor and maintain the security databases for mainframe LPAR systems.
20. Maintain automated processes for security reports and prepare ad hoc reports as requested.
21. Monitor the environment for adherence to VA security standards.
22. Implement security standards, policy and guidelines for new applications and upgrades.
23. Process authorized changes to machine log-on ID's and security software.
24. Provide support in audit activities

#### Mainframe Support (Bull/Atos GCOS)

The Contractor shall work in a variety of mainframe areas such as GeneChip Operating Software (GCOS), Bull/Atos or equivalent mainframe hardware, mainframe performance and tuning tools, mainframe transaction processing software Bull/Atos Transaction Processing 8 (TP8),mainframe communications components, mainframe and network attached printers, Bull/Atos, and Bull/Atos compatible tape hardware and Direct Access Storage Devices (DASD) systems and associated tape and disk software tools. The Contractor shall support installation and maintenance of products from the following independent software vendors currently in use and any future products added such as Bull/Atos, Fixed Asset Software (FAS), Gallagher Robertson (G&R), Network Executive Software and The Other Software Company (TOSC).

The Contractor shall:

* 1. Install/implement new releases of Bull/Atos, or equivalent-provided maintenance for components of the Bull/Atos or equivalent Mainframe Operating System.
  2. Install/implement new releases and maintenance of Independent Software Contractor (ISV) software.
  3. Research, analyze and resolve complex and persistent problems related to operating system and Independent Software Vendor (ISV) software in Bull/Atos, or equivalent

Mainframe environments and with integration of various hardware and software components (such as DASD, tape and printers) and applications.

* 1. Research, analyze, and provide recommendations for systems enhancements, performance improvements, and process improvements, and perform evaluations on hardware, software, operations, scheduling, etc., that impact system operation and performance. All recommendations shall be provided to COR/VA RESOURCE LEAD(s) for approval prior to any implementation
  2. Monitor and analyze operating systems software and other software on the Bull/Atos, or equivalent Mainframe Enterprise Servers to identify potential problem areas before problems surface.
  3. Review applications running with the operating system software on the Bull/Atos, or equivalent Mainframe Enterprise Servers to better understand the processing that takes place.
  4. Document problems that occur on the Bull/Atos, or equivalent Mainframe environment and the resulting solutions.
  5. Provide information to ITOPS IO management, as requested and/or on a regular basis, related to availability, capacities and performance of the Bull/Atos, or equivalent Mainframe Enterprise Server.
  6. Review, monitor, set up or perform restart and disaster recovery procedures for the Bull/Atos, or equivalent Mainframe environment, to include data and transaction recoveries.
  7. Quantify Automatic Data Processing (ADP) capacity for both present and proposed utilization.
  8. The Contractor shall coordinate and provide on-the-job training and information transfer to ITOPS IO employees acting as Systems Programmers.
  9. Coordinate all work with ITOPS IO application programmers, systems programmers, and database administrators assigned to coordinate the applications, databases, and hardware platforms.
  10. Configure, implement, and document new hardware or software being installed on the Bull/Atos, or equivalent Mainframe Enterprise Server.
  11. Write, execute, and analyze benchmark programs to test proposed new hardware or software features.
  12. Establish and /or maintain multiple logical partitions (LPAR) on the Bull/Atos, or equivalent Mainframe system.
  13. Provide administration, maintenance and user support for a wide range of mainframe Contractor and custom system software such as disk and tape storage management, communications subsystems, version control software, statistical analysis software, user interface utilities and printing/report viewing.
  14. Monitor and maintain the security databases for mainframe logical partitions systems.
  15. Maintain automated processes for security reports and prepare ad hoc reports as requested.
  16. Monitor the environment for adherence to VA security standards.
  17. Implement security standards, policy and guidelines for new applications and upgrades.
  18. Process authorized changes to machine log-on ID's and security software.
  19. Provide support in audit activities.
  20. Create Solaris 11 type application packages for in all environments including development, test, preproduction, performance, and production.
  21. Install Solaris application packages in all environments including development, test, preproduction, performance, and production.
  22. Participate in Operations support activities such as Disaster Recovery, infrastructure support activities such as documentation, develop architectural diagrams, and perform troubleshooting for performance issues
  23. Install and administer third party COTS products such as Connect:Direct and Control M.

#### TP8 Administration

The Contractor shall:

1. Conduct GCOS TP8 architecture analysis and administration such as Installation, Configuration, and Tuning of software in all Test and Production TP8 environments.
2. Document, diagnose and correct problems that occur within installed GCOS TP8 environments for Test and Production.
3. Provide on-the-job training for existing and future administrators supporting GCOS TP8 environments.
4. Develop and/or maintain JCL/Cobol programs and/or GLink scripts involved in the automated operation of GCOS TP8 environments.
5. Have operational knowledge of the use of third-party tools such as PERSUE-8 for analysis of dump files.
6. Use VA developed software tools to provide investigative and/or fraud case data for Regional Office ISOs, OIG investigators and application developers.
7. Document GCOS TP8 best practices and procedures.
8. Document operational steps and/or procedures necessary to perform the assigned administrative duties.

### Internal Systems

#### Web Operations

The Contractor shall provide Web Operation support. Web Operations (WebOps) is an organization that provides website and enterprise-based application hosting services for all VA facilities and programs. While websites are hosted at most data centers, WebOps is responsible for websites hosted at the Capital Region Readiness Center (CRRC) data center in Martinsburg, West Virginia, the Philadelphia Information Technology Center (PITC) data center in Philadelphia, Pennsylvania.

WebOps hosts 900+ websites, blogs, and 100+ web-based applications, and offers a wide variety of hosting solutions such as static HTML and WordPress sites, or custom applications using .Net or ColdFusion® with back-end database servers.

The Contractor shall:

1. Provide Web Operations system installations, engineering, documentation, troubleshooting, migrations and administration for all web farm and web platform operating system installations and related application platforms in support of Web Operations
2. Data and database clustering to include installing new web farm nodes, databases/instances, performance tuning, reverse engineering, design and implement highly-available (HA) multi-node clusters for Disaster Recovery (DR) scenarios, and troubleshooting existing production databases/instances.
3. Implement security hardening policies, design and implement highly available (HA) multi-node application clusters for Disaster Recovery (DR) scenarios, and troubleshoot/maintain existing production installations.
4. Provide system administration support in an Enterprise environment which may include secure DMZ Active Directory, Server Security Structures, Trust Relationships, Logon Authentication, Windows Internet Naming Service (WINS), Dynamic Host Configuration Protocol (DHCP), Domain Name Service (DNS), Browsers, TCP/IP in an AD environment, Domain Structures, and Domain Database Synchronization.
5. Implement security hardening requirements and configurations to remediate security vulnerabilities listed in security audit and scan vulnerability reports; remediation must be accomplished within the timeframe defined in the report. Timeframes to remediate are based on the severity level of the finding such as: high within 60 days, Medium within 90 days, and Low within 120 days.
6. Implement digital modernization, automation, and integration of DevOps practices within all aspects of the web farm to include security hardening requirements and structures provided by security division to secure the operating system structures to prevent unauthorized access and denied access to systems.
7. Conduct fault isolation activities using diagnostic tools to conduct analysis and resolution to incidents that exist that affect the availability of the web platform.
8. Perform user, machine and service account activities within the Enterprise Microsoft Active Directory according to established security policies.
9. Install, configure, and document web platform server systems in an enterprise environment leveraging automation tools, techniques, and scripting languages such as PowerShell.
10. Participate and contribute within a team to develop technical and administrative documentation, plans, project status, environments, and deployment strategies for Web Operations.
11. Publish and replicate web content in web farm platform environment within IIS or other web platform technologies.
12. Administer, update, migrate, patch and troubleshoot the availability of web environments during normal core hours and provide on-call and after hours support as needed.
13. Create and maintain local documentation related to Web Operations system administration related installation and configuration guides, as well as procedures and policies.
14. Perform third party software application install and configuration based on Change Request instruction.
15. Monitor and maintain system accounting files and logs and system error logs.
16. Install and implement new releases, patches, upgrades, functionality and security patches to the Web Operations environment.
17. Install firmware upgrades to Web Operations host servers.
18. Plan, document, and test disaster recovery (DR) procedures; and maintain documentation related to DR procedures.
19. Perform knowledge transfer of critical tasks to Web Operations team members.
20. Monitor system performance and tune to optimize usage of system resources using virtual technologies such as Hyper-V.
21. Track, document, and respond to all system changes, problems, issues, and work tasks within ServiceNow through Change Requests, service requests, incident and/or problem tickets.

#### Citrix

The Contractor shall provide System Administration Support Services for ITOPS IO’s Microsoft Server environments by performing the following infrastructure related tasks.

The Contractor shall:

1. Design and deploy disaster recovery solutions to satisfy isolated and high availability Citrix Virtual Apps and Desktops infrastructure.
2. Configure and Maintain Citrix Virtual Apps and Desktops.
3. As SME(s), advise Application developers on methodologies to identify compatibility and security complexities and troubleshooting the conversion of presented applications to be compatible as they are upgraded from Citrix Virtual Apps and Desktops.
4. Develop disaster recovery documentation demonstrating the installation procedures and configuration of the Citrix Virtual Apps and Desktops environment and application deployment instructions for post disaster recovery.
5. As SME(s), actively participate in the VA National Citrix Consolidation and Standardization group.
6. Contribute technical insight to translate business requirements into technical requirements in order to support published applications in a geographically distributed enterprise-based Citrix environment.
7. Publish VA required applications and making them available through the Citrix StoreFront and Citrix Access Gateways.
8. Analyze performance issues identified through infrastructure monitoring tools, such as Wireshark and Microsoft performance monitoring tools.

### Internal Systems UNIX Administration

The Contractor shall provide 24x7x365 System Administration Support Services for ITOPS IO’s Linux/Unix based OS by performing the following infrastructure related tasks.

The Contractor shall:

1. Configure virtual servers within VMware, Logical Domains (LDoms), Zones, Dynamic Domains.
2. Configure hardware RAID implementations on RAID controllers and disk storage shelves.
3. Configure and implement host bus adapters (HBAs) for both SAN storage and SAN boot devices.
4. Configure and implement multipath network interfaces.
5. Install and configure system file systems such as ZFS, vxfs, Advanced File Systems, and software RAID managers such as Logical Storage Manager, Solaris Volume Manager, and Veritas Volume Manager.
6. Install and configure software associated with a clustered environment. Cluster software may include Veritas Cluster Server (VCS), General Parallel File System (GPFS), Cluster File System (CFS), High Availability Cluster Multi-Processing
7. (HACMP), Oracle Real Application Clusters (RAC), Symantec’s Veritas Storage Foundation for Oracle RAC.
8. Provide day-to-day system administration and architectural leadership to include installation, troubleshooting, and integration of Symantec Netbackup (NBU) solutions for Windows, HP-UX, AIX, Linux, and Solaris operating Systems. Provide and support backup performance tuning enhancements, SAN media
9. backups, Virtual Tape Library (VTL), Disk-to-Disk-Tape (D2D2T) backup/restores, N+1 architectures, Network Data Management Protocol (NDMP), VEEAM and Netbackup Vstore backup options, OpsCenter Analytics 7.1, Pure Disk, tape vaulting, and Enterprise Backup (EBU) for an infrastructure that spans multiple ITOPS IO sites.
10. Install layered systems software, such as Apache, Web Logic, Oracle DB, Tuxedo, etc.
11. Patch OS on a quarterly cycle using technologies to limit downtime and provide quick back out mechanism, i.e.: Live Upgrade.
12. Upgrade OS as required for system applications or every 2.5 years, whichever occurs first.
13. Install firmware upgrades as needed to resolve issues or on an annual basis, whichever occurs first.
14. Recommend hardware refreshes as required by project plans. All recommendations shall be provided to COR/VA RESOURCE LEAD(s) for approval prior to any implementation; however, the Contractor is not providing any hardware during refresh activities.
15. Monitor and maintain adequate file system space for the operating system and application files.
16. Administer user accounts and passwords using Sun One Directory Server (LDAP) and NFS.
17. Monitor and maintain system accounting files and logs and system error logs.
18. Implement security hardening requirements and configurations to remediate security vulnerabilities listed in security audit and scan vulnerability reports; remediation must be accomplished within the timeframe defined in the report.
19. Timeframes to remediate are based on the severity level of the finding such as: High within 60 days, Medium within 90 days, and Low within 120 days.
20. Create and maintain local SOPs related to daily UNIX system administration related functions.
21. Plan and document disaster recovery (DR) procedures and maintain documentation related to DR test and system changes.
22. Perform knowledge transfer of critical Solaris/Linux/HP-UX System administration tasks to ITOPS IO System Administrators.
23. Monitor system performance and tune to optimize usage of system resources.
24. Automate routine tasks through shell and Perl scripting.
25. Participate in troubleshooting / fault isolation teams to determine problem or issue.
26. Contact manufacturer-provided maintenance/support’s lines and open a case after 30 minutes of researching problems without success in resolving the issue.
27. Correct OS related incidents and problems during coordinated maintenance windows or immediately in the case where system is down.
28. Participate in ITOPS IO support activities such as Disaster Recovery, data replication, infrastructure support activities such as documentation, develop architectural diagrams, and troubleshoot performance issues.
29. Participate in ITOPS IO and VA sponsored initiatives, to include developing schedules and plans, communicating progress to management in both verbal and written formats, identifying barriers, and identifying and evaluating alternatives.
30. Track and document all system changes, problems, issues, and work tasks within ServiceNow through Change Requests, service requests, incident and/or problem tickets.
31. Participate and contribute at project meetings as subject matter expert (SME) for LINUX/UNIX system administration related areas.
32. Communicate to project managers, team members, other technical administrators and/or end users the status and findings with tickets, incidents, and problems.
33. Provide a weekly project status report covering assigned projects.
34. Use administrative tools for monitoring and administering Linux/UNIX servers.

### Client Technologies, Computer Technical and Analysis Support Services

The Client Technologies group handles service tickets to provide support for all workstations, laptops, printers, and all peripherals. Also included are portable devices (for example, iPad, tablets, blackberries, and VA approved Universal Serial Bus (USB) flash drives and broadband

cards). The Client Technologies group deploys new workstations, performs customer relocations

within the facility, employee separations and supports other critical desktop activities such as Tier 3-5 system administration to cover, SCCM, Active Directory, 3rd party patching, Microsoft updates, monthly security patching, Continuous Readiness Information Security Program (CRISP) risk mitigations and Tier 1 supported Video Teleconferencing Connectivity (VTC) related issues.

#### Client Technologies Support Services

The Contractor shall provide tier 3 remote support for the CEM, NCA, and ITC locations for desktops, laptops, and mobile devices in support of ITOPS IO's operational support requirements. This includes utilizing our enterprise tools to patch and remediate Windows 10 devices, deployment of Windows applications, and management of Apple iOS/iPad OS devices. The Contractor shall perform their services in accordance with established ITOPS IO procedures and guidelines. The Contractor shall ensure that client support tasks are performed in accordance with applicable security policies.

The contractor shall:

1. Collect and compare log data from multiple sources
2. Identify and resolve complicated hardware and software issues
3. Solve interoperability issues by building custom solutions
4. Build custom scripts to provide consistent automated functionality in support of application deployment
5. Research technical solutions and provide guidance to team members for successful implementation
6. Inform team admins about technology standards and processes
7. Microsoft System Configuration Manager (SCCM / CM) and HCL BigFix package creation to patch vulnerabilities and deploy software
8. Review CM, BigFix, and Nessus reports to determine and distribute actionable items to team members
9. Remediation of security vulnerabilities on all desktop and laptop systems from monthly Nessus scans
10. Removal of unapproved software
11. Monthly Microsoft security patching
12. ESE baseline application updates
13. Utilization of Desktop resources to implement vulnerability remediation
14. Weekly meetings to discuss new security topics and use of internal portals for reporting of remediation
15. Maintain VA group policy compliance for AITC and QITC through nationally issued action items
16. Testing of site-specific group policy settings and report fixes to SD for implementation into national policies
17. CM Management for Desktop and Laptop clients – including Site Databases for AITC and National Cemeteries Administration (Quantico).
18. Create and administer Collections and Groups that target specific Districts, Regions, Sites, and Computers.
19. Create Software Distribution Packages and Advertisements in CM for VA that are needed to be distributed to AITC, SouthPark, and NCA clients via CM.
20. Create DCMs (Desired Configuration Management) that allow / deny access and remove unauthorized software as required by VA management.
21. Work on Action Items that are handed down by SD Desktop Technologies and NSOC to confirm AITC and NCA environments to the correct versions of VA software. Examples include McAfee Antivirus updates, Cisco AnyConnect fixes to laptops, removal of unapproved software.
22. Create Queries to include Asset Management, Client Installation & Client Health to report results to management as requested in meetings.
23. Maintain necessary groups in CM to reflect different work schedules for after hour users.
24. Currently involved in the CM Azure Migration Project. This involves determining how packages, collections, task sequences and other objects will be migrated or recreated in the new environment.
25. Work Tier 3 issues for National Cemetery Administration systems. (NCA / CEM)
26. SCCM Management for Desktop and Laptop clients
27. Manage AITC and NCA computers and laptops on the McAfee ePO Server Console. Includes Roll out McAfee EAV Extra.DAT updates as required
28. Work with National teams involved in Data Center Mirroring to ensure that our failover ePO is configured identically to the active ePO so in event of failover, agents will maintain the correct security software, settings, and policies.
29. Ensure McAfee Agent, Host Intrusion Prevention (HIPS), Virus Scan Enterprise clients are up to date on AITC clients.
30. Identify straggler PCs in ePO and force updates as needed.
31. Identify threats and coordinate immediate actions to update AITC Desktop clients.
32. Attend regular and emergency National McAfee ePO meetings.
33. BigFix management for desktop and laptop clients
34. Creation of BigFix packages (fixlets), relevance, analysis
35. Utilize BigFix’s internet-facing capability to repair laptops unable to connect to VA VPN (RESCUE)
36. Use of BigFix to patch and remediate security (CRISP) vulnerabilities
37. Monitor BigFix system health. This includes relays and other components
38. Manage mobile devices using our EMM (MDM) platforms, currently VMware Workspace ONE and Lookout for Work. Confirm devices are compliant with enterprise baselines and security policies. Generate reports for sites as needed.
39. Verify Active Directory Users and Computers are being placed in the correct location to receive proper Group Policy.
40. Monitor systems that have not communicated with Active Directory and troubleshoot issues using BigFix Remote Control and other Network Tools. Fix issues and bring system to current Group Policy standards.
41. Delete old system entries in Active Directory that have been removed from user’s locations according to Change Requests provided by Facilities.
42. Run Reports to verify DNS entries are in sync with Active Directory systems; work with Domain Infrastructure Administrators to correct any issues.
43. Work with Knowledge Document Admins appointed by leadership to develop a more self-service-centric Knowledge base. This is to be used by all levels of SDM users.
44. Control the visibility of knowledge documents through role-based permissions.
45. Monitor ServiceNow for new tickets, ensuring organizational SLA’s are adhered to.
46. Review ServiceNow Knowledge Documents assigned to our group and verify technical accuracy.
47. Create ServiceNow change requests as required.

#### Tier 2 Onsite Support

The Contractor shall provide Desktop Support for on-site computer services for the ITC locations for tenant desktops, laptops, and peripheral devices, in support of ITOPS IO's operational support requirements. The Contractor shall ensure all workstations are up to the most current approved personal computing operating system on user PCs and laptops as well as augmenting the VA desktop support team as they provide desktop support services in a Microsoft client/server environment. The Contractor shall perform desktop support services in accordance with established ITOPS IO procedures and guidelines. The Contractor shall ensure that all OS migrations and other desktop support tasks are performed in accordance with applicable security regulations.

The Contractor shall:

1. Receive and unpack laptops/computers upon receipt of shipment; Configure new laptops/computers/hardware/software in accordance with ITOPS IO procedures, guidelines and applicable security regulations.
2. Test each laptop/computer to ensure its functionality meets established guidelines and regulations.
3. Issue the laptops to the ITOPS IO, AITC, South Park location users and provide training on their use.
4. Ensure accurate inventory tracking data are promptly documented in the asset management tool Automated Engineering Management System/Medical Equipment Room Reporting (AEMS/MERS and Service Now/CMDB).
5. Perform Asset Management to include Asset Inventory/Audit & Tracking Asset Administration & Reporting, Integrated IT Asset Portfolio, and History and Forecasting, automating the asset management process as necessary.
6. Ensure accurate inventory tracking data are promptly reported in the asset management tool.
7. Implement desktop standards, processes and security measures.
8. Provide, develop, and support the development of ITOPS IO computer security configurations or other technical documents including new security plans.
9. Implement Desktop/laptop security support using ITOPS IO established security procedures, processes and standards for desktops/laptops to include GPO, SMS (SCCM), scripting and other approved VA methods.
10. Comply with and support all Federal, VA, and ITOPS IO security regulations and policies applicable to Desktop Support.
11. Refine existing or create new migration procedures to ensure all user capabilities are transferred from the existing PC or laptop to the new configuration.
12. Document procedures for use of Federal Government issued desktop and laptop at remote sites within Paragraph 4.2 above in accordance with established guidelines and regulations.
13. Update support/problem requests and Change Requests to indicate work accomplished for specific requests/Change Requests.
14. Update service requests no less than every three (3) business days and Change Requests every five (5) business days for each action to indicate work accomplished for specific service requests or Change Requests.
15. Submit Change Requests five (5) days prior to work being performed.
16. Recommend laptop standards and documentation aimed at lowering total desktop/laptop support costs and provide all recommendations for review and approved by COR/VA RESOURCE LEAD(s) prior to any implementation.
17. Ensure migration to COR/VA RESOURCE LEAD or current approved OS on all ITOPS IO owned workstations, and laptops.
18. Coordinate any upgrades to the platform and set up new replacement hardware platform (to be provided by ITOPS IO) when the existing hardware platforms will not support the current approved operating system and update the ITOPS IO image to support the new hardware platform. The Contractor is not required to provide any software or hardware during this activity.
19. Perform computer, printer and peripheral repairs, including diagnosis of system malfunctions, cost estimate of repair, and apply most cost-effective solution to repair system malfunctions. The Contractor shall complete appropriate paperwork and send equipment to be repaired.
20. Perform computer upgrades, including memory, hard drives, CD-ROM drives, DVD drives, floppy drives, monitors, modems, motherboards, processors, video cards, sound cards, network cards, and other special purpose cards.
21. Perform all software installs or upgrades, including Windows Operating Systems,
    1. System or Device Drivers, Microsoft Office, Web Browsers, Email, Desktop video conferencing, Anti-Virus, Accounting, Customer Contact, and most other general-purpose PC software packages, as well as security patches and site-wide deployments, image creation and manipulation. The Contractor shall provide end user support to only those end users within the locations in Paragraph 4.2 above to help users with day-today problems that occur when using their computer hardware or software.
22. Perform desktop support services in a manner that enables ITOPS IO to satisfy each of the performance items required.
23. Provide first line support (Tier 1) to telecommunications and Video Teleconferencing (VTC) requests or related issues when required.
24. Perform a Health Check on all ITOPS IO, AITC, South Park location workstations/laptops as provided by ITOPS IO standards and processes before being issued for production use.
25. Transport desktop hardware items (PCs, monitors, laptops, blackberries, printers, hardware cables, etc.) between South Park location building and AITC when required.
26. Interface and communicate with senior level Government officials and a diverse customer base, in order to resolve the more complex, level-2 type problems.
27. Accurately report the status of ongoing projects to the VA RESOURCE LEAD/COR each week.
28. Identify and report to the ITOPS IO PM all potential problems with processes, schedules, user requirements, etc., that impact daily operations within ITOPS IO relating to issues with personal computers.
29. Interface with senior level managers and customer for computer support issues.
30. Perform conference room, training room, and Disaster Recovery Plan/ Continuity of Operations Plan (DRP/COOP) configuration.
31. Follow established ITOPS IO Change Request processes.
32. Participate in a rotating after-hours callback process.
33. Comply with all ITOPS IO policies and service level agreements designed to reduce customer impact.
34. Maintain the Hardware and Software Inventory and Configuration Log.
35. Prepare Change Requests.
36. Support Remote customers only in locations in Paragraph 4.2 above through approved support tools and processes.

The Contractor shall provide onsite desktop technical and security support services. The Contractor shall provide these onsite support services on a daily basis during standard hours of operation.

