

COMMON LABOR CATEGORIES

Configuration Manager (CM) Skill Level 1

Labor Category	Description
Configuration Manager (CM)	(U) Responsible for configuration management (CM) of developmental and operational systems. Works on developmental and operational teams to create and maintain configuration baselines (development, test, production, etc.) supporting developmental and operational systems. Uses or recommends automated CM tools to implement CM policies and procedures. Develops or modifies CM plans, policies, and procedures tailored to the complexity and scope of the developmental or operational system. Implement CM discipline for the entire life cycle of systems from initial requirements/capabilities baselines to system end-of-life. Perform change control and configuration audits.

The Level 1 Configuration Manager (CM) shall possess the following capabilities:

- (U) Assist in implementing hardware and software version control processes, policies and procedures
- (U) Assist in the use of configuration management tools (e.g. DOORS, Eclipse) to store, track, and manage configuration items
- (U) Understand basic concepts, and assist in documenting hardware and software configuration management processes and procedures
- (U) Understand basic concepts, assist in maintaining and developing the environment for hardware and software product build, staging, testing and integration
- (U) Assist in defining and implementing hardware and software configuration management processes and procedures; such as creating product build scripts and procedures, and integrating those scripts with the hardware and software build process
- (U) Implement hardware and software version control processes, policies and procedures
- (U) Utilize configuration management tools (e.g. DOORS, Eclipse) to store, track, and manage configuration items

Qualifications: (U) Two (2) years experience as a CM in programs and contracts of similar scope, type, and complexity is required. Associate's degree in a technical or business discipline from an accredited college or university is required. Two (2) years of additional CM experience may be substituted for an associate's degree.

Domain Area(s) Specialized Requirements: (U) Unless otherwise specified in the description field One (1) year of demonstrated experience is required for the domain items described below:

Domain Area	Domain Description
Database types and applications	(U) Experience engineering, administering databases in the products defined in the CMS Development Stack:

- NoSQL (MongoDB, DynamoDB, CosmoDB)
- SQL (Aurora, MariaDB, Golera, MySQL, SQL Server)

Configuration Manager (U) Skill Level 2

Labor Category	Description
Configuration Manager (CM)	(U) Responsible for configuration management (CM) of developmental and operational systems. Works on developmental and operational teams to create and maintain configuration baselines (development, test, production, etc.) supporting developmental and operational systems. Uses or recommends automated CM tools to implement CM policies and procedures. Develops or modifies CM plans, policies, and procedures tailored to the complexity and scope of the developmental or operational system. Implement CM discipline for the entire life cycle of systems from initial requirements/capabilities baselines to system end-of-life. Perform change control and configuration audits.

The Level 2 Configuration Manager (CM) shall possess the following capabilities:

- (U) Assist in implementing hardware and software version control processes, policies and procedures
- (U) Assist in the use of configuration management tools (e.g. DOORS, Eclipse) to store, track, and manage configuration items
- (U) Understand basic concepts, and assist in documenting hardware and software configuration management processes and procedures
- (U) Understand basic concepts, assist in maintaining and developing the environment for hardware and software product build, staging, testing and integration
- (U) Assist in defining and implementing hardware and software configuration management processes and procedures; such as creating product build scripts and procedures, and integrating those scripts with the hardware and software build process
- (U) Implement hardware and software version control processes, policies and procedures
- (U) Utilize configuration management tools (e.g. DOORS, Eclipse) to store, track, and manage configuration items
- (U) Maintain the CM environment for hardware and software product build, staging, testing and integration
- (U) Apply concepts and define and implement hardware and software configuration management processes and procedures, such as creating product build scripts and procedures, and integrate those scripts with the hardware and software build process
- (U) Develop hardware and software version control processes, policies and procedures and ensure that they are followed on hardware and software development projects
- (U) Serve as an advisor to (or non-voting member of) Government Change Control Board (CCB)

Qualifications: (U) Six (6) years experience as a CM in programs and contracts of similar scope, type, and complexity is required. Bachelor's degree in a technical or business discipline from an accredited

college or university is required. Four (4) years of additional configuration management experience may be substituted for a bachelor's degree.

