National Geospatial-Intelligence Agency (NGA)

**CIO and IT Services (CIO-T)**



**Specific Requirements for Architecture and Engineering Group (TA)**

**Task Order (TO): 0001**

**Statement of Work (SOW)**

**14 August 2018**

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# Introduction

This Statement of Work (SOW) supports a Task Order (TO) procurement of Systems Engineering and Integration (SE&I) support for the Architecture and Engineering Group (TA) within the National Geospatial-Intelligence Agency’s (NGAs), CIO/IT Services (CIO-T) Directorate. Introduction, background, objectives and scope material contained in the Base NEE SOW are applicable to this TO. The contractor shall provide all appropriate support to assist accomplishment of the requirements stated below.

## Background

TA provides SE&I and test services that deliver mission capabilities to ensure NGA meets the GEOINT requirements of its IC, National System for Geospatial-Intelligence (NSG), Allied System for Geospatial-Intelligence (ASG) and DoD customers. TA is home to the following Key Enterprise NGA positions: Chief Engineer, Chief Architect, Chief Data Officer; and Governance forums: Engineering Review Board (ERB) and Configuration Control Board (CCB).

TA has (5) functions:

* **Warfighter Support** delivers integrated GEOINT capabilities to forward deployed warfighters at the speed of mission.
* **Sensor Integration** performs program management and systems engineering activities necessary to integrate and sustain GEOINT imaging sensors into the NSG/Allied System for Geospatial-Intelligence (ASG) ground enterprise architecture.
* **Enterprise Engineering** manages NGA’s Enterprise IT architecture and requirements; coordinates Enterprise integration and cyber security engineering.
* **Integration Test & Image Quality** provides independent verification and validation service, prior to delivery to operational users, assuring services and capabilities satisfy customer requirements, and architectural compliance and GEOINT standards.

## Scope

The Contractor shall perform SE&I and test services work in accordance with the requirements specified in this task order. The Contractor shall apply Model-Based System Engineering (MBSE) methods and tools and support the Government with integration efforts across the enterprise. A brief description of the engineering activities to be supported under this Task Order are as follows:

* **Enterprise and Solutions Architecture Engineering.** The NEE contractor shall provideservices to plan, design, define, develop, document and baseline the GEOINT Enterprise Architecture (GEA), inclusive of Business, Data, Network, Security and Solutions-Level Architectures down to the program level ensuring enterprise systems work together in an integrated fashion to deliver mission capabilities and solutions.
* **Enterprise Level Requirements Engineering.** The NEE contractor shall provide services to develop, document, decompose and allocate strategic requirements to establish and enable GEOINT Mission Solutions (e.g., GEOINT Enterprise Capabilities Documents (ECDs), Statements of Capabilities (SOCs), Capabilities Description Documents (CDDs), Capability-Oriented Requirement (COR) sets, Service-Oriented Requirement (SOR) sets, and Agile Frameworks. The NEE contractor shall collaborate/support the NGA Segment Engineering (NSE) contractor in tracing System and Software Requirements Documents (SysRDs and SRDs) to Enterprise requirements.
* **Enterprise Integration Engineering (Cross Organization and Program Office).** The NEE contractor shall provide Cross Organization and Program Office integration services to ensure discrete program and project level solutions come together seamlessly to deliver comprehensive mission capabilities.
* **Enterprise Analysis and Assessment.** The NEE contractor shall provide services to perform Capabilities-based Analysis, Business Engineering (Pre-Acquisition Engineering) and AoAs, Trade Studies, and Engineering Assessments.
* **Modeling, Simulation & Analysis (MS&A).** The NEE contractor shall provide services to the Government for Modeling, Simulation and Analysis (MS&A). The contractor shall build and maintain digital representations of architectures, systems, services, subsystems, and components supporting GEOINT and use software to conduct performance, capacity, and proof-of concept MS&A across the NGA, National System for Geospatial-Intelligence (NSG), Allied System for Geospatial-Intelligence (ASG), commerce, and Mission Partner paradigms.

# Applicable Documents

Applicable documents specified in this section are required for execution of the work described in the TO SOW. These documents provide additional detail to those listed in the Base SOW.

## Compliance Documents

Refer to Base SOW.

## Reference Documents

Refer to Base SOW.

# Description of Work

## 3.1 Enterprise and Solutions Architecture Engineering Support

TA requires SE&I support in Strategic, Enterprise, and Solutions-level Architecture Engineering. Engineer and Architect resources applied against this effort shall assist the Government in planning, designing, defining, developing, documenting and baselining the GEOINT Enterprise Architecture (GEA), inclusive of business, data, network, security and solutions-level sub-architectures, to ensure enterprise systems work together in an integrated fashion to deliver mission capabilities and solutions. Key activities of Enterprise and Solutions Architecture Engineering may include the following: systems analysis necessary to define and document the As-Is Architecture; planning, design, and systems engineering work necessary to build and portray the To-Be Architecture; the development of conceptual, logical and physical architecture and technical roadmaps defining the time-phased schedule for the path of systems and services from the As-Is to the To-Be Architecture; and program, segment and project-based solution-level architectures consistent with the enterprise-level architecture.

Enterprise, and Solutions Architecture Engineering Support includes support for, but is not limited to, the strategic, enterprise, and solutions-level architecture engineering activities that follow.

### Enterprise Architecture Support

The GEOINT Enterprise Architecture is the authoritative source of information that guides and constrains solutions architectures, services, and data so that it may be responsive to stakeholder requirements. This architecture information informs Government decisions on a number of critical activities including planning, programming, budgeting, and mission execution. Architecture information also supports key engineering services such as requirements decomposition and inter/intra segment integration.

Enterprise Architecture activities the contractor shall support in the performance of this Task Order include, but are not limited to:

1. Design and update Enterprise-level digital models/representations architectures that capture Enterprise requirements and provide roadmaps to balance cost, schedule and performance.
2. Support the continued development, maintenance, and documentation of the GEOINT Enterprise Architecture (GEA).
3. Define, develop, document, and maintain the NGA, NSG, ASG, United Stated Government (USG), commercial and foreign partner As-Is and To-Be Architectures consistent with the NGA GEOINT CONOPs 2022 (and future CONOPS) and inclusive of Business, Data, Network, Security and Solutions-level sub-architectures. NGA will maintain interfaces to Government and Commercial architectures.
4. Define, develop, recommend, and support implementation approaches ensuring optimized cloud architecture(s).
5. Recommend, instantiate and operate architecture tools that support analysis and decision making through architecture data in the form of models, simulations, reports and views so that stakeholders may use architecture data in either the acquisition or development lifecycle to answer investment and divestment questions.
6. Create appropriate and effective architecture information and artifacts (in accordance with the Department of Defense Architecture Framework (DoDAF) and the Intelligence Community’s (IC) Program Architecture Guidance (PAG)) that are relevant and usable across the NGA, NSG, ASG, USG, commercial, and foreign partners.
7. Assess architectural artifacts and components for compliance with NGA, NSG, ASG, USG, commercial and foreign partner standards as appropriate and provide recommendations on resolving deficiencies, gaps, and/or recommended enhancements. Ensure that the architecture is compliant with NGA’s U. S. Code 50, Section 3023 requirement.
8. Use the Joint Architecture Reference Models (JARM) to describe, analyze, and identify potential architectural service gaps, support AOA, leverage existing resources, and assist with invest and divest decisions for the agency.
9. Use MBSE methods and tools to build and maintain digital systems models of services, components, systems and subsystems across the NGA, NSG, ASG, USG, commercial and foreign partners. Use MBSE to link requirement and design artifacts to solution and enterprise level architectures.
10. Utilize the enterprise architecture and artifacts to improve the quality of NGA’s investments and engineering decisions by understanding, describing, and refining the alignment of GEOINT capabilities to people, process and technology. Assist with alignment of IT strategy and planning with the Agency's business and mission goals.
11. Manage and maintain the necessary processes and tools for automated maintenance and management of architecture artifacts within the repository for the enterprise.
12. Manage enterprise architecture documentation in collaboration with the Configuration Management function executed within NGA Foundational Engineering (NFE).

### Solutions-level Architecture Support

The next level of architecture decomposition below Enterprise Architecture defining the orchestration of systems and services across the Enterprise to deliver the functions required to satisfy operational capabilities and mission activities. It includes the allocation of functions, services, requirement responsibility and interface definitions to the appropriate time phased architecture, technical roadmap, To Be Architecture and program.

Solutions-level Architecture activities the contractor shall provide in the performance of this Task Order include, but are not limited to:

1. Design solutions-level architecture digital models/representations that fulfill program requirements and provide solutions that balance cost, schedule and performance across the enterprise.
2. Analyze architecture information to provide recommendations for program investments and solution-level architecture and engineering.
3. Build, vet, and baseline solutions-level architectures consistent with the enterprise architecture.
4. Conduct systems analysis to support re-use or development of like capabilities across the enterprise baseline to gain functional and cost efficiencies. Shall ensure solutions do not duplicate functionality or diverge from NGA business and IT strategies.
5. Collaborate with Office/Program Office/Project Engineering and Foundational Systems Engineering to understand program, segment, and project timelines for the delivery of capabilities and to ensure the current architecture baseline and To-Be Architecture supports capabilities when they are delivered.
6. Maintain the baselined special access program (SAP) architecture and support transition activities from this architecture framework into the Intelligence Community Information Technology Enterprise (IC ITE), other clouds and NSG integration in increments, and as approved by the Government. Shall support the migration of CAP/SAP architectures into the NGA/NSG To-Be Architecture.
7. Develop and document necessary quick reaction architecture requirements for warfighter support capabilities and initiatives in appropriate enterprise architecture baselines.
8. Assist the Government in architecting and planning the transition from paper based processes to digital representations integrating architectures, requirements, integration, scheduling, budgeting and other data needed for systems engineering

### Executable Technical Roadmap Development and Support

Activities necessary to build, manage and execute time-phased, technical roadmap(s) that identify the development journey to future capabilities.

Executable Technical Roadmap Development activities the contractor shall support in the performance of this Task Order include, but are not limited to:

1. Define, develop, document and maintain the time-phased, strategic and technical roadmap(s) that move NGA from the current As-Is Architecture to the To-Be Architecture and current mission capabilities to future mission capabilities.
2. Coordinate across all elements of the NGA, NSG, ASG, USG, commercial and foreign partners’ GEOINT Infrastructure Service Provider (ISP)/Application Service Provider (ASP) response to identify dependencies (on- premise and in the cloud) in support of architectural decisions.
3. Coordinate with service providers to integrate changes into the Technical Roadmap.

### Business Architecture Support

Activities defining the GEOINT business model and its components to include governance, business processes, and business information. It aligns strategic vision, goals and objectives with GEOINT Doctrine, policy, regulations, organizations, capabilities, initiatives, customers, finances, value streams, supply chains, products and services to inform decisions on acquiring and delivering mission outcomes. Business Architecture activities the contractor shall support in the performance of this Task Order include, but are not limited to:

1. Provide expertise and support for Business Architecture, design, implementation approaches and recommendations for the NGA, NSG, and ASG ensuring the alignment of strategic vision, goals and objectives with GEOINT Doctrine, policy, regulations, organizations, capabilities, initiatives, customers, finances, value streams, supply chains, products and services for informed Government decisions
2. Promote shared infrastructure and applications to reduce costs and improve information flow.
3. Report on the optimization and usage of shared infrastructures and applications to reduce costs and improve information flow imported into and exported out of the NGA, NSG and ASG enterprise.
4. In collaboration with Enterprise Risk Management, performed on the NGA Foundational Engineering Contract, identify enterprise-level risks, opportunities and issues associated with the collective enterprise architecture (As-Is, To-Be and Technical Roadmap’s) and assist in risk mitigation.
5. Assist the Government in developing business architecture to transition the Acquisition processes from paper to digital models/representations integrating architectures, requirements, integration, scheduling, budgeting and other data needed to augment, automate and accelerate the Acquisition Process.

### Data Architecture/Data Services Architecture Support

The commonly used data and metadata formats used by NGA, NSG, ASG, USG, commercial, and foreign partners; the business rules for data access, releasability, conflation, validation, quality, retention, storage management, and refresh; and the technical services architecture to support the NGA’s data strategy of making data accessible to all users via common services. The Data Services Architecture for GEOINT (DSA-G) includes services for data ingest, conditioning, access, dissemination, security, management and storage.

Data Architecture/Data Services Architecture activities the contractor shall support in the performance of this Task Order include, but are not limited to:

1. Collaborate with the NSG Data Engineering (NDE) contractor and Government to incorporate the DSA-G into the Enterprise and Solution Architectures, Enterprise Requirements, Enterprise Technical Roadmaps, Business Architecture and Enterprise Integration engineering.
2. Provide support for Data and Data Services Architecture, design, implementation approaches and recommendations for NGA, NSG, and ASG operations.
3. Collaborate with NDE contractor to ensure data execution efforts are aligned with NGA priorities.

### Network Architecture and Engineering Support

Network engineering support to reach across the NGA, NSG, ASG, USG, commercial, and foreign partner networks, to include network diagrams and configurations to aid in planning and evolving the NGA, NSG and ASG networks.

Network Architecture and Engineering activities the contractor shall support in the performance of this Task Order include: Providing expertise and support for Network Architecture, design, implementation approaches and recommendations for NGA, NSG, and ASG operations.

### Security Architecture and Engineering Support

Supports the government with securing the enterprise infrastructure through the security architecture for the NGA, NSG, ASG, USG, commercial, and foreign partner networks with direction from the Chief of Security Engineering and in collaboration/coordination with the Cyber Cyber Security Operations, Cyber Security Program Office, Security and Installations (SI), and the Chief Information Security Officer (CISO).

Security Architecture and Engineering activities the contractor shall support in the performance of this Task Order include, but are not limited to:

1. Engineer and implement Enterprise Security Services to ensure secure operation and defense of the NGA, NSG, and ASG operations.
2. Provide engineering support to current Enterprise Security Services (IDAM, Cross Domain, Network and Host Defense, Cyber Security Operations capabilities) to include integration, upgrades and replacements.
3. Providing technical expertise to support program development of secure applications and systems by providing technical guidance for implementation of ICD-503 required controls, speeding the delivery of capabilities to our customers and subsequent future cyber security policies and directives.
4. Collaborate with cyber security contractor, operations and accreditation teams on execution of design, engineering, upgrade and integration activities.
5. Continuously supports development and refinement of the As-Is and To-Be Security Architecture of the GEA and NGA, SAGE (CAP/SAP), NSG, and ASG in support of NGA Strategy.

## Requirements Engineering

TA requires SE&I support in Strategic, Enterprise, and Capabilities-level Requirements Engineering. Resources applied against this effort shall assist the Government in aligning traceability of capabilities and needs through developing, documenting, decomposing and allocating strategic (i.e., GEOINT Enterprise Capabilities Documents (ECDs), Statements of Capabilities (SOCs) and Capabilities Description Documents (CDDs), Capability-Oriented Requirement (COR) sets, Service-Oriented Requirement (SOR) sets,) through solution (i.e., System and Software Requirements Documents (SysRDs and SRDs) level requirements to establish and enable GEOINT mission solutions for all customers of the NGA, NSG, ASG, USG, commercial and foreign partners . The collective requirements engineering activity is inclusive of agile techniques to define requirements using capabilities, epics, features and user stories. This service includes top-down and bottom-up planning and coordination with respect to retiring legacy entities into receiving, future entities.

Requirements Engineering includes support for, but is not limited to, the strategic, enterprise, and capabilities-level requirements engineering activities that follow.

### High-Level Requirements Engineering Support

The contractor shall support the Government in developing, documenting, decomposing and allocating mission needs from strategic to Enterprise level requirements to establish and enable GEOINT mission solutions for all customers of the NGA, NSG, ASG, USG, commercial and foreign partners.

The contractor shall support High-Level Requirements Engineering activities in the performance of this Task Order to include, but are not limited to:

1. Support the continued development, maintenance, and documentation of all NGA strategic requirements/needs repositories, digital representations, documents to include the GEOINT ECD, all relevant SOCs, Enterprise repository (NRAI), CDDs, NGA GEOINT CONOPS 2022 and future CONOPS.
2. Support the decomposition and allocation of all NGA strategic requirements/needs from the GEOINT ECD, all relevant SOCs, CDDs and the NGA GEOINT CONOPS 2022 to lower strategic, integration and Enterprise level requirement repositories, digital representations, and documents. This shall include the decomposition of high-level needs, epics, and requirements into Enterprise features and user stories which Program Offices, programs and projects will use to develop their program backlogs features and user stories for implementation using the most appropriate and efficient systems engineering approach.
3. Capture quick reaction warfighter support requirements in appropriate enterprise requirement repositories, digital representations, documents and baselines. Advocate for expedited warfighter support requirements/needs within the appropriate programs, segments and projects.
4. Capture, and manage an Enterprise Requirements Database to provide a centralized location to capture all requirements and requirements documentation. Collaborate with Foundational Systems Engineering for execution and management.
5. Establish and maintain a Requirements Management Process for managing requirements which provides multi-directional traceability and allows for managing changes to the established requirements baseline.
6. Manage and share the Enterprise Requirements Baseline to enable stakeholders to develop acquisition strategies, identify areas for investing and divesting, and provide traceability of requirements from the GEOINT ECDs, SOCs, CDDs, and NGA GEOINT CONOPS 2022 through solutions engineering.
7. Provide a self-service user interface that allows customized requirement queries against the authoritative requirements database and baseline. Collaborate and work with NFE for execution and management.
8. Manage requirements artifacts in collaboration with the Configuration Management function within NFE.
9. Validate decomposed, allocated requirements from the strategic documents to solution programs, segments and projects and coordinate with the user to demonstrate perceived intent and further develop requirements.
10. Coordinate with users and stakeholders to develop enterprise level requirements for new mission needs and to determine viable solutions for each request.
11. Capture new strategic requirements/needs and the associated Strategic Roadmaps from any NGA, NSG, or ASG Concept of Operations (CONOPS) development effort. The Strategic Roadmaps include the capture of groupings of time-phased capabilities and success criteria with associated dependencies to support the development of Solution Epics.
12. In collaboration with Enterprise Risk Management, performed on the NGA Foundational Engineering Contract, identify enterprise-level risks, opportunities and issues associated with requirements and the requirements management lifecycle and assist in risk mitigation.
13. Support and represent the Government Requirements Team at governance boards for approval of new user needs and requirements.
14. Recommend new, agile processes and methodologies to decrease the requirements satisfaction timeline and to increase requirements visibility and efficiency across the NGA, NSG, ASG, USG, commercial and foreign partners.
15. Use MBSE to document and trace system requirements, design, analysis, and verification and validation activities from strategic through solution levels beginning in the conceptual design phase and continuing throughout the systems engineering life cycle.
16. Define, evaluate, and document information security requirements for new IT initiatives and cyber capabilities.
17. The contractor shall collaborate with the NSE contractor in the allocation/traceability of Enterprise requirements to programs requirements.
18. The contractor shall collaborate with the NFE contractor in the configuration control, configuration management of Enterprise and Solution requirements.