1. Provide workstation, laptop, and printer hardware and software support/troubleshooting, imaging, and patching.
2. Test and image desktops and laptops using Microsoft Operating System Deployment using the VA provided images.
3. Maintain and troubleshoot software and computer peripherals.
4. Set up and configure all workstation, laptop, and printer hardware according to VA standards and baselines.
5. Ensure all open tickets requiring follow-up work and/or calls are resolved within 48 hours. For tickets requiring follow up work greater than 48 hours must be agreed to by COR/VA RESOURCE LEAD, the severity of the incident shall establish tracking of ticket completion which shall be recorded in the ticketing system.
6. Build and deploy packages and maintain collections using SCCM.
7. Provide specific vulnerability remediation support for all devices, including laptops, workstations, printers, and network devices (including mobile devices), based on End User Operational priorities.

The Contractor support shall include:

1. Vulnerability remediation as required by the Regional Director or designee that cannot be done in an automated fashion according to VA standards.
2. Troubleshoot any problems or issues that arise with Windows and Macintosh desktops/laptops from the network drop to the desktop/laptop prioritizing systems infected with viruses.

The Contractor shall provide Desktop Support Services for on-site computer services for the Austin Information Technology Center, Austin Outpatient Clinic, Cedar Park 1 & 2 Clinics, Austin VETS Center, Veterans Revocational Center (VR&E), Bryan College Station Clinic, La Grange Clinic, UT Dell Research Lab, and South Park tenant desktops, laptops, and peripheral devices, including, Smartphones, iPhones, printers, scanners, and USB portable sticks in support of ITOPS Microsoft Windows and client based environments during normal hours of operation. The Contractor shall ensure all workstations are up to the most current VA approved OS on user desktop and laptop computers (the term workstation in this document means either a desktop or docked laptop). In addition, the Contractor shall augment the VA desktop support team to provide desktop support services in a Microsoft client/server environment. The Contractor shall perform desktop support services only within the locations in Paragraph 4.2 above in accordance with established ITOPS/EUO procedures and guidelines. The Contractor shall ensure that all OS migrations and other desktop support tasks are performed in accordance with applicable security regulations and processes.

The Contractor shall provide on-site Desktop Support Services for ITOPS/EUO Microsoft Windows client-based environments only for the locations in Paragraph 4.2 above.

The Contractor shall:

* 1. Manage as SME(s) the development and implementation of more efficient and lower- cost methods of desktop migrations, deployments and installation services.
  2. Interface with senior level Government officials and a diverse customer base to resolve the more complex, Tier-2 problems.
  3. Perform conference room, training room, and Disaster Recovery (DR)/Continuity of Operations (COOP) configurations.
  4. Adhere to and help refine existing or new migration procedures to ensure that all user capabilities are transferred from the existing desktop or laptop computer to the new configuration. All recommended procedures shall be provided to COR/VA RESOURCE LEAD(s) for approval prior to any migration.
  5. Provide methods and plans to support application and system operating systems upgrades and maintenance.
  6. Coordinate directly with users and/or their supervisors to minimize disruption of daily operations.
  7. Plan, deploy, manage and optimize Microsoft-based enterprise solutions. Ensure migration to current approved OS on all EUO owned workstations, and laptops including all stated locations mentioned above in 4.2.
  8. Identify and report to the COR/VA RESOURCE LEAD(s) all potential process, schedule, or user requirements problems that may adversely affect daily operations within the supported locations regarding workstations, laptops, printers, and other removable devices.
  9. Document and maintain project status for VA and ITOPS/EUO supported projects.
  10. Develop technical and administrative documentation of operating plans and deployment strategies.
  11. Utilize Microsoft System Center Configuration Manager (SCCM) and other Microsoft approved tools to troubleshoot performance issues and deploy software packages, to include Scripting, BigFix and other VA standard tools.
  12. Coordinate the upgrade of platform or set up a new replacement hardware platform (to be provided by ITOPS) in those cases where the existing hardware platforms will not support the current approved operating system and updated ITOPS/EUO gold image to support the new hardware platform. The Contractor is not required to supply any hardware.
  13. Perform workstation, laptop, printer and peripheral repairs based on COR/VA RESOURCE LEADs) approved diagnosis of system malfunctions, cost estimate of repair, and apply most cost-effective solution to repair system malfunctions.
  14. Perform computer upgrades, including memory, hard drives, DVD drives, monitors, video cards, network cards, and other special purpose cards.
  15. Install and implement new releases and patches to the operating system software and standard applications.
  16. Implement security hardening requirements and structures provided by security division to secure the operating system structures to prevent unauthorized access and denied access to systems.
  17. Create and maintain local documentation related to Window system administration related installation and configuration guides, as well as procedures and policies.
  18. Plan, document, test, and maintain disaster recovery (DR) procedures.
  19. Perform Asset Management to include Asset Inventory/Audit and Tracking, Asset Administration and Reporting, Integrated IT Asset Portfolio, and History and Forecasting, automating the asset management process as required by ITOPS/EUO standards.
  20. Assist in ITOPS support activities such as Disaster Recovery, data replication, infrastructure support activities such as documentation, develop architectural diagrams, and troubleshoot performance issues.
  21. Participate in ITOPS/EUO and VA sponsored initiatives to including developing schedules and plans, and communicating progress to management in both oral and written formats, identifying barriers, and identifying and evaluating alternatives.
  22. Track and document all system changes, problems, issues, and work tasks within service requests, incidents and/or problem tickets from Service Now.
  23. Update service tickets no fewer than every three (3) business days, and update for each action to indicate work accomplished for specific service requests and tasks.
  24. Ensure all workstations are up to the most current approved personal computing operating system on user PCs and laptops as well as supporting the VA desktop support team as they provide desktop support services in a Microsoft client/server environment.
  25. Perform desktop support services in accordance with established ITOPS/EUO procedures and guidelines. The Contractor shall ensure that all OS migrations and other desktop support tasks are performed in accordance with applicable security regulations.
  26. Update support/problem tickets to indicate work accomplished and ensure accurate inventory tracking data is reported and documented in the VISTA asset management tool. The Contractor shall administer and track problem tickets to indicate work accomplished for specific requests.
  27. Assist and contribute within a team to develop technical and administrative documentation of plans and deployment strategies.
  28. Plan, lead, execute and follow up on all software installs or upgrades, including Windows Operating Systems, System or Device Drivers, Microsoft Office, Web Browsers, Email, Anti-Virus, Accounting, Customer Contacts and other general- purpose PC software packages.
  29. Provide end user support to only those end users with their many day-to-day problems that occur when using their computer hardware or software.
  30. Provide support to software Contractor support teams, and other administrators (i.e., database, application, network, other OS systems, backup, and storage administrators) with problems, projects, and implementations within the locations required in paragraph 4.2 above.
  31. Identify and report to the ITOPS/EUO PM all potential problems with processes, schedules, user requirements, etc., that may adversely affect and impact daily operations relating to issues with PCs, laptops and other VA standard portable devices.
  32. Provide transporting of workstations and desktop hardware items (PC's, monitors, laptops, Smartphones, iPhones, printers, hardware cables, to supported facilities if/when the need is required.
  33. Provide first line support (Tier 1) to telecommunications and Video Teleconferencing (VTC) requests or related issues when required.
  34. Maintain technical and administrative documentation of plans and deployment strategies.
  35. Within the monthly Contractor’s Progress Status and Management Report including a section to report:
      1. Compliance Report to measure the number of desktops and laptops up to date with respect to the following: Encryption software, Microsoft security patches, McAfee (EPO).
      2. Complete a support requests/tickets report to measure number of ServiceNow tickets closed.
      3. Status Report to summarize major activities performed during the month identifies any issues or concerns.
      4. Asset Management Report to summarize Asset Management Activity (Inventory of hardware and software).
      5. Support Remote customers through VA approved remote tools and processes.

### Production Support Peripheral Equipment Operation

ITOPS IO requires Peripheral Equipment Operator (PEO) support services for projects that range from new system development and implementation, to operation and maintenance of existing systems. The Output Services Section provides computer print, tape, microfiche, electronic delivery, and CD services to support the operations of ITOPS IO. The Contractor shall provide 24x7x365 on-site PEO services in support of these operational support requirements.

The Contractor shall:

1. Operate current and future high technology peripheral devices such as self-loading tape drives, automated cartridge systems, high-speed impact and laser printers, industrial folder/sorters and video display terminals (Controllers) associated with keyboards.
2. Maintain print logs and statistics using designated software.
3. Monitor print and mail accounts; coordinate activities with presort vendors.
4. Convert outdated media processes to advance automated processes (Microfiche to Electronic viewing or Electronic Delivery of media.
5. Monitor production workloads and prioritize tasks to ensure processing schedules are met.
6. Maintain support against t ITOPS IO quality standards.
7. Monitor the tape system for outstanding requests, execute appropriate system commands (e.g., job entry system [JES], and multiple virtual storage [MVS] command), and respond to system messages within five (5) minutes.
8. Maintain equipment in accordance with manufacturer instructions and operational handbooks.
9. Identify, analyze, and resolve processing situations. The Contractor shall coordinate with appropriate technical support personnel.
10. Identify and analyze hardware problems and initiate corrective action.
11. Document all incidents. The Contractor shall follow up with customer engineers and technical support personnel. Record incidents in problem reporting system. Inform appropriate personnel of problems. The Contractor shall summarize all incidents in a Monthly Incident Report.
12. Perform magnetic media duties, ensuring that the maximum amounts of scratch tapes are available for the cartridge system's silos on a daily basis.
13. Meet established VA and/or ITOPS IO safety standards.

### Network Support

The Contractor will provide 24x7x365 network technical support in the area of connectivity, interoperability with the various computer platforms. Routers and switches must be installed, configured, secured, backed up, tuned, and monitored daily. The goal of ITOPS IO is to achieve an extremely high degree of availability for all systems.

Network Support Administration support must include assurance of 24x7x365 availability. Network support shall require troubleshooting to a wide range of individuals including customers, end users, programmers and analysts, Database Administrators, and other System and Network Administrators.

The Contractor shall:

1. Design, build, implement, and maintain ITOPS IO’s network infrastructure as well as connectivity among data centers. These tasks shall be performed in an environment characterized by Cisco enterprise class switches and routers including Cisco 9000, 6500, 4500, 3800/3900, Cisco Integrated Services Routers (ISR), Cisco Aggregation Services Router (ASR), Cisco Nexus, and Cisco (ACI) Application Centric Infrastructure. The environment numbers approximately twenty firewalls, 2300-2400 switches, 14,000 - 15,000 routers, 20-30 Load Balancers, approximately 1000 WAN acceleration devices, and miscellaneous wireless network equipment.
2. Perform Network Operating System upgrades on all network devices.
3. Design, deploy, configure, administer and maintain network High Availability (HA) designs. ITOPS IO networks include the following HA solutions: First Hop Redundancy Protocols (FHRP), Virtual Port Channels (VPCs), Rapid Spanning Tree Protocol (RSTP), Multi-Chassis Link Aggregation, Interior Gateway Protocol (IGP) routing protocols, VxLAN and Overlay Transport Virtualization (OTV).
4. Recommend strategic direction and execution path for our networks and tools. Any recommendations shall be provided to the COR/VA RESOURCE LEAD(s) for approval prior to any implementation or changes.
5. Identify and document design/architecture best practices for ITOPS IO adoption. Lead technical design/architecture reviews of applicable ITOPS IO projects. Any recommendations shall be provided to the COR/VA RESOURCE LEAD(s) for approval prior to any implementation or changes
6. Design Network Implementation Plans for Layer 2/3 that include Spanning Tree, virtual local area networks (VLANs), Virtual Port Channels (VPCs), Port Channels, Multi- Chassis Link Aggregation, redundant connectivity to ISPs, complex routing/switching infrastructure, extranet connectivity, data center design, and Wide Area Network (WAN)

integration. These tasks shall be performed in an environment that includes network interfaces using a variety of network data link technologies such as wired Ethernet, enterprise Wi-Fi and serial interfaces/leased TELCOM connections using Frame Relay, VLAN Trunking Protocol (VTP) Point-to-Point Protocol (PPP), Metro-E and High-Level Data Link Control (HDLC). Routing protocols used in ITOPS IO networks include Enhanced Interior Gateway Routing Protocol (EIGRP), Open Shortest Path First (OSPF), Routing Information Protocol (RIP) internal routing protocols, and Border Gateway Protocol (BGP).

1. Implement networks per the Network Implementation Plans.
2. Design, deploy, configure, and maintain multicast networks. Multicast protocols used in ITOPS IO include Protocol-Independent Multicast (PIM) dense and sparse mode, Cisco Group Management Protocol (CGMP), Internet Group Management Protocol (IGMP), Multicast Listener Discovery (MLD), Bootstrap Router (BSR) protocol.
3. Design, deploy, configure, and maintain site-to-site and client-based Virtual Private Networks (VPNs), configure Internet Protocol Security (IPsec), and design, deploy, configure, and maintain Multiprotocol Label Switching (MPLS) tunnels.
4. Design Network Protection Plans to include firewall perimeters. These tasks shall be performed in environment characterized by, Cisco Adaptive Security Appliance (ASA) Firewalls, Palo Alto Firewalls, Palo Alto Panorama Management Platform, and Virtual gateways and firewalls.
5. Manage Authentication, authorization, accounting and user privileges through the use of Cisco Identity Services Engine (ISE).
6. Expand network capabilities through bandwidth optimization, effective transport protocols application, and Quality of Service (QOS) designs to accommodate circuit- voice, Voice over IP (VoIP), web, video conferencing technologies, and unified messaging.
7. Assist in ITOPS IO support activities such as Disaster Recovery, data replication, infrastructure support activities such as documentation, develop architectural diagrams, and troubleshoot performance issues.
8. The Contractor may be required to provide technical SME support to ITOPS IO and VA sponsored initiatives. Support shall include development of schedules and plans, communication of progress to management in both verbal and written formats, identification of barriers, and identification and evaluation of alternatives.

### Architecture Assessment Services

#### Systems and Infrastructure Architecture Assessment

The Contractor shall apply analytical processes to the planning, design and implementation of new and improved Architecture and Workflows to meet the Business Continuity requirements of customer organizations.

The Contractor shall:

1. Provide SME level architectural design reviews and analyses to Storage, Networks, Virtualization, and Backup.
2. Analyze Technically Agnostic Independent best practices and make recommendations to Architecture GAPs related to Staffing, Training, Process and work flows and Configuration Management. Any recommendations shall be provided to the COR/VA RESOURCE LEAD(s) for approval prior to any implementation or changes.
3. Analyze Operational Risks and Assumptions
4. Conduct feasibility and trade-off analysis. Analysis must be completed in the context of local, national, and federal architectural standards.
5. Ensure the integration of all systems components, e.g., procedures, databases, policies, software, and hardware; planning systems implementation.
6. Ensure the rigorous application of information security/information assurance policies, principles, and practices to the systems analysis process.
7. Function as a SME level systems analyst/solution architect on various ITOPS IO projects.
8. Facilitate customer, VA technical staff and management meetings through in person and remote settings.

#### Process and Workflows Assessment

The Contractor shall:

1. Perform IT service management (ITSM) analyses to define opportunities for new or improved business process solutions. Any recommendations shall be provided to the COR/VA RESOURCE LEAD(s) for approval prior to any implementation or changes.
2. Conduct business process engineering.
3. Gather, describe and document functional and system requirements using processes and methods in a broad range of IT activities and in-depth analysis of IT issues as necessary.
4. Analyze ITSM objectives.
5. Develop cost estimates for new and modified systems.
6. Analyze risks and assumptions.
7. Conduct feasibility studies and trade-off analyses. Analysis must be completed in the context of local, national, and federal architectural standards.
8. Prepare business cases for the application of IT solutions.
9. Present information formally and informally, including business cases, best practices recommendations, systems designs, technology briefings and training to a variety of audiences as coordinated with the COR/VA RESOURCE LEAD(s).
10. Use ITOPS IO currently installed version of Microsoft Word, Excel, Visio, PowerPoint, SharePoint and other ITOPS IO currently supported tools to documentation, as necessary. This may include specific configuration instructions, specifications, hardware and software requirements, implementation plans, version description, interface requirements/guide, administrative support guide, troubleshooting guides, user/analyst guide and physical and logical layer diagrams as necessary.
11. Use the standard ITOPS IO change management system to obtain new work assignments, update status and store work products as necessary.

### Enterprise Virtual Desktop and Applications Operational Support

As required within the sub-tasks below, the Contractor shall provide coverage from 6:00 AM to 7:00 PM CST across three shifts (except for Federal holidays). The Contractor shall perform incident and request resolution and escalation of tickets submitted to the Virtual Desktop and Applications Service Line, provide technical writing support, and monitoring support. The Contractor shall provide weekly status reports showing progress in these three areas.

Virtual Desktop and Application solutions include Citrix Applications and Desktops and emerging technologies such as Windows Virtual Desktop, Amazon Workspaces, and Amazon AppStream.

#### Incident and Request Resolution and Escalation

The Contractor will triage, troubleshoot, resolve, or escalate requests or issues with access to Virtual Desktop and Applications from both on site and remote VA users. The contractor shall use VA standard processes in handling and documenting of tickets and shall meet the standard service level agreement for responding to and resolving tickets in a timely manner while minimizing the number of tickets being reopened for the same issue. If an issue cannot be solved after following standard troubleshooting procedures, the ticket will be escalated to the appropriate IT group for further resolution. The contractor leads will be the liaison between the VA RESOURCE LEAD and contract team on regular team activities and meet on a monthly basis.

#### Virtual Desktop and Applications Performance and Availability Monitoring Administration

The Contractor shall provide on a daily basis the following tasks:

1. Perform discovery and requirements analysis for new system features, analysis of current system capabilities and limitations and design/engineer/integrate new system capabilities to meet requirements.
2. Provide SME level support on application performance, desktop performance, and application availability and desktop availability monitoring and reporting using current VA monitoring tools
3. Customize the monitoring interface to provide dashboards, monitoring and alerts for all monitored applications.
4. Document and test the customizations.
5. Use monitoring diagnostic tools to find the root cause of performance issues.
6. Assist staff on the use of monitoring diagnostic tools to pinpoint production issues.
7. Assist staff on Root Cause Analysis based on data reported from the monitoring system.
8. Create and tune performance monitoring and availability alerts.
9. Recommend policies and procedures on actions to take based on the alerts generated. All recommendations shall be provided to the COR/VA RESOURCE LEAD(s) for approval prior to any implementation or changes.
10. Develop standards, policies and procedures around the use of application performance monitoring and availability in the pre-production and production environments and provide all recommendations to the COR/VA RESOURCE LEAD(s) for approval prior to any implementation or changes.
11. Participate in tuning and troubleshooting efforts.
12. Work with customers to resolve performance and availability issues.
13. Monitor subsystems using customized scripting appropriate to the monitoring tool being used.
14. Document operational steps and practices necessary to perform the assigned administrative duties, example creating Run-Books.

Tools include: Solarwinds, Microsoft Systems Center Operations Manager, AppDynamics, VMware vROPS, DynaTrace, Aternity, Science Logic, and other performance monitoring tools as required.

#### Veterans Health Administration (VHA) remote access users’ transition to Cerner Electronic Health Record using VA Virtual Desktop and Application Solutions

The Contractor shall apply analytical processes to the planning, design, and transition of clinical applications currently hosted in the VA to the Cerner Electronic Health Record (EHR), specifically for remote users using VA’s Citrix Gateway. About 250 VA clinical applications will be transitioned to the Cerner EHR. A subset is currently hosted on VA Citrix environments and have special functional requirements such as access to storage drives, printing, or peripherals. Some VA applications will need to remain hosted by the VA and functionality will need to be identified and maintained with the future architecture. An initial architecture has been established with Cerner to allow for remote access to the Cerner EHR, but will have to be revisited due to the VA Citrix Application and Desktop having current initiatives to move hosting to the VA Enterprise Cloud as well as exploring other virtual desktop and desktop as a service solutions.

The Contractor shall provide a certified Project Manager and a Senior System Engineer to conduct Value Stream Mapping and Analysis within the VHA organization and its IT systems when required by the COR. This is an estimated one year discovery and analysis effort to baseline current state; define development-operations future state; and develop comprehensive prioritized list of recommendations by development-operations process, human capital, IT infrastructure, knowledge management, and information management.

In support of VHA Transition to Cerner EHR efforts, the Contractor shall provide support services including to:

1. Manage process improvement projects, using the prescribed Lean Six Sigma methodology and facilitating the respective teams in the application of Six Sigma and Lean tools to drive quality improvement and cost reduction across the respective processes.
2. Apply cross-industry and cross-functional leading practice perspectives to business models to diagnose capability gaps and conceptualize potential business model alternatives and information technology (IT) implications.
3. Create a compelling vision, principles, constraints, assumptions and performance metrics and goals that are associated with current and future state business processes. All recommendations shall be provided to COR or assigned VA RESOURCE LEAD.
4. Provide expertise to conclusion of a project phase. Provide technical trend and best practice knowledge as part of the team.
5. Provide recommendations to COR or assigned VA RESOURCE LEAD for executive level decisions.
6. Develop strategies and themes for active projects.
7. Create and conduct presentations to key decision makers at the executive level in order to develop and communicates vision and purpose.
8. Manage problem solving efforts, identify barriers to the effective implementation of the Six Sigma process and take the necessary action to resolve or escalate issues/problems.
9. Report as appropriate on project status through the established project tracking system and management/project reviews.

## ENTERPRISE APPLICATIONS MANAGEMENT SERVICES (T&M)

As required within the sub-tasks below, the Contractor shall provide 24x7x365 across three shifts to provide 24x7x365 (Federal holiday support will be provided on an as needed basis). If not stated, support services are required during normal business hours only. The Contractor shall perform 24x7x365 requirements analysis, system analysis, development and implementation support for core functional business requirements and support all monitored applications, systems, and services, process reengineering and adaptation of IT solutions in support of environments internal and external to the organization. Application support may include advanced collaboration capabilities, workflow, business process modeling, business process modeling translation, system modeling and simulation, software development and deployment, executive dashboards, enterprise search and discovery, project management and scheduling tools and applications and advanced multi-media support for training and marketing requirements.

For information purposes, below are the historical Full Time Equivalent (FTE) skill sets within the provided Labor Categories in the Pricing Spreadsheet

Austin, Texas

* Administrative/Clerical Assistant III
* Applications/Systems Analyst, Sr.
* Application Administrator
* Architect
* Database Administrator, Sr
* Database Architect, Sr
* Development Manager
* Developer, Sr
* Product Analyst, Sr
* Quality Assurance Manager
* Software/System Architect
* Systems Architect
* Systems Architect, Sr,
* Project Analyst
* System Administrator,
* Security Analyst Sr
* Business Analyst, Sr.
* Business Process Re-Engineer
* Business Process Technician
* Configuration Analyst
* Configuration Manager
* Configuration Manager Sr.
* Cyber Security Specialist, Sr.
* Functional Area Expert II
* Installation Engineer
* Installation Engineer, Sr.
* Network Administrator
* Network Engineer
* Program Analyst, Expert -
* Program Analyst, Sr.
* Program Manager
* Project Manager
* Release Manager
* Software Engineer, Sr.
* Software/ Systems Architect, Sr.
* System Administrator, Sr.
* System Engineer, Sr.
* System Maintenance Manager
* System Maintenance Technician II
* Technical Systems Architect, Expert
* Technical Writer
* Technical Writer/Editor, Sr.
* Test Engineer
* Test Engineer, Sr.
* Training Developer
* Training Developer, Sr.
* 508 Compliance, Expert
* Web Designer, Senior

Hines, Illinois

* Administrative/Clerical Assistant III
* Applications/Systems Analyst, Sr.
* Application Administrator
* Architect
* Database Administrator, Sr
* Database Architect, Sr
* Development Manager
* Developer, Sr
* Product Analyst, Sr
* Quality Assurance Manager
* Software/System Architect
* Systems Architect
* Systems Architect, Sr,
* Project Analyst
* System Administrator,
* Security Analyst Sr
* Business Analyst, Sr.
* Business Process Re-Engineer
* Business Process Technician
* Configuration Analyst
* Configuration Manager
* Configuration Manager Sr.
* Cyber Security Specialist, Sr.
* Functional Area Expert II
* Installation Engineer
* Installation Engineer, Sr.
* Network Administrator
* Network Engineer
* Program Analyst, Expert
* Program Analyst, Sr.
* Program Manager
* Project Manager
* Release Manager
* Software Engineer, Sr.
* Software/ Systems Architect, Sr.
* System Administrator, Sr.
* System Engineer, Sr.
* System Maintenance Manager
* System Maintenance Technician II
* Technical Systems Architect, Expert
* Technical Writer
* Technical Writer/Editor, Sr.
* Test Engineer
* Test Engineer, Sr.
* Training Developer
* Training Developer, Sr.
* 508 Compliance, Expert
* Web Designer, Senior

Philadelphia, Pennsylvania

* Project Manager
* Program Manager
* System Administrator, Sr

Falling Waters, West Virginia

* Installation Engineer
* Installation Engineer, Sr.
* Project Manager
* Program Manager
* Software Systems Architect, Sr
* System Engineer, Sr
* Technical Writer/Editor, Sr .
* Test Engineer
* Test Engineer, Sr.
* Training Developer
* Training Developer, Sr.