(U) If assigned to a developmental program, one (1) year of experience using a source code control system for a developmental program of similar scope and complexity is required.

Domain Area(s) Specialized Requirements: (U) Unless otherwise specified in the description field One (1) year of demonstrated experience is required for the domain items described below:

Domain Area	Domain Description
Database types and applications	(U) Experience engineering, administering databases in the products defined in the CMS Development Stack: <ul style="list-style-type: none"> • NoSQL (MongoDB, DynamoDB, CosmoDB) • SQL (Aurora, MariaDB, Golera, MySQL, SQL Server)

(U) Program Manager (PM) Skill Level 2

(U) Labor Category	(U) Description
(U) Program Manager (PM)	(U) The Program Manager shall be responsible for the successful cost, schedule, and performance of the contract. Serves as the main point of contact for the Contracting Officer (CO), the Contracting Officer's Representative (COR), the Government Program Manager, and the Contractor's senior management. Directly contributes to program efforts in several areas, including cost management/avoidance, schedule estimation and tracking, contract performance management, risk management, requirements analysis, and quality assurance activities. Ensures proper performance of tasks necessary to ensure the most efficient and effective execution of the contract. The PM shall utilize expert communication skills needed to direct the skilled technical resources and report on the technical progress, issues, and problem areas, as well as write and review technical documents.

(U) The Level 2 Program Manager (PM) shall possess the following capabilities:

- (U) Work with the higher level program manager, if applicable, to provide effective and efficient management of the contractor's effort
- (U) Allocate resources (staffing, facilities, and budgets) on the contract
- (U) Review and propose the Integrated Program Baseline (or resource loaded schedule) to the Government
- (U) Review and approve all earned value, Estimate To Complete, Funds and Man-hour Expenditure Report, or other financial reports as appropriate
- (U) Review risk and risk mitigation activities and allocate budgets for the same
- (U) Prepare program status reviews and other formal reviews to be presented to the Government PM

- (U) Review and allocate management reserve within contractual limits
- (U) Ensure the timely recruitment and training of program staff – both direct and indirect
- (U) Review all financial and technical reports before release to the Government
- (U) Ensure cross-discipline integration within the contract to meet Government needs
- (U) Communicate issues and solutions to the Government PM in a timely and transparent manner
- (U) Ensure compliance with all regulatory and administrative requirements imposed by the contract in coordination with the Contractor's contracts staff
- (U) Assist the Government PM by providing input to statutory acquisition reports and responses to Congressional Questions for the Record (QFRs)
- (U) Coordinate the preparation of Engineering Change Proposals (ECPs) and value engineering proposals to the Government PM
- (U) Provide Contractor input to the Quality Assurance Surveillance Plan reviews or Award Fee reviews, as appropriate

Qualifications: (U) Ten (10) years experience as a program or project manager in managing programs and contracts of similar scope, type, and complexity is required. Shall have demonstrated experience in conducting requirements analysis, resource allocation, project costing, deliverable tracking, schedule and financial data monitoring, and reporting. Shall have at least one (1) year of demonstrated experience in the management and control of funds and resources using complex reporting mechanisms such as Earned Value Management. Shall be knowledgeable of the guidelines provided by the Federal Acquisition Regulations (FAR) and Defense Federal Acquisition Regulations Supplement (DFARS), DoD 5000 series, and ICD 801 policies. Direct experience in managing multi-task contracts and subcontracts of various types and complexity, as well as experience in leading a multi-vendor environment is required. Must have a PMP, FAC-P/PM Mid-Level, or Defense Acquisition Workforce Improvement Act (DAWIA) Level 2 certification in Program Management.