### Capabilities Requirement Analysis (Legacy Requirement) Support

The NEE contractor shall provideservices to support the Government in ensuring new strategic, functional, or operational capabilities address enduring requirements currently serviced by legacy entities.

The contractor shall support Capabilities Requirement Analysis (Legacy Requirement) activities in the performance of this Task Order to include, but are not limited to:

1. Decompose legacy system capabilities into their constituent parts, services, components, and functions as well as interfaces to other systems, consumer relationships and required data exchanges.
2. Identify and validate legacy capabilities that will persist into the future and ensure they are reflected within the To-Be architecture and technical roadmaps that capture the systems or enterprise services that will perform or absorb the capability.
3. Ensure technical roadmap timelines include the end of the legacy contract and the start of the follow-on/enduring system or enterprise service contract and identify potential gaps/overlaps in critical functionality.
4. Conduct capabilities retirement analysis engineering activity in collaboration with Enterprise and Capabilities-level Requirements Engineering.
5. Perform divestment analyses to identify overlapping capabilities or existing functions that can be absorbed into enduring/new systems to minimize duplication.
6. Conduct requirements trace using JARM Technical Service Types (TSTs)) for duplication analysis and provide reports to the Government describing the findings.
7. Automate the analysis and reporting needed to detail the gaps and duplication in the enterprise capabilities provided by external partners and IC ITE.
8. Assess the NGA, NSG, ASG, USG, commercial and foreign partner software/service repositories (e.g. the GEOINT Solutions Marketplace (GSM)) for reuse opportunities).

### Interface/Service Definition Support

The NEE contractor shall provideservices supporting the Government in transitioning the enterprise from a point-to-point interface environment to a services-oriented/Application Program Interface (API)-oriented environment where applicable and ensure detailed interface definitions are consistent with the defined enterprise architecture.

Interface / Service Definition activities the contractor shall support in the performance of this Task Order include, but are not limited to:

1. Assist the government in advancing the enterprise from a point-to-point interface environment to a services-oriented/API-oriented environment where it makes sense and as directed.
2. Define and mature system and service interfaces and the interactions across the NGA, NSG ASG, USG, commercial and foreign partner baselines.
3. Ensure that the detailed interface definitions are consistent with the defined enterprise architecture.
4. Conduct analysis to identify Industry best practices, standards and management of service oriented, cloud and API environments.

### External Site Architecture Transition (ESAT)

The NEE contractor shall provideservices supporting Government’s ESAT activities to include planning for deactivation and disposal readiness (DDR) of retired legacy capabilities at applicable external customer sites and the deployment of new capabilities/services to the same.

The contractor shall support ESAT activities in the performance of this Task Order to include, but are not limited to:

1. Develop and maintain the overall ESAT project schedule.
2. Develop and maintain site specific project plans and product/service deployment schedules.
3. Support systems engineering and integration transition activities at external sites and provide systems integration guidance.
4. Conduct technology analyses and understand technological details of the products/services to include interfaces with and dependencies on other products/services both internal and external customers.
5. As directed by the government, provide proposed recommendations on external program, segment, and project requirements, based on a thorough and rigorous AoA that includes, but is not limited to, value, cost and risk assessment of each alternative.
6. Provide baseline architecture decision aids enabling the government to assess, manage, plan and execute architectural decisions (strategic or program).
7. Engage sites and stakeholders to develop site engineering transition packages.
8. Develop detailed transition and deployment plans, and support program transition events, ensuring that all enterprise participants’ transition steps are clearly articulated, understood, and rehearsed in advance.
9. Create and maintain overall communications plans and related products to include extensive user out-reach to advise on optimization efforts between NGA, NSG and ASG programs, segments and projects.
10. Create various communications artifacts to support weekly status briefings.
11. Support interfaces with external customer systems. Address integration directly with necessary NGA Programs of Record and segments.
12. Provide network engineering support for the review, preparation, development, and technical exchange for network and infrastructure related RFC’s, Interconnection Security Agreements (ISAs), Firewall Change Requests (FCRs), Peering Agreements (PAs), Memorandum of Agreements (MOAs), and Memorandum of Understanding (MOUs).
13. Provide Security Engineering support for the development/preparation, review, and technical exchange with regard to system security packages for NGA and DoD/IC partner networks (e.g. CENTCOM’s 25-28 process)
14. Coordinate Infrastructure Service Provider (ISP) provisioning, network access, security, and contractual requirements across NGA, NSG and other required DoD/Government entities.
15. Coordinate and execute transition and deployment plans transitioning required mission capabilities into operations with minimum disruption to ongoing mission operations.
16. Conduct site specific network/system/application testing and provide coordinating support to test events, including both formal and informal testing at external sites.
17. Develop performance requirements, to include generation of ISP requirements, to support products and services.
18. Coordinate with project teams on external impacts and guide solutions/resolution of technical issues. Record lessons learned.

## Enterprise Integration Engineering (Cross Organization and Program Offices)

The Contractor shall provide support under the Enterprise Integration Engineering (Cross Organization and Program Office) requirement to assist the Government with the integration of program and project solutions that cut across organization boundaries, Program Offices budget programs, development contracts and sensor segments; and therefore; requiring a corporate approach to integration ensuring the multiple parts come together seamlessly to deliver integrated solutions consistent with technical roadmaps defining the path to the To-Be Architecture. It shall include interface/service definition support (both internal and external to the agency) to recommend, develop, document, and implement the necessary interfaces to achieve the NGA vision described in the GEOINT CONOPS 2022 (to include future CONOPS) and CIO-T Strategy 2022 (and future strategies). Enterprise Integration Engineers also work with Program Offices Engineers to integrate and synchronize individual program, segment, and project solutions across the enterprise and ensure enterprise epic completion.

Enterprise Integration Engineering includes support for, but is not limited to, the enterprise integration engineering activities that follow.

### Enterprise Coordination of Integration Support

The NEE contractor shall provideIntegration services aligning the planned, in-work and delivered capabilities, programs, projects, systems, segments and services ensuring that all the parts successfully connect and operate together. Enterprise Coordination shall support the NGA Government POCs with enterprise program integration activities. These programs have integration responsibilities that span the NGA, NSG, ASG, USG, Mission Partner, commercial, and foreign partner enterprise. For example, Sensor Programs where NGA works with numerous NGA and IC partner programs, segments, and projects to plan for the receipt and use of various sensor phenomenology data across the tasking, collection, processing, exploitation and dissemination (TCPED) paradigm and IC ITE services. Enterprise coordination will collaborate with the NGA, NSG, ASG, USG, Mission Partner, commercial and foreign entities to insure integration agreements and licenses are in compliance with governance documents.

Enterprise Coordination of Integration activities the contractor shall support in the performance of this Task Order include, but are not limited to:

1. Support the government with integration across the NGA, NSG, ASG, USG, commercial and foreign partner enterprise ensuring alignment of architecture, requirements and as-built capabilities, services and features are in compliance with all license and sharing agreements.
2. Ensure integration across program, segment and project plans, technical roadmaps, and schedules to achieve the delivery of capabilities and effectivities.
3. Maintain technical roadmaps against strategic epic planning scope and completion dates. Re-baseline roadmaps in response to changing agency guidance and strategies.
4. Ensure integration of solution engineering across time horizons from year of budget execution through the Future Year Defense Program (FYDP and beyond).
5. Support government oversight of program development and coordination of CONOPS, technology roadmap planning, architecture development, cross segment / cross Agency interface definitions, requirements definition, decomposition, allocation to and development by programs, segments, and projects, and enterprise-level verification and validation, transition to operations and retirement activities.
6. Support integration across the planned, in-work, and delivered services related to sensor integration programs, ensuring that all the “parts” connect, operate together successfully, and are consistent with enterprise plans and strategies.
7. Support integration activities and interactions with the IC, external agencies and the DoD to include sensor and platform acquisition, related ground architecture development efforts, and sensor acquired ground components necessary for consumers of the resultant data and information, and military organizations.
8. Support end to end system integration and acceptance necessary for Major System Acquisitions (MSAs).
9. Support program, segment, and project level technical reviews, preform technology readiness assessments, and attend Technical Exchange Meetings (TEMs) to assess enterprise integration challenges.
10. Review system integration documentation for accuracy, completeness, and harmony with enterprise integration efforts. Coordinate needed changes with appropriate program, segment, and project offices.
11. Support the transition of new services and capabilities to operations and identify gaps in toolsets and automation used to test and deliver those services and capabilities. Identify gaps or new needs for automated test capabilities to address incoming capabilities.
12. Provide developers guidance and recommendation on service virtualization, and service APIs for enterprise systems.
13. In collaboration with Enterprise Risk Management, performed on the NGA Foundational Engineering Contract, identify enterprise-level risks, opportunities and issues associated with enterprise integration and assist in risk mitigation.

### Enterprise Integration and Modernization Support

The NEE contractor shall provideservices supporting the on-going Program Office and CAP/SAP modernization efforts for the Analytic Services environment, Exploitation Services environment, Foundation GEOINT environment, Mission System Resiliency, IT Infrastructure, and GEOINT Needs and Collection System Management services.

The contractor shall support Enterprise Integration and Modernization activities of this Task Order to include, but are not limited to:

1. Provide engineering, integration, and architecture analysis to support modernization efforts that incorporate standards-based, Commercial Off the Shelf (COTS) technology (e.g. ESRI’s ArcGIS) as the platform for both server and desktop components. Ensure alignment with the To-Be Architecture. Provide expertise to application development and create digital models/representation/documentation as appropriate to assist NGA modernization initiatives.
2. Support the execution of pilots to inform the Analytic and Exploitation Environment, Structured Observation Management (SOM) with regard to Activity Based Intelligence (ABI) and Object Based Production (OBP) systems development, and the transition capabilities to operational systems of record. Assist with Analytic and Exploitation Environment integration summits and leadership and integration meetings with key stakeholder organizations.
3. Support the government modernization efforts by defining the interfaces between programs and pilots to ensure a cohesive workflow.
4. Support the identification, planning, design, development and integration of Automation, Artificial Intelligence and Augmentation (AAA) technologies into the modernization efforts.
5. In support of AAA, conduct TEMS, Design Reviews, Deep Dives, and Requirements Analysis sessions to review and decompose requirements to ensure they support enterprise-level mission needs and requirements.
6. Develop solutions using AAA technologies to modernize GEOINT Needs and Collection Management leading to the successful implementation of GEOINT Broker concepts and legacy component retirement.
7. Support the modernization efforts in using AAA to automate tipping, cueing and collection management across the GEOINT architecture, on all security domains and mission geographic locations in all data repository environments (on and off premise and in the cloud).
8. Support the review and assess current NGA processes and tools for planning, executing, and monitoring NGA’ s modernization initiatives in Collaboration with Systems Engineering Processes & Tools NGA Foundational Engineering contractor.
9. Support pilot program execution to inform modernization systems development and service integration. Support engineering activities during development to ensure correctness and completeness of requirements. Capture changes in the Enterprise Architecture, Solution Architectures and Enterprise Requirement repositories and digital models/representations. Support the transition to an operational capability.
10. Develop and maintain integration project plans and schedules for each Modernization effort to make certain that program, project, and/or segment requirements and schedules are aligned and baselined to ensure end-to-end system integration.
11. Support Foundation GEOINT Mission initiatives by integrating the numerous efforts across the Source Foundation GEOINT office (SF) domains (e.g. Aeronautical, Maritime, Human Geography, Geomatics), Research (R) (e.g. Enterprise Engine’s Machine Learning), and the efforts within the CIO-T Program Integration office.
12. Support the Enterprise System Resiliency efforts working with NSG, ASG, and other mission partners as applicable by providing engineering and integration expertise.
13. Support the Governments enterprise wide Compartmented/Special Access Program (CAP/SAP) modernization and data integration into the NSG, ASG and applicable systems. Coordinate with mission partners to engineer solutions that meet required security standards for CAP/SAP data storage and processing authorization.
14. Support the IT Infrastructure Modernization efforts working with NSG, ASG, and other mission partners as applicable by providing engineering and integration expertise.
15. Plan for the delivery of capabilities and features across programs to enable program/project alignment with each other, and defined effectivities. Establish the basic cadence for the enterprise and synchronize non-agile functions with programs using an agile cadence.
16. Use Model-Based Systems Engineering (MBSE) tools and methodologies to support ongoing enterprise integration and modernization efforts.

### NGA Test Organization Support

The NEE contractor shall provide NSG/ASG Enterprise integration testing services to include planning, coordinating and manually performing integration, interoperability, operational and functionality testing for a multitude of NSG/ASG programs, Mission Partner, segments, projects, systems, services, and capabilities. NGA Test Organization activities the contractor shall support in the performance of this Task Order include, but are not limited to:

1. Collaborate with Platform Services/DevOps to facilitate developer insertion into DevOps environments and automated cloud-hosted test tools.
2. Further expand automated test capabilities to include automated testing of coded functions of GEOINT applications, and machine learning for automated generation of test code.
3. Support agile, end-to-end system, operational, integration, and regression testing and analysis on NGA, NSG, and ASG mission production systems, GEOINT services, and corporate business applications.
4. Support early integration testing of multiple interactive systems to demonstrate stability and readiness for operational exposure.
5. Perform requirements decomposition to identify and develop test cases and objectives.
6. Conduct system workflow and interoperability analysis to identify test case insertion points.
7. Conduct assessment of risk to the enterprise, architecture, legacy capabilities, and end user to determine the risk priority and scope of planned testing.
8. Coordinate test participation with all NGA stakeholders, mission partners, other NSG/ASG programs, segments, and projects, de-conflicting schedule and resource conflicts.
9. Generate detailed Discrepancy Reports (DRs) and track developer and program office Technical Investigation (TI) updates to determine need for re-test.
10. Perform analysis of test case results and analyze output from artifacts against risk to the NSG/ASG to develop a recommendation for operational readiness. Coordinate recommendation with program, segment, and project office to determine the appropriateness of deployment with liens, delayed deployment, or partial operationalization of capabilities.
11. Support readiness of programs, segments, and projects at various milestones through participation in required readiness reviews and assist government POCs with recommendations to ensure success
12. Develop Operational Test and Evaluation (OT&E) criteria and system acceptance tests.
13. Coordinate with NGA Foundational Engineering (NFE) contractor to maintain and update NSG/ASG Test & Evaluation Master Plan (TEMP).
14. Assist with early planning for the architecture and engineering of cloud environments to determine the optimal setup and workflow test configurations within cloud environments.
15. Collaborate and coordinate with development teams to support agile test practices, and test-driven and behavior-driven development principles.
16. Identify and recommend candidate systems or test functions for automation, profiling, and load testing.
17. Execute tools or scripts in appropriate test environments to determine specific areas of a system, service, or capability to be analyzed manually and in more detail.
18. Perform network virtualization to model and simulate application performance experienced by end users.
19. Apply automated test solutions developed by engineers and define automated acceptance tests to validate system behaviors.
20. Perform adaptive test engineering.
21. Provide performance profiling analysis.
22. Modify scripts for DevTest tools for the virtualization of specific services.
23. Execute load testing for applicable customers during the development phase of their acquisition lifecycle.
24. Conduct API test engineering.
25. Use analysis of tools, scripts, or metrics to provide feedback to developers throughout the development and deployment schedule, from early testing to promotion to operations, and develop recommendations for customers regarding how they can gain efficiencies, how to optimize utility, or if deployment should occur.
26. Analyze performance trends and user experience data to identify parameters for automated governance processes that will facilitate a digital/automated, Go/No Go capability.
27. Facilitate and oversee self-service and collaborative end-to-end system testing and analysis inclusive of DevOps and cloud hosted developed applications, tools, and services.
28. Conduct trend and root cause analysis and communicate with program offices and developers.
29. Develop and execute Chaos testing approaches

## Enterprise Analysis and Assessment

The NEE contractor shall provide support to Capabilities-based Analysis, Business Engineering (Pre-Acquisition Engineering), Analysis of Alternatives (AoAs), Trade Studies, and Engineering Assessments. Resources applied against this effort shall assist the Government in establishing structured processes and methodologies facilitating Capabilities-based Analysis, Business/Pre-Acquisition Engineering, and AoA’s, Trade Studies and Engineering Assessments.

### Capabilities-based Analysis

The NEE contractor shall provideservices to analyze NGA’s legacy systems and the capabilities and services they provide and develop well-defined and executable Legacy System Retirement Plans (LSRPs) for the smooth transition of the capabilities and services enduring, new or other systems or retirement as appropriate.