Remote

* Database Administrator, Sr
* Project Manager
* Program Manager
* Web Designer, Senior
* Program Analyst, Sr.
* Systems Architect
* System Engineer, Sr.
* Technical Writer/Editor, Sr.
* Technical Writer, Sr.
* Applications/Systems Analyst
* Software/Systems Architect, Senior
* Technical Systems Architect, Expert
* Systems Engineer, Senior

### IT Operations and Sustainment Management Support

The Contractor shall provide 24x7x365 support:

1. Serve as the Subject Matter Expert (SME) for one or more applications in the Sustainment lifecycle. Possess a working knowledge of the products used to monitor and measure application and infrastructure performance.
2. Serve as the subject matter expert (SME) for assigned applications, possessing a working knowledge of the application (including navigation and functionality) infrastructure, and security architecture. The Contractor shall be able to converse fluently with customers, architects, technical teams, product development, and other stakeholders. The Contractor shall maintain familiarity with UNIX, Linux, and Windows operating systems, Common Business Oriented Language (COBOL), Job Control Language (JCL) and associated utility programs, Oracle and SQL Database usage, and general datacenter infrastructure including cloud and virtual hosting services, server technology, Mainframes, GitHub Development Platform or similar software collaboration and code repository tools, Scaled Agile Framework (SAFe) methodology, DevSecOps methodology, Automated

Scheduling, Electronic File Transfers, Print Production, disk and tape storage, backup methodologies, and disaster recovery.

1. Systematically build and maintain all components of product releases, and infrastructure changes. Deploy releases in a controlled manner via a repeatable process. Release Management activities include design and implementation of formal procedures, including checks and balances throughout the process. The Contractor shall identify and mitigate risks during operations and deployments to ensure the integrity and recoverability of the production environment.
2. The Contractor shall collaborate with VA staff on the currency, accuracy, and completeness of the VA’s Configuration Management Databases (CMDB) for all business and technical data elements for assigned applications. Additionally, maintain contact and organization data, such as management and mail group memberships, costs for assigned applications and projects. Ensure ATO (Authorization to Operate) and security artifacts, and security patches maintained.
3. Enforce compliance with VA security and privacy policies and directives, and security repositories are properly populated. The Contractor shall report and take immediate action and ensure resolution of violations and non-compliance, Infrastructure Operations (ITOPS IO) policies, procedures, directives, and management handbooks, and ITOPS IO & VA approved data storage backup policy.
4. Monitor and analyze application performance, capacity, reliability, and stability metrics. The Contractor shall take immediate corrective action to mitigate unacceptable performance levels, and develop plans for resolution.
5. Proactively manage server certificates. The Contractor shall maintain and publish a plan that identifies and tracks tasks, schedule, and ownership.
6. Manage application outage and) High Priority Incident (HPI), and Critical Priority Incident (CPI) events, and proactively engage in root cause analysis.
7. Determine root cause analysis of application outages and creates effective remediation plans.
8. Participate in the Planning meetings, assessing change impact, performing risk mitigation, and organizing communication plans. The Contractor shall serve as the application’s primary technical SME point-of-contact, facilitating and coordinating customer requirements, integration efforts, and other actions, as required.
9. Provide SME recommendations to ITOPS IO during meetings, release management/operational readiness reviews, and other work sessions, such as planning and budgeting.
10. Participate in a matrix team environment, actively and effectively managing relationships with customers, build and release managers, technical teams, product development, project managers, and other stakeholders as required.
11. Keep the currency, accuracy, completeness, and timely close-out of change requests, service requests, and incident reports. Validate of all data storage back-ups for assigned applications, accuracy of all labor hours recorded in time tracking system for assigned projects, and accurately and timely completion of server worksheets, storage request forms, firewall spreadsheets, and other artifacts required by internal IO OIT, Service Line Portfolios, and Product Lines teams.
12. Maintain recorded labor hours associated with change requests, service requests, incident reports, and activity codes that accurately reflect the work performed for assigned applications. The Contractor shall take immediate corrective action when labor hours arenot accurate, reporting discrepancies to the on-site Contractor Manager for contract resources, and including the Program Manager Serve as Subject Matter Expert for internal-facing changes and activities, such as CRISP patching, load balancer upgrades, server builds and modifications, storage allocations, firewall changes, and other related activities.
13. Plan for systems implementation and continual improvement by participating in process design and implementation of procedures for the installation of changes to IT systems and infrastructure.
14. Keep the hardware inventory and software versions tracked and recorded in the CMDB, and software GitHub Development Platform or similar software collaboration and code repository tools.
15. Keep the CMDB current, accurate, and complete for assigned applications.
16. Conduct monthly audits of the CMDB and take immediate corrective action as required when deviations or missing data is found. The Contractor shall provide monthly documentation to the Product Manager on findings and actions.
17. Plan and manage changes and other deployment activities for assigned applications following release, configuration, and project management requirements, and applying Information Technology Infrastructure Library (ITIL) processes according to OIT, Service Line Portfolios, and Product Lines policies and procedures.
18. Ensure product releases are operational readiness while providing SME recommendation for the go/no go decision. The Contractor shall ensure that an approved plan is in-place with assigned ownership and schedule to resolve noncompliance issues.
19. Provide planning, coordination, and communication ensuring the successful deployment of software, and infrastructure changes.
20. Ensure that only approved and tested product versions are installed in accordance with the SecDevOps and OIT, Service Line Portfolios, and Product Lines approved Process Management Guidelines website.
21. Verify the accuracy and reliability of product release back out instructions.
22. Communicate the impact of planned releases to all stakeholders.
23. Troubleshoot problems associated with a release.
24. Ensure compliance with OIT, Service Line Portfolios, and Product Lines approved backup policy. Takes immediate corrective action when compliance requirements are not met.
25. Monitor the VA TRM (Technical Reference Model) in order to develop compliance plans.
26. Proactively ensure that the Knowledge Management database contains accurate and current lessons learned and “how to” information.
27. Create Situation Background Analysis Recommendations (SBAR) for Senior OIT, Service Line Portfolios, and Product Lines Leadership for the purpose of notification and actions regarding policy and other issues requiring OIT, Service Line Portfolios, and Product Lines senior leadership direction and approval. All work products shall be provided to COR/VA RESOURCE LEAD(s) for review prior to any distribution.
28. Ensure that risk based decisions are created according to directives, and are renewed prior to scheduled expiration. All work products shall be provided to COR/VA RESOURCE LEAD(s) for review and approval prior to any distribution
29. Ensure that Plan of Action and Milestones (POA&Ms) are resolved and responded to as required.
30. Comply with VA security and Information Security policies and directives, and the CRISP. The Contractor shall take immediate action and ensure resolution of violations and non-compliance. The Contractor shall ensure compliance with ITOPS IO and VA policies, procedures, directives, and management handbooks.
31. Support approval of application access requests by conducting access reviews in compliance with VA policy, including the closing of expired accounts.
32. Remain current on all VA required training requirements.
33. Provide monthly status and action plans for outages, root cause analysis, and remediation plans, risks and issues (in advance of a crisis), customer satisfaction, lifecycle plans, application metrics, trends, actions, and CRISP compliance.
34. Serve as backup to the Application, Build, Operations, Sustainment or Project Manager, and other IT Specialists.

### Build Management

The Contractor shall provide 24x7x365 Build Management Services ensuring that all components of product, and infrastructure maintenance are organized and deployed in a controlled manner enabling a repeatable process. Manage the release and deployment process and interface with Incident Management. Build Management activities include design and implementation of formal procedures, including checks and balances throughout the process. The Contractor shall Identify and mitigate risk to ensure the integrity and recoverability of the production environment. Build Managers have a primary duty to ensure the CMDB is current, accurate and complete for all business and technical data elements for assigned applications.

The Contractor shall:

1. Provide planning, coordination, and communication ensuring the successful deployment of software, and infrastructure modifications.
2. Install only approved and tested product versions, when required.
3. Review and verify the accuracy and reliability of back out instructions.
4. Work with the Application Manager to communicate the impact of planned maintenance to all stakeholders.
5. Troubleshoot problems associated with the planned maintenance in a release.
6. Keep the currency, accuracy, completeness, and timely close-out of change requests, service requests, and incident reports, verification of all data storage back-ups for assigned applications, accuracy of all labor hours recorded in the appropriate labor tracking and ticketing applications for assigned work, accurate and timely completion of server worksheets, storage request forms, firewall spreadsheets, and other artifacts required by internal ITOPS IO teams.
7. Maintain recorded labor hours associated with change requests, service requests, incident reports, and activity codes that accurately reflect the work performed for assigned applications. The Contractor shall take immediate corrective action when labor hours are not accurate, reporting discrepancies to the on-site Contractor Manager for contract resources, and including the Application and Program Managers
8. Serve in a project management capacity for internal-facing maintenance and other activities, such as CRISP patching, load balancer upgrades, server builds and modifications, storage allocations, firewall changes, and other related activities.
9. Plan for systems implementation and continual improvement by participating in process design and implementation of procedures for the installation of maintenance to IT systems and infrastructure.
10. Keep the hardware inventory and software versions tracked and recorded in the CMDB.
11. Proactively ensure that the CMDB is current, accurate, and complete for assigned applications.
12. Conduct monthly audits of the CMDB and take immediate corrective action as required when deviations or missing data is found. The Contractor shall provide monthly documentation to the Application and Program Managers on findings and actions.
13. Plan and manage maintenance and other deployment activities for assigned applications following release, configuration, and project management requirements, and applying Information Technology Infrastructure Library (ITIL) processes according to ITOPS IO policies and procedures.
14. Manage the build processes and manage the change and release processes using ITOPS IO’s work management tool.
15. Possess a working knowledge of the products used to monitor and measure application and infrastructure performance. The Contractor shall provide support to the Application Manager(s) to monitor and analyze application performance, capacity, reliability, and stability metrics. The Contractor shall take immediate corrective action to mitigate application performance issues identified by multiple sources and develop plans for resolution.
16. Proactively engage in root cause analysis and SWAT activities.
17. Proactively ensure that the Knowledge Management database contains accurate and current lessons learned and “how to” information.
18. Comply with VA security and privacy policies and directives, and CRISP. The Contractor shall take immediate action and ensures resolution of violations and non- compliance, ITOPS IO and VA policies, procedures, directives, and management handbooks.
19. Remain current on all assigned training requirements.
20. Serve as backup to the Application or Project Manager

### M204 Database Administration

The Contractor shall provide M204 Database Administration Services support the VHA Decision Support System (DSS), which is the customized Allscripts application, residing on an M204/IBM zEnterprise. The M204 Database Administration Services support must include assurance of 24x7x365 availability, troubleshooting, and tuning to ensure acceptable response times and supports the VHA’s Decision Support Systems (DSS) application, with sole responsibility for all database administration activities.

The Contractor shall:

1. Document problems that occur and report on resolutions and develop recommendations for preventing a recurrence of the problem. Any recommendations shall be provided to the COR/VA RESOURCE LEAD(s) for approval prior to any implementation.
2. Respond and resolve any database issues.
3. Monitor and analyze M204 database to identify potential problem areas and develop solutions before problems surface.
4. Perform the necessary quality assurance procedures and coordinate with all necessary elements to ensure products conform to customer's requirements.
5. Establish controls to ensure an accurate and timely product.
6. Install patches to Allscripts software and maintain documentation and notifications when requested by the Team Leader.
7. Analyze and resolve problems when notified by Decision Support System (DSS) help desk personnel.
8. Coordinate work with applications programmers, database administrators and team leaders assigned to project.
9. Respond to callback and serve as POC for production failures, ensure and coordinate resolution and correction of production failures.
10. Prepare reports, logs, plans, lists and specification documents as needed and pertinent to assignments.
11. Provide daily status reports during periods of callback. These reports are conveyed to the DSS Team Leader and shall be provided not later than 7:15 a.m. local time each morning. The morning report shall contain the nature/cause of any abnormal processing during the night, the corrective actions for the abnormal processing, any follow up that is necessary for the abnormal processing and any delays for the user caused by the abnormal processing. The root cause of the problem shall be identified (e.g., user, ITOPS IO personnel, platform, communications, data storage, procedures, etc.).
12. Participate on bi-weekly status calls with the Managerial Cost Accounting Office (MCAO) customer, and as needed when problems arise.
13. Keep work assignments compliant with appropriate standards.
14. Ensure Veterans Integrated Service Network (VISN) on-line sessions are initiated based on the published schedule. The Contractor shall document reasons for on-line session delays.
15. During callback periods, the Contractor shall make initial contact with the DSS help desk technician within 30 minutes of contact. Help desk problem tickets shall be resolved and the resolution reported back to the help desk before 6:00 a.m. CST. In some cases, the resolution may be that the ticket will be held until the DSS Help Desk personnel arrive in the morning.
16. Provide an Implementation Plan.
17. Provide Weekly Reports.
18. Perform other database administrative services as required.

### Requirements Analysis

The Contractor shall provide support. The Contractor shall maintain and update VA application systems that deal with financial/accounting, Human Resources (HR), and payroll functions.

These applications are written in Common Business Oriented Language (COBOL), Assembler Language Coding (ALC), and use IBM’s Integrated

Information Processor Job Control Language (JCL), IBM’s Customer Information Control System (CICS), and Virtual Sequential Access Method (VSAM). Many of the customized reports are in as the Statistical Analysis Systems. The Contractor shall work with business partners to perform requirements analysis and create the system specifications documentation to support Service Requests and/or Help Desk Tickets received from customers. The Contractor shall utilize its technical knowledge of application input screens, batch modules; edit modules, and reports, in the execution of their duties. The Contractor’s approach and output shall be

consistent with the Capability Maturity Model (CMM) and a sound software development methodology. These tasks require a high level of technical expertise. These fields align with VA’s civilian payroll, human resource, and financial and/or medical applications.

The Contractor shall:

1. Convey explanations and details orally and in writing. The Contractor shall provide status updates of multiple efforts to co-workers, team leaders and supervisors.
2. Create Project Business Cases.
3. Create/update Project Charters. The Contractor shall coordinate all work with the ITOPS IO application programmers and system programmers assigned to coordinate the applications and IBM Mainframe platform. Any changes shall be provided to the COR/VA RESOURCE LEAD(s) for approval prior to any changes.
4. Perform the necessary quality assurance procedures and coordinate with all necessary elements to ensure products conform to customer's requirements.
5. Allocate system requirements to hardware, software, and other system components.
6. Document the allocated requirements in a Requirements Specification Document to include a Requirements Traceability Matrix. All technical documentation shall be provided to the COR/VA RESOURCE LEAD(s) for approval.
7. Conduct reviews with Senior Management on a periodic basis to discuss the activities for managing the allocated requirements.
8. Ensure that changes to the allocated requirements are reviewed and incorporated into the software project.
9. Make and use measurements to determine the status of the activities for managing the allocated requirements.
10. Accurately document and incorporate all modifications, from all valid sources, into the appropriate System Requirements Specification (SRS). Ensure the completion of the Requirements Specification document and update it as needed.
11. Incorporate all functional and detailed requirements in the Design Specification using the Requirements Specification. Update the Design Specification document as necessary. All technical documentation shall be provided to the COR/VA RESOURCE LEAD(s) for approval.
12. Test and review system processes as part of the software design lifecycle. Test and review system processes as part of the software design lifecycle, and provide written Test Plans.
13. Generate test data, and make minor updates to COBOL programs as needed, and document the changes.
14. Participate in the creation of project estimates.
15. Keep the Project Manager informed of the status of the Requirements and Design Specifications documents.
16. Inform the Project Manager of any identified risks pertaining to the project.
17. Resolve all action items assigned resulting from product reviews and process audits.
18. Attend, provide input and direction for project meetings, conduct peer reviews, and participate in product reviews of the Requirements and Design Specification documents. Facilitate meetings to collect input from business owners and incorporate into the technical requirements.
19. Schedule and facilitate Joint Application Development (JAD) sessions.
20. Create/update release schedule based on input from customers and other stakeholders. Provide release status to stakeholders.
21. Utilize ServiceNow to create a new support request, retrieve and modify an existing support request, and close a support request.
22. Create and maintain activities as needed to support projects. Create Project Schedule in timetracking system and update with change requests.
23. Adhere to all ITOPS IO program and naming standards.

When supporting the ITOPS IO projects, the Contractor must abide by the following:

1. Perform the necessary quality assurance procedures and coordinate with all necessary elements to ensure products conform to customer's requirements.
2. Keep work assignments compliant with all applicable and appropriate standards.
3. Ensure that all delivered products meet or exceed the performance service level agreement.
4. Develop Requirements and Design Specifications in accordance with agreed to project schedules.

### Systems Analysis – Mainframe Development

The Contractor shall provide Systems analysis/mainframe development services for the mainframe environment involving coding and testing in support of service requests and problems received from customers. The systems in this environment are typically written in COBOL II and use z/OS Compiler; with supporting utilities such as Job Control Language (JCL), SAS (formerly known as Statistical Analysis Systems), Customer

Information Control System (CICS), Virtual Storage Access Method (VSAM), Integrated Database Management System (IDMS). Typical tools used are CA7, TSO ISPF, SyncSort, and ENDEVOR. The Contractor shall use these various tools and programming languages to develop, update and maintain Medical, Financial, and other mainframe-based IT systems.

The Contractor shall:

1. Write, execute, and analyze benchmark programs to test proposed new software features.
2. Establish controls to ensure an accurate and timely product.
3. Perform the necessary quality assurance procedures and coordinate with all necessary elements to ensure products conform to customer's requirements
4. Participate in the estimation process of projects.
5. Provide application programming support.
6. Maintain and update input screens, batch modules, and their related edit modules.
7. Maintain and update application modules and the associated JCL, copybooks, and PROCS as it pertains to ITOPS IO projects.
8. Coordinate all work with other ITOPS IO application programmers and system programmers.
9. Analyze and recommend a test management process: analyze an application and determine testing requirements, develop test plans, create test cases and perform tests runs, report and track defects in the application and document the code changes andprovide progress reports. Any recommendations shall be provided to the COR/VA RESOURCE LEAD(s) for approval prior to any implementation.
10. Ensure that new software is integrated with existing software.
11. Design and document output formats for printed file records and reports and depict each position that the program/module is to print or display.
12. Design and document each data field and verify that the data field is large enough to accommodate the largest possible value it might contain and to allow for possible expansion.
13. Document the detailed logic required by the program/module and all of its processing steps.
14. Analyze production problems and research proper solutions.
15. Provide status updates of multiple efforts to co-workers, team leaders and supervisors.
16. Design and document the overall software process flow to include interfacing systems.
17. Inform the Project Manager of any identified risks pertaining to the project.
18. Resolve all action items assigned resulting from product reviews and process audits.
19. Attend project meetings, conduct peer reviews, and participate in product reviews of the Requirements and Design Specification documents.
20. Convey explanations and details pertaining to requirements and service requests, orally and in writing.
21. Utilize a change, configuration and release management product to create a new support request, retrieve and modify an existing support request, and close a support request.
22. Perform production callback, including outside normal duty hours, weekends, and holidays.
23. Adhere to all OIT program and naming standards.

### Technical Writing

ITOPS IO applications support health, financial, and benefits programs for US Veterans globally. Concise documentation for robust software, sound processes, and program documentation are critical to ensuring delivery of the services provided by VA programs. The Contractor shall support the implementation of new projects and upgrades to existing projects by developing and delivering technical documentation for the project and facilitating collaboration by establishing meeting locations, shared workspaces, agendas and meeting records. The Contractor shall utilize currently installed ITOPS IO documentation tools such as Microsoft Word, Adobe FrameMaker, diagram creation tools, project schedule software, Microsoft SharePoint, and ITOPS IO templates to support project documentations. In support of this effort, the Contractor shall be required to update or create project documents including project installation, modification, administration support guide, version description, interface requirements/guide, administrative support guide, troubleshooting guide, user/analyst guide, physical and logical layer diagrams, and other necessary project documentation. All documents shall be provided to the VA Resource Lead for review and acceptance.

### MS SharePoint Administration

The Contractor shall provide support. The Contractor shall have functional knowledge of current Microsoft SharePoint online or on premises application and infrastructure components. The Contractor shall assess, choose and describe product strategies for Microsoft 365 and SharePoint on premises. Known Microsoft Suites of collaboration products supporting Microsoft365. The Contractor shall conduct architectural design, web parts design, Site designs, server installation, management and troubleshooting with focus on planning, deploying, and supporting SharePoint implementations both on premises and SharePoint Online.

The Contractor shall:

1. Act as the SME for Microsoft SharePoint and supporting ecosystem of tools.
2. Perform as technical expert and architect for providing leadership to SharePoint designers and administrators.
3. Work with site collection stakeholders and site content managers to create/build SharePoint solutions and migration support.
4. Lead architecture and process strategies, ensuring that the enterprise SharePoint environment is scalable, sustains performance requirements, and complies with VA’s privacy and security policies. All recommended strategies shall be provided to the VA Resource Lead for approval prior to any implementation or changes.
5. Monitor and respond to escalated Service Desk tickets supporting SharePoint Technician and Intern(s) as required.
6. Develop course content and conduct training for SharePoint.
7. Implement and support “form services”, custom reporting, custom workflow, and searches.
8. Work closely with customers, architects, and management to deliver solutions.
9. Facilitate architecture and design sessions with customers, stakeholders, and content managers.
10. Work with business and infrastructure partners to define SharePoint deployment strategies.
11. Work with projects teams to analyze business and technical requirements to include work and budget plans.
12. Design document solutions.
13. Design and implement complex data models.
14. Design SharePoint solutions using the appropriate tools.
15. Identify units of work and manage team member assignments.
16. Monitor Design team in executing the design plan and quality assurance activities.
17. Plan, execute, document, track, and resolve unit, system integration, and performance tests.
18. Develop workflow processes.

### Web Development

The Contractor shall provide support as required:

1. Participate in multi-functional project planning sessions with team members, members of the business unit(s) and requirements analysts to analyze requirements and provide design recommendations. All recommendations shall be provided to the VA Resource Lead prior to any implementation or changes.
2. Collaborate with technical and business stakeholders and coordinate activities with other groups and departments.
3. Work with project teams to define, design, implement and manage complex project artifacts and documentation.
4. Translate high-level business needs, cases and models into detailed design specifications. All technical documentation shall be provided to the COR/VA RESOURCE LEAD for approval.
5. Use Oracle or SQL Server Databases and .Net or PHP or JAVA software technologies to develop Internet and intranet web services and web page applications.
6. Use automated application security tools, such as Fortify Application Security tools, or other VA designated security tools.
7. Prepare and present status updates for projects. Manage small projects.
8. Design and develop new software applications and modifications to existing software applications and modules in accordance with specifications and industry standards.
9. Develop and design new cross-functional software systems using disciplined software development processes (i.e. Agile).
10. Recognize and recommend development patterns within the functional area of responsibility in order to foster increased efficiency in systems development. Maintain GitHub Development Platform or similar software collaboration and code repository tools.
11. Use Scaled Agile Framework (SAFe) methodology, DevSecOps methodology, in the development of enterprise distributed systems.
12. Conduct and design complex systems integration testing activities and implement VA approved multiple application modules the team has developed or modified, ensuring the application meets the needs of the business client.
13. Provide Tier III support to National Help Desk within their area of expertise and supports issues in their area referred by system developers.
14. Research new and emerging technologies. The Contractor shall work with Contractors to understand technology. The Contractor shall provide input to enterprise technical strategy and makes recommendations for approval of new tools, technologies and platforms to be included. All recommendations shall be provided to the VA Resource Lead prior to any implementation or changes.
15. Maintain Technical Architecture Standards for enterprise-wide implementation.
16. Maintain Technical Quality guidelines and standards for enterprise-wide implementation.
17. Provide Subject Matter Expertise in web development to VA Government staff and system developers.
18. Proactively work with Product Development, Service Desk, and other teams, ensuring that the ServiceNow knowledge base contains accurate and current lessons learned and “how to” information.