Software Engineer (SWE) Skill Level 0

Labor Category	Description
Software Engineer (SWE)	(U) The Software Engineer develops, maintains, and enhances complex and diverse software systems (e.g., processing-intensive analytics, novel algorithm development, manipulation of extremely large data sets, real-time systems, and business management information systems) based upon documented requirements. Works individually or as part of a team. Reviews and tests software components for adherence to the design requirements and documents test results. Resolves software problem reports. Utilizes software development and software design methodologies appropriate to the development environment. Provides specific input to the software components of system design to include hardware/software trade-offs, software reuse, use of Commercial Off-the-shelf (COTS)/Government Off-the-shelf (GOTS) in place of new development, and requirements analysis and synthesis from system level to individual software components.

The Level 0 Software Engineer (SWE) shall possess the following capabilities:

- (U) Analyze user requirements to derive software design and performance requirements
- (U) Design and code new software or modify existing software to add new features
- (U) Debug existing software and correct defects
- (U) Integrate existing software into new or modified systems or operating environments
- (U) Develop simple data queries for existing or proposed databases or data repositories
- (U) Provide recommendations for improving documentation and software development process standards

Qualifications: (U) No demonstrated experience is required. Bachelor's degree in Computer Science or related discipline from an accredited college or university is required. Four (4) years of SWE experience on projects with similar software processes may be substituted for a bachelor's degree.

Domain Area(s) Specialized Requirements: (U) Unless otherwise specified in the description field One (1) year of demonstrated experience is required for the domain items described below:

Domain Area	Domain Description
Programming Languages:	(U) Experience developing software using the supported programming language defined in the CMS Development Stack: JavaScript; Java; C#; Python

Software Engineer (SWE) Skill Level 1

Labor Category	Description
Software Engineer (SWE)	(U) The Software Engineer develops, maintains, and enhances complex and diverse software systems (e.g., processing-intensive analytics, novel algorithm development, manipulation of extremely large data sets, real-time systems, and business management information systems) based upon documented requirements. Works individually or as part of a team. Reviews and tests software components for adherence to the design requirements and documents test results. Resolves software problem reports. Utilizes software development and software design methodologies appropriate to the development environment. Provides specific input to the software components of system design to include hardware/software trade-offs, software reuse, use of Commercial Off-the-shelf (COTS)/Government Off-the-shelf (GOTS) in place of new development; and requirements analysis and synthesis from system level to individual software components.

The Level 1 Software Engineer (SWE) shall possess the following capabilities:

- (U) Analyze user requirements to derive software design and performance requirements
- (U) Design and code new software or modify existing software to add new features
- (U) Debug existing software and correct defects
- (U) Integrate existing software into new or modified systems or operating environments
- (U) Develop simple data queries for existing or proposed databases or data repositories

- (U) Provide recommendations for improving documentation and software development process standards
- (U) Develop or implement algorithms to meet or exceed system performance and functional standards
- (U) Assist with developing and executing test procedures for software components
- (U) Write or review software and system documentation
- (U) Develop software solutions by analyzing system performance standards, confer with users or system engineers; analyze systems flow, data usage and work processes; and investigate problem areas
- (U) Serve as team lead at the level appropriate to the software development process being used on any particular project
- (U) Modify existing software to correct errors, to adapt to new hardware, or to improve its performance
- (U) Design, develop and modify software systems, using scientific analysis and mathematical models to predict and measure outcome and consequences of design
- (U) Design or implement complex database or data repository interfaces/queries

Qualifications: (U) Seven (7) years experience as a SWE, in programs and contracts of similar scope, type, and complexity is required. Bachelor's degree in Computer Science or related discipline from an accredited college or university is required. Four (4) years of additional SWE experience on projects with similar software processes may be substituted for a bachelor's degree.