Capabilities-based Analysis activities the contractor shall support in the performance of this Task Order include, but are not limited to:

1. Support top-down, enterprise coordination and planning to retire legacy entities into receiving entities (future providers).
2. Perform legacy system retirement analyses to ensure conformance to evolving solutions and enterprise architectures and enterprise integration.
3. Collaborate with Capability Analysis and Pre-Acquisition Engineering Activities and recommend time-phased retirement of legacy systems.
4. Coordinate legacy system retirements through appropriate governance authorities, Program Management Office (PMOs) and Business/Product Owners.
5. Support the retirement of legacy systems and capabilities by developing retirement and transition plans and their associated change artifacts to ensure the coordinated deactivation and disposal of hardware, software, and documentation, ensuring no unplanned capability impacts.
6. Ensure legacy system retirements are consistent with the GEA and To-Be Architecture and meet the needs in the GEOINT ECD, SOCs, and CDDs, to ensure there is no detrimental impact to cost, performance, schedule and mission outcomes.
7. Perform analysis on requirements for retiring systems to ensure enduring requirements are identified and allocated to to-be architecture service groups and Program Offices.
8. Inform governance authorities, PMOs and Business/Product Owners on “priority” decisions such that necessary retirement activities are addressed in program/segment/project schedules and the necessary release bandwidth for retirement-enabling services is in place.
9. Use Model-Based Systems Engineering (MBSE) methods and tools to model transition capabilities and services to new systems.

### Business Engineering (Pre-Acquisition Engineering)

The NEE contractor shall provide services for the decomposition of enterprise business architecture into defined business processes and solutions architectures for the planning of IT program acquisitions for new GEOINT systems and services delivering operational capabilities.

Support the upfront engineering and transformation of the enterprise architecture to ensure acquisitions meet NGA’s mission requirements and required capabilities to include, but not limited to:

1. Develop and present decision quality analysis in detailed report and/or summary briefing format that presents decision makers with salient facts about performance, requirements satisfaction, risks, cost/benefit analysis, security and schedule/timeline implications (among other relevant factors) to allow for effective, informed decision making.
2. Develop User Concept of Operations (CONOPS) on GEOINT initiatives by engaging with the NGA, NSG, ASG, USG, commercial and foreign partner user communities to describe the vision as to how the members will operate in future timeframes. These documents will be published to provide an operational framework to define new capabilities, manage operations, modify business practices, and support planning and programming activities in the near and mid-term.
3. Perform analyses to provide insight into enterprise wide development and delivery initiatives to include unplanned duplication across contract functions to inform acquisition strategy ensuring affordability, efficiency, and effectiveness.
4. Decompose Enterprise business architectures into defined business processes as requested by the Government.

### AoAs, Trade Studies and Engineering Assessments

The NEE contractor shall provide services to perform AoAs, trade studies comparison and engineering assessments of the operational effectiveness, suitability, risk, lifecycle costs, technology maturity, satellite and sensor integration, security and other critical factors of system, software, service, methodology choices impacting the GEOINT mission. These analyses, studies and assessment activities are closely linked to and are an integral part of determining sound courses of action/acquisition strategies for Capabilities-base Analysis and Pre-Acquisition Engineering. The contractor shall leverage the Modeling, Simulation and Analysis Team to identify, request and evaluate data used for AoAs, trade studies and engineering studies.

AoAs, Trade Studies and Engineering Assessments shall include the following, but is not limited to:

1. Plan and conduct in-depth AoA, trade study comparison, and engineering assessments/studies. These assessments must take into consideration the operational effectiveness, suitability, risk, lifecycle costs, technology maturity, security and other critical factors of systems, software, services, and methodology choices which impact the NGA mission.
2. Conduct in-depth verification and validations, and adjudication of recommendations in previously completed AoAs, trade studies, and engineering studies.
3. Establish standards across NGA Enterprise for performing AoAs, trade studies, and engineering assessments by creating templates, scripts and process flows to simplify the execution of some of the common repeatable tasks.
4. Recommend tools and techniques to easily compare, overlay, ingest and merge AoA, trade study, and engineering study data across the enterprise.
5. Use Model-Based Systems Engineering (MBSE) methods and tools to model alternatives used in engineering assessments, AoAs and trade studies.

## Modeling, Simulation & Analysis (MS&A)

The NEE Contractor shall provide support under Modeling, Simulation & Analysis (MS&A) using Model-based Systems Engineering (MBSE) methods and industry best practices. MS&A captures the knowledge, hypotheses, assumptions and conclusions of an intelligence problem in a format useful to both humans and machines. MS&A activities shall include the building, maintaining and use of software and/or digital representations of satellite and system architectures, subsystems, services, and components across the NGA, SAGE (CAP/SAP), NSG, ASG, USG, Mission Partner, commercial and foreign partners’ architectures. MS&A support shall also be utilized to depict/simulate enterprise and sub-level architectures to model/test performance and new concepts for future GEOINT architectures (i.e., ground, airborne, overhead). The MS&A activity shall conduct performance analysis, determine mission testing requirements, and provide/recommend measures of effectiveness (MOE) for new and existing capabilities to meet GEOINT and intelligence analysts’ needs. The Contractor shall initiate communications to ensure Modeling, Simulation & Analysis (MS&A) activities and results are collaborated/coordinated with engineering activities conducted in NEE, NGA Segment Engineering (NSE), NGA Foundational Engineering (NFE), and NGA Digital Engineering (NDE) contracts.

MS&A shall support, but is not limited to, the following MS&A activities:

1. Conduct and deliver assessments and recommendations on performance engineering and analysis throughout phases of the Systems Engineering Lifecycle.  Recommendations shall inform decisions related to current and future enterprise architectures (As-Is and To-Be), current and future capabilities, budgeting, proposed CONOPS and technical roadmaps.
2. Conduct Modeling, Simulation and Analysis to simulate, forecast and assess proposed activities/initiatives on emerging trends and disruptive forces that will impact and set the direction for the GEOINT To-Be Architecture.
3. Shall identify where changes may be beneficial and/or efficiencies gained.  As information technology environments and capabilities evolve, outcomes of MS&A will need to consider and assess the impacts of such changes.  Assessments shall include, but are not limited to:
4. Technology advancements and performance improvements in collection systems (Impact on collection capabilities and ground architecture)
5. Systems and applications resident inside and outside of IC ITE.
6. Automation of tasks and capabilities and resultant impact on architecture.
7. Automation of exploitation, incorporating adhoc tipping and cueing into planned collection decks and resultant impact on architecture.
8. New capabilities to support Activity Based Intelligence (ABI) and advanced analytics.
9. Impacts of machine learning and performance issues caused by big data, such as ever increasing sources of GEOINT content from multiple providers.
10. Impacts on communications and data transport systems within architectures and overall architectural timeliness and responsiveness.
11. Shall develop MS&A performance and mission effectiveness algorithms, methodologies, and programs needed to support NGA, NSG, ASG, USG, Commercial and Foreign Partner studies when needed.  Verify that MS&A performance and mission effectiveness algorithms, methodologies, and programs can run in any computing environment available to support MS&A tools and activities (e.g., IC ITE, COE, NGA cloud, stand-alone networks, thick clients, etc.).
12. Shall interface with external NSG, ASG, USG, Commercial and Foreign Partners to obtain necessary input data, assumptions and dependencies required for accurate MS&A performance and mission effectiveness analysis. Apply MS&A programs, algorithms, tools, and databases owned and/or used by NSG, ASG, USG, Commercial and Foreign Partners as applicable in studies development.
13. As directed by the government, shall perform Enterprise-level (“big picture”) performance and mission effectiveness analysis and deliver assessments and recommendations which inform/influence future enterprise architecture designs, capabilities, and roadmaps.
14. Shall perform comprehensive data collection and leverage enterprise collection capabilities (i.e., transactional performance data, capacity data) to provide accurate input data for MS&A performance and mission effectiveness analysis activities and high-confidence recommendations.
15. Shall conduct MS&A performance and mission effectiveness analysis throughout all phases of the Systems Engineering Lifecycle. Results, findings, and recommendations are key inputs to strategic guidance formation, integrated strategy planning, integrated solutions planning, and integrated execution.
16. Shall perform MS&A performance and mission effectiveness analysis activities, assessments, and prediction of IT services and performance to meet mission requirements with consideration for data characteristics (format, utilization, integrity, persistence), current/projected IT environment (services, protocols, bandwidth, speed, reliability, architecture), and applicable laws/policies/standards (security, interoperability).
17. Shall perform MS&A performance and mission effectiveness analysis on commercially available services and products and recommend which ones should be included into enterprise baselines.  MS&A shall include the evaluation of proposed solution strategies; identify project performance requirements and provide recommendations to divestment/acceleration decisions and cost estimation/evaluation.
18. Shall provide site specific modeling, simulation and analysis to support engineering activities.
19. Shall develop capacity impacts to include modeling of predictive impacts.
20. Shall conduct MS&A performance and mission effectiveness analysis to support requirements definition.  Analysis results should support possible updates to performance-based requirements for architectures, systems, subsystems, components, and applications, and evaluate potential RFC and ECP impacts.
21. Shall support AoA assessments through MS&A performance and mission effectiveness analysis of alternative materiel concepts and solutions to include actual and predicted performance metrics as directed by the government,
22. Shall evaluate and provide recommendations on information technology environments to ensure they are properly sized to meet current and future mission capacity and required performance.
23. Shall quantify “as-is” mission performance/capacity/CONOPS, drive forensic analysis and performance optimization, and enable operational research and data-backed analysis which deliver assessments and recommendations to significantly improve NGA’s ability to operate, plan, and evolve the NGA, NSG, ASG, and mission partners’ architectures.
24. Shall perform variable-fidelity end-to-end MS&A spanning GEOINT categories, current/future NSG/ASG source/destination services and NGA/external/cloud IT resources to inform current and future architectures and CONOPS.
25. Shall perform and report results on operational performance tests, “what if” analysis, and future epoch simulations spanning; data collection data processing, data movement, management, protection, storage, discovery, and exploitation services.
26. Shall migrate, maintain and operate required tools in IC ITE, C2S or Government Cloud unless otherwise directed.  Provide systems administration support through Web Services and LINUX.
27. Shall ensure MS&A’s use of IC ITE complies with ODNI CIO and NGA rules, standards, directives, and instructions.
28. Shall develop algorithms, codes and databases needed for studies using, but not limited to Microsoft Office Excel, Microsoft Office Access, Oracle, SQL using Visual Basic, R, Python, C++, C##, and JAVA for MS&A focus areas.
29. Shall utilize machine learning to optimize MS&A analytical processes
30. Shall modify, operate, run or help procure MS&A programs, tools, and databases on stand-alone networks and thick clients as directed by the Government,.  (This is often necessary when conducting MS&A on SAP programs.)
31. Shall integrate MS&A programs, tools, foundational data, and databases in IC ITE with mission partners also developing and running MS&A programs, tools, and databases in IC ITE. (i.e. systems logs, performance logs)
32. Shall provide comparisons of alternative enterprise architectures against high priority intelligence problems as directed by the government.
33. Shall conduct performance quantification of competing communication system architectures and associated ground systems.  Performance quantifications shall include, but are not limited to:
34. Design assumptions against test data
35. Performance impact of adding satellites to existing constellations to include collection fulfillment and ground architectures
36. SATCOM Ground Station design and location
37. SATCOM Gap Analysis
38. Message Latency for inclusion in design assumptions (how much time should my design anticipate sending and receiving critical messages?)
39. Impact of adversarial actions on communication systems
40. Shall utilize MS&A system(s) that share a commons data schema where work can be shared across all NGA supported mission areas such as overhead, Tactical, and ground.

## Transition

### Transition Plan

As part of the transition, the contractor shall provide a staffing plan detailing the onboarding of all personnel identified in Appendix A. The plan shall describe the contractor employee names, company, clearance information, polygraph information, and dates of submittal into e-Nom.

The Contractor shall comply with the guidance in the table below.

**Table 1:Transition Availability**

| **Calendar Days After Award** | **Contractor Personnel** |
| --- | --- |
| 7 Days & 14 Days | * All Key Personnel eNomination Requests (eNom) submitted (within 7 days) and available for task order performance (within 14 days). |
| 15 Days | * At least 25% of all staff eNom submitted and available for task order performance. |
| 30 Days | * At least 50% of all staff eNom submitted and available for task order performance. |
| 45 Days | * At least 75% of all staff eNom submitted and available for task order performance. |
| 60 Days | * 100% of all staff eNom submitted and available for task order performance. |

3.6.1.1 Security Onboarding

The Contractor’s key personnel and any other personnel requiring access to classified systems shall have active Top Secret and be Sensitive Compartmented Information (TS/SCI) eligible at contract award.

To minimize the risk of a delay in supporting transition startup, the Contractor’s Security Office shall use the NGA eNomination system to nominate employees for personnel security clearances, facility badges, and system access. Upon security clearance approval, the Contractor shall schedule their personnel for clearance briefing and badges with the appropriate office(s) at NGA.

3.6.1.2 Sensitive Compartmented Information Facility (SCIF)

Any SCIF(s) that will be utilized to perform SCI work at contract sites must be coordinated with the CO and NGA Physical Security Team 7 days after award to ensure NGA authorization and accreditation is granted for NEE work to be performed in the contractor SCIF. Note: All SCI work performed at a Contractor site must be performed in either an NGA accredited Sensitive Compartmented Information Facility (SCIF) or an Other Government Agency (OGA) SCIF that has either a Memorandum of Agreement (MOA), Memorandum of Understanding (MOU), Joint Use Agreement or Co-Use Agreement with NGA for this effort.

### Transition Closeout

The Contractor shall support transition to another Contractor as directed by the Government (commencing 30 Days before the end of the contract). The Contractor shall review and transition knowledge and relevant information concerning enterprise engineering, architecture, and integration and standard operating procedures. The Contractor shall provide at a minimum the following items by the end of the contract in accordance with Government direction:

* Hardware and software development documentation that provides a comprehensive detailed description of the current operational baseline for each security domain. The documentation will at a minimum, contain the following: systems architecture, CM, software configuration, COTS integration, and capture of the hardware and software architectures.
* Operating system and application software with annotated source code for each security domain, including software under current development or test that is yet to be deployed. The Contractor shall provide the software in an industry standard format such as Microsoft TFS.
* Operational system data and database information, both current and historical, including user account data, metadata catalogs, stored imagery and products, system diagrams, and knowledge bases.

The Contractor shall conduct an organized transfer of Government-furnished equipment (GFE), Government-furnished property (GFP), and Government-furnished information (GFI), to include manufacturer maintenance agreements and software licenses as directed by the CO. The Contractor shall generate a report containing the final disposition of all NGA property.

The Contractor shall support the decommissioning and disposal of all Information Technology (IT) systems as directed by the Government. The Contractor shall follow NGA’s Decommissioning Disposal Review (DDR) process that is specific for hardware and software. The Contractor shall follow all processes in the DDR checklist for hardware and software, including maintenance of a Property Book to keep hand receipts, review signatures, and other acceptance criteria.

## Deliverables

The following sub-sections describe each of the Contract Data Requirements List (CDRL) documents required in support of this contract. A brief summary of these CDRLs is also shown in table form in the CDRL Matrix of this document.

### Kick-Off Meeting

The contractor shall schedule a kick-off meeting with the CO, PM and COR and TM within 10 calendar days of task order award.

### Weekly Meetings

A weekly telecom will be held with the CO, PM, and COR, to discuss status. The weekly telecoms will be held throughout the entire performance. The Contractor shall provide an agenda, identify any issues and document action items.

### Quarterly Reviews

The contractor shall conduct Quarterly Program Management Reviews (PMR) of the data generated in preparation of the Status Report to address monthly data and other pertinent management information. The review shall include Government requested information and shall include, but is not limited to:

1. Contract management reporting
2. Task progress and Funding Status Report
3. Control of the contractual task order (dollars and labor hours) and distribution
4. Projected changes in manpower and redistribution based on customer organization needs, manpower and recruiting summary
5. Security issues
6. Contractual action items
7. Task order accounting data documentation
8. Report by task order element of hours/rates by discipline and skill level and by labor category
9. Comparison of proposed travel costs to actual travel costs for each task order element
10. Comparison of total contract funding to invoiced services
11. Any special interest items requested by the Government or provided at the contractor’s initiative
12. Task Order Requirements Review (as needed)

These reviews may also address, in general, the efforts, challenges, problems, and accomplishments of contractor personnel in the respective task areas. The contractor shall provide the PMR agenda and briefing slides three (3) business days prior to the meeting and PMR minutes within five (5) calendar days following the meeting. Government program and contract management may require other compilations of data to ensure adequate insight into the task order execution. This review shall be held with the PMO, CO and task order COR.

### Monthly Financial Report (MFR)

The Monthly Financial Report (MFR) shall provide a summary of all program activity. The report will have specific content by task order and with contract expenditures, rates, and estimated cost at complete (EAC).

### Monthly Staffing Report (MSR)

As part of the Monthly Staffing Report (MSR), the contractor shall provide one (1) electronic softcopy of an updated staffing report. The MSR supports the tracking of contractor’s proposed personnel (i.e., designated position number or identifier, Prime/Sub-contractor, name, labor category, start/end date, office, geographical location, and other fields of information as may be determined at a later date). A template for the MSR will be provided.

### Monthly Activity Report (MAR)

The contractor shall submit a technical monthly activity report (MAR) to the COR no later than the 15th of each month.

### Technical Exchange Meetings (TEM)

The contractor shall schedule and support technical exchange meetings to collaborate and coordinate technical planning. The contractor shall record and submit minutes from the meetings.