### ~~Tuxedo Administration~~

~~The Contractor shall provide support as required:~~

1. ~~Provide support for the installation, maintenance and administration of UNIX and Windows Tuxedo online transaction processing (OLTP) components,~~
2. ~~Perform transaction processing analysis and support to the UNIX and Windows components, applying fixes when required.~~
3. ~~Complete all Tuxedo software implementation documentation and installation of software fixes.~~
4. ~~Establish and maintain transaction processor (TP) configurations and jobs required to support the Oracle database transaction processor (TP) routines.~~
5. ~~Monitor, troubleshoot and fine-tune all TP performance with the Oracle Unix-based platform.~~
6. ~~Document, diagnose and correct problems that occur within installed Tuxedo applications.~~
7. ~~Configure, administer and use monitoring tools and TSAM performance monitoring.~~
8. ~~Serve as the Subject Matter Expert (SME) of Tuxedo sponsored initiatives. Support shall include development of schedules and plans, communication of progress to management in both verbal and written formats, identification of barriers, and identification and evaluation of alternatives.~~
9. ~~Participate in Operations support activities such as Disaster Recovery, infrastructure support activities such as documentation, develop architectural diagrams, and perform troubleshooting for performance issues.~~
10. ~~Support users, application support staff, and other stakeholders with Tuxedo problems, projects, and implementations.~~
11. ~~Install/tailor new releases of and upgrades or patches to associated Tuxedo product software.~~

### Messaging System Administration/Architecture

The Contractor shall provide support as required:

1. Perform requirements analysis for new system features, analysis of current system capabilities and limitations and design/engineer new system capabilities to meet requirements in an architecture capacity only.
2. Provide technical support and consulting services to ITOPS IO staff, Program Management Office personnel, and any involved 3rd party Contractors on enterprise messaging systems, including messaging platforms used to process HL7 messages. The messaging platforms may include messaging technology based on IBM’s WebSphere Enterprise Service Bus and MQ Series messaging, Oracle’s WebLogic Enterprise Service Bus, Mirth, Oracle’s (formerly Sun’s) eGate messaging, Intersystems Ensemble messaging, Vitria’s Businessware and other cloud-based messaging. Interface Engine and other similar messaging technologies as required.
3. Validate that the full cycle of a transaction is working as designed, both input and output for any of the above three messaging systems.
4. Fine-tune the messaging system to achieve the highest throughput.
5. Troubleshoot the load of production data.
6. Evaluate and make recommendations for the security of the messaging system. All recommendations shall be provided to the VA Resource Lead (s) for approval prior to any implementation or changes.
7. Analyze production problems and research proper solutions to issues in the messaging system.
8. Provide status updates of multiple efforts to co-workers, team leaders and supervisors.
9. Develop and run reports on a daily, routine, or as needed basis. These reports are required to ensure the better communication of monitoring results among the team on a daily basis; ensure proactive reporting of any events to our customer in a timely manner; and to identify additional monitoring events that may need to be established to identify any problems and/or issues.
10. Coordinate work with other ITOPS IO application programmers and system programmers.
11. Write, execute, and analyze programs to develop and test proposed new software features.
12. Perform the necessary quality assurance procedures and coordinate with all necessary elements to ensure products seldom have errors.
13. Establish controls to ensure an accurate and timely product.
14. Provide application programming support.
15. Integrate monitoring into the messaging system.
16. Provide testing support and work with external test teams for error/throughput identification, fault point identification and message tracking.

### Tivoli Federated Identity Manager Administration

The Contractor shall provide support as required to perform the installation, configuration, and tasks associated with the administration of Tivoli Federated Identity Manager application for the ITOPS IO customer. The Contractor shall implement the design specifications, configuration and deployment of the applications, and perform troubleshooting of complex applications.

The Contractor shall:

1. Participate as part of a team in the design, development, implementation and maintenance of a federated authentication infrastructure implementing Tivoli Federated Identity Manager (TFIM) and Tivoli Access Manager e-business (TAMeb) software based on IBM best practices and industry standards.
2. Develop a roadmap which includes a consolidated installation and configuration process.
3. Install and Configure Tivoli Federated Identity Manager and Tivoli Access Manager for eBusiness components including multi-master configuration of Policy Server.
4. Implement backup procedures of TAMeb Policy Database and install and configure Tivoli Directory Server (TDS) in multi-master configuration.
5. Implement backup procedure for TDS data, implement configurations for Tivoli Directory Integrator (TDI) for bridging between existing directories and databases, TDS and TAM, implement and maintain TAMeb auditing and reporting and configure and maintain Global Security.
6. Create TFIM ongoing configurations as necessary.
7. Configure Tivoli Federated Identity Manager.
8. Configure TAMeb components according to design for application migration efforts.
9. Configure WebSphere clustering.
10. Provide on-going solution Support and Administration of Tivoli Federated Identity Manager (TFIM) software suite.
11. Create TAM and TDS ongoing configurations as necessary.
12. Create and monitor health checks for all TFIM and IBM Datapower XS 40 and XI50 components throughout the application migration phase.
13. Consolidate support documents for installation and configuration of all TAMeb components including Tivoli Directory Server, Tivoli Policy Server, Authorization Server, WebSeal and Tivoli Directory Integrator (TDI).
14. Review and validate the current configuration according to the design and document discrepancies.
15. Document all implementation and configuration decisions including specific settings and deviations for installation guides and SOPs.

### FileNet Administration/Architecture

ITOPS IO provides System Administration support for Veterans Benefits Administration (VBA) Loan Guarantee Web (LGW). LGW has migrated to FileNet P8 and the product requires installation and configuration by a certified P8 System Administrator. FileNet must be installed, configured, secured, backed up, tuned and monitored daily in production, preproduction, and development. The goal of ITOPS IO is to achieve an extremely high degree of availability for all systems.

The Contractor shall provide full-time FileNet P8 System Administration support for LGW development, preproduction and production UNIX based servers to include P8 assurance of 24x7x365 availability, troubleshooting, and tuning to ensure acceptable response times. The Contractor shall provide P8 administration support to a wide range of individuals including customers, end users, programmers and analysts, Database Administrators and other System and Network Administrators.

The Contractor shall:

1. Perform requirements analysis for new system features, analysis of current system capabilities and limitations and design/engineer new system capabilities to meet requirements in an architecture capacity only.
2. Perform in the development and integration of FileNet/P8 applications for the ITOPS IO customer. The Contractor shall conduct architectural analysis and review, application integration, provide guidance to developers, and ensure adherence to best practices as well as the customer's business objectives.
3. Provide on the job training on P8 capability to on-site support and technicians as needed.
4. Maintain P8 certification to support installation of P8 in all required environments.
5. Perform FileNet administration necessary to support customer applications during migrations.
6. Act as a liaison with IBM/FileNet Contractor to resolve technical issues and support staff in that role.
7. Install and implement new releases and patches to FileNet software.
8. Install layered systems software, such as MicroFocus COBOL, Oracle, Informix, Vitria, Weblogic etc., on client/server platforms.
9. Design, develop, and implement P8 scripts to fully automate all Help Desk monitoring and reporting functions.
10. Create and maintain P8 SOPs and shall be provided to COR/VA RESOURCE LEAD(s) for review and acceptance.
11. Troubleshoot P8 problems and take corrective action to fix problems. Contact technical support if necessary.
12. Plan, test and document P8 for disaster recovery.
13. Support users, software Contractors, application support staff, and database administrators with P8 problems, projects, and implementations.
14. Monitor P8 system performance and take corrective action to optimize usage of system resources.
15. Participate in Corporate Data Center, Operations (ITOPS IO) support activities such as Disaster Recovery, data replication, infrastructure support activities such as documentation, develop architectural diagrams, and perform troubleshooting for performance issues.
16. Provide technical leadership of ITOPS IO P8 sponsored initiatives. Support shall include development of schedules and plans, communication of progress to management in both verbal and written formats, identification of barriers, and identification and evaluation of alternatives.

### IBM DataPower Administration

The Contractor shall provide:

1. Design, implement, and support solutions for IBM DataPower XS40 and XI50 devices incorporating multi-protocol gateways, WS-Policies, and XML firewalls.
2. Configure security on DataPower appliances according to various security standards supported by DataPower.
3. Configure DataPower devices.
4. Integrate DataPower devices with IBM WebSphere and Tivoli Federated Identity Management.

### WebLogic Administration

The Contractor shall provide 24x7x365

1. Conduct WebLogic server and WebLogic portal architecture and administration reviews involving Installation, Configuration, Tuning, and Deploying applications on WebLogic server and portal.
2. Document, diagnose and correct problems that occur within installed WebLogic applications.
3. Provide on-the-job training for Web Logic server and Portal administrators supporting assigned applications.
4. Develop scripts in WLST, Jython, Python and ANT scripting to automate and monitor WebLogic routine tasks.
5. Configure WebLogic Servers in a Cluster solution for High Availability, Load balancing and fail over support.
6. Configure, administer and use monitoring tools performance monitoring.
7. Document Web Logic best practices.
8. Document operational steps and practices necessary to perform the assigned administrative duties.
9. Configure and administer various monitoring tools and software such as CA Wily Introscope and Customer Experience Manager, XPOLog and other tools.
10. Provide operational support for Glassfish J2EE server implementations.
11. Service as the Subject Matter Expert (SME) for Weblogic sponsored initiatives. Support shall include development of schedules and plans, communication of progress to management in both verbal and written formats, identification of barriers, and identification and evaluation of alternatives.
12. Participate in Operations support activities such as Disaster Recovery, infrastructure support activities such as documentation, develop architectural diagrams, and perform troubleshooting for performance issues.
13. Provide system support to users, application support staff, and other stakeholders with WebLogic problems, projects, and implementations
14. Install/tailor new releases of and upgrades or patches to associated WebLogic product software.

### WebLogic Architecture Support

The Contractor shall provide 24x7x365 architecture, development and integration support of Web Logic applications for the ITOPS IO customer. The Contractor shall conduct architectural analysis and review, application integration, provide guidance to junior developers, and ensure adherence to best practices as well as the customer's business objectives.

The Contractor shall:

1. Utilize Java J2EE Enterprise Architect to design, implement, and deploy scalable fault tolerant applications on WebLogic Platform.
2. Develop a Web Logic Architecture Document.
3. Utilize Java Specification Requests (JSRs) 168 Portlet Design and integration to architect WebLogic Portal Server.
4. Develop design patterns for clustered high availability applications.
5. Develop design patterns for reusable and scalable objects.
6. Develop design patterns for optimized data retrieval and storage.
7. Develop design patterns for efficient code and non-blocking multi-threaded applications.
8. Architect, configure, and deploy Java Message Service (JMS) Message queue transmission and reception models for high volume transitionally safe applications.
9. Provide Web Service design using Representational State Transfer (REST) and Simple Object Access Protocol (SOAP).
10. Design and deploy efficient Hibernate design Patterns.
11. Implement and deploy Spring Design Patterns.
12. Create Enterprise JavaBean (EJB) 3.0 Objects for data transaction integrity.
13. Develop with in Eclipse Development Environment.
14. Provide capability to enable team use of Version Control Systems.
15. Streamline Automated Build, Test, and Deploy environments.
16. Develop Regression Testing best practices and provide Regression Test reports.
17. Perform Audit Java Security, Authentication, and Authorization of application.
18. Audit Java performance a tuning of existing applications 19. Provide Weblogic Platform diagnostic and troubleshooting ability.
19. Identify existing issues and pro-actively recommend solutions for upcoming issues.
20. Utilize Java Virtual Machine Tuning and analysis for optimized performance on application servers.
21. Review architecture for compliance with the Government Web Server and Network Security Requirement.
22. Perform Operating System Security Hardening.
23. Perform Oracle database design, integration, optimization and configuration.
24. Design and optimized SQL and PL/SQL.
25. Perform Networking configuration for Cisco hardware load balancing
26. Optimize Hardware Load Balancing when integrated with WebLogic Software clustering and load balancing.
27. Ensure IP Routing tables and the implications of high bandwidth network traffic generation from back end systems.
28. Perform optimization of the Wide Area Network (WAN) and Local Area Network (LAN) configuration and deployment topologies to maximize WebLogic J2EE system performance.
29. Provide subject matter expertise through a detailed knowledge of Java, Unix environment from a system administration and development point of view and may be in form of knowledge transfer.
30. Optimize operating system for high performance multi-threaded applications that require high CPU and network usage and shall diagnose and triage issues with such systems in a VA environment.

### WebSphere Architecture Support

The Contractor shall provide on a 24x7x365 basis the following tasks:

1. Architect and design scalable fault tolerant Java 2 Platform, Enterprise Edition (J2EE) enterprise applications on the IBM WebSphere Platform and provide all recommendations to and for approval by the VA Resource Lead (s) for approval prior to any implementation or deployments.
2. Java Specification Request (JSR) 168 Portlet design and integration to WebSphere Portal Server.
3. Develop design patterns for clustered high availability applications.
4. Develop design patterns for reusable and scalable objects.
5. Develop design patterns for optimized data retrieval and storage.
6. Develop design patterns for efficient code and non-blocking multi-threaded applications.
7. Architect, configure, and deploy Java Message Service (JMS) message queue transmission and reception models for high volume transaction safe applications.
8. Design Web Service using REST and SOAP.
9. Design and deploy efficient Hibernate design Patterns.
10. Implement and deploy Spring Design Patterns as coordinated with VA RESOURCE LEAD(s).
11. Create Enterprise Java Beans (EJB) 3.0 objects for data transaction integrity.
12. Develop within Eclipse Development Environment.
13. Enable team use of Version Control Systems.
14. Streamline Automated Build, Test, and Deploy environments.
15. Develop Regression Testing best practices.
16. Audit Java Security, Authentication, and Authorization of applications.
17. Audit Java performance and perform tuning of existing applications.
18. Perform WebSphere Platform diagnostics and troubleshooting.
19. Identify existing issues and pro-actively recommend solutions for upcoming issues.
20. Java Virtual Machine (JVM) tuning and analysis for optimized performance on application servers.
21. Architect and implement Web Server Security.
22. Architect and implement Network Security.
23. Perform Operating System Hardening.
24. Oracle database design, integration, optimization and configuration.
25. Analyze and optimize Structured Query Language (SQL) and Procedural Language/Structured Query Language (PL/SQL).
26. Perform networking configuration for Cisco hardware load balancing
27. Analyze and optimize hardware load balancing when integrated with WebSphere software clustering and load balancing.
28. Analyze and optimize IP routing tables based on implications of high bandwidth network traffic generation from back end systems.
29. Perform configuration and topology deployment of Wide Area Network (WAN) and Local Area Network (LAN).
30. Provide Java, and Unix development and administration expertise as required.
31. Optimize operating system for high performance multi-threaded applications that require high Central Processing Unit (CPU) and network usage.

### SiteMinder Administration/Architecture

The Contractor shall provide 24x7x365 support with the architecture, development and integration of CA SiteMinder application for the ITOPS IO customer. The Contractor shall conduct architectural analysis and review, application integration, provide guidance to developers, and ensure adherence to best practices as well as the customer's business objectives.

The Contractor shall:

1. Perform requirements analysis for new system features, analysis of current system capabilities and limitations and design/engineer new system capabilities to meet requirements in an architect capacity only.
2. Provide on the job training on SiteMinder capability to on-site support and technicians as needed.
3. Provide SME support for SiteMinder configurations, including clustering and managed nodes that provide redundancy and continuity of operation.
4. Perform SiteMinder administration necessary to support customer applications during migrations and in production.
5. Act as a liaison with the SiteMinder Contractor to resolve technical issues and support staff in that role.
6. Install and implement of new releases and patches to SiteMinder software.
7. Design, develop, and implement scripts to fully automate all monitoring and reporting functions, utilize tools supported tools to produce alerts and notify the Austin Service Desk.
8. Create and maintain SiteMinder SOPs, and provide all documentation to COR/ VA RESOURCE LEAD for review and approval.
9. Troubleshoot SiteMinder problems, which may include network related issues and understanding Active Directory, DNS and others. The Contractor shall take corrective action to fix problem in a timely manner and contact technical support if necessary.
10. Plan, test and document SiteMinder for disaster recovery.
11. Support users, software third party Contractors, application support staff, and database administrators with SiteMinder problems, projects, and implementations.
12. Monitor SiteMinder system performance and take corrective action to optimize usage of system resources.
13. Provide related SiteMinder capacity planning for customers, recommend licenses for various environments and advise on relative hardware and software as needed to establish new systems or environments
14. Participate in ITOPS IO support activities such as Disaster Recovery, data replication, infrastructure support activities such as documentation, develop architectural diagrams, and perform troubleshooting for performance issues.
15. Participate in ITOPS IO SiteMinder sponsored and VA initiatives. Tasks shall include development of schedules and plans, communication progress to management in both verbal and written formats, identification of barriers and identification and evaluation of alternatives.

### Application Performance and Availability Monitoring Administration/Architecture

The Contractor shall provide on a 24x7x365 basis the following tasks:

1. Perform discovery and requirements analysis for new system features, analysis of current system capabilities and limitations and design/engineer/integrate new system capabilities to meet requirements.
2. Monitor and report on application behavior analytics, conducts smart triage by identifying, diagnosing and coordinating resolution of performance problems before they impact end users, and participates in rapid root cause diagnosis of problems occurring within the application and infrastructure.
3. Provide SME level support on application performance, desktop performance, and application availability and desktop availability monitoring and reporting using current VA monitoring tools such as SPLUNK, , AppDynamics monitoring tools, Dynatrace, Arcturus Applicare, Microsoft Bluestripe Factfinder, XPOlog Management, Aternity Desktop monitoring, Science Logic, and other performance monitoring tools as required. Understands problems in business context to identify critical transactions that may be at risk, prioritize problem resolution efforts, dispatch the right resources, and fix problems affecting key functionality or end users.
4. Reviews and updates business-specific dashboard views, providing a tailored display of scheduled events, incident tracking, and metrics.
5. Ensure forthright communication and coordination of high-priority events and incidents with business and OIT leadership; acts as central point of contact for business engagements.
6. Customize the monitoring interface to provide dashboards, monitoring and alerts for all monitored applications.
7. Document and test the customizations.
8. Use monitoring diagnostic tools to find the root cause of performance issues.
9. Assist Government and Contractor helpdesk staff on the use of monitoring diagnostic tools to pinpoint production issues.
10. Assist Government and Contractor staff on Root Cause Analysis based on data reported from the monitoring system.
11. Create and tune performance monitoring and availability alerts.
12. Recommend policies and procedures on actions to take based on the alerts generated. All recommendations shall be provided to the COR/VA PMRESOURCE LEAD(s) for approval prior to any implementation or changes.
13. Develop standards, policies and procedures around the use of application performance monitoring and availability in the pre-production and production environments, and provide all recommendations to the COR/VA RESOURCE LEAD(s) for approval prior to any implementation or changes.
14. Collaborate and assist in tuning and troubleshooting efforts.
15. Attend and provide input on all Major Incident Management and Root Cause Analysis calls and provides expert troubleshooting support as needed.
16. Report and manage incident response via Service Now (SNow) Event Management Module.
17. Work with customers to resolve performance and availability issues.
18. Monitor subsystems using customized scripting appropriate to the monitoring tool being used.
19. Document operational steps and practices necessary to perform the assigned administrative duties, example creating Run-Books.

### Network and Infrastructure Performance Monitoring and Availability Administration/Architecture

The Contractor shall provide on a 24x7x365 basis the following tasks:

1. Perform discovery and requirements analysis for new system features, analysis of current system capabilities and limitations and design/engineer new system capabilities to meet requirements.
2. Monitor and report on network behavior analytics, conducts smart triage by identifying, diagnosing and coordinating resolution of performance problems before they impact end users, and participates in rapid root cause diagnosis of problems occurring within the network and infrastructure.
3. Provide SME level support on current VA network and server infrastructure monitoring tools such as SPLUNK, and Orion Solarwinds, CA eHealth, CA NetQoS, Science Logic, and other similar system management tools.
4. Customize Service Now (SNow) Event Management Module to provide dashboards, monitoring and alerts for monitored network and server infrastructure environments.
5. Integrate network and server infrastructure monitoring tools with other monitoring systems and reporting/dashboard tools.
6. Assist Enterprise Service Desk, IT, and performance testing staff on the use of the network and server infrastructure performance monitoring and availability of systems to find the root cause of performance and availability issues.
7. Develop standards, policies and procedures around the use of the network and server infrastructure performance monitoring and availability suite of products in the pre- production and production environments, and provide all recommendations to and for approval by the COR/VA Resource Lead(s) prior to implementation or changes.
8. Collaborate and assist in tuning and troubleshooting efforts.
9. Attend and provide input on all Major Incident Management and Root Cause Analysis calls and provides expert troubleshooting support as needed.
10. Work with customers to resolve identified performance and availability issues.
11. Adhere to all ITOPS IO and National VA program and naming standards.
12. Support, install, configure, and perform fault isolation for server migration and operating system upgrades. The migration and upgrade shall be accomplished on time and with insignificant user impact.
13. Report and manage incident response via Service Now (SNow) Event Management Module.
14. Document the technical procedures and guidelines used to install, configure and administer servers. Create a complete documentation package from the gathered information.

### Service Desk-Monitoring Integration Administration

The Contractor shall provide 24x7x365

1. Provide expert level technical support to enable comprehensive integration of the CA Service Assurance software suite with ServiceNow.
2. Provide expert level technical support for customization of interfaces into USD from other software tools including the use of the web services interface provided by USD as well as other methods for scripting customized functions and abilities into USD from external products.
3. Utilize database utilities to backup, extract, dereference, replace, and restore data into the Configuration Management Database (CMDB).
4. Provide industry and best practice technical suggestions and solutions within the Information Technology Infrastructure Library (ITIL) framework.
5. Provide expert level technical support of the SMD Configuration Management Database and any integration required into other products such as with CA Cohesion or Configuration Automation.
6. Personalize, configure, adapt, and customize the Service Support suite to support ITOPS IO business requirements.
7. Provide expert level technical support in the interface of the CMDB with CA Configuration Automation.
8. Provide expert level technical support of the ServiceNow CMDB Visualizer functionality to accurately display CMDB relationships.
9. Provide expert level technical support for any type of exports/imports into ServiceNow CMDB from other CA products and from one ServiceNow CMDB to another.

### Initiate Administration

The Contractor shall:

1. Provide application administration of IBM’s Initiate and InfoSphere Master Data Management (MDM) Systems, a COTS data management system.
2. Provide technical support and guidance in the installation of Initiate and MDM both in a production and development/test environments.
3. Identify space requirements and registry key requirements.
4. Work with ITOPS IO database and WebLogic and WebSphere administrators to integrate initiate and MDM into existing production and development systems.
5. Develop and execute complex SQL queries against an Oracle database.
6. Integrate Initiate and MDM with LDAP and Active Directory.
7. Update a patient database administrative procedures document covering Initiate and MDM administration, troubleshooting, and monitoring procedures as well as operational steps and practices necessary to perform the assigned administrative duties.
8. Support Weblogic and WebSphere application server administration
9. Support Oracle database integration with Initiate and MDM products

### Automation Administration/Architecture

The Contractor shall provide

1. Perform requirements analysis for new system features, analysis of current system capabilities and limitations and design/engineer new system capabilities to meet requirements in an architect capacity only.
2. Provide expert level technical support to administer and configure a wide range of IT automation services and software tools including automated asset/configuration item/software discovery and dependency mapping (coni, population of an enterprise Configuration Management Database with discovered data and dependencies, process automation, release automation, and workload automation. Examples include BMC Atrium Discovery and Dependency Mapping, and other similar software automation tools.
3. Provide expert level technical support on the configuration and installation of automation systems.
4. Provide expert level technical support for the integration of automation features and functions into the ServiceNow CMDB.
5. Integrate the automation systems with other systems as necessary.

### Open Systems Infrastructure

#### Open Systems - Financial

The Contractor shall provide 24x7x365

1. Develop required plans and specifications, and provide all recommended changes to and for approval by the VA Resource Lead (s) prior to any changes.
2. Follow all build and release management, and change management guidelines.
3. Analyze system problems, research and implement proper solutions.
4. Develop, maintain and update batch modules, and their related processes.
5. Document explanations and details orally and in writing.
6. Perform unit test and system integration testing of all changes.
7. Submit validated test results of the test plan as executed against the applicable system.
8. Develop a Unit Test Log after the Design Specification and before coding begins. This log shall identify the unit tests to be executed in order to correctly and properly test the code. The Contractor shall ensure the Unit Test Log is finalized during the Code and Unit Testing (CUT) phase.
9. Provide system application programming support.
10. Administer, maintain, and keep current all documentation and related procedures for Disaster Recovery and Continuity of Operations (COOP) exercises for applications.Follow change management, release management, build management and ITIL practices and implementations.
11. Provide application technical support for all Oracle Financial models (version

or above), Accounts Payable (AP), General Ledger (GL), Fixed Assets (FA), and Cash Management (CM).