Domain Area(s) Specialized Requirements: (U) Unless otherwise specified in the description field One (1) year of demonstrated experience is required for the domain items described below:

Domain Area	Domain Description
Programming Languages:	(U) Experience developing software using the supported programming language defined in the CMS Development Stack: JavaScript; Java; C#; Python. The one year of experience shall be within the last three years.
Database types and applications	(U) Experience engineering, administering databases in the products defined in the CMS Development Stack: <ul style="list-style-type: none"> • NoSQL (MongoDB, DynamoDB, CosmoDB) • SQL (Aurora, MariaDB, Golera, MySQL, SQL Server)
Hosting Platform	(U) Experience developing, testing, monitoring the supported platforms defined in the CMS Development Stack: <ul style="list-style-type: none"> • Amazon Web Services (Any Region) • Microsoft Azure • FedRamp approved Utility Cloud • MASH / ContainerYard
Middle-tier	(U) Experience managing or using industry standards in the middle tier:

- Web (Tomcat, IIS, Apache, Nginx)
- Messaging Broker (AMQP, Managed Queue Services)
- Containerization (Docker)

Search Applications (U) Experience building search features to applications upfront:

- ElasticSearch
- Solr

Continuous Integration / Continuous Deployment (CI/CD) (U) Experience utilizing continuous integration tools:

- Jenkins
-

Software Engineer (SWE) Skill Level 2

Labor Category	Description
Software Engineer (SWE)	(U) The Software Engineer develops, maintains, and enhances complex and diverse software systems (e.g., processing-intensive analytics, novel algorithm development, manipulation of extremely large data sets, real-time systems, and business management information systems) based upon documented requirements. Works individually or as part of a team. Reviews and tests software components for adherence to the design requirements and documents test results. Resolves software problem reports. Utilizes software development and software design methodologies appropriate to the development environment. Provides specific input to the software components of system design to include hardware/software trade-offs, software reuse, use of Commercial Off-the-shelf (COTS)/Government Off-the-shelf (GOTS) in place of new development, and requirements analysis and synthesis from system level to individual software components.

The Level 2 Software Engineer (SWE) shall possess the following capabilities:

- (U) Analyze user requirements to derive software design and performance requirements
- (U) Design and code new software or modify existing software to add new features
- (U) Debug existing software and correct defects
- (U) Integrate existing software into new or modified systems or operating environments
- (U) Develop simple data queries for existing or proposed databases or data repositories
- (U) Provide recommendations for improving documentation and software development process standards
- (U) Develop or implement algorithms to meet or exceed system performance and functional standards
- (U) Assist with developing and executing test procedures for software components

(U) Write or review software and system documentation

(U) Develop software solutions by analyzing system performance standards, confer with users or system engineers; analyze systems flow, data usage and work processes; and investigate problem areas

(U) Serve as team lead at the level appropriate to the software development process being used on any particular project

(U) Modify existing software to correct errors, to adapt to new hardware, or to improve its performance

(U) Design, develop and modify software systems, using scientific analysis and mathematical models to predict and measure outcome and consequences of design

(U) Design or implement complex database or data repository interfaces/queries

(U) Oversee one or more software development teams and ensure the work is completed in accordance with the constraints of the software development process being used on any particular project

(U) Design or implement complex algorithms requiring adherence to strict timing, system resource, or interface constraints; Perform quality control on team products

(U) Confer with system engineers and hardware engineers to derive software requirements and to obtain information on project limitations and capabilities, performance requirements and interfaces

(U) Coordinate software system installation and monitor equipment functioning to ensure operational specifications are met

(U) Implement recommendations for improving documentation and software development process standards

Qualifications: (U) Fourteen (14) years experience as a SWE in programs and contracts of similar scope, type, and complexity is required. Bachelor's degree in Computer Science or related discipline from an accredited college or university is required. Four (4) years of additional SWE experience on projects with similar software processes may be substituted for a bachelor's degree.