### CDRL Matrix

The CDRL Deliverable List, shown in the table below is a list of all Contractor-provided deliverables that shall be met throughout the contract. All deliverables will be submitted in formats compatible with Adobe or Microsoft Office products. Softcopy delivery (via e-mail, etc.) is the preferred method of exchange for electronic copies. Deliveries will be made to the PM, CO, COR and/or Alternate COR (ACOR) as specified in the table below.

| **CDRL Title** | **CDRL #** | **SOW Section** | **First Submission** | **Updates** | **Delivered to** | **Format and number of deliverables** |
| --- | --- | --- | --- | --- | --- | --- |
| Quarterly Program Management Reviews | 001 | 3.7.3 | Award +120 Days | Quarterly | PM/CO/COR | 1 Electronic Copy to PMO Email Address Contractor Defined, Government Approved |
| Monthly Financial Report | 002 | 3.7.4 | Award +30 Days | Monthly | COR/TM | 1 Electronic Copy to PMO Email Address  Contractor Defined, Government Approved |
| Monthly Staffing Report | 003 | 3.7.5 | Award +30 Days | Monthly | COR/TM | 1 Electronic Copy to PMO Email Address  Government Defined |
| Monthly Activity Report | 005 | 3.7.7 | Award +30 Days | Weekly | CORTM | 1 Electronic Copy to appropriate TM Email Address(es) Contractor Defined, Government Approved |
| Trip Reports | 006 | 7.0 | NLT 10 business days after return | As Required | COR/TM | 1 Electronic Copy to PMO Email Address and to appropriate TM Email Address(es)  Contractor Defined, Government Approved |
| Transition Plan | 007 | 3.6.2 | Task Order Proposal | Award +7 days, Award + 15 days | PM/CO/COR | 1 Electronic Copy to PMO Email Address  Contractor Defined, Government Approved |
| Reports, Briefings, Evaluations, Technical Assignments, Transition Plan,  Minutes, White Papers Etc. | 008 | 3.0 | As Required | As Required | COR, TM | 1 Electronic Copy to PMO Email Address, or applicable Technical Monitor  Contractor Defined, Government Approved |
| Requirement Trace Reports | 009 | 3.2 | As Required | As Required | COR, TM & GPOC | 1 Electronic Copy to PMO Email Address, or applicable Technical Monitor  Contractor Defined, Government Approved |
| Digital Models, Digital representations | 010 | 3.0 | As Required | As Required | COR, TM, GPOC | Electronic delivery as defined by Government  Contractor Defined, Government Approved |

## Labor

Refer to Appendices A and B for estimated number of staff, overall description of work, duties, skills and education.

# General Provisions

## Primary Place of Performance

The primary place(s) of performance for this Task Order are NCE, NCW, and Washington Metropolitan Area (WMA) (Contractor facility). Other work locations will be considered if conducive to the effective performance of work. Possible examples of justified alternative work locations include primary locations of corporate SCIF, Lab or test/demonstration facilities. The contractor shall receive prior written approval for the alternative work location from the COR.

See the listing in Appendix B: Position Descriptions

## Government Furnished Equipment/Information (GFE/GFI)

A specific GFE/GFI list will be provided as an attachment to this Task Order.

## Foreign Contacts

Refer to the Base SOW.

# Security

Refer to the Base SOW.

# Key Personnel

The positions highlighted in blue in Appendix A are Key Personnel, subject to the Key Personnel clause included in the base contract.

# Travel and Other Direct Costs (ODCs)

Refer to the Base SOW section 9.3 and Section H.4 in the Base contract.

# Appendix A: Anticipated Support Requirements

The requirements needed to adequately support this Task Order are listed in the table below. Position description information for government-defined labor is provided in Appendix B. The location column indicates the primary work location for contractor personnel.

**Government Defined**

| **Position ID\*** | **Position Number** | **Organization Number** | **Location** | **Position Description  #** | **TO Section** | **FTE** | **Skill Level** | **Service Category** | **Job Title** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 01-01-TAED-EA- | 0001 | 1 | WMA\* | 1 | 3.1.1 | 1 | 4 – Expert | Engineering and Architecture | Enterprise Architect |
| 01-01-TAED-EA- | 0002 | 2 | WMA\* | 2 | 3.1.1,  3.2.3 | 1 | 3 – Senior | Engineering and Architecture | Enterprise Architect |
| 01-01-TAED-EA- | 0003 | 3 | WMA\* | 2 | 3.1.1,  3.4.2 | 1 | 3 – Senior | Engineering and Architecture | Enterprise Architect |
| 01-01-TAED-EA- | 0004 | 4 | WMA\* | 2 | 3.1.1 | 1 | 3 – Senior | Engineering and Architecture | Enterprise Architect |
| 01-01-TAED-EA- | 0005 | 5 | WMA\* | 2 | 3.1.1 | 1 | 3 – Senior | Engineering and Architecture | Enterprise Architect |
| 01-01-TAED-EA- | 0006 | 6 | WMA\* | 2 | 3.1.1 | 1 | 3 – Senior | Engineering and Architecture | Enterprise Architect |
| 01-01-TAED-EA- | 0007 | 7 | WMA\* | 2 | 3.1.1 | 1 | 3 – Senior | Engineering and Architecture | Enterprise Architect |
| 01-01-TAED-EA- | 0008 | 8 | WMA\* | 2 | 3.1.1 | 1 | 3 – Senior | Engineering and Architecture | Enterprise Architect |
| 01-01-TAED-EA- | 0009 | 9 | WMA\* | 3 | 3.1.1 | 1 | 2 – Mid | Engineering and Architecture | Enterprise Architect |
| 01-01-TAED-EA- | 0010 | 10 | WMA\* | 3 | 3.1.1 | 1 | 2 – Mid | Engineering and Architecture | Enterprise Architect |
| 01-01-TAED-EA- | 0011 | 11 | WMA\* | 3 | 3.1.1 | 1 | 2 – Mid | Engineering and Architecture | Enterprise Architect |
| 01-01-TAED-EA- | 0012 | 12 | WMA\* | 3 | 3.1.1 | 1 | 2 – Mid | Engineering and Architecture | Enterprise Architect |
| 01-01-TAED-SA- | 0013 | 13 | WMA\* | 4 | 3.1.2 | 1 | 4 – Expert | Engineering and Architecture | System Architect |
| 01-01-TAED-SA- | 0014 | 14 | WMA\* | 5 | 3.1.2 | 1 | 2 – Mid | Engineering and Architecture | System Architect |
| 01-01-TAED-SA- | 0015 | 15 | WMA\* | 5 | 3.1.2 | 1 | 2 – Mid | Engineering and Architecture | System Architect |
| 01-01-TAED-SA- | 0016 | 16 | WMA\* | 6 | 3.1.3,  3.2.3 | 1 | 3 – Senior | Engineering and Architecture | System Architect |
| 01-01-TAED-EA- | 0017 | 17 | WMA\* | 2 | 3.1.4,  3.4.2,  3.4.3 | 1 | 3 – Senior | Engineering and Architecture | Enterprise Architect |
| 01-01-TAED-EA- | 0018 | 18 | WMA\* | 2 | 3.1.4 | 1 | 3 – Senior | Engineering and Architecture | Enterprise Architect |
| 01-01-TAED-EA- | 0019 | 19 | WMA\* | 2 | 3.1.4 | 1 | 3 – Senior | Engineering and Architecture | Enterprise Architect |
| 01-01-TAED-EA- | 0020 | 20 | WMA\* | 3 | 3.1.4 | 1 | 2 – Mid | Engineering and Architecture | Enterprise Architect |
| 01-01-TAEB-SE- | 0021 | 1 | WMA\* | 7 | 3.2.1 | 1 | 4 – Expert | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0022 | 2 | WMA\* | 8 | 3.2.1,  3.2.3 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0023 | 3 | WMA\* | 8 | 3.2.1,  3.4.2 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0024 | 4 | WMA\* | 8 | 3.2.1 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0025 | 5 | NCW | 8 | 3.2.1 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0026 | 6 | NCW | 8 | 3.2.1 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0027 | 7 | WMA\* | 9 | 3.2.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0028 | 8 | WMA\* | 9 | 3.2.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0029 | 9 | NCW | 9 | 3.2.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0030 | 10 | NCW | 9 | 3.2.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0031 | 11 | NCW | 9 | 3.2.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0032 | 12 | WMA\* | 9 | 3.2.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0033 | 13 | WMA\* | 9 | 3.2.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0034 | 14 | WMA\* | 9 | 3.2.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0035 | 15 | WMA\* | 9 | 3.2.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0036 | 16 | WMA\* | 9 | 3.2.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0037 | 17 | WMA\* | 9 | 3.2.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0038 | 18 | WMA\* | 9 | 3.2.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0039 | 19 | WMA\* | 9 | 3.2.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0040 | 20 | WMA\* | 9 | 3.2.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0041 | 21 | NCW | 9 | 3.2.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0042 | 22 | NCW | 9 | 3.2.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0043 | 23 | WMA\* | 10 | 3.2.1 | 1 | 1 - Junior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0044 | 24 | WMA\* | 10 | 3.2.1 | 1 | 1 - Junior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0045 | 25 | WMA\* | 10 | 3.2.1 | 1 | 1 - Junior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0046 | 26 | WMA\* | 10 | 3.2.1 | 1 | 1 - Junior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0047 | 27 | WMA\* | 10 | 3.2.1 | 1 | 1 - Junior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0048 | 28 | WMA\* | 10 | 3.2.1 | 1 | 1 - Junior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0049 | 29 | WMA\* | 10 | 3.2.1 | 1 | 1 - Junior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0050 | 30 | NCW | 10 | 3.2.1 | 1 | 1 - Junior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0051 | 31 | NCW | 10 | 3.2.1 | 1 | 1 - Junior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0052 | 32 | WMA\* | 7 | 3.2.2 | 1 | 4 – Expert | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0053 | 33 | WMA\* | 8 | 3.2.2,  3.2.3 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0054 | 34 | NCW | 8 | 3.2.2 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0055 | 35 | WMA\* | 9 | 3.2.2 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0056 | 36 | WMA\* | 10 | 3.2.2 | 1 | 1 - Junior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0057 | 37 | WMA\* | 7 | 3.4.1,  3.4.2,  3.4.3 | 1 | 4 – Expert | Engineering and Architecture | Systems Engineer |
| 01-01-TAEB-SE- | 0058 | 38 | WMA\* | 8 | 3.4.1,  3.4.2,  3.4.3 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TAC-TSE- | 0059 | 1 | WMA\* | 11 | 3.3.3 | 1 | 3 – Senior | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAC-TSE- | 0060 | 2 | WMA\* | 11 | 3.3.3 | 1 | 3 – Senior | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAC-TSE- | 0061 | 3 | WMA\* | 11 | 3.3.3 | 1 | 3 – Senior | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAC-TSE- | 0062 | 4 | WMA\* | 11 | 3.3.3 | 1 | 3 – Senior | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAC-TSE- | 0063 | 5 | WMA\* | 11 | 3.3.3 | 1 | 3 – Senior | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAC-TSE- | 0064 | 6 | NCW | 11 | 3.3.3 | 1 | 3 – Senior | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAC-TSE- | 0065 | 7 | WMA\* | 12 | 3.3.3 | 1 | 2 – Mid | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAC-TSE- | 0066 | 8 | WMA\* | 12 | 3.3.3 | 1 | 2 – Mid | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAC-TSE- | 0067 | 9 | WMA\* | 12 | 3.3.3 | 1 | 2 – Mid | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAC-TSE- | 0068 | 10 | WMA\* | 12 | 3.3.3 | 1 | 2 – Mid | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAC-TSE- | 0069 | 11 | WMA\* | 12 | 3.3.3 | 1 | 2 – Mid | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAC-TSE- | 0070 | 12 | WMA\* | 12 | 3.3.3 | 1 | 2 – Mid | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAC-TSE- | 0071 | 13 | WMA\* | 12 | 3.3.3 | 1 | 2 – Mid | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAC-TSE- | 0072 | 14 | WMA\* | 12 | 3.3.3 | 1 | 2 – Mid | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAC-TSE- | 0073 | 15 | NCW | 12 | 3.3.3 | 1 | 2 – Mid | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAC-TSE- | 0074 | 16 | WMA\* | 13 | 3.3.3 | 1 | 1 - Junior | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAC-TSE- | 0075 | 17 | WMA\* | 13 | 3.3.3 | 1 | 1 - Junior | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAC-SE- | 0076 | 18 | WMA\* | 7 | 3.3.3 | 1 | 4 – Expert | Engineering and Architecture | Systems Engineer |
| 01-01-TAC-SE- | 0077 | 19 | WMA\* | 8 | 3.3.3 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TADI-BPM- | 0078 | 1 | WMA\* | 14 | 3.1.1, 3.1.4 | 1 | 4 – Expert | Senior Management | Business Process Manager |
| 01-01-TADI-SA- | 0079 | 2 | WMA\* | 4 | 3.1.1, 3.1.4, 3.1.5 | 1 | 4 – Expert | Engineering and Architecture | System Architect |
| 01-01-TADI-IE- | 0080 | 3 | WMA\* | 15 | 3.1.1 | 1 | 2 – Mid | Engineering and Architecture | Integration Engineer |
| 01-01-TADI-CA- | 0081 | 4 | WMA\* | 16 | 3.1.2 | 1 | 4 – Expert | Engineering and Architecture | Cloud Architect |
| 01-01-TADI-SE- | 0082 | 5 | WMA\* | 9 | 3.1.2 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TADI-SE- | 0083 | 6 | WMA\* | 10 | 3.1.2 | 1 | 1 - Junior | Engineering and Architecture | Systems Engineer |
| 01-01-TADI-SI- | 0084 | 7 | WMA\* | 17 | 3.1.1, 3.1.3,  3.1.5 | 1 | 4 – Expert | Engineering and Architecture | Systems Integrator |
| 01-01-TADI-CA- | 0085 | 8 | WMA\* | 18 | 3.1.3,  3.1.5 | 1 | 2 – Mid | Engineering and Architecture | Cloud Architect |
| 01-01-TADI-CE- | 0086 | 9 | WMA\* | 19 | 3.1.2,  3.1.5 | 1 | 2 – Mid | Engineering and Architecture | Cloud Engineer |
| 01-01-TADI-CE- | 0087 | 10 | WMA\* | 20 | 3.1.2 | 1 | 1 - Junior | Engineering and Architecture | Cloud Engineer |
| 01-01-TADI-SE- | 0088 | 11 | WMA\* | 9 | 3.1.2  3.1.5 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TADI-IE- | 0089 | 12 | WMA\* | 21 | 3.1.2 | 1 | 1 - Junior | Engineering and Architecture | Integration Engineer |
| 01-01-TADI-NSE- | 0090 | 13 | WMA\* | 22 | 3.1.6 | 1 | 4 – Expert | Engineering and Architecture | Network Systems Engineer |
| 01-01-TADI-NSE- | 0091 | 14 | WMA\* | 23 | 3.1.6 | 1 | 2 – Mid | Engineering and Architecture | Network Systems Engineer |
| 01-01-TADI-CA- | 0092 | 15 | WMA\* | 16 | 3.4.1 | 1 | 4 – Expert | Engineering and Architecture | Cloud Architect |
| 01-01-TADI-CA- | 0093 | 16 | WMA\* | 18 | 3.4.1 | 1 | 2 – Mid | Engineering and Architecture | Cloud Architect |
| 01-01-TADI-SA- | 0094 | 17 | NCW | 4 | 3.1.1 | 1 | 4 – Expert | Engineering and Architecture | System Architect |
| 01-01-TADI-SE- | 0095 | 18 | WMA\* | 9 | 3.1.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TADI-IE- | 0096 | 19 | NCW | 15 | 3.1.2 | 1 | 2 – Mid | Engineering and Architecture | Integration Engineer |
| 01-01-TADI-SE- | 0097 | 20 | NCW | 10 | 3.1.2 | 1 | 1 - Junior | Engineering and Architecture | Systems Engineer |
| 01-01-TADE-IE- | 0098 | 1 | WMA\* | 24 | 3.3.1 | 1 | 4 – Expert | Engineering and Architecture | Integration Engineer |
| 01-01-TADE-IE- | 0099 | 2 | WMA\* | 15 | 3.3.1 | 1 | 2 – Mid | Engineering and Architecture | Integration Engineer |
| 01-01-TAEC-CSE- | 0100 | 1 | WMA\* | 25 | 3.1.7 | 1 | 4 – Expert | Engineering and Architecture | Cyber Security Engineer |
| 01-01-TAEC-CSE- | 0101 | 2 | WMA\* | 26 | 3.1.7 | 1 | 2 – Mid | Engineering and Architecture | Cyber Security Engineer |
| 01-01-TAEC-CSE- | 0102 | 3 | WMA\* | 26 | 3.1.7 | 1 | 2 – Mid | Engineering and Architecture | Cyber Security Engineer |
| 01-01-TAEC-CSE- | 0103 | 4 | WMA\* | 27 | 3.1.7 | 1 | 1 - Junior | Engineering and Architecture | Cyber Security Engineer |
| 01-01-TAEC-CSE- | 0104 | 5 | WMA\* | 25 | 3.1.7 | 1 | 4 – Expert | Engineering and Architecture | Cyber Security Engineer |
| 01-01-TAEC-CSE- | 0105 | 6 | WMA\* | 26 | 3.1.7 | 1 | 2 – Mid | Engineering and Architecture | Cyber Security Engineer |
| 01-01-TAEC-CSE- | 0106 | 7 | NCW | 26 | 3.1.7 | 1 | 2 – Mid | Engineering and Architecture | Cyber Security Engineer |
| 01-01-TAEC-CSE- | 0107 | 8 | NCW | 25 | 3.1.7 | 1 | 4 – Expert | Engineering and Architecture | Cyber Security Engineer |
| 01-01-TAEF-LI- | 0108 | 1 | WMA\* | 28 | 3.5 | 1 | 4 – Expert | Senior Management | Lead Integrator |
| 01-01-TAEF-SE- | 0109 | 2 | WMA\* | 7 | 3.5 | 1 | 4 – Expert | Engineering and Architecture | Systems Engineer |
| 01-01-TAEF-SE- | 0110 | 3 | WMA\* | 8 | 3.5 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEF-SE- | 0111 | 4 | NCE | 8 | 3.5 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEF-SE- | 0112 | 5 | WMA\* | 9 | 3.5 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEF-SE- | 0113 | 6 | WMA\* | 9 | 3.5 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEF-SE- | 0114 | 7 | WMA\* | 9 | 3.5 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEF-MSA- | 0115 | 8 | WMA\* | 29 | 3.5 | 1 | 4 – Expert | Engineering and Architecture | Modeling, Simulation & Analysis |
| 01-01-TAEF-MSA- | 0116 | 9 | WMA\* | 30 | 3.5 | 1 | 3 – Senior | Engineering and Architecture | Modeling, Simulation & Analysis |
| 01-01-TAEF-MSA- | 0117 | 10 | WMA\* | 31 | 3.5 | 1 | 2 – Mid | Engineering and Architecture | Modeling, Simulation & Analysis |
| 01-01-TAEF-MSA- | 0118 | 11 | NCW | 31 | 3.5 | 1 | 2 – Mid | Engineering and Architecture | Modeling, Simulation & Analysis |
| 01-01-TAEF-DA- | 0119 | 12 | WMA\* | 32 | 3.5 | 1 | 3 – Senior | Engineering and Architecture | Data Architect |
| 01-01-TAEF-SA- | 0120 | 13 | WMA\* | 6 | 3.5 | 1 | 3 – Senior | Engineering and Architecture | System Architect |
| 01-01-TAEF-NSE- | 0121 | 14 | WMA\* | 33 | 3.5 | 1 | 3 – Senior | Engineering and Architecture | Network Systems Engineer |
| 01-01-TAEF-DBA- | 0122 | 15 | WMA\* | 34 | 3.5 | 1 | 3 – Senior | Administration | Database Administrator |
| 01-01-TAEC-LI- | 0123 | 1 | WMA\* | 28 | 3.3.2 | 1 | 4 – Expert | Senior Management | Lead Integrator |
| 01-01-TAEC-LI- | 0124 | 2 | WMA\* | 35 | 3.3.2 | 1 | 4 – Expert | Senior Management | Lead Integrator (Analytic and Exploitation Environment) |
| 01-01-TAEC-IE- | 0125 | 3 | WMA\* | 24 | 3.3.2,  3.2.3 | 1 | 4 – Expert | Engineering and Architecture | Integration Engineer |
| 01-01-TAEC-SE- | 0126 | 4 | WMA\* | 7 | 3.3.2,  3.2.3 | 1 | 4 – Expert | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-SE- | 0127 | 5 | WMA\* | 9 | 3.3.2 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-SE- | 0128 | 6 | WMA\* | 9 | 3.3.2 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-IE- | 0129 | 7 | WMA\* | 15 | 3.3.2 | 1 | 2 – Mid | Engineering and Architecture | Integration Engineer |
| 01-01-TAEC-IE- | 0130 | 8 | WMA\* | 15 | 3.3.2 | 1 | 2 – Mid | Engineering and Architecture | Integration Engineer |
| 01-01-TAEC-SE- | 0131 | 9 | WMA\* | 9 | 3.3.2 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-LI- | 0132 | 10 | WMA\* | 35 | 3.3.2 | 1 | 4 – Expert | Senior Management | Lead Integrator (GEOINT Tasking and Collection System Modernization) |
| 01-01-TAEC-SE- | 0133 | 11 | WMA\* | 7 | 3.3.2,  3.2.3 | 1 | 4 – Expert | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-SE- | 0134 | 12 | WMA\* | 7 | 3.3.2 | 1 | 4 – Expert | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-SE- | 0135 | 13 | WMA\* | 9 | 3.3.2 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-SE- | 0136 | 14 | WMA\* | 9 | 3.3.2 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-SE- | 0137 | 15 | WMA\* | 9 | 3.3.2 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-IE- | 0138 | 16 | WMA\* | 24 | 3.3.2 | 1 | 4 – Expert | Engineering and Architecture | Integration Engineer |
| 01-01-TAEC-IE- | 0139 | 17 | WMA\* | 15 | 3.3.2,  3.2.3 | 1 | 2 – Mid | Engineering and Architecture | Integration Engineer |
| 01-01-TAEC-LI- | 0140 | 18 | WMA\* | 35 | 3.3.2 | 1 | 4 – Expert | Senior Management | Lead Integrator (Foundation GEOINT Mission) |
| 01-01-TAEC-IE- | 0141 | 19 | WMA\* | 24 | 3.3.2,  3.2.3 | 1 | 4 – Expert | Engineering and Architecture | Integration Engineer |
| 01-01-TAEC-IE- | 0142 | 20 | WMA\* | 36 | 3.3.2 | 1 | 3 – Senior | Engineering and Architecture | Integration Engineer |
| 01-01-TAEC-IE- | 0143 | 21 | WMA\* | 15 | 3.3.2 | 1 | 2 – Mid | Engineering and Architecture | Integration Engineer |
| 01-01-TAEC-SE- | 0144 | 22 | WMA\* | 8 | 3.3.2,  3.2.3 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-SE- | 0145 | 23 | WMA\* | 8 | 3.3.2 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-SE- | 0146 | 24 | WMA\* | 9 | 3.3.2 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-SE- | 0147 | 25 | WMA\* | 9 | 3.3.2 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-LI- | 0148 | 26 | WMA\* | 35 | 3.3.2 | 1 | 4 – Expert | Senior Management | Lead Integrator (Enterprise System Resiliency Modernization) |
| 01-01-TAEC-IE- | 0149 | 27 | WMA\* | 36 | 3.3.2,  3.2.3 | 1 | 3 – Senior | Engineering and Architecture | Integration Engineer |
| 01-01-TAEC-SE- | 0150 | 28 | WMA\* | 8 | 3.3.2,  3.2.3 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-SE- | 0151 | 29 | WMA\* | 8 | 3.3.2 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-TSE- | 0152 | 30 | WMA\* | 9 | 3.3.2 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-LI- | 0153 | 31 | WMA\* | 35 | 3.2.4 | 1 | 4 – Expert | Senior Management | Lead Integrator (ESAT) |
| 01-01-TAEC-IE- | 0154 | 32 | WMA\* | 15 | 3.2.4,  3.2.3 | 1 | 2 – Mid | Engineering and Architecture | Integration Engineer |
| 01-01-TAEC-IE- | 0155 | 33 | WMA\* | 15 | 3.2.4 | 1 | 2 – Mid | Engineering and Architecture | Integration Engineer |
| 01-01-TAEC-IE- | 0156 | 34 | WMA\* | 15 | 3.2.4 | 1 | 2 – Mid | Engineering and Architecture | Integration Engineer |
| 01-01-TAEC-IE- | 0157 | 35 | WMA\* | 21 | 3.2.4 | 1 | 1 - Junior | Engineering and Architecture | Integration Engineer |
| 01-01-TAEC-SE- | 0158 | 36 | WMA\* | 8 | 3.2.4,  3.2.3 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-SE- | 0159 | 37 | WMA\* | 9 | 3.2.4 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-SE- | 0160 | 38 | WMA\* | 9 | 3.2.4 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-SE- | 0161 | 39 | WMA\* | 9 | 3.2.4 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-SE- | 0162 | 40 | WMA\* | 9 | 3.2.4 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TAEC-TSE- | 0163 | 41 | WMA\* | 12 | 3.2.4 | 1 | 2 – Mid | Engineering and Architecture | Test Systems Engineer |
| 01-01-TAEC-TSE- | 0164 | 42 | WMA\* | 12 | 3.2.4 | 1 | 2 – Mid | Engineering and Architecture | Test Systems Engineer |
| 01-01-TASS-SE- | 0165 | 1 | NCE | 7 | 3.3.1 | 1 | 4 – Expert | Engineering and Architecture | Systems Engineer |
| 01-01-TASS-SE- | 0166 | 2 | NCE | 8 | 3.3.1 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TASS-SE- | 0167 | 3 | NCE | 8 | 3.3.1 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TASS-SE- | 0168 | 4 | WMA | 8 | 3.3.1 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TASS-SE- | 0169 | 5 | WMA | 8 | 3.3.1 | 1 | 3 – Senior | Engineering and Architecture | Systems Engineer |
| 01-01-TASS-SE- | 0170 | 6 | WMA | 9 | 3.3.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TASS-SE- | 0171 | 7 | WMA | 9 | 3.3.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TASS-SE- | 0172 | 8 | NCE | 9 | 3.3.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TASS-SE- | 0173 | 9 | NCE | 9 | 3.3.1 | 1 | 2 – Mid | Engineering and Architecture | Systems Engineer |
| 01-01-TASS-SE- | 0174 | 10 | NCE | 10 | 3.3.1 | 1 | 1 - Junior | Engineering and Architecture | Systems Engineer |
| 01-01-TA-LI- | 0175 | 1 | NCE | 28 | 3.1, 3.2, 3.3, 3.4, 3.5 | 1 | 4 – Expert | Senior Management | Lead Integrator |
| 01-01-TA-BPM- | 0176 | 2 | NCE | 14 | 3.1, 3.2, 3.3, 3.4, 3.5 | 1 | 4 – Expert | Senior Management | Business Process Manager |
| 01-01-TAE-LI- | 0177 | 1 | NCE | 28 | 3.1, 3.2, 3.3, 3.4, 3.5 | 1 | 4 – Expert | Senior Management | Lead Integrator |
| 01-01-TAE-PM- | 0178 | 2 | NCE | 37 | 3.1, 3.2, 3.3, 3.4, 3.5 | 1 | 4 – Expert | Senior Management | Program Manager |