1. Support batch schedules.
2. Write and execute SQL, PL/SQL stored procedures, Unix/Linux scripting and PRO\*C.
3. Write and execute UNIX & SHELL scripts.
4. Submit modified screens, code, programs, documentation, and/or interfaces when corrections have been incorporated and the project is complete. 17. Triage issues that occur and determine optional solutions
5. Configure and operate Oracle Business Process Execution Language (BPEL) Process Manager.
6. Testing of module functionality after patch application and after applying customization releases.
7. Develop test scenarios and perform functional and regression testing with documented results
8. Provide solutions and recommendations to process issues related to Oracle Applications.
9. Design, Develop custom Oracle Forms and Reports; Maintain, Perform enhancements, troubleshoot custom Oracle Forms and Reports

#### Open Systems - Retail

The Contractor shall provide 24x7x365

1. Develop required plans and specifications, and provide all changes to and for approval by the COR/VA RESOURCE LEAD(s).
2. Follow all build and release management, and change management guidelines.
3. Analyze system problems, research and implement proper solutions.
4. Provide status updates of multiple efforts to co-workers, team leaders and supervisors.
5. Develop, maintain and update batch modules, and their related processes.
6. Document explanations and details.
7. Perform unit test and system integration testing of all changes.
8. Submit validated test results of the test plan as executed against the applicable system.
9. Develop a Unit Test Log after the Design Specification and before coding begins. This log shall identify the unit tests to be executed in order to correctly and properly test the code. The Contractor shall ensure the Unit Test Log is finalized during the Code and Unit (CUT) phase.
10. Provide system application programming support.
11. Administer, maintain, and keep current all documentation and related procedures for Disaster Recovery and Continuity of Operations COOP exercises for applications.
12. Attend and participate in technical and project planning meetings.
13. Perform change management, release management, and build management and ITIL practices and implementations.
14. Provide application technical support for Oracle Retail models, Retail Merchandising System (RMS), Retail Sales Audit (RESA), Store Inventory
15. Management (SIM), Allocations, Retail Data Warehouse (RDW) / Oracle Business Intelligence Enterprise Edition (OBIEE), Retail Price Management (RPM), Retail Invoice Matching (REIM) and Merchandise Financial Planning.
16. Support batch scheduling for Oracle Retail data model.
17. Write and execute PL/SQL stored procedures, Pro\*C, and Oracle Forms.
18. Deliver listings and executable software that has been developed in accordance with the established processes/procedures.
19. Submit modified screens, code, programs, documentation, and/or interfaces when corrections have been incorporated and the project is complete.
20. Address messaging errors for integration using the Retail Integration Bus (RIB) Hospital Administration.
21. Triage issues that occur and determine optional solutions.
22. Configure and operate Oracle Business Process Execution Language (BPEL) Process Manager.
23. Design, Develop custom Oracle Forms and Reports; Perform enhancements, troubleshoot custom Oracle Forms and Reports 23. Design, Develop custom reports in OBIEE 24. Write and execute UNIX & SHELL scripts.

#### Open Systems - Systems Analysis

The Contractor shall provide 24x7x365

1. Develop and maintain applications developed in Oracle Developer, Computer Associates ERWIN, Java, Perl, and PHP.
2. Analyze production problems and research proper solutions.
3. Convey explanations and details orally and in writing.
4. Coordinate work with other OIT application programmers and system programmers.
5. Write, execute, and analyze programs to develop and test proposed new software features.
6. Provide system application programming support.
7. Establish controls to ensure an accurate and timely product.
8. Participate in the creation of project estimates for systems analysis in support of OIT Open Systems projects.
9. Perform the necessary quality assurance procedures and coordination with all necessary elements by performing software testing to minimize product errors with the goal being no defects in production.
10. Produce data extracts.

#### Open Systems - Requirements Analysis

The Contractor shall provide 24x7x365

1. Identify and document existing system functionality.
2. Coordinate and facilitate meetings with the internal and external stakeholders in order to identify the required functionality for system enhancements. The Contractor shall document the requirements; coordinate the Change Control Board approval process; and develop requirements Specification, and provide all technical documentation to and for approval by the VA Resources Lead (s).
3. Assess variances from the approved Requirements and develop and implement changes as necessary to ensure project remains within specified requirements and is within time, cost and quality objectives. The Contractor shall notify all affected groups of approved changes to commitments.
4. Analyze system requirements and allocating them to hardware, software, and other system components. The Contractor is not required to provide any hardware, software, or other components as part of this activity.
5. Document the allocated requirements (number of modules involved, amount of DASD, data infrastructure, etc.) in a Requirements Specification document (to include a Requirements Traceability Matrix). All technical documentation shall be provided to the VA Resources Lead(s) for approval as required.
6. Conduct reviews with the customer and senior management on a periodic basis to discuss the activities for managing the allocated requirements.
7. Ensure changes to the allocated requirements are reviewed, and when approved, incorporated into the software project.
8. Make and use measurements to determine the status of the activities for managing the allocated requirements.
9. Incorporate all functional and detailed requirements in the Design Specification using the Requirements Specification. All technical documentation shall be provided to the VA Resources Lead (s) for approval as required.
10. Design and document the input and output file record layouts and screens.
11. Ensure that new software is integrated with existing software.
12. Design and document output formats for printed file records and reports and depict each position that the program/module is to print or display.
13. Design and document each data field and verify that the data field is large enough to accommodate the largest possible value it might contain and to allow for possible expansion.
14. Ensure that the correct format (i.e. alpha, alphanumeric, and numeric) is in each data field.
15. Document the detailed logic required by the program/module and all of its processing steps.
16. Design and document the overall software process flow to include interfacing systems.
17. Develop test scenarios.
18. Provide Service Request (SR) time and cost estimates to the Project Manager as requested.
19. Notify the Project Manager of any identified risks pertaining to the project.
20. Attend project meetings, participate in peer reviews product reviews of the Requirements and Design Specification documents.

### Quality Control Management

The Contractor shall perform Quality Control management tasks for OIT. OIT requires Quality Control support for one or more mainframe applications.

The Contractor shall provide

1. Provide quality assurance and test efforts for application software projects and maintenance activities. The OIT environment includes Oracle and SQL Database scripting, JCL, COBOL and Mainframes and Open System environments.
2. Develop test strategies, test plans, test designs, and detailed status reports (including metrics).
3. Write test plans, test cases and test scripts for tracking defects and fixes.
4. Perform test execution, facilitate test case reviews, record and track defects.
5. Evaluate and recommend improvements to existing quality assurance processes.
6. Provide support to project meetings as a testing subject matter expert.
7. Setup test environments, test data and databases required for testing.
8. Provide end-to-end testing of software applications.
9. Submit validated test results of the test plan as executed against the applicable system.
10. Submit modified screens, code, programs, documentation, and / or interfaces when corrections are required.
11. Review lines of code to ensure they meet specific standards.
12. Create and maintain quality system documents and records to include flowcharts, procedures, forms, templates, spreadsheets and presentations.
13. Complete required specification(s) in accordance with the appropriate standard. The Contractor shall create the following specifications: Design Specifications or Project Assignments (PAs). All technical documentation shall be provided to the VA Resources Lead (s) for approval as required.
14. Deliver listings and executable software that has been developed in accordance with the standard. All executable software shall be delivered to the VA Resources Lead (s) for approval as required.

### Dashboard and Business Intelligence Report Administration/Architecture

The Contractor shall provide

1. Perform requirements analysis for new system features, analysis of current system capabilities and limitations and design/engineer new system capabilities to meet requirements.
2. Administer, design and maintain real time enterprise dashboards integrating data from numerous data sources into web based dashboard displays that update in real time. Example technologies on which the dashboards may be based include Edge Technologies’ AppBoard and enPortal, IBM Real Time Monitoring, and other similar dashboard systems that update in real time.
3. Administer, design and maintain custom business intelligence reports for static, “point in time” reporting systems such as IBM Cognos, Tableau, MicroStrategy and other similar systems.
4. Define, design, develop and deliver flexible/user friendly reports and operational dashboards with “drill-thru" features that meet business users needs and ensure data security.
5. Verify correctness and completeness of data model, data relationships, mappings, and definitions.
6. Develop and deliver operational dashboards based on SQL queries and Web Services calls to seamlessly integrate a wide variety of data source including performance and availability monitoring of all network monitoring data sources.
7. Interface dashboard technologies with data sources and data provided through a virtual data federation layer tool to include tools such as Denodo virtual data federation.
8. Develop, using java programming skills, custom capabilities for dashboard technologies and develop custom interfaces to integrate dashboard tools with 3rd party products.
9. Accurately report hours into the ITOPS IO time reporting system on a daily basis.

### Technical Administrative Assistance

The Contractor shall provide Technical Administrative Assistance performs a variety of functions related to the administration of applications to maintain consistency across technical documents related to the applications.

The Contractor shall:

1. Develop, deliver and maintain technical documentation in written and/or electronic format to include SOPs, installation guides, process flows, illustrations, diagrams, and reports, and provide all items to and for approval by VA Resources Lead (s) prior to implementation or changes.
2. Engage extended team members and subject matter experts to obtain and verify content for publication.
3. Plan and coordinate project or other organizational meetings, including the creation of meeting agendas and recording/transcription of meeting notes and action items.
4. Deliver all documentation on schedule, meeting applicable standards, and is appropriate for the intended audience.
5. Prepare documents/presentations utilizing expertise with the Microsoft Office suite of products and Adobe Acrobat Pro is required.
6. Ensure that technical terms are understood and correctly used in all documents and presentations.
7. Research and prepare statistical and analytical reports from various sources including the timekeeping system and the ticketing system.
8. Resolve enquiries from customers and staff about service questions, time keeping and reporting.
9. Prepare and process administrative documents of a technical nature and assure completion, for example 9957s, and service requests. All documentation shall be provided to the VA Resources Lead (s) for approval prior to any distribution.
10. Research data call and requested information, organize, evaluate and compile results, prepare detailed summaries, track progress on projects and action items.
11. Plan and conduct special events, regularly scheduled meetings.
12. Take notes in meetings to include attendees, key decisions made, action items assigned, status of existing action items, and publish the minutes of the meeting in a timely manner.
13. Maintain the contents of the SharePoint site of the assigned unit to including publishing meeting agendas and notes, key schedules and other document repositories as assigned.
14. Act as librarian of all application related documents by creating and maintaining key documents in the appropriate SharePoint sites and areas.
15. Provide documentation and general onboarding of new Contractor staff when needed. The Contractor shall prepare required access documentation, verify TMS Security Training, time accounting and management for both Contracting services and AITC. Appropriate Position Sensitivity shall be coordinate with VA Resources Lead.Provide workload status updates of multiple efforts to co-workers, team leaders and supervisors
16. Respond to data calls; monitors, expedites and reports status
17. Provide other technical administrative l tasks on an as-needed basis. The Contractor shall provide technical administrative support to managers and staffs on an as-needed basis to accomplish duties similar to those stated above.

### eDiscovery

The Contractor shall provide ITOPS IO eDiscovery and other aspects of Electronically Stored Information (ESI) identification, preservation, collection, processing, reviewing and production are in support VA litigation activities, under the management of the ITOPS IO Security eDiscovery Service Line Manager, VA Office of Governance Counsel (OGC), other federal agency governance counsels and other non-Federal OGC groups assisting litigation support.

The Contractor shall provide 24x7x365 support to maintain the same general tasking and service request management related to ITOPS IO Security eDiscovery tasks. The Contractor shall:

1. Aid in the identification of data sources.
2. Work across organizations to integrate eDiscovery processes throughout IT.
3. Formulate strategies for the collection and preservation of each data source. All recommended strategies shall be provided to the VA Resources Lead (s) for approval prior to any implementation or changes.
4. Support infrastructure design for long-term preservation of data.
5. Research and identify tools required for the collection of data sources.
6. Design and document infrastructure specifications for the collection and processing of data.
7. Install and configure tools required for collection of data.
8. Create business processes and standards related to data collection and processing.
9. Optimize system performance related to processing tools.
10. Train users on the use of processing tools, including access, data upload and searching.
11. Define standard processes for the export of data for review.
12. Design and specify infrastructure for reviewing data.
13. Configure eDiscovery tool for reviewing data.
14. Create business processes related to data review.
15. Specify infrastructure and configure tool for data production.
16. Create business processes related to data production.
17. Convert, cull, and load electronic data to be hosted in ITOPS IO eDiscovery application or other major litigation support software per client requests and support.
18. Create standard database load files per client specifications.
19. Load File Manipulation to include file renaming, merging, and conversion from one format to another.
20. Custom data processing and imports in eDiscovery software application
21. Custom load file and create cross reference in eDiscovery software application
22. Create directory structure and listings for analysis within OS drive storage and within eDiscovery applications.
23. Create and update documentation in eDiscovery software application.
24. Create and import encrypted data to and from media.
25. Reformat documents using both macros and manual manipulation.
26. Perform quality assurance checks on all items.
27. Provide timely and accurate project updates to client services.
28. Provide Subject Matter Expert Support to VA attorneys and VA Senior Executive Service (SES) leadership.

### Process and Quality Analysis

The Contractor shall apply analytical expertise to the planning, design, implementation and monitoring of current process/quality controls and future improvement efforts.

The Contractor shall provide

1. Analyze and evaluate the effectiveness of Application Management Support (AMS) programs, processes and procedures.
2. Define opportunities and make recommendations for AMS process and quality improvements; facilitate implementation. All recommendations shall be provided to VA Resources Lead (s) for approval prior to any implementation or facilitation.
3. Develop, maintain and report metrics to monitor AMS performance, workload and adherence to policies, procedures and processes.
4. Participate in broad, enterprise-wide process improvement programs as a SME expert.

### Information Technology (IT) Project Management (PM) Support

The Contractor shall provide IT project management support for various ITOPS IO projects and sub-projects. The Contractor shall expedite and coordinate services to assist in managing complex enterprise projects. The Contractor shall manage assigned tasks to completion within the schedule, budget, and scope of the individual project. The Contractor shall ensure objectives of the projects are achieved. The scope of projects includes infrastructure projects, application- specific IT projects, administrative projects, telecommunications projects, security projects, and process improvement projects.

The Contractor shall provide 24x7x365 support and shall:

1. Conduct all aspects of project initiation, planning, execution and closeout per industry standards and guidelines established for Project Management Professional (PMP) certification.
2. Follow VA and ITOPS IO standards and procedures for Project Management.
3. Develop formal project charters as required by the ITOPS IO Program Manager.
4. Facilitate project kick-off and status meetings and communicate individual roles and project expectations.
5. Conduct formal project reviews with project sponsor at project completion and review all project products to confirm acceptance and satisfaction.
6. Conduct reviews with the Program Manager on a periodic basis.
7. Keep the Program Manager, Customer, and project team informed of the status of the project being managed.
8. Coordinate activities with existing ITOPS IO customers.
9. Coordinate activities for ad hoc requests from internal and external customers.
10. Develop and maintain detailed project plans, and Work Breakdown Structure
11. (WBS) of the tasks required to execute the project. The Contractor shall develop Project Schedules that are deliverables-based and accurately depict the work to be performed by the project. All project plans, WBS and schedule work product must be retrievable by the VA Resources Lead (s) for any reviews and approvals required.
12. Monitor project milestones and critical dates to identify potential jeopardy of project schedule, and identify ways to resolve schedule issues.
13. Ensure that risks associated with the cost, resource, schedule, and technical aspects of the project are identified, assessed, documented, tracked, and mitigated. All issues tracked must be accessible by the VA Resources Lead (s) for any reviews and approvals required.
14. Apprise IO management of issues that impact the project and require management decisions.
15. Develop System Development plans, track activities to the plan, and communicate status, utilizing the latest ITOPS IO Project Management tools.
16. Assess variances from the project plan, and develop and implement changes as necessary to ensure project remains within specified scope as well as time, cost and quality objectives. All variances tracked must be accessible by the VA Resources Lead (s) for any reviews and approvals required.
17. Maintain a collaborative environment with key stakeholders(s).
18. Participate in the development of project standards, procedures and quality objectives. The Contractor shall utilize industry and IO established project standards, procedures and quality objectives without requiring assistance from others. All documentation shall be provided to the COR/VA RESOURCE LEAD for approval prior to any implementation or changes.
19. Identify artifacts needed to establish and maintain control of the project. Create and utilize those artifacts mandated by VA and ITOPS IO standards.
20. Communicate assigned responsibilities to project members for developing artifacts and performing project activities.
21. Review project management activities with Senior Management on a periodic basis.
22. Review project-planning activities with the Project Team on a periodic and event driven basis.
23. Develop estimates for project’s effort, costs, and critical computer resources according to the specific application.
24. Notify all affected groups of approved change requests.
25. Track effort, cost, critical computer resources, development activities, and schedule, and take corrective actions as necessary.
26. Make and use measurements to determine the status of planning, tracking, and oversight activities.

### Change, Release and Configuration Support

The Contractor shall provide 24x7x365 change, release and configuration support at the ITIL program office level and support the ITIL functions of Change Management, Release Management, Build Management and Configuration management, as they are executed

throughout the ITOPS. These ITIL management disciplines ensure that all components of product releases and infrastructure changes are organized and deployed in a controlled manner enabling a repeatable process. The Contractor shall review, analyze and standardize release and deployment processes and audit those processes as well. The Contractor shall support the design and implementation of formal procedures, including checks and balances throughout the process. The Contractor shall identify and mitigate risk to ensure the integrity and recoverability of the production environment and ensure the currency, accuracy, and completeness of the CMDB for all business and technical data elements for ITOPS applications.

The Contractor shall:

1. Coordinate and participate in ITOPS Change Advisory Board (CAB) meetings. The Contractor shall notify and inform members in advance of meetings to allow prior consideration.
2. Schedule and participates in CAB Meetings. Determine meeting attendees, depending on the nature of the RFC, and areas of expertise. The Contractor shall convene CAB meetings for all urgent RFCs.
3. Create and monitor the master schedule of changes and/or releases.
4. Audit planned changes, for accuracy and completeness of all components to include preparation, execution and testing.
5. Ensure required documentation is provided in the RFC. Reviews plans for RFC (Implementation Plan, Test Plans/Test Results, Back-Out Plans, Resource requirements). Reviews RFCs for categorization, urgency, impact, priority, risk, impact and completeness
6. Challenge the risk/impact assessment for validity
7. Resolve issues regarding coordination and approval of changes as necessary.
8. Review RFCs and Approves/Rejects RFCs as appropriate.
9. Return incomplete RFCs with comments to Change Originator
10. Responsible for planning and execution of RFCs
11. Schedule RFC implementation and resolves schedule conflicts. Decides when to schedule a change, integrate new and scheduled changes into a consolidated Forward Schedule of Change (FSC)
12. Decide when to schedule a change, integrate new and scheduled changes into a consolidated Forward Schedule of Change (FSC), makes the schedule available to key participants
13. Monitor execution of back-out plan
14. Update RFC with implementation details and assigns ‘completion code’, where appropriate
15. Communicate RFC approval/rejection to service recipients
16. Communicate the RFC implementation at technical meeting
17. Audit and report status of changes across the enterprise.
18. Produce and distribute regular and accurate monthly report on RFC Statistics to stakeholders. management reports on ITOPS changes
19. Review implemented changes to ensure that they have met their objectives. Verify the success of the install and initiates or requests a back out/restore in case of failure
20. Monitor and audit build, testing and deployment plans,
21. Conduct release plan reviews where necessary, and monitor and adjust release control gates as needed.
22. Collaborate and assist in Post Implementation Review (PIR) when required
23. Perform and complete actions assigned at the PIR/A
24. Determine approval and communicates with stakeholders for Emergency Changes
25. Work with Change Manager to facilitate Emergency Changes
26. Identify and review the Configuration Data model requirements
27. Define the structure of the configuration management system, including CI types, naming conventions, attributes and relationships Identify the data sources for Configuration Item population
28. Implement the Configuration Data Model in the Tool
29. Populate the Configuration Management database with new Configuration item data
30. Record the Baseline
31. Review Configuration Item update request
32. Create/Update configuration record
33. Discard proposed changes to Configuration Record & set Configuration Record to be Active
34. Apply proposed changes & set Configuration Record to be Active
35. Support the Service Asset Configuration Management (SACM) Process Owner,
36. SACM Process Manager in the creation of principles, processes and procedures
37. Work closely with Change Management to analyze changes and ensure CMDB is updated
38. Escalate to Change and SACM Process Manager on unauthorized CI changes or alterations to environment not reflected in CMDB
39. Support effective use of CMDB by support groups and other processes
40. Conduct configuration audits and reconciliation with SACM Process Manager.
41. Produce and analyze reports related to the SACM process
42. Identify and recommend process and procedure improvements
43. Train staff in principles, processes and procedures
44. Control the receipt, identification, storage and withdrawal of all supported Cis
45. Maintain and provide status information on CIs
46. Update the CMDB with baseline information when CIs are introduced, changed, or retired
47. Archive superseded CIs
48. Identify, record, and distribute SACM issues
49. Validate updated Configuration Record
50. Plan for Configuration Management databases and activities.
51. Perform verification and audit of Configuration Management databases (CMDB).
52. Provide management information about Configuration Management quality and operations
53. Maintain quality of Configuration Item (CI) information entered into ITOPS IO CI Databases
54. Respond to requests for CI changes and updates from Change Management
55. Provide CI information and reports upon request
56. Possess a working knowledge and expertise of ITIL processes related to Change Release and Configuration management
57. Manage the change, release, and configuration processes using ITOPS work management tools
58. Comply with VA/ITOPS IO security and privacy policies and directives, and CRISP. The Contractor shall take immediate action and ensure resolution of violations and non- compliance in regard to ITOPS IO and VA policies, procedures, directives, and management handbooks.
59. The Contractor shall report violations and non-compliance to COR/VA RESOURCE LEAD(s) as required
60. Remain current on all assigned training requirements.
61. Support ITOPS staff and stakeholders by providing process documentation, and conducting training in their areas of expertise.

### Datacenter Optimization and Consolidation Support

ITOPS IO NDCOL is charged with developing and implementing data center optimization and consolidation across the VA enterprise. The Contractor shall support short-term efforts at multiple data centers aimed at collecting and analyzing data in support of NDCOL projects. As these projects require extensive travel, travel-related expenses in accordance with paragraph 4.3 above will be paid for on-site work that is greater than 50 miles from the Contractor's approved duty station.

The Contractor shall:

1. Provide project management support as assigned for data center consolidation activities.
2. Conduct physical, logical and/or virtual site surveys to collect data on:
   1. All spaces containing data center equipment, or equipment supporting the data center, such as power and environmental control systems; and/or
   2. All installed IT and support systems, services and equipment, including but not limited to all data center environmental and power support and control equipment, as well as all servers, switches, storage equipment, power and communications cabling and equipment cabinets or racks.
3. Provide analysis and assessment of collected information.
4. Provide recommendations based on the assessments in support of IT system optimization and consolidation program activities.
5. Meet with customers to gather requirements, determine needs, and make recommendations for project tasks and schedule.
6. Schedule and oversee the installation and de-installation of products and obtain acceptance and approval from a Government representative only.
7. Provide escort for data center activities performed by others as approved by the government.
8. Adhere to TO specifications, office policies and procedures by reporting any noted discrepancies to the responsible Government manager.
9. Gather information to identify system owner, data owner, and stakeholders. Utilize, and provide end user support for use of, VA’s enterprise Data Center

Infrastructure Management (DCIM) tool to document existing data center configurations.

### Data Center Touch Labor Support

ITOPS IO requires 24x7x365 touch labor at multiple data centers as the organizational transformation continues to evolve. Touch labor requires physical presence at the data center to perform manual tasks requiring only physical access to systems (no logical access) as directed by VA personnel, usually via telephone or email. Shift scheduling is required to ensure no lapse in coverage and one full time equivalent (FTE) for touch labor is considered to include coverage 24-hours per day, 365 days per year, regardless of how the Contractor proposes to break down shift work internally. One half hour overlap between shifts, and full day coverage (24-hours per day) on all weekdays, weekends, and Federal holidays is required. The Government does not anticipate travel under this effort.

Desktop or laptop computers will be provided as required and as determined necessary by VA for use by Contractor staff during their on-site work hours. The Government furnished computers will be located on-site at each location. These computers will be maintained by the Government to assure their VA network access remains compliant with all VA encryption and other requirements. The Government will provide office space, telephone service and system access when deemed necessary. All procedural guides, reference materials, and program documentation for the project and other Government applications will also be provided on an as-needed basis.