Domain Area(s) Specialized Requirements: (U) Unless otherwise specified in the description field Three (3) years of demonstrated experience is required for the domain items described below:

Domain Area	Domain Description
Programming Languages:	(U) Experience developing software using the supported programming language defined in the CMS Development Stack: JavaScript; Java; C#; Python. The three years of experience shall be within the last five years.
Database types and applications	(U) Experience engineering, administering databases in the products defined in the CMS Development Stack: <ul style="list-style-type: none"> • NoSQL (MongoDB, DynamoDB, CosmoDB) • SQL (Aurora, MariaDB, Golera, MySQL, SQL Server)

- Hosting Platform (U) Experience developing, testing, monitoring the supported platforms defined in the CMS Development Stack:
- Amazon Web Services (Any Region)
 - Microsoft Azure
 - FedRamp approved Utility Cloud
 - MASH / ContainerYard
- Middle-tier (U) Experience managing or using industry standards in the middle tier:
- Web (Tomcat, IIS, Apache, Nginx)
 - Messaging Broker (AMQP, Managed Queue Services)
 - Containerization (Docker)
- Search Applications (U) Experience building search features to applications upfront:
- ElasticSearch
 - Solr
- Continuous Integration / Continuous Deployment (CI/CD) (U) Experience utilizing continuous integration tools:
- Jenkins
 -
- Source Control
- Git

Software Engineer (SWE) Skill Level 3

Labor Category	Description
Software Engineer (SWE)	(U) The Software Engineer develops, maintains, and enhances complex and diverse software systems (e.g., processing-intensive analytics, novel algorithm development, manipulation of extremely large data sets, real-time systems, and business management information systems) based upon documented requirements. Works individually or as part of a team. Reviews and tests software components for adherence to the design requirements and documents test results. Resolves software problem reports. Utilizes software development and software design methodologies appropriate to the development environment. Provides specific input to the software components of system design to include hardware/software trade-offs, software reuse, use of Commercial Off-the-

shelf (COTS)/Government Off-the-shelf (GOTS) in place of new development, and requirements analysis and synthesis from system level to individual software components.

The Level 3 Software Engineer (SWE) shall possess the following capabilities:

- (U) Analyze user requirements to derive software design and performance requirements
- (U) Design and code new software or modify existing software to add new features
- (U) Debug existing software and correct defects
- (U) Integrate existing software into new or modified systems or operating environments
- (U) Develop simple data queries for existing or proposed databases or data repositories
- (U) Provide recommendations for improving documentation and software development process standards
- (U) Develop or implement algorithms to meet or exceed system performance and functional standards
- (U) Assist with developing and executing test procedures for software components
- (U) Write or review software and system documentation
- (U) Develop software solutions by analyzing system performance standards, confer with users or system engineers; analyze systems flow, data usage and work processes; and investigate problem areas
- (U) Serve as team lead at the level appropriate to the software development process being used on any particular project
- (U) Modify existing software to correct errors, to adapt to new hardware, or to improve its performance
- (U) Design, develop and modify software systems, using scientific analysis and mathematical models to predict and measure outcome and consequences of design
- (U) Design or implement complex database or data repository interfaces/queries
- (U) Oversee one or more software development teams and ensure the work is completed in accordance with the constraints of the software development process being used on any particular project
- (U) Design or implement complex algorithms requiring adherence to strict timing, system resource, or interface constraints; Perform quality control on team products
- (U) Confer with system engineers and hardware engineers to derive software requirements and to obtain information on project limitations and capabilities, performance requirements and interfaces
- (U) Coordinate software system installation and monitor equipment functioning to ensure operational specifications are met
- (U) Implement recommendations for improving documentation and software development process standards
- (U) Serve as the technical lead of multiple software development teams
- (U) Select the software development process in coordination with the customer and system engineering
- (U) Recommend new technologies and processes for complex software projects
- (U) Ensure quality control of all developed and modified software

(U) Delegate programming and testing responsibilities to one or more teams and monitor their performance

Qualifications: (U) Twenty (20) years experience as a SWE in programs and contracts of similar scope, type, and complexity is required. Bachelor's degree in Computer Science or related discipline from an accredited college or university is required. Four (4) years of additional SWE experience on projects with similar software processes may be substituted for a bachelor's degree.