|  |
| --- |
|  |

**Appendix A Key:**

Signifies Critical Staffing Position

AA-BB-CCCC-DD-1234 (First two Columns of Table)

|  |  |
| --- | --- |
| **Characters** | **Description** |
| AA | Statement of Work Number |
| BB | Task Order Number |
| CCCC | Organization Code Position Supports |
| DD | Labor Category |
| 1234 | Position Number |

Skill level definitions for each service category are defined as follows. While the experience requirements for each level are the same across each service category, the associated labor rates may not be. Unless otherwise stated in Appendix B, default to the table below anytime the word “experience” is used in a position description to verify the number of years required.

|  |  |
| --- | --- |
| **Skill Level** | **Total Experience** (in years) |
| 4 - Expert | 18+ |
| 3 - Senior | 12+ to 18 |
| 2 - Mid | 6+ to 12 |
| 1 - Junior | 0 to 6 |

These lists of job titles should be considered a sample and are not all inclusive.

**Senior Management**

Sample job titles may include, but are not limited to: Program Manager, Technical Lead Integrator, Business Process Manager, Functional Specialist Advisor

**Engineering and Architecture**

Sample job titles may include, but are not limited to: Integration Engineer, Software Engineer, Enterprise Architect, Data Architect, Data Scientist, Data Modeler, Cyber Security Engineer, Systems Analyst, Systems Architect, Systems Engineer, Systems Integrator, Network Systems Engineer, Cloud Architect, Cloud Engineer, Human System Integrator

**IT Engineering**

Sample job titles may include, but are not limited to: Configuration Manager, Computer Programmer, Tech Writer, Software Quality Assurance Specialist, Schedule Analyst

**Administration**

Sample job titles may include, but are not limited to: Database Administrator, Web Administrator

# Appendix B: Position Descriptions

**Position 1**: **Enterprise Architect (Expert)**

**Overall Assignment Description:**

Expert Enterprise Architects provide strategic oversight and planning of the GEOINT Enterprise Architecture (GEA). They develop technical, strategic guidance for senior/mid- level architects in the creation and implementation approach of Enterprise architecture artifacts IAW DoDAF and IC PAG.

**Duties include:**

* Assists Government in directing architects in the development, maintenance, and documentation of the GEA, ensuring alignment to NGA Strategy and CONOPs.
* Provides technical leadership enabling NGA to make informed, data-driven decisions and trade-offs between competing demands.
* Oversees and coordinates the work of Senior-, Mid-, and Junior-level Enterprise Architect contractors.
* Refer to Section 3.1: Strategic, Enterprise, and Solutions-level Architecture Engineering for a listing of expected work activities the Enterprise Architect position would be required to support.

**Skills and Experience:**

Required:

* Master’s degree in Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Expert working experience in government or industry in relevant work areas including: Enterprise Architecture, Solution Architecture, Data Architecture, Department of Defense Architecture Framework (DoDAF), or Intelligence Community’s (IC) Program Architecture Guidance (PAG).

Desired:

* Experience with Model Based Systems Engineering, processes, tools and languages.
* Federated Enterprise Architect Certifications: Certified Enterprise Architect
* National Defense University, College of Information and Cyberspace, Enterprise Architecture Certification
* Experience architecting solutions using Cloud-based technologies.
* Experience architecting solutions using structured and unstructured Big Data.
* Experience architecting solutions using Automation, Augmentation and Artificial Intelligence technologies.

**Position 2: Enterprise Architect (Senior-Level)**

**Overall Assignment Description:**

Senior-level Enterprise Architects guide development and planning of the GEOINT Enterprise Architecture (GEA). They guide the technical work of mid- level and junior architects in the creation and implementation approaches of Enterprise architecture artifacts IAW DoDAF and IC PAG.

**Duties include:**

* Assists Government in guiding architects in the development, maintenance, and documentation of the GEA, ensuring alignment to NGA Strategy and CONOPs.
* Guides architecture analysis to provide the government with data to support trade-offs between competing demands.
* Guides Mid-level and Junior-level Enterprise architect contractors in the development of proposed changes to architecture design based on analysis of requirements and new technology.
* Refer to Section 3.1: Strategic, Enterprise, and Solutions-level Architecture Engineering for a listing of expected work activities the Enterprise Architect position would be required to support.

**Skills and Experience:**

Required:

* Bachelor’s degree in Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Senior-level working experience in government or industry in relevant work areas including: Enterprise Architecture, Solution Architecture, Data Architecture, Department of Defense Architecture Framework (DoDAF), or Intelligence Community’s (IC) Program Architecture Guidance (PAG).

Desired:

* Master’s degree in Computer Science, Information Technology, Management Information Systems, or related degree program.
* Working knowledge of Model Based Systems Engineering, processes, tools and languages.
* Federated Enterprise Architect Certifications: Certified Enterprise Architect
* National Defense University, College of Information and Cyberspace, Enterprise Architecture Certification

**Position 3: Enterprise Architect (Mid-Level)**

**Overall Assignment Description:**

Mid-level Enterprise Architects develop and plan the GEOINT Enterprise Architecture (GEA). They create and communicate Enterprise architecture artifacts IAW DoDAF and IC PAG.

**Duties include:**

* Develops, maintains, and documents the GEOINT Enterprise Architecture (GEA), ensuring alignment to NGA Strategy and CONOPs.
* Assists in the creation of the architecture information and artifacts (in accordance with the Department of Defense Architecture Framework (DoDAF) and the Intelligence Community’s (IC) Program Architecture Guidance (PAG).
* Conducts architecture analysis providing the government with data to support trade-offs between competing demands.
* Refer to Section 3.1: Strategic, Enterprise, and Solutions-level Architecture Engineering for a listing of expected work activities the Enterprise Architect position would be required to support.

**Skills and Experience:**

Required:

* Bachelor’s degree in Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Mid-Level working experience in government or industry with Architecture tools.

Desired:

* Working knowledge of Model Based Systems Engineering, processes, tools and languages.

**Position 4: System Architect (Expert)**

**Overall Assignment Description:**

Expert System Architects assist in leading the design and development of solutions for complex applications problems, API design, data services, platform services, cloud services and infrastructure services to meet user requirements and align to strategic goals and the Enterprise Architecture.

**Duties include:**

* Assists Government in directing system architects in the design, development, maintenance, and documentation of solution architectures ensuring traceability to the Enterprise architecture and Enterprise requirements.
* Assists with the analysis of user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations.
* Advises the Government on proposed changes to the solutions architecture design based on analysis of requirements and new technology.
* Oversees and coordinates the work of Senior-, Mid-, and Junior-level System Architect contractors.
* Refer to Section 3.1: Strategic, Enterprise, and Solutions-level Architecture Engineering for a listing of expected work activities the System Architect position would be required to support.

**Skills and Experience:**

Required:

* Master’s degree in Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Expert working experience in government or industry in relevant work areas including: Enterprise Architecture, Solution Architecture, Data Architecture, Department of Defense Architecture Framework (DoDAF), or Intelligence Community’s (IC) Program Architecture Guidance (PAG).

Desired:

* Working knowledge of Model Based Systems Engineering, processes, tools and languages.
* Federated Enterprise Architect Certifications: Certified Enterprise Architect
* National Defense University, College of Information and Cyberspace, Enterprise Architecture Certification

**Position 5: System Architect (Mid-Level)**

**Overall Assignment Description:**

Mid-level System Architects design and develop solutions for complex applications problems, API design, data services, platform services, cloud services and infrastructure services to meet user requirements and align to strategic goals and the Enterprise Architecture.

**Duties include:**

* Designs, develops, maintains, and documents solution architectures ensuring traceability to the Enterprise architecture and Enterprise requirements.
* Conducts the analysis of user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations.
* Develops proposed changes to the solutions architecture design based on analysis of requirements and new technology.
* Refer to Section 3.1: Strategic, Enterprise, and Solutions-level Architecture Engineering for a listing of expected work activities the System Architect position would be required to support.

**Skills and Experience:**

Required:

* Bachelor’s degree in Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Mid-level architecture working experience in government or industry.

Desired:

* Working knowledge of Model Based Systems Engineering, processes, tools and languages.

**Position 6: System Architect (Senior-Level)**

**Overall Assignment Description:**

Senior-level System Architects guide Mid-Level and Junior-level system architects in the design and development of solutions for complex applications problems, API design, data services, platform services, cloud services and infrastructure services to meet user requirements and align to strategic goals and the Enterprise Architecture.

**Duties include:**

* Guides Mid-Level and Junior-Level system architects in the design, development, maintenance, and documentation of solution architectures ensuring traceability to the Enterprise architecture and Enterprise requirements.
* Guides the analysis of user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations.
* Guides Mid-level and Junior-level systems architects in the development of proposed changes to the solutions architecture design based on analysis of requirements and new technology.
* Refer to Section 3.1: Strategic, Enterprise, and Solutions-level Architecture Engineering for a listing of expected work activities the System Architect position would be required to support.