The Contractor shall request other Government documentation deemed pertinent to the work accomplishment directly from the Government officials with whom the Contractor has contact. The Contractor shall consider the Contracting Officer’s Representative (COR) as the final source for needed Government documentation when the Contractor fails to secure the documents by other means. The Contractor is expected to use common knowledge and resourcefulness in securing all other reference materials, standard industry publications, and related materials that are pertinent to the work.

For the purposes of this task, the following definitions apply:

* Priority Level 1 (Critical) - Production system unavailable
* Priority Level 2 (Serious) - Production system delayed potential impact on business function
* Priority Level 3 (Moderate) - Production/Pre-prod Development - system not working within design specification (Available - No business impact)
* Priority Level 4 (Minimal) - Production/Pre-Prod Development - Request for Service. (No business impact)

The Contractor shall:

1. Respond to Priority 1 and Priority 2 service requests in 15 minutes or less. Resolve Customer support requests: 85 percent closed within 24 hours, 90 percent closed within 48 hours, 95 percent closed within 72 hours and 100 percent closed within 120 hours, where applicable
2. Respond to Priority 3 and Priority 4 service requests in 30 minutes or less. Resolve Customer support requests: 85 percent closed within 24 hours, 90 percent closed within 48hours, 95 percent closed within 72 hours and 100 percent closed within 120 hours, where applicable
3. Report resolution of all requests in the VA approved service desk application in accordance with IO directives.
4. Monitor system and data center operations and notify designated VA points of contact in the event of an outage, service disruption, emergency situation, or other significant threat to VA operations within 15 minutes of the notification or occurrence, whichever is first.
5. Adhere to TO specifications, office policies and procedures by reporting any noted discrepancies to the responsible Government manager.
6. Monitor IT equipment associated with data center and facility infrastructure and use VA technical and functional resources to address alerts and maintenance issues spawned by events that degrade communication, operational, or facility operations
7. Provide onsite IT Computer Room and Facility Equipment monitoring coverage with a half hour overlap for each shift used; and provide 24-hour per day staff coverage on weekdays, weekends, and all Federal Holidays throughout the period of performance.
8. Perform basic Tier 1 monitoring of the computer room(s) and facility equipment and troubleshoot all identified issues, defects, and failures.
9. Perform monitoring and readiness checks of datacenter infrastructure and space, as assigned, operating and using monitoring tools such as SolarWinds, StruxureWare, etc. The Contractor shall monitor equipment including IT network components, IT system components, security systems, uninterrupted power supply (UPS) systems, power distribution units (PDUs), computer room air cooling (CRAC) systems, generators, fuel systems, network components, system components, security systems, and other related data center and IT operational systems. The Contractor shall resolve or escalate, and document the status of all identified operational and infrastructure issues as described under item #10 below.
10. Address and report all identified operational and infrastructure issues, and report any observed safety/security issues. The Contractor shall work immediately to resolve all issues identified by using direct or indirect examination and problem solving procedures, performing inquiry that includes contacting VA sites and opening trouble tickets, and submitting service requests for vendor maintenance or services. The Contractor will escalate issues that cannot be resolved immediately by contacting ITOPS IO management and designated data center personnel, and by contacting maintenance vendors. ITOPS IO will provide Tier 2/3 Points of Contact (POCs) and phone numbers. All issues shall be reported and documented daily on the daily shift-monitoring checklist in accordance with Paragraph the Shift Monitoring checklist in #12 below.
11. SHIFT-MONITORING CHECKLIST: The Contractor shall submit a daily Shift-Monitoring Checklist at the end of each shift that provides the Contractor’s confirmation that required checks were performed, and describes the up-to-date status of operations. This daily Shift- Monitoring Checklist shall be completed by Contractor on-site staff performing the monitoring work at each data center. The
12. Shift-Monitoring Checklist shall be digitally signed and submitted electronically (via email) each day before the end of the shift and before leaving the site. The daily checklist format will be provided to the Contractor within five (5) days after the award is made. The checklist represents the Contractor’s written assurance that each required monitoring data element check was performed each hour during the shift. This report shall be maintained throughout the shift on a designated SharePoint site and it shall be updated hourly throughout the shift. The checklist includes instructions for completion of each required data element. The dailyShift-Monitoring Checklist shall cover all work completed during the shift including systems monitored by Contractor staff, data obtained during the monitoring, confirmation that a verbal knowledge transfer was performed at start and end of shift, and narrative describing any problems that arose and a description of how the problems were resolved. If any problems were not completely resolved, the Contractor shall provide an explanation in the daily Shift-Monitoring Checklist, including the Contractor’s estimated timeframe for the issue to be resolved and the current plan for resolution.
13. Communicate through verbal and written communications with ITOPS IO management, PMs and staff on a daily basis. At the start and end of each shift, the Contractor will receive or shall provide a verbal knowledge transfer about ongoing issues with Contractor or VA staff that are on-site before or after the shift. The Contractor shall report and discuss on-going issues with these staff, which may include other Contractor staff, ITOPS IO PM or his/her assignee.
14. Meet and escort maintenance vendors in computer room or other areas on the data center campus during the Contractor shift (after-hours/weekend/Holiday) for infrastructure parts replacement, maintenance, repairs, deliveries, etc. Vendors are to be escorted at all times.

**~~Deliverable:~~**

* 1. ~~Shift-Monitoring Checklist~~

### MuleSoft Development and Support

Contractor shall:

1. Identify, analyze and develop interfaces and integration flows using Mule ESB Anypoint platform including Mule Runtime, Connectors, Design Center and API management
2. Be responsible for programming and software development using various programming languages and related tools and frameworks, reviewing code written by other programmers, bug fixing, testing, documenting and implementation.
3. Explain complex technical issues to project manager and developers in an easy to understand manner and recommend clearly thought out solutions.
4. Build middleware systems from the ground up using Message Routing, Content Enrichment, Message Filtering, Message Transformation, Guaranteed Delivery, Message Sequencing, Batch Message processing, error handling and reconciliation mechanisms.
5. Troubleshoot issues and provide bug fixes.
6. Understand relational databases and work with different adaptors and JMS queues required.
7. Implement or support Security, Logging, Auditing, Policy Management and Performance Monitoring and KPI for end-to-end process execution.
8. Analyze Synchronous / Asynchronous communication patterns and problem- solving abilities with respect to Message Sequencing, Correlation, and Queuing.

### Enterprise Product Line Management Services

As required within the sub-tasks below, the Contractor shall provide 24x7x365 (except for Federal holidays where support will be provided on a call back basis). If not stated, support services are required during normal business hours only. The Contractor shall perform 24x7x365 Product and Platform Management services for DEVSECOPS and Product Line Management

with analysis, development and implementation support for core functional VA OIT frameworks requirements and support all product lines and products under Technology and Platform Services Portfolio (TPS). Product Line Management support will include process reengineering and adaptation of IT solutions in support of ecosystems internal and external to the organization.

Product support may include advanced collaboration capabilities, workflow, business process modeling, business process modeling translation, system modeling and simulation, software development and deployment, executive dashboards, enterprise search and discovery, project management, scheduling, applications, connectors, and advanced agile framework support for training and solution requirements.

#### Customer Relationship Management (CRM)

The Contractor shall serve as a Subject Matter Expert (SME) for CRM products, core components, services, and lifecycle management support. The Contractor shall assess, choose and describe product strategies for creating and maintaining CRM solutions. The Contractor shall conduct architectural design, low code/no code configurations, planning, deploying and production implementations.

The Contractor shall:

1. Act as the SME for CRM products and services.
2. Perform as technical expert and architect for providing leadership to product owners, managers, and partnered team(s).
3. Work with site collection stakeholders and site content managers to create/build CRM solutions and migration support.
4. Lead architecture, process and performance strategies, ensuring that enterprise CRM environments are scalable; implement telemetry for maintaining and measuring performance requirements and baseline metrics.
5. Ensure compliance with Federal and VA privacy and security policies and directives.
6. Monitor and respond to CRM Critical/High Priority incident tickets; supporting VA HPI service desk calls/meetings as required.
7. Assist with developing and planning short, and long-term CRM team and customer training.
8. Consult closely with customers, architects and management to deliver innovative solutions.
9. Facilitate architecture and design sessions with customers, stakeholders and content managers.
10. Work with business and infrastructure partners to define CRM deployment strategies.
11. Work with intake and project teams to analyze business and technical requirements to establish level of effort and budget plans required.
12. Design and implement complex CRM data models.
13. Monitor development team in executing the development plan and quality assurance activities.
14. Plan, execute, document, track, and resolve unit, system integration, and performance tests.
15. Develop workflow processes.

#### Hosting and Provisioning Services

The VA is developing VA Platform One (VAPO) which will have components in the VAEC and in VA on-premises datacenters to create a portable multi-cloud infrastructure under the direction of TPS. This section is intended to provide resources in support of VAPO. The Contractor shall primarily provide support for the on-premise components of VAPO. However, the Contractor shall also coordinate and work closely and cooperatively with the TPS and ECSO teams that support VAPO in the VA Enterprise Cloud (VAEC) to successfully implement operate and deliver VAPO. As part of the teamwork, the Contractor may also perform work in the VAEC when supporting VAPO and its hosted applications under this paragraph. The Contractor shall have functional knowledge of VAEC, current container technology, and application modernization capabilities in a portable multi-cloud infrastructure. The Contractor shall have expert familiarity a with AWS, Azure, IBM, Red Hat (OpenShift Container Platform, RHEL, Fedora CoreOS, Ansible, Quay), VMware (vRealize, vSphere, Tanzu, and other Kubernetes, Linex-based open-source tools in order to implement, operate and support VAPO architectures and product strategies. Extensive knowledge of the DevSecOps Toolchain with skills to successfully construct a continuous integration /continuous delivery (CI/CD pipeline (Tekton, Jenkins, or other CI/CD tool). The Contractor shall conduct architectural design, web parts design, Site designs, server installation, management, and troubleshooting with a focus on planning, deploying, and operations supporting container technology and application modernization as part of VAPO multi-cloud Platform as a Service (PaaS) environment.

The Contractor shall:

1. The Contractor shall provide container system engineering support.
2. Act as the SME for Container and Application Modernization technologies and their supporting ecosystem of tools and components.
3. Perform as technical expert and architect for guiding Hosting and Provisioning leadership based on container architecture and administration.
4. Design and implement highly scalable, flexible, and resilient container solutions for Hosting and Provisioning and business needs in Containerized compute space.
5. Implement, manage, and design monitoring of container architecture and container- hosted computer systems and applications to ensure they are working optimally and that the hardware and software used by Hosting and Provisioning are compatible with all appropriate VA and Federal policies and procedures
6. Manage and implement consistent and granular container infrastructure security policies to include system, requirements engineering, and capacity planning.
7. Assist in the development, maintenance, and operations of Hosting and Provisioning container infrastructure and application modernization solutions.
8. Identify service line and departmental container requirements, and make suggestions regarding technical direction.
9. Design and implement container security and data assurance processes and procedures.
10. Configure and install container-based applications as requested by TPS Management
11. Test container software applications and systems to ensure they meet the necessary engineering requirements to work in an efficient, effective, and secure manner within the VA ecosystem
12. Analyze and document Hosting and Provisioning container implementation's current and future needs.
13. Create flowcharts, diagrams, and other documentation on container applications (legacy and modern), and systems.
14. Create manuals and detailed sets of instructions based on container technology to be used by TPS personnel (Application, System, Data, Network, and Security).
15. Configure and implement container: data storage (volume, file, blob, access keys), scripting (Java, .NET, python, yaml, bash, PowerShell, Terraform, application deployment, layered filesystem, creating images (microservices, API), tags, processes, environment variable, disaster recovery, load balancers, hosted applications and databases services, security permissions, and resource groups. Configure and implement Git integration.
16. Configure and document product operations manuals (POM) and Standard Operating procedures (SOP) for container-based software and systems.
17. Manage container application rationalization documentation and processing.
18. Develops as-is architecture and to-be capability design and technological roadmaps in conjunction with the enterprise architecture team
19. Provide Hosting and Provisioning migration and container support services for systems and applications migrating to and /or hosted on VAPO, best practices and complies with VIP development, release, and documentation requirements. This cloud support may be in the form of replatforming, rehosting, refactoring, or retiring.
20. Use VA TRM/DSO approved tools to build and manage Hosting and Provisioning DevSecOps toolchain, pipeline, and Infrastructure as a Code (IaC) environment that automates builds, tests, and deployments that meet VA project and VIP requirements. Ensure that all project artifacts are versioned correctly and follow a build release promotion versioning approach which identifies all major, minor, and update changes to the components. Maintain baselines of software, software builds, and electronic artifacts and ensure all code is checked in compliance with VA requirements.
21. The Contractor shall provide Hosting and Provisioning advisory services for the award of a VA Authority to Operate (ATO) including support of approved container scripts and configurations. Provide support, manage and implement the ATO process including documentation, artifacts and processes within the eMass tool, and coordinate with VA, TPS, ECSO, container providers, and partners to ensure consistency with ATO requirements for certification to meet VA information security policies and standards to obtain and maintain the overall VAPO ATO.
22. The Contractor shall develop, manage, and maintain a Hosting and Provisioning Container Implementation Plan that addresses architecture, application modernization and migration, security, data synchronization, environments, and data. This plan shall include the Contractor’s iterative schedule, the sequence of modernization and migration tasks, back-out and recovery plans, and verification and validation activities required to execute the container implementation process.
23. The Contractor shall be capable of implementing and maintain containers, microservices, serverless computing and applications, as available by the container systems operating in VAPO.
24. Collaborate and support the design and build container service catalog with Hosting and Provisioning services and business offering.
25. Collaborate and cooperate with the TPS and ECSO teams implementing and operating VAPO in VAEC to ensure maximum container portability, system and environment compatibility, and product consistency of the items 1-24 above to mutually support and successfully deliver VAPO as a product.

## DATA CENTER IT FACILITIES AND CONNECTIVITY (FFP)

As required within the sub-tasks below, the Contractor shall provide 24x7x365 across three shifts to provide 24x7x365 (except for Federal holidays where support will be provided on an as required basis. PWS Section 5.8.5.1 and 5.8.5.4 requires support on Federal holidays). If not stated, support services are required during normal business hours only.

For information purposes, below are the historical Full Time Equivalent (FTE) skill sets within the provided Labor Categories in the Pricing Spreadsheet

Austin, Texas

* (10) Customer Service Engineer
* (6) HVAC Specialist
* (4) Installation Engineer
* (2) Logistics Analyst
* (2) Logistics Analyst, Jr.
* (1) Program Analyst, Expert
* (2) Program Analyst, Senior
* (2) Program Manager
* (4) Project Analyst
* (12) Project Manager
* (1) Systems Engineer, Senior
* (2) Administrative/Clerical Assistant III

Hines, Illinois

* (1) Administrative/Clerical Assistant III
* (2) Installation Engineer
* (3) Project Manager
* (2) Logistics Analyst

Philadelphia, Pennsylvania

* (2) Logistics Analyst
* (4) Project Manager
* (2) Installation Engineer
* (2) Electrician

Martinsburg, West Virginia

* (2) Installation Engineer
* (1) Logistics Analyst, Jr.
* (1) Project Manager

Quantico, Virginia

* (5) Installation Engineer
* (1) Project Manager

If required, Data Center IT Facilities and Connectivity sub-task shall indicate 24X7X365 support needed.

### Network Infrastructure and Telecommunications Systems Support

The Contractor shall provide data center infrastructure installation support to its user base by supporting structured cabling and equipment deployment requirements. The Contractor shall perform Enterprise Connectivity support services in accordance with established ITOPS IO procedures and guidelines. The Contractor shall ensure that all Enterprise Connectivity support, at the AITC, PITC, HITC, and CRRC, tasks are performed in accordance with applicable security regulations. Materials, hardware and software for network infrastructure and telecommunications installations will be furnished by the government for installation by the Contractor as needed. Unless otherwise noted, work of this section applies to locations identified in paragraph 4.2 above. Initial locations will include the ITOPS IO Information Technology Centers and may be modified to include any or all of the listed locations.

The Contractor shall:

1. Document plans and implement all network infrastructure and telecommunications systems installation and maintenance.
2. Configure computer room cabinets for network and telecommunications hardware, and install hardware, software, cables, and power supplies.
3. Provide detailed reports, charts, and graphs on operational status of network and telecommunications systems.
4. Identify, triage, and resolve network and telecommunications customer issues and provide status to the customer within 72 hours.
5. Provide services for moves, adds, and changes on all systems required to issue, maintain, and service the network infrastructure telephony.
6. Perform continuous status checks on all connectivity to ensure optimum system functionality in the data center.
7. Contractor shall provide monthly status of ServiceNow tickets processed. The report should highlight specific areas that may have been affected and provide an overview of the tickets the Contractor has worked in the network connectivity categories for statistical purposes. This report is to measure performance on production associated with data center network and telecommunications infrastructure, and systems.
8. Conduct broad-based studies of network infrastructure and telecommunications to improve system performance and provided results to COR/VA Resource Lead (s).
9. Document procedures for all network infrastructure and telecommunications requirements in accordance with established ITOPS IO and/or VA guidelines and regulations.
10. Provide training on all Enterprise Connectivity functions at ITOPS IO or other agreed upon location. Input inventory tracking data in asset management tools. Identify and report material shortages and provide forecasted equipment inventory to ITOPS IO VA Resource Lead/COR.
11. Provide a monthly status of on-going projects to the ITOPS IO VA Resource Lead/COR summarizing major activities performed during the month, identifying any issues or concerns.
12. Analyze and recommend Enterprise Connectivity standards and documentation aimed at lowering total support costs daily. Any recommendations shall be provided to the COR/VA Resource Lead (s) for approval prior to any implementation.
13. Update the status of problem requests and change-orders for each action to indicate work accomplished for specific requests daily.
14. Resolve Customer support requests within the required timeframe of 100 percent closed within 144 hours, where applicable.
15. Ensure accurate inventory tracking data are promptly reported in the asset management tool.
16. Identify and report to the ITOPS IO Resource Liaison all potential problems with processes, schedules, user requirements, that impact daily operations within the ITOPS IO relating to issues with Enterprise Connectivity.
17. The Contractor shall provide daily installation services and cabling implementation at ITOPS IO or other agreed upon locations. Installation services occur after core hours of operation and may occur on weekends as needed.
18. Provide assistance as one of the Subject Matter Experts for IT related projects, daily task or emergencies at ITOPS IO or other agreed upon locations.
19. ~~Provide a monitoring and triage service for critical data center systems; notify~~  ~~appropriate management and subject matter experts of systems problems.~~
20. Provide a monthly status of on-going projects to the ITOPS IO VA Resource Lead/COR summarizing major activities performed during the month, identifying any issues or concerns.

**Deliverable:**

* 1. ServiceNow Tickets Status Report

#### Regional Data Center Support

The Contractor shall provide Connectivity support for the Cleveland, Ohio, Orlando, Florida, Brooklyn, New York Regional Data Centers during normal business operating hours.

The Contractor shall:

1. Document plans and implement all network infrastructure and telecommunications systems installation and maintenance.
2. Configure computer room cabinets for network and telecommunications hardware, install and decommission hardware, software, cables, and power supplies IAW with VA standards.
3. Provide detailed reports, charts, and graphs on operational status of network and telecommunications systems.
4. Identify, triage, and resolve network and telecommunications customer issues and provide status to the customer within 72 hours.
5. Provide services for moves, adds, and changes on all systems required to issue, maintain, and service the network infrastructure telephony.
6. Contractor shall provide monthly status of ServiceNow tickets processed. The report should highlight specific areas that may have been affected and provide an overview of the tickets the Contractor has worked in the network and telephone connectivity categories for statistical purposes. This report is to measure performance on production associated with data center networking systems.
7. Document procedures for all network infrastructure in accordance with established VA guidelines and regulations.
8. Provide training on all Enterprise Connectivity functions at ITOPS IO or other agreed upon location. Input inventory tracking data in asset management tools. Identify and report material shortages and provide forecasted equipment inventory to ITOPS IO VA Resource Lead/COR.
9. Provide a monthly status of on-going projects to the ITOPS IO VA Resource Lead/COR summarizing major activities performed during the month, identifying any issues or concerns.
10. Analyze and recommend Enterprise Connectivity standards and documentation aimed at lowering total support costs daily. Any recommendations shall be provided to the COR/VA Resource Lead (s) for approval prior to any implementation.
11. Update the status of problem requests and change-orders for each action to indicate work accomplished for specific requests daily.
12. Create and/or resolve Customer support requests utilizing applicable VA support processes within the required timeframe of 100 percent closed within 144 hours, where applicable.
13. Ensure accurate inventory tracking data are promptly reported in the asset management tool.
14. Identify and report to the ITOPS IO Resource Liaison all potential problems with processes, schedules, user requirements, that impact daily operations within the ITOPS IO relating to issues with Regional Data Center Operations.
15. The Contractor shall provide daily installation services and cabling implementation at ITOPS IO or other agreed upon locations. Installation services occur after core hours of operation and may occur on weekends as needed.
16. Provide assistance as one of the Subject Matter Experts for IT related projects, daily task or emergencies at ITOPS IO or other agreed upon locations.
17. Properly decommission, retire, and dispose of IT equipment. Turn-in and disposal of IAW the VA Handbook 7002 and VA Handbook 6500.
18. Document and submit reports IAW VA and local SOP
19. Support VA required inventory activities IAW the VA and policies/procedures.
20. Conduct shipping and receiving of IT equipment per the VA Handbook 6500
21. Asset audits and associated documentation

### Logistic Inventory Management Support

The Contractor shall perform a diverse range of logistics duties in support of the Property Management Section located onsite at AITC, PITC, HITC, CRRC datacenters in accordance with VA Handbook 6500, 7002 and the NIST 800-88. Primary duties include inventory management support for approximately 30,000 pieces of equipment with an increase of 10 percent annually for the AITC, PITC, HITC, CRRC, and and 3 regional data centers Denver CO, Sacramento CA, Brooklyn NY (The Contractor shall also provide inventory support for the Financial Service Center (FSC) and End User Operation (EUO) Temple. The Contractor shall barcode, update AEMS/MERS database, update ServiceNow Change Requests, receive, distribute, shipping and handling services, warehouse storage, monitor excess program for IT equipment, and degaussing/destruction of electronic media including hard drives, tapes, external memory devices, smart phones, and tablets in accordance with VA Handbook 7002. The contractor shall be responsible for the destruction of an upward of 15,000 – 20,000 hard drives annually with the capability to increase as required.

The tasks may require the use of motorized forklift, motorized pallet lift jack, manual pallet lift jack, warehouse management system for tracking and storage locating. The Contractor shall be required to lift up to 50 lbs. in the completion of some warehouse tasks. The Contractor shall also provide support for tasks in Subsection 5.8.2.1 as assigned.

The Contractor shall:

1. Inventory individual data centers with a 95 percent accuracy rate as follows:
   1. 1/6th of each site’s equipment inventory listing is inventoried monthly.
   2. All of each site’s equipment inventory listing is inventoried bi-annually and requires at least one Contractor on-site for a complete inventory of our managed assets.
2. Prepare inventory reports, investigate, research, and reconcile inventory discrepancies using a variety of computer programs, databases, and research methodologies.
3. Review processes and procedures to improve inventory accuracy and ensure “cradle to grave” accountability of IT equipment and electronic media. Any recommendations that result shall be provided to the COR/VA Resource Lead (s) for approval prior to any implementation or changes.
4. Upon receipt of IT equipment, scan items into AEMS/MERS utilizing handheld scanners, print bar codes, and affix bar codes to applicable items. Process manually if unable to scan items.
5. Maintain an accurate Equipment Identification Listings (EILs) by processing equipment receipts, transfers, and turn-ins of equipment daily.
6. Receive and process excess items for turn-in and disposal IAW the VA Handbook 7002 and VA Handbook 6500.
   1. Verify VA Form 2237 IAW local disposal policies with a 95% accuracy rate and ensure all errors are corrected.
   2. Ensure removal of all hard drives.
7. Log all hard drives and complete VA Form 0751 with a 95% accuracy rate and ensure all errors are corrected. Notify Property Management supervisor of all discrepancies.
   1. Degauss all electronic media based on VA disposition policy and procedures. Ensure all hard drives are secured in accordance with VA Handbook 6500 and local policy.
   2. The Contractor shall maintain inventory sheets of items degaussed and arrange for disposition.
8. The Contractor shall ensure receipt of disposition certificates and update AEMS/MERS database and update ServiceNow with disposal information, including uploading of VA Forms 2237 and 0751.
9. Report overages/shortages and other discrepancies to the Inventory Management Specialist in charge of inventory immediately upon discovery. The Contractor shall prepare inventory and production reports as needed.
10. Ensure that all equipment is maintained in operational condition and operated in a safe manner. The Contractor shall ensure preventative maintenance is performed within industry standards on warehouse equipment, and that maintenance is recorded.
11. Ensure the warehouse stocks are neat, orderly, and in proper sequence.
12. Catalog and barcode non-expendable equipment in AEMS/MERS using the Federal Supply

Catalog (FSC) with a 95% percent accuracy rate. Receipt information may require researching procurement documents.