Domain Area(s) Specialized Requirements: (U) Unless otherwise specified in the description field Five (5) years of demonstrated experience is required for the domain items described below:

Domain Area	Domain Description
Programming Languages:	(U) Experience developing software using the supported programming language defined in the CMS Development Stack: JavaScript; Java; C#; Python. The five years' of experience shall be within the last five years.
Database types and applications	(U) Experience engineering, administering databases in the products defined in the CMS Development Stack: <ul style="list-style-type: none"> • NoSQL (MongoDB, DynamoDB, CosmoDB) • SQL (Aurora, MariaDB, Golera, MySQL, SQL Server)
Hosting Platform	(U) Experience developing, testing, monitoring the supported platforms defined in the CMS Development Stack: <ul style="list-style-type: none"> • Amazon Web Services (Any Region) • Microsoft Azure • FedRamp approved Utility Cloud • MASH / ContainerYard
Middle-tier	(U) Experience managing or using industry standards in the middle tier: <ul style="list-style-type: none"> • Web (Tomcat, IIS, Apache, Nginx) • Messaging Broker (AMQP, Managed Queue Services) • Containerization (Docker)
Search Applications	(U) Experience building search features to applications upfront: <ul style="list-style-type: none"> • ElasticSearch • Solr
Continuous Integration / Continuous	(U) Experience utilizing continuous integration tools:

- Deployment (CI/CD) • Jenkins
- Source Control • Git

System Administrator (SA) Skill Level 1

Labor Category	Description
System Administrator (SA)	(U) Provides support for implementation, troubleshooting and maintenance of Information Technology (IT) systems. Manages IT system infrastructure and any processes related to these systems. Provides support to IT systems including day-to-day operations, monitoring and problem resolution for all of the client/server/storage/network devices, mobile devices, etc. Provides Tier 1 (Help Desk) and Tier 2 (Escalation) problem identification, diagnosis and resolution of problems. Provides support for the escalation and communication of status to agency management and internal customers. Provides support for the dispatch system and hardware problems and remains involved in the resolution process. Configures and manages UNIX and Windows operating systems and installs/loads operating system software, troubleshoots, maintains integrity and configures network components along with implementing operating systems enhancements to improve reliability and performance.

The Level 1 System Administrator (SA) shall possess the following capabilities:

- (U) Provide support for implementation, troubleshooting and maintenance of IT systems
- (U) Manage the daily activities of configuration and operation of IT systems
- (U) Provide Tier 1 (Help Desk) problem identification, diagnosis and resolution of problems
- (U) Provide assistance to users in accessing and using IT systems
- (U) Provide support to IT systems including day-to-day operations, monitoring and problem resolution for all of the client/server/storage/network devices, mobile devices, etc.
- (U) Provide Tier 1 (Help Desk) and Tier 2 (Escalation) problem identification, diagnosis and resolution of problems
- (U) Provide support for the escalation and communication of status to agency management and internal customers
- (U) Optimize system operations and resource utilization, and perform system capacity analysis and planning

Qualifications: (U) Five (5) years experience as a SA in programs and contracts of similar scope, type, and complexity is required. Bachelor's degree in a technical discipline from an accredited college or university is required. Five (5) years of additional SA experience may be substituted for a bachelor's degree.

Domain Area(s) Specialized Requirements: (U) Unless otherwise specified in the description field One (1) year of demonstrated experience is required for the domain items described below:

Domain Area	Domain Description
Hosting Platform	(U) Experience developing, testing, monitoring the supported platforms defined in the CMS Development Stack: <ul style="list-style-type: none"> • Amazon Web Services (Any Region) • Microsoft Azure • FedRamp approved Utility Cloud • MASH / ContainerYard

System Administrator (SA) Skill Level 2

Labor Category	Description
System Administrator (SA)	(U) Provides support for implementation, troubleshooting and maintenance of Information Technology (IT) systems. Manages IT system infrastructure and any processes related to these systems. Provides support to IT systems including day-to-day operations, monitoring and problem resolution for all of the client/server/storage/network devices, mobile devices, etc. Provides Tier 1 (Help Desk) and Tier 2 (Escalation) problem identification, diagnosis and resolution of problems. Provides support for the escalation and communication of status to agency management and internal customers. Provides support for the dispatch system and hardware problems and remains involved in the resolution process. Configures and manages UNIX and Windows operating systems and installs/loads operating system software, troubleshoots, maintains integrity and configures network components along with implementing operating systems enhancements to improve reliability and performance.