**Skills and Experience:**

Required:

* Bachelor’s degree in Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Senior level working experience in government or industry in relevant work areas including: Enterprise Architecture, Solution Architecture, Data Architecture, Department of Defense Architecture Framework (DoDAF), or Intelligence Community’s (IC) Program Architecture Guidance (PAG).

Desired:

* Master’s degree in Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Working knowledge of Model Based Systems Engineering, processes, tools and languages.
* Federated Enterprise Architect Certifications: Certified Enterprise Architect

**Position 7: Systems Engineer (Expert)**

**Overall Assignment Description:**

Expert Systems Engineers assist in leading engineering teams in taking a multi-discipline approach to requirements engineering, solutions engineering, scheduling, reliability, resiliency, services development, integration, test and evaluation, maintainability and analysis across the National System of Geospatial-intelligence (NSG), Allied System of Geospatial-intelligence (ASG) and Federal Agencies to ensure timely and accurate GEOINT.

**Duties include:**

* Assists the Government in directing requirements engineering, solutions engineering, scheduling, reliability, resiliency, services development, integration, test and evaluation, maintainability and analysis across the National System of Geospatial-intelligence (NSG), Allied System of Geospatial-intelligence (ASG) and Federal Agencies.
* Assists with the planning, analysis/traceability of user requirements, architectures traceability, procedures, and problems to automate or improve existing systems and review cloud service capabilities, workflow, and scheduling limitations.
* Advises the Government on proposed changes to the solutions designs based on analysis of requirements and new technology.
* Assists the Government in the capture and translation of mission and customer requirements/needs into systems/capability requirements and solutions.
* Supports the analyses and allocation of requirements to systems architecture components and executing programs.
* Assists the Government in performing systems integration activities.
* Assist in leading Analysis of Alternatives (AoAs), Course of Actions (CoAs), Trade Studies, and Engineering Assessments.
* Assists the Government in strategic technical planning, project management, performance engineering, risk management and interface design.
* Provides expert advice to the Government in the areas of relating vision, strategy, plans, needs, requirements, and process and capability developments.
* Operates at the level of integrating multiple Major Systems Acquisitions across organizational, agency, department, and governmental/national boundaries.
* Demonstrated knowledge of the current NSG/ASG and NRO enterprises.
* Oversees and coordinates the work of Senior-, Mid-, and Junior-level contractor Systems Engineers.

**Skills and Experience:**

Required:

* Master’s degree in Systems Engineering or in related technical or scientific fields such as engineering, physics, mathematics, operations research, engineering management, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Expert working experience in government or industry in relevant work areas including: DoD/IC Acquisition Process, Requirements Process, PPBES Process or system engineering of large complex System of Systems or Service Oriented Architecture/Cloud environments.
* Experience with and strong understanding of systems engineering lifecycle.

Desired:

* Doctorate in Systems Engineering or in related technical or scientific fields such as engineering, physics, mathematics, operations research, engineering management, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Working knowledge of Model Based Systems Engineering, processes, tools and languages.
* Software Development Framework certification.
* INCOSE Expert System Engineering Professional (ESEP) certification.
* Licensure as a professional engineer.
* Membership or leadership participation in any of the following professional organizations:
  + ACSM
  + ASCE
  + ASPRS
  + OGC
  + SAREM
  + USGIF
* Extensive work experience in the field of geospatial intelligence.
* Experience engineering solutions using Cloud-based technologies.
* Experience engineering solutions using structured and unstructured Big Data.
* Experience engineering solutions using Automation, Augmentation and Artificial Intelligence technologies.
* Demonstrated expertise in photogrammetry, remote sensing, image science, information sciences, geographic information systems, geomatics, or related fields.

**Position 8: Systems Engineer (Senior-Level)**

**Overall Assignment Description:**

Senior-level Systems Engineers guide engineering teams in taking a multi-discipline approach to requirements engineering, solutions engineering, scheduling, reliability, resiliency, services development, integration, test and evaluation, maintainability and analysis across the National System of Geospatial-intelligence (NSG), Allied System of Geospatial-intelligence (ASG) and Federal Agencies to ensure timely and accurate GEOINT.

**Duties include:**

* Guides Mid-level and Junior-level system engineers performing requirements engineering, solutions engineering, scheduling, reliability, resiliency, services development, integration, test and evaluation, maintainability and analysis across the National System of Geospatial-intelligence (NSG), Allied System of Geospatial-intelligence (ASG) and Federal Agencies.
* Guides the planning, analysis/traceability of user requirements, architectures traceability, procedures, and problems to automate or improve existing systems and review cloud service capabilities, workflow, and scheduling limitations.
* Guides Mid-level and Junior-level system engineers developing solutions designs based on analysis of requirements and new technology.
* Assists the Government in the capture and translation of mission and customer requirements/needs into systems/capability requirements and solutions.
* Supports the analyses and allocation of requirements to systems architecture components and executing programs.
* Assists the Government in performing systems integration activities.
* Conducts Analysis of Alternatives (AoAs), Course of Actions (CoAs), Trade Studies, and Engineering Assessments.
* Assists the Government in strategic technical planning, project management, performance engineering, risk management and interface design.
* Operates at the level of integrating multiple systems, services, processes, and interfaces within a Major Systems Acquisitions across organizational and agency boundaries

**Skills and Experience:**

Required:

* Bachelor’s degree in Systems Engineering or in related technical or scientific fields such as engineering, physics, mathematics, operations research, engineering management, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Senior-level working experience in government or industry in relevant work areas including: DoD/IC Acquisition Process, Requirements Process, PPBES Process or system engineering of large complex System of Systems or Service Oriented Architecture/Cloud environments.
* Experience with and strong understanding of systems engineering lifecycle.

Desired:

* Master’s degree in Systems Engineering or in related technical or scientific fields such as engineering, physics, mathematics, operations research, engineering management, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Working knowledge of Model Based Systems Engineering, processes, tools and languages.
* Working knowledge of Software Development Frameworks.
* INCOSE Certified System Engineering Professional (CSEP) certification.
* Documented work experience in the field of geospatial intelligence.
* Licensure as a professional engineer.
* Membership or leadership participation in any of the following professional organizations:
  + ACSM
  + ASCE
  + ASPRS
  + OGC
  + SAREM
  + USGIF
* Demonstrated expertise in photogrammetry, remote sensing, image science, information sciences, geographic information systems, geomatics, or related fields.
* Demonstrated knowledge of the current NSG/ASG and NRO enterprises.

**Position 9: Systems Engineer (Mid-Level)**

**Overall Assignment Description:**

Mid-level Systems Engineers employ a multi-discipline approach to requirements engineering, solutions engineering, scheduling, reliability, resiliency, services development, integration, test and evaluation, maintainability and analysis across the National System of Geospatial-intelligence (NSG), Allied System of Geospatial-intelligence (ASG) and Federal Agencies to ensure timely and accurate GEOINT.

**Duties include:**

* Conducts requirements engineering, solutions engineering, scheduling, reliability, resiliency, services development, integration, test and evaluation, maintainability and analysis across the National System of Geospatial-intelligence (NSG), Allied System of Geospatial-intelligence (ASG) and Federal Agencies.
* Conducts planning, analysis/traceability of user requirements, architectures traceability, procedures, and problems to automate or improve existing systems and review cloud service capabilities, workflow, and scheduling limitations.
* Develops solutions designs based on analysis of requirements and new technology and mentor Junior Engineers in developing these skill sets.
* Assists the Government in the capture and translation of mission and customer requirements/needs into systems/capability requirements and solutions.
* Supports the analyses and allocation of requirements to systems architecture components and executing programs.
* Assists the Government in performing systems integration activities.
* Assists with Analysis of Alternatives (AoAs), Course of Actions (CoAs), Trade Studies, and Engineering Assessments.
* Assists the Government in strategic technical planning, project management, performance engineering, risk management and interface design.

**Skills and Experience:**

Required:

* Bachelor’s degree in Systems Engineering or in related technical or scientific fields such as engineering, physics, mathematics, operations research, engineering management, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Mid-level working experience in government or industry in relevant work areas including: DoD/IC Acquisition Process, Requirements Process, PPBES Process or system engineering of large complex System of Systems or Service Oriented Architecture/Cloud environments.
* Mid-level working system engineering experience in government or industry.

Desired:

* Working knowledge of Model Based Systems Engineering, processes, tools and languages.
* Working knowledge of Software Development Frameworks.
* INCOSE Associate System Engineering Professional (ASEP) certification.
* Documented work experience in the field of geospatial intelligence.
* Membership or active participation in any of the following professional organizations:
  + ACSM
  + ASCE
  + ASPRS
  + OGC
  + SAREM
  + USGIF
* Working knowledge of photogrammetry, remote sensing, image science, information sciences, geographic information systems, geomatics, or related fields.
* Demonstrated knowledge of the current NSG/ASG and NRO enterprises.

**Position 10: Systems Engineer (Junior-Level)**

**Overall Assignment Description:**

Junior-level Systems Engineers employ a multi-discipline approach to requirements engineering, solutions engineering, scheduling, reliability, resiliency, services development, integration, test and evaluation, maintainability and analysis across the National System of Geospatial-intelligence (NSG), Allied System of Geospatial-intelligence (ASG) and Federal Agencies to ensure timely and accurate GEOINT.

**Duties include:**

* Assists Mid-Level engineers and the Government in requirements engineering, solutions engineering, scheduling, reliability, resiliency, services development, integration, test and evaluation, maintainability and analysis across the National System of Geospatial-intelligence (NSG), Allied System of Geospatial-intelligence (ASG) and Federal Agencies.
* Assists in planning, analysis/traceability of user requirements, architectures traceability, procedures, and problems to automate or improve existing systems and review cloud service capabilities, workflow, and scheduling limitations.
* Assists in develop solutions designs based on analysis of requirements and new technology.
* Assists the Government in the capture and translation of mission and customer requirements/needs into systems/capability requirements and solutions.
* Supports the analyses and allocation of requirements to systems architecture components and executing programs.
* Assists the Government in performing systems integration activities.
* Assists with Analysis of Alternatives (AoAs), Course of Actions (CoAs), Trade Studies, and Engineering Assessments.
* Assist the Government in strategic technical planning, project management, performance engineering, risk management and interface design.

**Skills and Experience:**

Required:

* Bachelor’s degree in Systems Engineering or in related technical or scientific fields such as engineering, physics, mathematics, operations research, engineering management, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Junior-level working system engineering experience in government or industry.

Desired:

* Working knowledge of Model Based Systems Engineering Experience and languages.
* Working knowledge of Software Development Frameworks.
* Working knowledge in the field of geospatial intelligence.

**Position 11: Test Systems Engineer (Senior-Level)**

**Overall Assignment Description:**

Senior-level Test Systems Engineers assist in leading Application, System and Integration Testing teams performing test and evaluation across the National System of Geospatial-intelligence (NSG), Allied System of Geospatial-intelligence (ASG) and Federal Agencies to ensure timely and accurate GEOINT.

**Duties include:**

* Guides Mid-level and Junior-level system engineers performing test and evaluation across the National System of Geospatial-intelligence (NSG), Allied System of Geospatial-intelligence (ASG) and Federal Agencies.
* Performs testing of applications and application programming interfaces (APIs) in DevOps pipelines utilizing quality assurance measures established by the government and industry best practices.
* Performs independent integration testing on the system software or hardware to determine the system’s compliance with specified requirements.
* Plans and executes manual tests, and automated test scripts using scripting and programming languages.
* Supports technical investigations for defects discovered during test activities.
* Refer to Section 3.3.3: NGA Test Organization (NTO) for a listing of expected work activities the Test Systems Engineer position would be required to support.

**Skills and Experience:**

Required:

* Bachelor’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Experience with test management and defect tracking tools.
* Experience with three or more of the following; JMeterand, Jenkins, Docker, Postman, Swagger, Nexus, Apigee or GitHub/GitLab (or equivalent software packages), Java, Bash, Curl, XML, JSON, SQL, Python, Javascript, and AWS and C2S.
* Experience with traditional, Agile, and DevOps development practices and associated testing strategies.

Desired:

* Master’s degree in Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Working knowledge of Model Based Systems Engineering, processes, tools and languages.
* Working knowledge of Software Development Frameworks.

**Position 12: Test Systems Engineer (Mid-Level)**

**Overall Assignment Description:**

Mid-level Test Systems Engineers perform Application, System and Integration Testing across the National System of Geospatial-intelligence (NSG), Allied System of Geospatial-intelligence (ASG) and Federal Agencies to ensure timely and accurate GEOINT.

**Duties include:**

* Performs test and evaluation across the National System of Geospatial-intelligence (NSG), Allied System of Geospatial-intelligence (ASG) and Federal Agencies.
* Performs testing of applications and application programming interfaces (APIs) in DevOps pipelines utilizing quality assurance measures established by the government and industry best practices.
* Performs independent integration testing on the system software or hardware to determine the system’s compliance with specified requirements.
* Plans and executes manual tests, and automated test scripts using scripting and programming languages.
* Supports technical investigations for defects discovered during test activities.
* Refer to Section 3.3.3: NGA Test Organization (NTO) for a listing of expected work activities the Test Systems Engineer position would be required to support.

**Skills and Experience:**

Required:

* Bachelor’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Experience with test management and defect tracking tools.
* Experience with traditional, Agile, and DevOps development practices and associated testing strategies.

Desired:

* Master’s degree in Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Experience with three or more of the following; JMeterand, Jenkins, Docker, Postman, Swagger, Nexus, Apigee or GitHub/GitLab (or equivalent software packages), Java, Bash, Curl, XML, JSON, SQL, Python, Javascript, and AWS and C2S.
* Working knowledge of Model Based Systems Engineering, processes, tools and languages.
* Working knowledge of Software Development Frameworks.

**Position 13: Test Systems Engineer (Junior-Level)**

**Overall Assignment Description:**

Junior-level Test Systems Engineers perform Application, System and Integration Testing across the National System of Geospatial-intelligence (NSG), Allied System of Geospatial-intelligence (ASG) and Federal Agencies to ensure timely and accurate GEOINT.

**Duties include:**

* Assists test and evaluation across the National System of Geospatial-intelligence (NSG), Allied System of Geospatial-intelligence (ASG) and Federal Agencies.
* Performs testing of applications and application programming interfaces (APIs) in DevOps pipelines utilizing quality assurance measures established by the government and industry best practices.
* Assists independent integration testing on the system software or hardware to determine the system’s compliance with specified requirements.
* Executes manual tests, and automated test scripts using scripting and programming languages.
* Supports technical investigations for defects discovered during test activities.
* Refer to Section 3.3.3: NGA Test Organization (NTO) for a listing of expected work activities the Test Systems Engineer position would be required to support.

**Skills and Experience:**

Required:

* Bachelor’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Experience with test management and defect tracking tools.
* Experience with traditional, Agile, and DevOps development practices and associated testing strategies.

Desired:

* Experience with three or more of the following; JMeterand, Jenkins, Docker, Postman, Swagger, Nexus, Apigee or GitHub/GitLab (or equivalent software packages), Java, Bash, Curl, XML, JSON, SQL, Python, Javascript, and AWS and C2S.
* Working knowledge of Model Based Systems Engineering, processes, tools and languages.
* Working knowledge of Software Development Frameworks.

**Position 14: Business Process Manager (Expert)**

**Overall Assignment Description:**

Expert Business Process Manager (BPM) leads and oversees identifying and applying organizational resources to meet defined work objectives and deliverables. The BPM will assure efficient use of staffing and material resources, with accountability and reporting responsibility for identifying compliance, addressing shortfalls or deficiencies, and managing plans for change response within the program. The Business Process Manager will evaluate current IT engineering and architecture processes, to identify process improvements for optimizing operational efficiency. The Business Process Manager will report directly to the Program Manager and Technical Lead Integrator.

**Duties include:**

* Analyzes user service needs and requirements to determine if approach, risk, and feasibility of planned cloud transition and/or development are within time and cost constraints.
* Reviews existing programs and assist in making process refinements, to reduce operating time, and improve efficiency.
* Collaborates with systems analysts, engineers, programmers and others to deliver effective business management processes that support them in attaining mission objectives.
* Assembles and facilitate the business case for accomplishing cloud activities as defined by the lead engineers, integrators, architects, stakeholders, and maintainers.
* Plans the transition of business processes from paper to Model Based Systems Engineering artifacts

**Skills and Experience:**

Required:

* Master’s Degree in business administration, business operations, operations research, business management, or STEM program.
* Expert level experience in engineering, design and analysis of IT or related systems experience in all phases of design, development, analysis and documentation, and development of standards and guidelines for tasks being performed.
* Expert-level working experience in government or industry in DoD/IC Acquisition Process or PPBES.
* Demonstrated experience providing guidance and direction in high technology programs.

Desired:

* Certifications (or equivalent experience) in Certified Business Process Professional (CBPP), Operations Research, Model Based Systems Engineering, Process innovation, value analysis or Enterprise process management.
* Experience establishing processes for solutions using Cloud-based technologies.
* Experience establishing processes for solutions using structured and unstructured Big Data.
* Experience establishing processes for solutions using Automation, Augmentation and Artificial Intelligence technologies.

**Position 15**: **Integration Engineer (Mid-Level)**

**Overall Assignment Description:**

Mid-level Integration Engineers are responsible for developing or assisting with the development of program and project integration solutions across the enterprise and determining integration/interface requirements. They work with systems engineers, solutions architects and programmers to ensure applications and systems interoperate to deliver end-to-end mission solutions and maintain the integrity of the system-of-system enterprise.