1. Maintain all property and related paperwork for the excess program. This task includes assigning condition codes, for advertising the equipment to other federal agencies through General Service Administration (GSA), weighing, packaging, and processing equipment/furniture, being donated to qualified non-profit organizations, and monitoring sales of equipment.
2. Complete assigned ServiceNow requests in accordance with ITOPS IO procedures.
3. Conduct IT annual warehouse inventories, count and record quantities of items in storage with a reconciled 100% accuracy rate. All discrepancies shall be researched and reconciled. Inventory shall be controlled and tracked by serial number in addition to item number.
4. Input inventory tracking data in asset management tools. Identify and report material shortages and provide forecasted equipment inventory to ITOPS IO VA Resource Liaison/COR.
5. Ensure inventory tracking data are reported in the asset management tool.
6. Customer support as follows:
   1. Provide material handling support as needed and provides logistical services to areas within ITOPS IO and its customer base.
   2. Complete ServiceNow ticket move coordination tasks.
   3. Reconcile ServiceNow tickets as requested.
7. Process IT Equipment and Supplies for shipment to include:
   1. Cargo Preparation
   2. Bill of Lading processing
   3. Shipment tracking
   4. File damage claims for all discrepancies

#### Logistics Services Support

The Contractor shall support the Property Management Section located at AITC, PITC, HITC, CRRC datacenters. The Contractor shall provide supplies distribution support, act as the point of contact for day-to-day inventory questions, spot check inventories and provide emergency deliveries of material as required for successful operation of the Property Management Section’s commitment to total logistics support. The Contractor shall use the GFE in the support of daily tasks. The Contractor shall also provide support for tasks in Section 5.8.2 as assigned.

The Contractor shall:

1. Inventory and stock all designated supply cabinets/areas located within the ITOPS IO compound according to established schedules.
2. Provide storage and space utilization for all IT operating supplies in accordance with ITOPS IO policy and procedures.
3. Route and expedite movement of IT supplies and materials in production to delivery sites.
4. Select items from stock using picking tickets or verbal instructions from the Supply Specialist in charge of inventory. Items selected will be given careful consideration as to unit of issue, stock number, quantity, etc., to ensure accuracy of warehouse inventories with 95% rate of accuracy with all discrepancies reconciled and corrected.
5. Rotate warehouse stock as necessary to ensure that the oldest items are issued first. Re- warehouse items as necessary.
6. Keep warehouse stocks neat, orderly, and in proper sequence.
7. Conduct periodic warehouse inventories, count and record quantities of items in storage with 95% rate of accuracy with all discrepancies reconciled and corrected.
8. Report overages/shortages and other discrepancies to the Inventory Management Specialist in charge of inventory immediately upon discovery. Prepare inventory and production reports as needed.
9. Create or review existing SOPs for warehouse operations in accordance with VA and ITOPS IO policy and procedures.
10. Ensure the security of the warehouse at all times and report security violations to Inventory Management Specialist.
11. Follow warehouse guidelines to ensure that all equipment is maintained in operational condition and operated in a safe manner in accordance with industry standards.
12. Process ServiceNow Change Request and Service Request tickets.
13. Support the functions within the Definitive Hardware Store (DHS) by delivering, picking up equipment, accounting for IT equipment, shipping, and processing the appropriate paperwork and updating ServiceNow tickets.
14. Deliver IT Equipment to Remote users in accordance with VA Directive Handbook 6500.
15. Provide materials handling support as needed and provides logistical services to areas within ITOPS IO and its customer base.
16. Perform daily inspections of assigned warehouse storage areas. Deficiencies such as safety hazards, misplaced items, and unclean areas shall be corrected immediately and reported to the Lead warehouse/maintenance worker.
17. Post tasks performed for specific customer accounts in quarter hour increments in accordance with established procedures. The timecard postings are to be delivered on time.

### Mail and Distribution Administrative Support Services

The Contractor shall provide mailroom operational and distribution support services to Austin Information Technology Center (ATIC). The AITC mailroom is responsible for processing an upwards of 10,000 -15,000 pieces of mail from United Parcel Service (UPS), FEDEX, and United States Postal Service (USPS) on a monthly basis. The AITC mailroom also processes an estimated 42,000 pieces of outgoing mail monthly to include outgoing mail for the Financial Services Center (FSC). The Contractor shall provide distribution services including preparation of hard copy reports, documents, Computer Discs, mail, priority mail shipments, and on-site mail distribution daily throughout a three-story, Tier 4 facility.

The Contractor shall provide support to the Property Management Section 5.8.2 as needed. The Contractor shall:

1. Properly account for and control mail that requires special handling with a 95% accuracy rate. (e.g., FEDEX, UPS, Airborne, and Postal Express). All errors shall be promptly corrected
2. Inspect, sort and open all mail received into the facility, notify Resource Lead of all suspicion envelopes or packages.
3. Prepare, sort, handle and deliver in-house mail to ITOPS IO and tenant organizations, if consignee is off site provide email notification to coordinate delivery within 24 hours of delivery.
4. Prepare outgoing mail in accordance with U.S. Postal regulations and ITOPS IO instructions.
5. Receive and prepare all in-house, tenants, and FSC outgoing UPS for outbound shipping on a daily basis.
6. Process priority mail shipments utilizing the priority mail Postal meter machine and labeler.
7. Process priority mail shipments utilizing VA contracted priority shipper (currently UPS) computers, printers, labelers, and scales daily with a 95% accuracy rate.
8. Coordinate with PIV Office for the shipment of laptops, cell phones, hard drives, temporary PIV Badges, speed passes and other various forms of Government Furnished Equipment (GFE) IAW AITC guidance.
9. Verify all GFE shipments for properly documents according to the VA Handbook 6500 and local AITC policies.
10. Ensure workspace and all equipment is cleaned prior daily departure with no visible PII left unattended.
11. Monitor mailroom equipment (such as Neopost, Pitney Bowes, Mail opening and UPS World Shipper stations, etc.) daily for maintenance and report any faults to management immediately.
12. Some duties may require the Contractor to lift up to 50 pounds in completion of mailroom daily tasks.
13. Process undeliverable mail in accordance with ITOPS IO office procedures.
14. Close out the priority mail computers at the end of the duty day by running the “End of Day Report”.
15. The Contractor shall prepare and distribute production output to include hard-copy reports, documents, and microfiche. The Contractor shall sort, separate, fold, insert, label, and prepare for packing and mailing an average of 40,000 documents monthly.

### Security Administration Services

The Contractor shall provide ITOPS IO security administration services to support day-to-day onboarding and termination of support Contractors and Government employees, identity- proofing, badging and logical access services. The Contractor shall provide security advisory services for ITOPS IO initiatives and provide security support services for the five Information Technology Centers geographically dispersed across the United States supporting over 3,000 government employees and 1000 plus contractors (FFSS and other On-site Contractors). ITOPS IO Information Technology Centers are located at Austin, TX; Hines, IL; Philadelphia, PA; Martinsburg, WV; and Quantico, VA. On-site support shall be conducted at the AITC and after hours support will be provide by the Physical Security Officers. The Contractor shall provide security administration services to support day-to-day physical and logical access services, onboarding and termination of support Contractors and Government employees, identity- proofing and badging, management of physical access control systems, and security advisory services for ITOPS IO initiatives. The Contractor shall provide security services support.

The Contractor shall:

1. Assist ITRM PSOs during monitoring and conducting moves, adds, and changes for all physical security systems in ITOPS IO data centers.
2. Provide security services related to the onboarding and termination of support Contractor personnel and Government employees in accordance with Homeland Security Presidential Directive 12 (HSPD-12) and VA directives as required by VAPM/ VA Resource Lead.
3. Assist ITRM PSOs in reviewing all ITRM facilities and ITOPS IO computer room access requests provide recommendation to both ITRM PSOs and COR/ITOPS IO Resource Liaison as required by VAPM/Government Resource Lead.
4. Track and issue property pass documentation for all on-site Government FTEs, Contractor, Third Party and visitors entering and exiting the AITC. Enforce property controls by notifying designated personnel of violations.
5. Provide ITRM PSOs document security plans for all ITOPS IO infrastructure projects as required by VAPM/ VA Resource Lead.
6. Assist ITRM PSOs in reviewing security SOPs for alignment to VA and ITOPS IO established policies as required by VAPM/ VA Resource Lead.
7. Present VA Privacy and Information Security Awareness and Rules of Behavior Training for ITOPS IO data center personnel as required by VAPM/ VA Resource Lead.
8. Provide a monthly status of on-going projects to the ITOPS IO VA Resource Lead/COR summarizing major activities performed during the month, identifying any issues or concerns.
9. Analyze standards and documentation aimed at lowering total support costs. Any recommendations shall be provided to COR/VA Resource Lead(s) for approval prior to any implementation or changes.
10. Update the status of problem requests and change-orders for each action to indicate work accomplished for specific requests as required by VAPM/ VA Resource Lead.
11. Report to the ITOPS IO VA Resource Lead /COR all potential problems with processes, schedules, user requirements, that affect impact daily operations within ITOPS IO.
12. Assist ITRM PSOs and ITOPS IO in response to internal and external audit requests.
13. Provide courtesy identity-proofing and badging services for local VA employees and contractors.
14. Track and assist with on-boarding documents for background investigation initiation and submittal to the Security Investigation Center (SIC).

### Computer Room Environmental Infrastructure Operations

The Contractor shall maintain 24x7x365 Data Center support systems to including computer room related electrical and environmental systems per applicable subsection. The Contractor shall operate and maintain all equipment and systems necessary to support the computer room environmental systems as required by the applicable subsection. The HVAC Contractor personnel assigned under this task shall have either a current Air Conditioning or Refrigeration Contractor’s license that either carries a Commercial endorsement or a combined endorsement for Class B Air Conditioning and Refrigeration license and the Contractor Electrician personnel shall have a certification as a Journeymen or Master Electrician. The license/certification shall be issued from the state where work is to be performed and shall be current at the time of award and maintained throughout the Period of Performance (POP). As a minimum, the Contractor shall wear safe, comfortable, and flame-resistant maintenance clothing during their tour of duty that meets Occupational Safety and Health Administration (OSHA) safety requirements for clothing. Per OSHA requirements 29 CFR 1910.269(I)(6), the Electrician Contractor personnel must wear Flame Resistant (FR) NFPA 70E, Art. 130.7(c)(16), Arc Flash Hazard Risk Category (HRC) II certified clothing. Additionally, the Electrician or Mechanical personnel shall wear Flame Resistant (FR) NFPA 70E, Art. 130.7(c) (16), Arc Flash Hazard Risk Category (HRC) IV certified clothing when required to support occasional maintenance of electrical service equipment. The Contractor is responsible for issuing maintenance clothing according in compliance of the OSHA requirements stated.

#### Austin Information Technology Center (AITC) Data Center

The Contractor shall support the operation and maintenance of the Austin Information Technology Center (AITC) Data Center. The Contractor shall provide monitoring and oversight for all Data Center related support. The Contractor shall provide notification of all Data Center related incidents and outages to the appropriate VAPM/VA Resource Lead.

1. Perform 24x7x365 on-site monitoring and readiness of Data Center Infrastructure and space.
   1. Tour of duty will involve shiftwork.
   2. Schedule tour of duties, review daily reports, and manage day to day operations of IT Equipment Room Operations.
   3. Monitor all core and regional data centers Environmental Infrastructure under OIT and notify applicable Support Team.
   4. Process after hour IT Vendor access request for Denver and Sacramento Data centers
2. Support the operation and maintenance of the computer room mechanical support systems, including chilled water systems (water chillers, air conditioning units, pumps, distribution piping, heat rejection units, cooling towers, air handlers, humidifiers, and other HVAC equipment) and heating systems (boilers, water heaters, and other HVAC equipment).
3. Monitor the operation and maintenance of the emergency generators, uninterruptible power supply (UPS) systems, storage batteries, transfer switches, transformers, switchgear, electrical monitoring and distribution equipment, variable speed drives, lighting systems, circuit breakers of all sizes and descriptions, and other electrical systems/equipment to ensure a stable, redundant, reliable computer room environment. This shall include preventative and predictive maintenance of all regular and emergency distribution elements to the modular power distribution unit (“power strip”) level within IT equipment racks.
4. Monitor the power distribution and consumption from the building input transformer level to the power distribution unit (PDU) level to wall-mounted power distribution panels to modular power distribution units (“power strips”) within IT equipment racks in the computer room, including auditing circuits and providing configuration management and logging/repair of anomalies.
5. Support the operation and maintenance of the computer room mechanical support systems, including chilled water systems (water chillers, air conditioning units, pumps, distribution piping, heat rejection units, cooling towers, air handlers, humidifiers, and other HVAC equipment) and heating systems (boilers, water heaters, and other HVAC equipment).
6. Monitor electrical infrastructure management for medium- and low-voltage systems.
7. Review and close out computer room system installations and de-installations of power and HVAC equipment/systems.
8. Monitor the support and operation of the facility fire detection, alarm, and suppression equipment and systems.
9. Ensure the computer room operating environment in accordance with applicable ASHRAE guidance for computer room environments.
10. Monitor for continuous electrical utility availability for computer room environments and notify applicable VA staff in case of outage.
11. Plan, implement, and maintain a predictive sustainment, maintenance, and repair program for installed infrastructure equipment supporting the computer room environments.
    1. Contractor shall support all planned and emergency repair actions during normal business and after hours. The Contractor shall support after hours repairs across all data centers. There are an average of 10-15 repairs monthly with no more than a 12 hours support window.
    2. Track usage monthly
12. Monitor and manage the closed loop cooling system
13. Support the data collection of the Data Center’s computer room electrical power consumption by participating in the auditing of rack power circuits and rack power configuration and any data logging anomalies.
14. Support all phases of engineering projects for system maintenance, modifications, upgrades, and removals from an electrical power and environmental perspective.
15. Maintain system operational and maintenance logs by tracking scheduled and unscheduled events, record issues and identify potential risks to reliable equipment operations for future engineering review and trend analysis.
16. Prepare correspondence, memoranda, reports and related documents as required by customer standards or other directives provided by the Government COR/VA RESOURCE LEAD/VAPM.
17. Prepare reports required for tracking progress as required.
18. Establish and maintain assigned project files for the Facilities Management Section. Maintenance included the development and upkeep of documents used to track project schedules, material delivery, construction progress, modifications, cost estimates and other financial information.
19. Review operational invoices for COR approval for accuracy and research inquiries.
20. Perform analysis on equipment as required to maintain performance. Research online or other sources for market research information and prepare results for COR per COR Instructions.
21. Meet with Facilities Management Section on a regular basis to discuss status of ongoing work and meet with CORs, as needed, to discuss engineering project status, and other operational related issues.
22. Review, analyze, and provide recommended updates to all operational and maintenance procedures.
23. Adhere to the task order specifications and established policies and procedures by reporting any noted discrepancies to the COR, Government VA RESOURCE LEAD/VAPM, or management.
24. Document and update facility maintenance plans and schedules.
25. Inspect, assist and report on assigned construction and maintenance activities, and provide engineering/construction consultation on projects as requested.
26. Review invoices for Program Manager (PM) for accuracy of progress payment requests, travel and other cost charges on assigned projects. Research inquiries from customers and vendors on payments.
27. Review assigned project plan for content, code compliance, cost, schedule, and procedures, ensuring required documentation is included, and provide recommendations for quality assurance on reviewed projects.
28. Review final work products on assigned projects for completion, providing punch lists for incomplete projects, and perform follow-up activities until project is satisfactorily completed.
29. Schedule and oversee the installation of products.
30. Meet with customers to determine needs, and make recommendations for project scope and schedule.
31. Remain current in the following Data Center system training areas throughout the TO’s POP:
    1. OSHA 10-hour Safety Training
    2. HVAC Contractor shall maintain Air Conditioning or Refrigeration license

Maintain appropriate personal protective equipment as required by location to include but not limited to:

* 1. Safety Clothing based on environmental considerations of the location

#### Hines Information Technology Center (HTIC) Data Center

The Contractor shall support the operation and maintenance of the Hines Information Technology Center (HTIC) Data Center. The Contractor shall provide monitoring and oversight for all Data Center related support. The Contractor shall provide notification of all Data Center related incidents and outages to the appropriate VAPM/VA Resource Lead.

The Contractor shall:

1. Monitor the operation and maintenance of the computer room mechanical support systems, including chilled water systems (water chillers, air conditioning units, pumps, distribution piping, heat rejection units, cooling towers, air handlers, humidifiers, and other HVAC equipment) and heating systems (boilers, water heaters, and other HVAC equipment).
2. Monitor the operation and maintenance of the emergency generators, uninterruptible power supply (UPS) systems, storage batteries, transfer switches, transformers, switchgear, electrical monitoring and distribution equipment, variable speed drives, lighting systems, circuit breakers of all sizes and descriptions, and other electrical systems/equipment to ensure a stable, redundant, reliable computer room environment. This shall include preventative and predictive maintenance of all regular and emergency distribution elements to the modular power distribution unit (“power strip”) level within IT equipment racks.
3. Monitor the power distribution and consumption from the building input transformer level to the power distribution unit (PDU) level to wall-mounted power distribution panels to modular power distribution units (“power strips”) within IT equipment racks in the computer room, including auditing circuits and providing configuration management and logging/repair of anomalies.
4. Monitor the operation and maintenance of the computer room mechanical support systems, including chilled water systems (water chillers, air conditioning units, pumps, distribution piping, heat rejection units, cooling towers, air handlers, humidifiers, and other HVAC equipment) and heating systems (boilers, water heaters, and other HVAC equipment).
5. Monitor and support the installation and removal of electrical subsystems and components for the Data Center.
6. Monitor and support the identification and removal of unused wiring from under the Data Center floor daily.
7. Support the data collection of the Data Center’s computer room electrical power consumption by participating in the auditing of rack power circuits and rack power configuration and any data logging anomalies.
8. Support all phases of engineering projects for system maintenance, modifications, upgrades, and removals from an electrical power and environmental perspective.
9. Perform analysis on equipment as required to maintain performance. Research online or other sources for market research information and prepare results for COR per COR Instructions.
10. Meet with Facilities Management Section on a regular basis to discuss status of ongoing work and meet with CORs, as needed, to discuss engineering project status, and other operational related issues.
11. Review, analyze, and provide recommended updates to all operational and maintenance procedures.
12. Adhere to the task order specifications and established policies and procedures by reporting any noted discrepancies to the COR, Government VA RESOURCE LEAD/VAPM, or management.
13. Document and update facility maintenance plans and schedules.
14. Inspect, assist and report on assigned construction and maintenance activities, and provide engineering/construction consultation on projects as requested.
15. Schedule and oversee the installation of products.
16. Meet with customers to determine needs, and make recommendations for project scope and schedule.
17. Remain current in the following Data Center system training areas throughout the TO’s POP:
    1. OSHA 10-hour Safety Training
18. Maintain appropriate personal protective equipment as required by location to include but not limited to:
    1. Safety Clothing based on environmental considerations of the location

#### Philadelphia Information Technology Center (PITC) Data Center

The Contractor shall support the operation and maintenance of the Philadelphia Information Technology Center (PITC) Data Center. The Contractor shall provide monitoring and oversight for all Data Center related support. The Contractor shall provide notification of all Data Center related incidents and outages to the appropriate VAPM/Government Resource Lead.

1. The Electrician shall support the installation and removal of electrical subsystems and components for the Data Center.
2. The Electrician shall support the identification and removal of unused wiring from under the Data Center floor daily
3. The Contractor shall monitor and report issues to facility POC
4. Support the operation and maintenance of the emergency generators, uninterruptible power supply (UPS) systems, storage batteries, transfer switches, transformers, switchgear, electrical monitoring and distribution equipment, variable speed drives, lighting systems, circuit breakers of all sizes and descriptions, and other electrical systems/equipment to ensure a stable, redundant, reliable computer room environment. This shall include preventative and predictive maintenance of all regular and emergency distribution elements to the modular power distribution unit (“power strip”) level within IT equipment racks.
5. Manage power distribution and consumption from the building input transformer level to the power distribution unit (PDU) level to wall-mounted power distribution panels to modular power distribution units (“power strips”) within IT equipment racks in the computer room, including auditing circuits and providing configuration management and logging/repair of anomalies.
6. Perform electrical cabling management for medium- and low-voltage systems
7. Review and close out computer room system installations and de-installations of power and HVAC equipment/systems
8. Monitor for continuous electrical utility availability for computer room environments and notify applicable VA staff in case of outage.
9. Plan, implement, and maintain a predictive sustainment, maintenance, and repair program for installed infrastructure equipment supporting the computer room environments.
10. Contractor shall support all planned and emergency repair actions during normal business and after hours.
    1. The Contractor shall support after hours repairs across all data centers. There are an average of 10-15 repairs monthly with no more than a 12 hours support window.
    2. Track usage monthly
11. Support the operation and maintenance of the Diesel Generator Systems and associated switchgear, Uninterruptable Power Systems (UPS), Valve Regulated Lead Acid (VRLA) Battery Systems, and other electrical systems in order to maintain stable and reliable electrical power for the Data Center’s computer room operations. Additional information may be required.
12. Support the data collection of the Data Center’s computer room electrical power consumption by participating in the auditing of rack power circuits and rack power configuration and any data logging anomalies.
13. Support all phases of engineering projects for system maintenance, modifications, upgrades, and removals from an electrical power and environmental perspective.
14. Maintain system operational and maintenance logs by tracking scheduled and unscheduled events, record issues and identify potential risks to reliable equipment operations for future engineering review and trend analysis.
15. Prepare correspondence, memoranda, reports and related documents as required by IO standards or other directives provided by the Government COR/VA RESOURCE LEAD.
16. Prepare reports required for tracking progress as required.
17. Establish and maintain assigned project files for the Facilities Management Section. Maintenance included the development and upkeep of documents used to track project schedules, material delivery, construction progress, modifications, cost estimates and other financial information.
18. Review operational invoices for COR approval for accuracy and research inquiries.
19. Perform analysis on equipment as required to maintain performance. Research online or other sources for market research information and prepare results for COR per COR Instructions.
20. Meet with Facilities Management Section on a weekly basis to discuss status of ongoing work and meet with CORs, as needed, to discuss engineering project status, and other operational related issues.
21. Review, analyze, and provide recommended updates to all operational and maintenance procedures.
22. Adhere to task order specifications and established policies and procedures by reporting any noted discrepancies to the COR, Government VA RESOURCE LEAD, or management.
23. Document and update facility maintenance plans and schedules.
24. Inspect, assist and report on assigned construction and maintenance activities, and provide engineering/construction consultation on projects as requested.
25. Review invoices for Program Manager (PM) for accuracy of progress payment requests, travel and other cost charges on assigned projects. Research inquiries from customers and vendors on payments.
26. Review assigned project plan for content, code compliance, cost, schedule, and procedures, ensuring required documentation is included, and provide recommendations for quality assurance on reviewed projects.
27. Review final work products on assigned projects for completion, providing punch lists for incomplete projects, and perform follow-up activities until project is satisfactorily completed.
28. Schedule and oversee the installation of products.
29. Meet with customers to determine needs, and make recommendations for project scope and schedule.
30. Remain current in the following Data Center system training areas throughout the TO’s POP:
    1. OSHA 10-hour Safety Training
    2. Electrician shall maintain Journeyman or Master Electrician License.
31. Maintain appropriate personal protective equipment as required by location to include but not limited to:
    1. Safety Clothing based on environmental considerations of the location

#### Quantico Information Technology Center (QITC) Data Center

The Contractor shall support the operation and maintenance of the Quantico Information Technology Center (QITC) Data Center. The Contractor shall provide monitoring and oversight for all Data Center related support. The Contractor shall provide notification of all Data Center related incidents and outages to the appropriate VAPM/Government Resource Lead.

1. Perform afterhours and holidays support for on-site monitoring and readiness of Data Center Infrastructure and space.
   1. Tour of duty will involve shiftwork.
   2. Schedule tour of duties, review daily reports, and manage day to day operations of IT Equipment Room Operations.
   3. Monitor all core and regional data centers under OIT and notify applicable Support Team as required by VAPM/VA Resource Lead.
   4. The Contractor will monitor and report issues to facility POC
2. Maintenance Technician shall monitor and support the installation and removal of electrical subsystems and components for the Data Center.
3. Maintenance Technician shall monitor and support the identification and removal of unused wiring from under the Data Center floor daily.
4. Operate and maintain the computer room mechanical support systems, including chilled water systems (water chillers, air conditioning units, pumps, distribution piping, heat rejection units, cooling towers, air handlers, humidifiers, and other HVAC
5. Operate and maintain emergency generators, uninterruptible power supply (UPS) systems, storage batteries, transfer switches, transformers, switchgear,electrical monitoring and distribution equipment, variable speed drives, lighting systems, circuit
6. Manage power distribution and consumption from the building input transformer level to the power distribution unit (PDU) level to wall-mounted power distribution panels to modular power distribution units (“power strips”) within IT equipment racks in the computer room, including auditing circuits and providing configuration management and logging/repair of anomalies.
7. Review and close out computer room system installations and de-installations of power and HVAC equipment/systems.
8. Support the operation and maintenance of the Diesel Generator Systems and associated switchgear, Uninterruptable Power Systems (UPS), Valve Regulated Lead Acid (VRLA) Battery Systems, and other electrical systems in order to maintain stable and reliable electrical power for the Data Center’s computer room operations.
9. Support the data collection of the Data Center’s computer room electrical power consumption by participating in the auditing of rack power circuits and rack power configuration and any data logging anomalies.
10. Support all phases of engineering projects for system maintenance, modifications, upgrades, and removals from an electrical power and environmental perspective.
11. Maintain system operational and maintenance logs by tracking scheduled and unscheduled events, record issues and identify potential risks to reliable equipment operations for future engineering review and trend analysis.
12. Prepare correspondence, memoranda, reports and related documents as required by ITOPS IO standards or other directives provided by the Government COR/VA RESOURCE LEAD/VAPM.
13. Prepare reports required for tracking progress as required.
14. Establish and maintain assigned project files for the Facilities Management Section. Maintenance included the development and upkeep of documents used to track project schedules, material delivery, construction progress, modifications, cost
15. Review operational invoices for COR approval for accuracy and research inquiries.
16. Perform analysis on equipment as required to maintain performance. Research online or other sources for market research information and prepare results for COR per COR Instructions.
17. Meet with Facilities Management Section on a weekly basis to discuss status of ongoing work and meet with CORs, as needed, to discuss engineering project status, and other operational related issues.
18. Assist in the planning, implementation, and maintain a predictive sustainment, maintenance, and repair program for installed infrastructure equipment supporting the computer room environments.
    1. Contractor will make minor repairs and adjustments as well as support all planned and emergency repair actions during normal business and after hours. The Contractor shall support after hours repairs across all data centers. There are an average of 10-15 repairs monthly with no more than a 12 hours support window.
    2. Track usage monthly
19. Review, analyze, and provide recommended updates to all operational and maintenance procedures. (Program Manager to monitor Data Center and provide notifications to VA staff.)
20. Adhere to task order specifications and established policies and procedures by reporting any noted discrepancies to the COR, Government VA RESOURCE LEAD, or management.
21. Document and update facility maintenance plans and schedules.
22. Inspect, assist and report on assigned construction and maintenance activities, and provide engineering/construction consultation on projects as requested.
23. Review assigned project plan for content, code compliance, cost, schedule, and procedures, ensuring required documentation is included, and provide recommendations for quality assurance on reviewed projects.
24. Review final work products on assigned projects for completion, providing punch lists for incomplete projects, and perform follow-up activities until project is satisfactorily completed.
25. Schedule and oversee the installation of products.
26. Meet with customers to determine needs, and make recommendations for project scope and schedule.
27. Remain current in the following Data Center system training areas throughout the TO’s POP:
    1. OSHA 10-hour Safety Training.
28. Maintain appropriate personal protective equipment as required by location to include but not limited to:
    1. Safety Clothing based on environmental considerations of the location

#### Capital Region Readiness Center (CRRC) Data Center

The Contractor shall support the operation and maintenance of the Capital Region Readiness Center (CRRC) Data Center. The Contractor shall provide monitoring and oversight for all Data Center related support. The Contractor shall provide notification of all Data Center related incidents and outages to the appropriate VAPM/Government Resource Lead.

1. Support all phases of engineering projects for system maintenance, modifications, upgrades, and removals from an electrical power and environmental perspective.
2. Maintain system operational and maintenance logs by tracking scheduled and unscheduled events, record issues and identify potential risks to reliable equipment operations for future engineering review and trend analysis.
3. Prepare correspondence, memoranda, reports and related documents as required by ITOPS IO standards or other directives provided by the Government COR/VA RESOURCE LEAD/VAPM.
4. Prepare reports required for tracking progress as required.
5. Establish and maintain assigned project files for the Facilities Management Section. Maintenance included the development and upkeep of documents used to track project schedules, material delivery, construction progress, modifications, cost.
6. Remain current in the following Data Center system training areas throughout the TO’s POP:
   1. OSHA 10-hour Safety Training.
7. Maintain appropriate personal protective equipment as required by location to include but not limited to:
   1. Safety Clothing based on environmental considerations of the location

### Space and Facility Management

The Contractor shall provide support to the Space Management and Facility Management Section. The Space and Facility Management section is responsible for the office space management and design of over 252,169 square foot, 3 stories facility, and surrounding campus spaces. Facility houses 15 different organizations and over 2000 plus assigned personnel at the

Austin Information Technology Center (AITC) facility. The Contractor shall be responsible all facility projects from design concepts to installation following all federal building codes and procedures.

#### Space Management and Design

The Contractor shall:

1. Manage the assignments of all workstations for approximately 5 to 25 onboarding and offboarding users weekly.
2. Assign, manage, provide guidance, track, and document for all new hires, moves, relocations, contractor to FTE conversions and terminations for approximately 10 to 250 monthly.
3. Effectively work with VA Managers to assign workstations as required for new hires and relocations.
4. Review and reconcile weekly new hire, termination and move reports to ensure all Facility drawings & documents are accurately updated.
5. Submit and track tickets in ServiceNow as required.
6. Provide reports, audits and project research as requested by the VA Resource Lead.
7. Provide support for all remodels and repurposes of office areas.
8. Performed weekly Hotel seating checks.
9. Coordinated weekly deployment/removal of name plates.
10. Facilitated workstation modification requests.
11. Responsible for informational signs throughout the building, conference rooms, offices and workstations. Ensures calendars, name plates, equipment, chairs, emergency and technical guides are up to local standards.
12. Create and reconfigure floorplans using AutoCAD daily.
13. Collaborate with leadership and team members on all ongoing projects.
14. Assist with project research and review for all new internal layouts and design as needed basis.
15. Created Dynamic blocks for the AutoCAD space tracking layouts
    1. Provide data extraction and input the data into the space tracking excel spreadsheet to create formulas in the excel to compare the data.
    2. Provide formulas check accuracy for WP#’s, names, department and staff identification as well as total counts of employees.
16. Audit building hard copies and electronic drawings, make the approved edits to the layouts, and organize the files in according with Engineering Standards using VA current software.
17. Create, edit, and verify AutoCAD layouts. Create PDF’s, print, research additional information, make presentations as required.
18. Perform a monthly audit of the Space Tracker Spreadsheet for all 3 floors using the AutoCAD layouts for total department count accuracy.

#### Space Design

The Contractor shall provide interior space design services for approximately 500 plus on-site ATIC projects. The projects shall range from office space redesign to workstation configuration. The Contractor shall also provide assistance to other sites projects as required.

The Contractor shall:

1. Create space design, plan layouts for new, and reconfigured spaces.
2. Assist with design reviews of existing spaces, provide site measurements, research, and recommend finish products for projects in accordance with industry standards.
3. Create AutoCAD templates, layouts, and drawings. Collaborate with the team members throughout design project.
4. Collaborate with contract awardee on the furniture installation and design concept.
5. Provide space planning, schematic designs, construction documentation, and client interface; interior finish and furnishings selection
6. Research furniture needs for customer requests, provided drawings for furniture consultants consisting of furniture layouts, installation drawings, project schedule and reports.
7. Conduct architectural studies, prepare presentation drawings, develop design concepts and design criteria.

#### Facility Management

The contractor shall provide furniture and equipment moves, simple repairs, and facility maintenance for the AITC and HITC campuses. Facility Management process approximately 400 to 500 annually. Tasks shall include but are not limited to hanging signage, tiles replacement, furniture repair, cubicle light installation, locks rekeying and installation etc.

The Contractor shall:

* 1. Assemble, modify, and breakdown standard modular office furniture.
  2. Inventory facility supplies, materials, and equipment (i.e. chairs, tables, tools, cubicle parts, lights, locks, etc.).
  3. Tag and inspections all on-site personal property in accordance to local policies.
  4. Verify and properly store all chemicals (i.e. paint, cleaning supplies, flammables, etc.) in accordance with OSHA regulations
  5. Inspect workstations for unauthorized equipment and safety violation in according with local policies.
  6. Oversee and escort 3rd party vendors during on-site repairs, installations and/or other requests (such as electricians, plumbers, HVAC and AC technician)
  7. Move and relocate for approximately 5 to 25 government employees and contractors weekly.
  8. Clean, organize, and sanitize workstations before assignment
  9. Create building signage using Invision engraver or similar engraver.
  10. Operate forklift, pallet jack, and hand truck in accordance with OSHA standards.
  11. Complete warehouse tasks such as restack, label, rewrap, and place equipment and furniture on storage racks in accordance with local policy.
  12. Use the Microsoft Suite to conduct daily tasks.
  13. Rearrange office layouts for company events and meetings approximately 12 to 100 annually.
  14. Assist warehouse personnel with incoming and outgoing shipping and receiving items daily.
  15. Manage recycling and trash bins in the warehouse.

## IO DATA CENTER MODERNIZATION AND INNOVATION (FFP)

**Intent Statement: The goal of this requirement is for the Contractor to identify and execute modernization and innovation opportunities across the scope of the FFSS contract and aligned to the overall direction of Infrastructure Operations. The Contractor shall submit collaborative solutions to VA leadership with an eye towards more efficient, holistic, cross domain solutions.**

The Contractor shall partner with VA leadership to create baseline metrics, a roadmap structure to bring a technical cross-team support, digital modernization strategies, and the reporting and analytics to improve modern application architectures within ITOPS IO. The Contractor shall identify innovation opportunities compliant with VA policies and requirements beyond those baselined topic areas. The Contractor shall develop annual modernization roadmaps, a plan to implement, and execute the plan. The Contractor shall seek approval from an innovations oversight team to be established by the VA team. If innovations are not approved, the VA will provide a rationale and the Contractor is responsible for developing a revised plan.

The skillsets and focus areas for innovation shall at a minimum support:

* Site Reliability Engineering (SRE): Function that addresses Infrastructure and Operations problems like a software engineering problem. This area focuses on automation and adopting new approaches to take a holistic approach to supporting systems.
* Infrastructure as Code (IaC) Implementation: Provision and management of infrastructure through machine-readable definition files, managing, and provisioning computer data centers through machine-readable definition files.
* Immutable Infrastructure: This is the concept of establishing VM/servers with a common image, and not modified after deployment. When a device needs to be replaced or updated, a new VM built from a common image to takes its place.

The Contractor shall be responsible for developing and implementing formal 1 year innovation roadmaps to modernize data center operations. The innovations and outcomes are the responsibility of the Contractor.

The Contractor shall establish an Innovations Program, to develop annual modernization roadmaps and plans to implement with existing contract ITOPS IO resources. The Contractor shall seek approval from the Technical Innovation Board to be established by the VA and when directed shall implement the innovations within the date committed to in the agreed upon plan.

As part of the Innovations Program, the Contractor shall leverage existing products/solutions/tooling at VA's disposal which do not result in additional cost to the Government, when possible. If the Innovation Program identifies an opportunity that requires a new product/software, the **Contractor should be aware that they may be prohibited from bidding on any subsequent procurement effort for said products/solutions.**

No implementation shall begin without Technical Innovation Board approval. Potential organizational conflict of interests will be handled on a case-by-case basis prior to implementation.

At a minimum, the plans shall address and support: Site Reliability Engineering, Infrastructure as Code (IaC), and Immutable Infrastructure. The plan shall also address cost benefits or cost impact to the Government. If innovations are not approved, VA will provide a rationale and the Contractor is responsible for submission of a revised plan. Revised plans shall be submitted 42 days after initial review. Under the Innovations Program, the Contractor shall develop a process to seek input from VA personnel and manage a pipeline of all innovation activities. This requirement will apply to all PWS sections.

**Targeted Areas of Improvements shall include:**

* Alignment with DevSecOps Framework
* Infrastructure Modernization
* Storage
* Improvements Centered Around FFSS

### Technical Innovation Board

VA will establish a Technical Innovation Board which shall be comprised of voting and non- voting members. The voting members shall be the Senior Technical Advisor (STA), and one representative from each IO Pillar. An IO ITAM Representative shall serve as a non-voting member of the Board. The Contractor shall provide subject matter expertise to the Board. The Board shall review modernization plans, validate metrics used to measure improvements, and vote to approve or reject proposals/plans. The Board shall be Co-chaired by the STA and IO Business Office Representative. The Contractor shall schedule a minimum of up to four meetings per year in order to present and obtain approval for the plans. The Co-chairs shall manage external communications of the Board. The Contractor shall collaborate with VA to ensure the plan targets needed areas of improvement.

The Contractor shall:

1. Create two Modernization Plans during the base year and four plans during each Option Period.
2. Present and provide plans for review and evaluation
3. Revise and resubmit plans as needed by the Board
4. Answer Board questions, establish a mechanism to accept and manage the pipeline ideas, and provide additional information as needed.
5. Plans not receiving Board approval will not meet the CLIN requirement and not be invoiced.

#### Modernization Roadmap Plan

The Contractor shall provide quarterly Modernization Plans. The Modernization Plan shall:

* Include a Cost Benefits Analysis (CBA) that demonstrates cost savings or avoidance and/or
* Demonstrate improvement in automation or increased process efficiencies within VA.
* Define and capture measurable metrics to track and show increased process efficiencies and cost savings or avoidance, and
* Be realistic and able to be implemented.

Success Metrics:

1. Documented and demonstrable cost savings or avoidance and/or demonstrable improvement in automation or increased process efficiencies within VA.

**Deliverables:**

1. Published Innovations Pipeline
   * Minimum Success Criteria: proposals for innovation and capable of soliciting and responding to VA ideas for innovation
2. Modernization Roadmap Plan
   * Minimum Success Criteria: CBA, Timeline and Implementation Plan, Risk Plan, and Communication Plan
3. Completed Artifacts from Delivery of Implementation Plan
   * Minimum Success Criteria: Must include final comparative CBA, achieve success metric targets
4. Savings, Cost Avoidance and/or Process Improvement Report
   * Minimum Success Criteria: Must show the cost avoidance or savings for all innovations and/or demonstrable improvement in automation or increased process efficiencies within VA.

# GENERAL REQUIREMENTS

## PERFORMANCE METRICS

The table below defines the Performance Standards and Acceptable Levels of Performance associated with this effort.

|  |  |  |
| --- | --- | --- |
| **Performance Objective** | **Performance Standard** | **Acceptable Levels of Performance** |
| A. Technical / Quality of | 1. Shows understanding of requirements | Satisfactory or higher |

|  |  |  |
| --- | --- | --- |
| **Performance Objective** | **Performance Standard** | **Acceptable Levels of Performance** |
| Product or Service | 1. Efficient and effective in meeting requirements 2. Meets technical needs and mission requirements 3. Provides quality services/products 4. Incorporates “ease of use” Human Centered Design   principles in any software developed. |  |
| B. Project  Milestones and Schedule | 1. Quick response capability 2. Products completed, reviewed, delivered in accordance with the established schedule 3. Notifies customer in advance of potential problems | Satisfactory or higher |
| C. Cost & Staffing | 1. Currency of expertise and staffing levels appropriate 2. Personnel possess necessary knowledge, skills and abilities to perform tasks 3. Loss of no more than 2% of contract support in a single contract month based on strength at the beginning of the month | Satisfactory or higher |
| D. Management | 1. Integration and coordination of all activities to execute effort | Satisfactory or higher |

The COR will utilize a Quality Assurance Surveillance Plan (QASP) throughout the life of the TO to ensure that the Contractor is performing the services required by this PWS in an acceptable level of performance. The Government reserves the right to alter or change the QASP at its own discretion. A Performance Based Service Assessment will be used by the COR in accordance with the QASP to assess Contractor performance.

## SECTION 508 – INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) STANDARDS

On January 18, 2017, the Architectural and Transportation Barriers Compliance Board (Access Board) revised and updated, in a single rulemaking, standards for electronic and information technology developed, procured, maintained, or used by Federal agencies covered by Section 508 of the Rehabilitation Act of 1973, as well as our guidelines for telecommunications equipment and customer premises equipment covered by Section 255 of the Communications Act of 1934. The revisions and updates to the Section 508-based standards and Section 255- based guidelines are intended to ensure that information and communication technology (ICT) covered by the respective statutes is accessible to and usable by individuals with disabilities.

The following Section 508 Requirements supersede Addendum A, Section A3 from the T4NG Basic PWS.

The Section 508 standards established by the Access Board are incorporated into, and made part of all VA orders, solicitations and purchase orders developed to procure ICT. These standards are found in their entirety at: https://[www.access-board.gov/guidelines-and-](http://www.access-board.gov/guidelines-and-) standards/communications-and-it/about-the-ict-refresh/final-rule/text-of-the-standards-and- guidelines. A printed copy of the standards will be supplied upon request.

Federal agencies must comply with the updated Section 508 Standards beginning on January 18, 2018. The Final Rule as published in the Federal Register is available from the Access Board: https://[www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-ict-](http://www.access-board.gov/guidelines-and-standards/communications-and-it/about-the-ict-) refresh/final-rule.

The Contractor shall comply with “508 Chapter 2: Scoping Requirements” for all electronic ICT and content delivered under this contract. Specifically, as appropriate for the technology and its functionality, the Contractor shall comply with the technical standards marked here:

 E205 Electronic Content – (Accessibility Standard -WCAG 2.0 Level A and AA Guidelines)

E204 Functional Performance Criteria E206 Hardware Requirements



E207 Software Requirements

E208 Support Services and Documentation Requirements

### COMPATIBILITY WITH ASSISTIVE TECHNOLOGY

The standards do not require installation of specific accessibility-related software or attachment of an assistive technology device. Section 508 requires that ICT be compatible with such software and devices so that ICT can be accessible to and usable by individuals using assistive technology, including but not limited to screen readers, screen magnifiers, and speech recognition software.

### ACCEPTANCE AND ACCEPTANCE TESTING

Deliverables resulting from this solicitation will be accepted based in part on satisfaction of the Section 508 Chapter 2: Scoping Requirements standards identified above.

The Government reserves the right to test for Section 508 Compliance before delivery. The Contractor shall be able to demonstrate Section 508 Compliance upon delivery.

## ORGANIZATIONAL CONFLICT OF INTEREST

All functions related to Acquisition Support shall be on an advisory basis only. Please be advised that since the awardee of this TO will provide systems engineering, technical direction, specifications, work statements, and evaluation services, some restrictions on future activities of the awardee may be required in accordance with FAR 9.5 and the clause entitled, Organizational Conflict of Interest, found in Section H of the T4NG basic contract. The Contractor and its employees, as appropriate, shall be required to sign Non-Disclosure Agreements (Appendix A).

# APPENDIX A

**CONTRACTOR NON-DISCLOSURE AGREEMENT**

This Agreement refers to Contract/Order entered into between the Department of Veterans Affairs and (Contractor).

As an officer of *<fill in name of Contractor>*, authorized to bind the company, I understand that in connection with our participation in the *<fill in program>* acquisition under the subject Contract/Order, Contractor’s employees may acquire or have access to procurement sensitive or source selection information relating to any aspect of <*fill in program>* acquisition. Company *<fill in name>* hereby agrees that it will obtain Contractor **- Employee Personal Financial Interest/Protection of Sensitive Information Agreements from any and all employees who will be tasked to perform work under the subject Contract/Order prior to their assignment to that Contract/Order. The Company shall provide a copy of each signed agreement to the Contracting Officer. Company *<fill in name>* acknowledges that the Contractor - Employee Personal Financial Interest/Protection of Sensitive Information Agreements require Contractor’s employee(s) to promptly notify Company management in the event that the employee releases any of the information covered by that agreement and/or whether during the course of their participation, the employee, his or her spouse, minor children or any member of the employee’s immediate family/household has/or acquires any holdings or interest whatsoever in any other private organization (e.g., contractors, offerors, their subcontractors, joint venture partners, or team members), identified to the employee during the course of the employee’s participation, which may have an interest in the matter the Company is supporting pursuant to the above stated Contract/Order. The Company agrees to educate its employees in regard to their conflict of interest responsibilities.**

Company ***<fill in name>*** further agrees that it will notify the Contracting Officer within 24 hours, or the next working day, whichever is later, of any employee violation. The notification will identify the business organization or other entity, or individual person, to whom the information in question was divulged and the content of that information. Company ***<fill in name>*** agrees, in the event of such notification, that, unless authorized otherwise by the Contracting Officer, it will immediately withdraw that employee from further participation in the acquisition until the Organizational Conflict of Interest issue is resolved.

This agreement shall be interpreted under and in conformance with the laws of the United States.

Signature and Date Company

Printed Name Phone Number

CONTRACTOR EMPLOYEE

PERSONAL FINANCIAL INTEREST/PROTECTION OF SENSITIVE INFORMATION AGREEMENT

This Agreement refers to Contract/Order entered into between the Department of Veterans Affairs and (Contractor).

As an employee of the aforementioned Contractor, I understand that in connection with my involvement in the support of the above-referenced Contract/Order, I may receive or have access to certain “sensitive information” relating to said Contract/Order, and/or may be called upon to perform services which could have a potential impact on the financial interests of other companies, businesses or corporate entities. I hereby agree that I will not discuss or otherwise disclose (except as may be legally or contractually required) any such “sensitive information” maintained by the Department of Veterans Affairs or by others on behalf of the Department of Veterans Affairs, to any person, including personnel in my own organization, not authorized to receive such information.

“Sensitive information” includes:

1. Information provided to the Contractor or the Government that would be competitively useful on current or future related procurements; or
2. Is considered source selection information or bid and proposal information as defined in FAR 2.101, and FAR 3.104-4; or
3. Contains (1) information about a Contractor’s pricing, rates, costs, schedule, or contract performance; or (2) the Government’s analysis of that information; or
4. Program information relating to current or estimated budgets, schedules or other financial information relating to the program office; or
5. Is properly marked as source selection information or any similar markings.

Should “sensitive information” be provided to me under this Contract/Order, I agree not to discuss or disclose such information with/to any individual not authorized to receive such information. If there is any uncertainty as to whether the disclosed information comprises “sensitive information”, I will request my employer to request a determination in writing from the Department of Veterans Affairs Contracting Officer as to the need to protect this information from disclosure.

I will promptly notify my employer if, during my participation in the subject Contract/Order, I am assigned any duties that could affect the interests of a company, business or corporate entity in which either I, my spouse or minor children, or any member of my immediate family/household has a personal financial interest. “Financial interest” is defined as compensation for employment in the form of wages, salaries, commissions, professional fees, or fees for business referrals, or any financial investments in the business in the form of direct stocks or bond ownership, or partnership interest (excluding non-directed retirement or other mutual fund investments). In the event that, at a later date, I acquire actual knowledge of such an interest or my employer becomes involved in proposing for a solicitation resulting from the work under this Contract/Order, as either an offeror, an advisor to an offeror, or as a Subcontractor to an offeror, I will promptly notify my employer. I understand this may disqualify me from any further involvement with this Contract/Order, as agreed upon between the Department of Veterans Affairs and my company.

Among the possible consequences, I understand that violation of any of the above conditions/requirements may result in my immediate disqualification or termination from working on this Contract/Order pending legal and contractual review.

I further understand and agree that all Confidential, Proprietary and/or Sensitive Information shall be retained, disseminated, released, and destroyed in accordance with the requirements of law and applicable Federal or Department of Veterans Affairs directives, regulations, instructions, policies and guidance.

This Agreement shall be interpreted under and in conformance with the laws of the United States.

I agree to the Terms of this Agreement and certify that I have read and understand the above Agreement. I further certify that the statements made herein are true and correct.

Signature and Date Company

Printed Name Phone Number