**Duties include:**

* Provides a total systems perspective including a technical understanding of relationships, dependencies and requirements of hardware and software components.
* Supports planning, implementation approaches, and documentation of solutions to total systems or subsystems using internally created and/or commercial off-the-shelf products.
* Analyses, designs, tests, and evaluates network systems such as Cloud Resident computing capabilities, satellite networks, local area networks (LANs), wide area networks (WANs), the Internet, intranets, and other data communications systems ranging from a connection between two offices in the same building to a globally distributed network of systems.
* Supports the planning and implementation approaches of data management practices to treat and handle data as a resource.
* Assists Government in managing system development efforts, moves or modernization changes including analysis, telecommunications (LAN, WAN, voice, video), planning, cabling, IT and cloud requirements, network security measures, and other factors.
* Refer to Section 3.3: Enterprise Integration Engineering (Cross System and Segment) for a listing of expected work activities the Integration Engineer position would be required to support.

**Skills and Experience:**

Required:

* Bachelor’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Mid-level working experience in government or industry in data base management or Big Data analysis.

Desired:

* Working knowledge of Model Based Systems Engineering, processes, tools and languages.

**Position 16**: **Cloud Architect (Expert)**

**Overall Assignment Description:**

Expert Cloud Architects assist in leading and overseeing the planning and development of cloud services architectures. They ensure analysis of cloud service alternatives are conducted and prioritized to ensure the Government properly architects business and mission solutions using cloud bases systems and services.

**Duties include:**

* Assists with leading cultural change for cloud adoption.
* Assists with overseeing development and coordination of cloud architectures.
* Develops cloud strategies and coordinating adoption of cloud-based solutions.
* Oversees the work of Senior-, Mid-, and Junior-level contractor Cloud Architects.

**Skills and Experience:**

Required:

* Master’s degree in Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Expert experience in cloud-based systems architecting.
* One or more Cloud Certifications
  + Cloud Certified Solutions Architect
  + AWS Certified
  + Cisco Certified Networking Administrator – Cloud
  + Cisco Certified Network Professional – Cloud
  + IBM Certified Cloud Solution Architect
  + MCSE Cloud Platform and Infrastructure
  + VMware Certified Professional (VCP7-CMA)

Desired:

* Previous working experience in government or industry, within Cloud Architect profession.
* Experience architecting solutions using structured and unstructured Big Data.
* Experience architecting solutions using Automation, Augmentation and Artificial Intelligence technologies.
* Experience architecting solutions using Model Based Systems Engineering.

**Position 17**: **Systems Integrator (Expert)**

**Overall Assignment Description:**

Expert Systems Integrators support the Government by leading and overseeing the integrity of the NSG/ASG systems-of-systems enterprise. They lead and oversee planning, implementation approaches, testing, documenting, and maintaining solutions for total cloud services, systems or subsystems using defined processes and tools. They provide end-to-end system development life cycle support to the program.

**Duties include:**

* Assists with leading and performing systems integration activities across the NSG, ASG and Federal Agencies to ensure timely and accurate GEOINT.
* Assists with leading and overseeing a total systems perspective including a technical understanding of relationships, dependencies and requirements of cloud services, infrastructure and security domains.
* Assists with overseeing the preparation of engineering plans and site installation technical design packages.
* Oversees the work of Senior-, Mid-, and Junior-level contractor Systems Integrators.
* Refer to Section 3.3: Enterprise Integration Engineering (Cross System and Segment) for a listing of expected work activities the Integration Engineer position would be required to support.

**Skills and Experience:**

Required:

* Master’s degree in Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Expert system integration working experience in government integrating large complex System of Systems or Service Oriented Architecture/Cloud environments.

Desired:

* Working knowledge of Model Based Systems Engineering, processes, tools and languages.

**Position 18**: **Cloud Architect (Mid-Level)**

**Overall Assignment Description:**

Mid-level Cloud Architects support the planning and development of cloud services architectures. They analysis of cloud service alternatives are conducted and prioritized to ensure the Government properly architects business and mission solutions using cloud bases systems and services.

**Duties include:**

* Supports cultural change for cloud adoption.
* Supports development and coordination of cloud architectures.
* Supports the development of cloud strategies and coordinating adoption of cloud-based solutions.

**Skills and Experience:**

Required:

* Bachelor’s degree in Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Mid-level working experience in cloud-based systems architecting.

Desired:

* Previous working experience in government or industry, within Cloud Architect profession.
* One or more Cloud Certifications
  + Cloud Certified Solutions Architect
  + AWS Certified
  + Cisco Certified Networking Administrator – Cloud
  + Cisco Certified Network Professional – Cloud
  + IBM Certified Cloud Solution Architect
  + MCSE Cloud Platform and Infrastructure
  + VMware Certified Professional (VCP7-CMA)

**Position 19: Cloud Engineer (Mid-Level)**

**Overall Assignment Description:**

Mid-Level Cloud Engineers define, implementation approaches and plans to ensure optimum cloud performance and reliability across the servers, networks, and related utilities and hardware that comprise the cloud infrastructure. They conduct analysis and make reliable engineering recommendations to ensure six sigma reliability/resiliency of the cloud infrastructure. They monitor and report on cloud utilization and plan continuous process improvement.

**Duties include:**

* Supports applying a systematic, engineering approach to the design, architecting, requirements elicitation, development, operation and use of cloud technologies and platforms for mission solutions.
* Leverages software-, platform- and infrastructure- as-a-service to deliver GEOINT solutions.
* Ensures optimum efficiencies for the utilization of cloud services.

**Skills and Experience:**

Required:

* Bachelor’s degree in Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Mid-level working experience in government or industry supporting or leading cloud-based systems engineering efforts.

Desired:

* One or more Cloud Certifications
  + AWS Certified
  + Cisco Certified Networking Administrator – Cloud
  + Cisco Certified Network Professional – Cloud
  + IBM Certified Cloud Solution Architect
  + MCSE Cloud Platform and Infrastructure
  + VMware Certified Professional (VCP7-CMA)
* Citrix XenApp expertise or certification
* Experience in Scripting/automation via PowerShell, VBscript, AutoIT or the like
* SAN storage infrastructure experience (EMC in particular)
* Microsoft Clustering experience
* Microsoft SQL experience (installation, configuration, troubleshooting experience)

**Position 20: Cloud Engineer (Junior-Level)**

**Overall Assignment Description:**

Junior-Level Cloud Engineers support implementation approaches and plans to ensure optimum cloud performance and reliability across the servers, networks, and related utilities and hardware that comprise the cloud infrastructure. They conduct analysis and make reliable engineering recommendations to ensure six sigma reliability/resiliency of the cloud infrastructure. They monitor and report on cloud utilization and plan continuous process improvement.

**Duties include:**

* Supports applying a systematic, engineering approach to the design, architecting, requirements elicitation, development, operation and use of cloud technologies and platforms for mission solutions.
* Leverages software-, platform- and infrastructure- as-a-service to deliver GEOINT solutions.
* Ensures optimum efficiencies for the utilization of cloud services.

**Skills and Experience:**

Required:

* Bachelor’s degree in Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Junior-level working experience in government or industry supporting or leading cloud-based systems engineering efforts.

Desired:

* One or more Cloud Certifications
  + AWS Certified
  + Cisco Certified Networking Administrator – Cloud
  + Cisco Certified Network Professional – Cloud
  + IBM Certified Cloud Solution Architect
  + MCSE Cloud Platform and Infrastructure
  + VMware Certified Professional (VCP7-CMA)
* Citrix XenApp expertise or certification
* Experience in Scripting/automation via PowerShell, VBscript, AutoIT or the like
* SAN storage infrastructure experience (EMC in particular)
* Microsoft Clustering experience
* Microsoft SQL experience (installation, configuration, troubleshooting experience)

**Position 21**: **Integration Engineer (Junior-Level)**

**Overall Assignment Description:**

Junior-level Integration Engineers are responsible for developing or assisting with the development of program and project integration solutions across the enterprise and determining integration/interface requirements. They work with systems engineers, solutions architects and programmers to ensure applications and systems interoperate to deliver end-to-end mission solutions and maintain the integrity of the system-of-system enterprise.

**Duties include:**

* Supports a total systems perspective including a technical understanding of relationships, dependencies and requirements of hardware and software components.
* Supports planning, implementation approaches, and documentation of solutions to total systems or subsystems using internally created and/or commercial off-the-shelf products.
* Supports the analysis, design, test, and evaluation network systems such as Cloud Resident computing capabilities, satellite networks, local area networks (LANs), wide area networks (WANs), the Internet, intranets, and other data communications systems ranging from a connection between two offices in the same building to a globally distributed network of systems.
* Supports the planning and implementation approaches for data management practices to treat and handle data as a resource.
* Assists Government in managing system development efforts, moves or modernization changes including analysis, telecommunications (LAN, WAN, voice, video), planning, cabling, IT and cloud requirements, network security measures, and other factors.
* Refer to Section 3.3: Enterprise Integration Engineering (Cross System and Segment) for a listing of expected work activities the Integration Engineer position would be required to support.

**Skills and Experience:**

Required:

* Bachelor’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Junior-level working experience in government or industry in data base management or Big Data analysis.

Desired:

* Working knowledge of Model Based Systems Engineering, processes, tools and languages.

**Position 22**: **Network Systems Engineer (Expert)**

**Overall Assignment Description:**

Expert Network Engineers plan and develop telecommunications solutions involving computer and communications equipment. They analyze network alternatives and develop recommendations for improvements.

**Duties include:**

* Analyzes, designs, tests, and evaluates network systems, such as local area networks (LAN), wide area networks (WAN), Internet, intranet, satellite, and other data communications systems.
* Performs network modeling, analysis, and planning.
* Oversees the work of Senior-, Mid-, and Junior-level contractor Network Systems Engineers.
* Refer to Section 3.1.6: Network Architecture and Engineering for a listing of expected work activities the Network Systems Engineer position would be required to support.

**Skills and Experience:**

Required:

* Master’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Expert-level working experience in cloud-based systems architecting.
* Network technology course/certification in TCP/IP with applied understanding of the following:
  + Roles of devices in TCP/IP network
  + Details of IP, ARP, TCP, ICMP and UDP
  + Functions of FTP, HTTP, Telnet and other applications of TCP/IP
  + Use of Voice over IP or VoIP, email messaging and multicasting
  + Troubleshooting for TCP/IP issues at each network layer

Desired:

* Network technology course/certification in one or more areas:
  + Configuring TCP/IP on server computers
  + Managing and troubleshooting DNS and DHCP
  + Installing and configuring network and software infrastructure
  + Configuring and managing device routing and remote access
  + Monitoring and maintain network infrastructure
* Completion of a specialized wireless network course and/or certification

**Position 23**: **Network Systems Engineer (Mid-Level)**

**Overall Assignment Description:**

Mid-level Systems Engineers develop telecommunications solutions involving computer and communications equipment. They analyze network alternatives and develop recommendations for improvements.

**Duties include:**

* Supports the analysis, design, testing, and evaluation of network systems, such as local area networks (LAN), wide area networks (WAN), Internet, intranet, satellite, and other data communications systems.
* Supports network modeling, analysis, and planning.
* Refer to Section 3.1.6: Network Architecture and Engineering for a listing of expected work activities the Network Systems Engineer position would be required to support.

**Skills and Experience:**

Required:

* Bachelor’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Mid-level working experience in cloud-based systems architecting.
* Network technology course/certification in TCP/IP with applied understanding of the following:
  + Roles of devices in TCP/IP network
  + Details of IP, ARP, TCP, ICMP and UDP
  + Functions of FTP, HTTP, Telnet and other applications of TCP/IP
  + Use of Voice over IP or VoIP, email messaging and multicasting
  + Troubleshooting for TCP/IP issues at each network layer

Desired:

* Network technology course/certification in one or more areas:
  + Configuring TCP/IP on server computers
  + Managing and troubleshooting DNS and DHCP
  + Installing and configuring network and software infrastructure
  + Configuring and managing device routing and remote access
  + Monitoring and maintain network infrastructure
* Completion of a specialized wireless network course and/or certification

**Position 24**: **Integration Engineer (Expert)**

**Overall Assignment Description:**

Expert Integration Engineers are responsible for leading the development of program and project integration solutions across the enterprise and determining integration/interface requirements. They work with systems engineers, solutions architects and programmers to ensure applications and systems interoperate to deliver end-to-end mission solutions and maintain the integrity of the system-of-system enterprise.

**Duties include:**

* Provides a total systems perspective including a technical understanding of relationships, dependencies and requirements of hardware and software components.
* Plans, coordinates, and documents solutions to total systems or subsystems using internally created and/or commercial off-the-shelf products.
* Analyses, designs, tests, and evaluates network systems such as Cloud Resident computing capabilities, satellite networks, local area networks (LANs), wide area networks (WANs), the Internet, intranets, and other data communications systems ranging from a connection between two offices in the same building to a globally distributed network of systems.
* Plans and coordinates data management practices to treat and handle data as a resource.
* Assists Government in managing system development efforts, moves or modernization changes including analysis, telecommunications (LAN, WAN, voice, video), planning, cabling, IT and cloud requirements, network security measures, and other factors.
* Oversees the work of Senior-, Mid-, and Junior-level contractor Integration Engineers.
* Refer to Section 3.3: Enterprise Integration Engineering (Cross System and Segment) for a listing of expected work activities the Integration Engineer position would be required to support.

**Skills and Experience:**

Required:

* Master’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Expert working experience in government or industry in data base management or Big Data analysis.
* Experience Integrating solutions using Cloud-based technologies.

Desired:

* Working knowledge of Model Based Systems Engineering, processes, tools and languages.
* Experience Integrating solutions using structured and unstructured Big Data.
* Experience Integrating solutions using Automation, Augmentation and Artificial Intelligence technologies.

**Position 25: Cyber Security Engineer (Expert)**

**Overall Assignment Description:**

Expert Cyber Security Engineers capture and refine information security requirements and ensure that the requirements are integrated into information technology component products and information systems through purposeful security architecting, design, development, and configuration.

**Duties include:**

* Assists with leading development teams working to design and develop information systems or upgrade legacy systems.
* Conducts product research and support Analysis of Alternative (AoA) activities that independently identify the most appropriate security solutions.
* Assists with leading the development of system concepts, contribute to the capability phase of the systems development lifecycle, and translate technology and environmental conditions (e.g., law and regulation) into system security designs and processes.
* Assists with leading the development and documentation of Security Architectures, Roadmaps, and investments.
* Oversees the work of Senior-, Mid-, and Junior-level contractor Cyber Security Engineers.
* Refer to Section 3.1.7: Security Architecture and Engineering for a listing of expected work activities the Cyber Security Engineer position would be required to support.

**Skills and Experience:**

Required:

* Master’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Expert working experience in government or industry within Cyber Security Engineering.
* DoD 8570 Level II (IASAE) certification compliance

Desired:

* Expert working experience in government or industry leading enterprise-level cyber security efforts involving architecting, designing, development, and configuration of cloud and on premise based systems and software.
* Experience engineering Cyber Security solutions using Cloud-based technologies.
* Experience engineering Cyber Security solutions using structured and unstructured Big Data.
* Experience engineering Cyber Security solutions using Automation, Augmentation and Artificial Intelligence technologies.

**Position 26: Cyber Security Engineer (Mid-Level)**

**Overall Assignment Description:**

Mid-level Cyber Security Engineers support the refinement of information security requirements and ensure that the requirements are integrated into information technology component products and information systems through purposeful security architecting, design, development, and configuration.

**Duties include:**

* Supports development teams working to design and develop information systems or upgrade legacy systems.
* Supports product research and support Analysis of Alternative (AoA) activities that independently identify the most appropriate security solutions.
* Develops system concepts, contribute to the capability phase of the systems development lifecycle, and translate technology and environmental conditions (e.g., law and regulation) into system security designs and processes.
* Supports development and documentation of Security Architectures, Roadmaps, and investments.
* Refer to Section 3.1.7: Security Architecture and Engineering for a listing of expected work activities the Cyber Security Engineer position would be required to support.

**Skills and Experience:**

Required:

* Bachelor’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Mid-level working experience in government or industry within Cyber Security Engineering.
* DoD 8570 Level I (IASAE) certification compliance

Desired:

* DoD 8570 Level II (IASAE) certification compliance
* Mid-level working experience in government or industry supporting enterprise-level cyber security efforts involving architecting, designing, development, and configuration of cloud and on premise based systems and software.

**Position 27: Cyber Security Engineer (Junior-Level)**

**Overall Assignment Description:**

Junior-level Cyber Security Engineers support the refinement of information security requirements and ensure that the requirements are integrated into information technology component products and information systems through purposeful security architecting, design, development, and configuration.

**Duties include:**

* Assists development teams working to design and develop information systems or upgrade legacy systems.
* Assists product research and support Analysis of Alternative (AoA) activities that independently identify the most appropriate security solutions.
* Assists with the development of system concepts, contribute to the capability phase of the systems development lifecycle, and translate technology and environmental conditions (e.g., law and regulation) into system security designs and processes.
* Assists with the development and documentation of Security Architectures, Roadmaps, and investments.
* Refer to Section 3.1.7: Security Architecture and Engineering for a listing of expected work activities the Cyber Security Engineer position would be required to support.

**Skills and Experience:**

Required:

* Bachelor’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Junior-level working experience in government or industry within Cyber Security Engineering.

Desired:

* DoD 8570 Level I (IASAE) certification compliance

**Position 28**: **Lead Integrator (Expert)**

**Overall Assignment Description:**

Expert Lead Integrator provides integration support to the Government and coordinates contract engineering activities across organizational boundaries for system/capability development or modification efforts. They lead enterprise planning of engineering and integration activities and perform issue resolution. The Lead Integrator works directly with Government Office/Division Chiefs to prioritize work assignments and align the necessary resources to execute tasks.

**Duties include:**

* Assists Government Office/Division Chiefs in assessing, documenting, and tracking new engineering requirements and facilitating technical exchange meetings (TEMs) used to inform Government and Contractor teams about systems engineering and integration activities.
* Supports the Government in resource planning, coordination and analysis.
* Coordinates project schedules to support defined strategic effectivities.
* Plans major systems engineering Program Reviews and Control Gate Reviews including scheduling of meetings and preparation of briefings/presentations.
* Assists in the preparation of documents, records, forms, reports, and plans covering systems engineering and integration activities.
* Provide change management oversight, to plan resource alignment, identify priority adjustments, and identify needed skillsets.

**Skills and Experience:**

Required:

* Masters’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Expert experience in engineering, design and analysis of IT or related systems experience in all phases of design, development, analysis and documentation, and development of standards and guidelines for tasks being performed.
* Expert-level working experience in government or industry in DoD/IC Acquisition Process or PPBES.

Desired:

* Working knowledge of Model Based Systems Engineering, processes, tools and languages.
* Software Development Framework certification.
* INCOSE Expert System Engineering Professional (ESEP) certification.
* Experience Integrating solutions using Cloud-based technologies.
* Experience Integrating solutions using structured and unstructured Big Data.
* Experience Integrating solutions using Automation, Augmentation and Artificial Intelligence technologies.
* Experience with and strong understanding of systems engineering lifecycle.

**Position 29: Modeling, Simulation and Analysis Engineer (Expert)**

**Overall Assignment Description:**

Expert Modeling, Simulation and Analysis (MS&A) Engineers guide and conduct modeling, simulation and analysis activities in support of business stakeholders, analysts, and warfighters to define and analyze system and data requirements to support NGA business and mission processes to ensure timely and accurate GEOINT.

**Duties include:**

* Guides the development and use of complex models, tools and algorithms to identify trends and patterns in Big Data.
* Guides modeling NGA’s architectures, requirements, and systems performance and considers NGA and NSG strategies and overall vision for the future of GEOINT.
* Guides the creation of models to support analysis of alternatives, performance trades, design trades and new capabilities and develops alternatives for deployment based on MS&A results in existing NSG architectures and cloud environments.
* Oversees the work of Senior, Mid-, and Junior-level contractor MS&A Engineers.
* Refer to Section 3.5: Modeling, Simulation and Analysis (MS&A) for a listing of expected work activities the MS&A Engineer would be required to support.

**Skills and Experience:**

Required:

* Master’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Expert working experience in government or industry modeling large complex System of Systems or Service Oriented Architecture/Cloud environments.
* Knowledge of tools development and use in cloud environments.

Desired:

* Working knowledge of Model Based Systems Engineering, processes, tools and languages.
* Machine learning experience.
* Expert working experience in Operations Research.
* Experience performing MS&A on solutions using Cloud-based technologies.
* Experience performing MS&A on solutions using structured and unstructured Big Data.
* Experience performing MS&A on solutions using Automation, Augmentation and Artificial Intelligence technologies.

**Position 30: Modeling, Simulation and Analysis Engineer (Senior-Level)**

**Overall Assignment Description:**

Senior-level Modeling, Simulation and Analysis (MS&A) Engineers guide and conduct modeling, simulation and analysis activities in support of business stakeholders, analysts, and warfighters to define and analyze system and data requirements to support NGA business and mission processes to ensure timely and accurate GEOINT.

**Duties include:**

* Guides the development and use of complex models, tools and algorithms to identify trends and patterns in Big Data.
* Guides modeling NGA’s architectures, requirements, and systems performance and considers NGA and NSG strategies and overall vision for the future of GEOINT.
* Guides the creation of models to support analysis of alternatives, performance trades, design trades and new capabilities and develops alternatives for deployment based on MS&A results in existing NSG architectures and cloud environments.
* Oversees the work of Mid-, and Junior-level contractor MS&A Engineers.
* Refer to Section 3.5: Modeling, Simulation and Analysis (MS&A) for a listing of expected work activities the MS&A Engineer would be required to support.

**Skills and Experience:**

Required:

* Bachelor’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Senior-level working experience in government or industry modeling large complex System of Systems or Service Oriented Architecture/Cloud environments.
* Knowledge of tools development and use in cloud environments.

Desired:

* Master’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Working knowledge of Model Based Systems Engineering, processes, tools and languages.
* Machine learning experience.
* Senior-level working experience in Operations Research.

**Position 31: Modeling, Simulation and Analysis Engineer (Mid-Level)**

**Overall Assignment Description:**

Mid-level Modeling, Simulation and Analysis (MS&A) Engineers conduct modeling, simulation and analysis activities in support of business stakeholders, analysts, and warfighters to define and analyze system and data requirements to support NGA business and mission processes to ensure timely and accurate GEOINT.

**Duties include:**

* Assists Government with the development and use of complex models, tools and algorithms to identify trends and patterns in Big Data.
* Supports developing models NGA’s architectures, requirements, and systems performance and considers NGA and NSG strategies and overall vision for the future of GEOINT.
* Supports creating models to support analysis of alternatives, performance trades, design trades and new capabilities and develops alternatives for deployment based on MS&A results in existing NSG architectures and cloud environments.
* Refer to Section 3.5: Modeling, Simulation and Analysis (MS&A) for a listing of expected work activities the MS&A Engineer would be required to support.

**Skills and Experience:**

Required:

* Bachelor’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Mid-level working experience in government or industry modeling large complex System of Systems or Service Oriented Architecture/Cloud environments.

Desired:

* Working knowledge of Model Based Systems Engineering, processes, tools and languages.
* Mid-level working experience in Operations Research.

**Position 32: Data Architect (Senior-Level)**

**Overall Assignment Description:**

Senior-level Data Architects serve as a technical resource for strategic oversight and planning of database structural design and development. They provide technical, strategic guidance to senior- level database administrators and application developers in the creation of new databases, as well as the maintenance of major existing databases supporting evolving applications. Data architect positions provide strategic guidance to data stewards on the development and implementation approaches for data models to support organizational business and mission systems and processes.

**Duties include:**

* Consults to all levels of the organization on the design, development and implementation approaches for logical database structures and classification schemas.
* Develops policies and procedures to build, maintain and leverage the data model.
* Provides technical, strategic guidance on the development of metadata tags, Document Type Definitions (DTD), and schemas using appropriate technologies for representation of data and data relationships.
* Ensures that metadata and data standards and definitions will support both business and mission processes and system implementation approaches, and NSG/ASG requirements for sharing data.

**Skills and Experience:**

Required:

* Bachelor’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Senior-level experience in software engineering field of work specializing in data/database design and management.
* Previous working experience in government or industry in Data conditioning (extraction, transformation, loading, etc.), metadata and standards.
* Previous working experience in government or industry, determining data storage requirements.
* Previous working experience in government or industry, with Data Base administration to include; data indexing, search & retrieval, Parallel processing (Hadoop, NoSQL D/B, Spark).
* Previous working experience in government or industry, in Data Management services (compliance, cataloging, provenance, identifier, registry, metrics, recall & revision).

Desired:

* Previous working experience in government or industry, of Data access services, APIs, Linked Data (REST, SOAP, OGC, etc.).
* Previous working experience in government or industry, in Data Queuing, Messaging, Orchestration, Choreography services.
* Previous working experience in government or industry, of Data Security Services (IAA, DPM, DRM, PDP, PEP, PAP, etc.).

**Position 33**: **Network Systems Engineer (Senior-Level)**

**Overall Assignment Description:**

Senior-level Network Engineers plan and develop telecommunications solutions involving computer and communications equipment. They analyze network alternatives and develop recommendations for improvements.

**Duties include:**

* Analyzes, designs, tests, and evaluates network systems, such as local area networks (LAN), wide area networks (WAN), Internet, intranet, satellite, and other data communications systems.
* Performs network modeling, analysis, and planning.
* Oversees the work of Mid-, and Junior-level contractor Network Systems Engineers.
* Refer to Section 3.1.6: Network Architecture and Engineering for a listing of expected work activities the Network Systems Engineer position would be required to support.

**Skills and Experience:**

Required:

* Bachelor’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Senior-level working experience in cloud-based systems architecting.
* Network technology course/certification in TCP/IP with applied understanding of the following:
  + Roles of devices in TCP/IP network
  + Details of IP, ARP, TCP, ICMP and UDP
  + Functions of FTP, HTTP, Telnet and other applications of TCP/IP
  + Use of Voice over IP or VoIP, email messaging and multicasting
  + Troubleshooting for TCP/IP issues at each network layer

Desired:

* Master’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Network technology course/certification in one or more areas:
  + Configuring TCP/IP on server computers
  + Managing and troubleshooting DNS and DHCP
  + Installing and configuring network and software infrastructure
  + Configuring and managing device routing and remote access
  + Monitoring and maintain network infrastructure
* Completion of a specialized wireless network course and/or certification

**Position 34: Database Administrator (Senior-Level)**

**Overall Assignment Description:**

The Senior-level Database Administrator (DBA) works with software and determines ways to organize and store data. They are responsible for the creation, maintenance, backup, querying, tuning, user rights administration, and security of business and mission databases.

**Duties include:**

* Identifies user requirements for business and mission databases, sets-up, tests and coordinates necessary modifications to database systems.
* Understands the platform on which the database runs and ensures the performance of the database system.
* Plans and coordinates security measures -data integrity, backup systems, and database security.
* Provides technical expertise in the use of the Database Management System (DBMS).
* Defines file organization, indexing methods, and security procedures for specific user applications.
* Oversees the work of Mid-, and Junior-level contractor DBAs.
* Assists with managing database projects.
* Coordinates changes, tests, and provides implementation approaches for databases and database management systems.
* Plans, coordinates, and recommends security measures to safeguard databases.

**Skills and Experience:**

Required:

* Bachelor’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Senior-level working experience in database administration.
* One or more of the following certifications:
  + IBM Certified Advanced Database Administrator - DB2 10.1 for Linux, Unix and Windows
  + IBM Certified Database Administrator - DB2 10.1 for Linux, Unix, and Windows[]](https://en.wikipedia.org/wiki/Database_administrator#cite_note-ibm.com-8)
  + Oracle Database 12c Administrator Certified Professional
  + Oracle MySQL 5.6 Database Administrator Certified Professional
  + MCSA SQL Server 2012
  + MCSE Data Platform Solutions

Desired:

* Master’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Previous working experience in government or industry, within Database Administration.

**Position 35**: **Lead Integrator (Enterprise Integration and Modernization) (Expert)**

**Overall Assignment Description:**

Expert Lead Integrator provides Enterprise Integration and Modernization support to on-going enterprise integration and modernization efforts for the Analytic and Exploitation Environment, Foundation GEOINT Mission, Enterprise System Resiliency Modernization, Compartmented GEOINT Enterprise Modernization, IT Infrastructure Modernization, and GEOINT Tasking and Collection System Modernization. Supports the Government and coordinates engineering activities across organizational boundaries for system/capability development or modification efforts. They lead enterprise planning of engineering and integration activities and perform issue resolution. The Lead Integrator works directly with Government Office/Division Chiefs to prioritize work assignments and align the necessary resources to execute tasks.

**Duties include:**

* Assists Government Office/Division Chiefs in assessing, documenting, and tracking new engineering requirements and facilitating technical exchange meetings (TEMs) used to inform Government and Contractor teams about systems engineering and integration activities.
* Supports the Government in resource planning, coordination and analysis.
* Coordinates project schedules to support defined strategic effectivities.
* Plans major systems engineering Program Reviews and Control Gate Reviews including scheduling of meetings and preparation of briefings/presentations.
* Assists in the preparation of documents, records, forms, reports, and plans covering systems engineering and integration activities.
* Provide change management oversight, to plan resource alignment, identify priority adjustments, and identify needed skillsets.
* Oversees the work of Senior-, Mid-, and Junior-level contractor Lead Integrators.
* Refer to Section 3.3.2: Enterprise Integration and Modernization for a listing of expected work activities the Lead Integrator position would be required to support.
* Refer to Section 3.2.4: External Site Architecture Transition (ESAT) for a listing of expected work activities the Lead Integrator (ESAT) position would be required to support.

**Skills and Experience:**

Required:

* Master’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Expert experience in engineering, design and analysis of IT or related systems experience in all phases of design, development, analysis and documentation, and development of standards and guidelines for tasks being performed.
* Expert-level working experience in government or industry in DoD/IC Acquisition Process or PPBES.
* Experience with and strong understanding of systems engineering lifecycle.

Desired:

* Working knowledge of Model Based Systems Engineering, processes, tools and languages.
* Software Development Framework certification.
* INCOSE Expert System Engineering Professional (ESEP) certification.

**Position 36**: **Integration Engineer (Senior-Level)**

**Overall Assignment Description:**

Senior-level Integration Engineers are responsible for leading the development of program and project integration solutions across the enterprise and determining integration/interface requirements. They work with systems engineers, solutions architects and programmers to ensure applications and systems interoperate to deliver end-to-end mission solutions and maintain the integrity of the system-of-system enterprise.

**Duties include:**

* Provides a total systems perspective including a technical understanding of relationships, dependencies and requirements of hardware and software components.
* Plans, coordinates, and documents solutions to total systems or subsystems using internally created and/or commercial off-the-shelf products.
* Analyses, designs, tests, and evaluates network systems such as Cloud Resident computing capabilities, satellite networks, local area networks (LANs), wide area networks (WANs), the Internet, intranets, and other data communications systems ranging from a connection between two offices in the same building to a globally distributed network of systems.
* Plans and coordinates data management practices to treat and handle data as a resource.
* Assists Government in managing system development efforts, moves or modernization changes including analysis, telecommunications (LAN, WAN, voice, video), planning, cabling, IT and cloud requirements, network security measures, and other factors.
* Oversees the work of Mid-, and Junior-level contractor Integration Engineers.
* Refer to Section 3.3: Enterprise Integration Engineering (Cross System and Segment) for a listing of expected work activities the Integration Engineer position would be required to support.

**Skills and Experience:**

Required:

* Bachelor’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Senior-level working experience in government or industry in data base management or Big Data analysis.

Desired:

* Master’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Working knowledge of Model Based Systems Engineering, processes, tools and languages.

**Position 37**: **Program Manager (Expert)**

**Overall Assignment Description:**

The Expert Program Manager (PM) is responsible for ensuring the successful contractual and programmatic execution of the Task Order (TO) and serves as the authoritative point of contact for the Vendor on all TO performance matters. The PM interfaces with the NSES PMO and TO Government Leads to ensure all positions are staffed and/or backfilled quickly with qualified personnel in accordance with the specified TO Position Descriptions. The PM is responsible for ensuring work deliverables, resolving performance shortfalls or deficiencies, supervising contractor personnel and communicating overarching Government objectives and goals for the Task Order to the contractor team. The PM works with the TO Lead Integrators, Business Process Manager, and all Critical Staff (critical staffing positions) as well as the Government TO Leads to plan and orchestrate work activities for coordinated deliveries and comprehensive solutions. The PM provides technical expertise and assistance to the Government on programmatic matters related to lifecycle engineering and industry best program management practices to achieve NGA’s GEOINT mission.

**(U) Duties may include:**

* Provide Contract Management support to the NSES PMO to ensure the timely execution of all financial, staffing and administrative contract actions.
* Provide program management support to Government TO Leads to facilitate the technical execution of the TO. Program Management support includes cost, schedule, risk and performance management of all TO staff and work activities.
* Work with Government TO Leads to ensure contractor personnel are qualified to perform the assigned task, tasks are understood and completed within the specified timelines, and potential personnel problems are pre-empted.
* Consult and coordinate with the NSES PMO and appropriate Government TO Leads for new resource requirements and associated cost estimates resulting from technical work scope adjustments.
* In coordination with the NSES PMO and Government TO Leads, establish and implement streamlined processes and procedures enabling the rapid respond to surge requirements for increased contract personnel.
* Pre-coordinate all travel and training with the NSES PMO and Government TO Leads prior to scheduling.
* Ensure programmatic alignment and adherence to the NGA Vision, Planning and Programs, CIOT Priorities and TA Priorities.
* Ensure the accuracy, quality, configuration management and timely delivery of all required TO deliverables to include the Monthly Financial Report, Monthly Staffing Report, Monthly Activity Report, Quarterly Program Management Review materials, and as required Trip Reports, Briefings, Evaluations, Technical Assignments, White Papers or other Government requested deliverables necessary for the successful execution and/or completion of work activities.
* Plan and execute Quarterly Program Reviews to provide the NSES PMO and Government TO Leads a comprehensive understanding of the health/status of all TO activities.
* Support the coordination of program management activities between the TA Engineering Offices and Divisions, CIOT Groups, and NGA Directorates and Associate Directorates.
* Support NGA and IC Steering Groups, Advisory Groups and Governance Boards as required.
* Provide program management expertise in lean six-sigma strategies and execution and agile methods, practices and execution.
* Perform day-to-day contractual and programmatic management of the TO.

**Skills and Experience:**

Required:

* Master’s degree in Engineering, Computer Science, Information Technology, Management Information Systems, or related STEM degree program.
* Expert experience as a Program Manager in terms of cost, schedule, performance, and risk management.
* Experience in engineering, design and analysis of IT or related systems experience in all phases of design, development, analysis and documentation, and development of standards and guidelines for tasks being performed.
* Expert-level working experience in government or industry in DoD/IC Acquisition Process or PPBES.
* Project Management Professional (PMP), DAWIA Level III certification in Program Management or equivalent specialized experience with Project Management tools and techniques.

Desired:

* Knowledge of the geospatial intelligence mission and its contributions to the Intelligence Community.
* Working knowledge of Model Based Systems Engineering, processes, tools and languages.
* Experience with the development and/or review of cost estimates and the associated technical work scope necessary to achieve stated objectives.
* Experience in lean six-sigma.
* Experience in tailoring and using both Agile and Waterfall development methodologies
* Experience with the identification of technical issues and proactive communication of possible impacts.
* Experience in performing validation and verification of various engineering results and deliverables to ensure the highest quality results against customer requirements.
* Working knowledge of Cloud-based technologies.
* Working knowledge of structured and unstructured Big Data.
* Working knowledge of Automation, Augmentation and Artificial Intelligence technologies.
* Experience with and strong understanding of systems engineering lifecycle.