The Level 2 System Administrator (SA) shall possess the following capabilities:

- (U) Provide support for implementation, troubleshooting and maintenance of IT systems
- (U) Manage the daily activities of configuration and operation of IT systems
- (U) Provide Tier 1 (Help Desk) problem identification, diagnosis and resolution of problems
- (U) Provide assistance to users in accessing and using IT systems
- (U) Provide support to IT systems including day-to-day operations, monitoring and problem resolution for all of the client/server/storage/network devices, mobile devices, etc.
- (U) Provide Tier 1 (Help Desk) and Tier 2 (Escalation) problem identification, diagnosis and resolution of problems
- (U) Provide support for the escalation and communication of status to agency management and internal customers
- (U) Optimize system operations and resource utilization, and perform system capacity analysis and planning

(U) Provide support for the dispatch system and hardware problems and remains involved in the resolution process

(U) Provide in-depth experience in trouble-shooting IT systems

(U) Configure and manage UNIX and Windows (or other applicable) operating systems and installs/loads operating system software, troubleshoot, maintain integrity of and configure network components, along with implementing operating systems enhancements to improve reliability and performance

(U) Provide detailed analysis and feedback to agency management and internal customers for escalated tickets

Qualifications: (U) Ten (10) years experience as a SA in programs and contracts of similar scope, type, and complexity is required. Bachelor's degree in a technical discipline from an accredited college or university is required. Five (5) years of additional SA experience may be substituted for a bachelor's degree.

Domain Area(s) Specialized Requirements: (U) Unless otherwise specified in the description field Three (3) years of demonstrated experience is required for the domain items described below:

Domain Area	Domain Description
Information Assurance	(U) Experience executing Security scans and implementing Information Assurance Vulnerability Assessment (IAVA) patches is required.
Hosting Platform	(U) Experience developing, testing, monitoring the supported platforms defined in the CMS Development Stack: <ul style="list-style-type: none"> • Amazon Web Services (Any Region) • Microsoft Azure • FedRamp approved Utility Cloud • MASH / ContainerYard

System Engineer (SE) Skill Level 0

Labor Category	Description
System Engineer (SE)	(U) Analyzes user's requirements, concept of operations documents, and high level system architectures to develop system requirements specifications. Analyzes system requirements and leads design and development activities. Guides users in formulating requirements, advises alternative approaches, and conducts feasibility studies. Provides technical leadership for the integration of requirements, design, and technology. Incorporates new plans, designs and systems into ongoing operations. Develops technical documentation. Develops system Architecture and system design documentation. Guides system development and implementation planning through assessment or preparation of system engineering management plans and system integration and test plans. Interacts with the Government regarding

Systems Engineering technical considerations and for associated problems, issues or conflicts. Ultimate responsibility for the technical integrity of work performed and deliverables associated with the Systems Engineering area of responsibility. Communicates with other program personnel, government overseers, and senior executives.

The Level 0 System Engineer (SE) shall possess the following capabilities:

- (U) Contribute to the development of sections of systems engineering documentation such as System Engineering Plans, Initial Capabilities Documents, Requirements specifications, and Interface Control Documents
- (U) Manage system requirements and derived requirements to ensure the delivery of production systems that are compatible with the defined system architecture(s) – Department of Defense Architecture Framework (DoDAF), Service-oriented Architecture (SOA), etc
- (U) Assist with the development of system requirements, functional requirements, and allocation of the same to individual hardware, software, facility, and personnel components
- (U) Coordinate the resolution of action items from Configuration Control Board (CCB) meetings, design reviews, program reviews, and test reviews that require cross-discipline coordination

Qualifications: (U) No demonstrated experience is required. Bachelor’s degree in System Engineering, Computer Science, Information Systems, Engineering Science, Engineering Management, or related discipline from an accredited college or university is required. Five (5) years of SE experience may be substituted for a bachelor’s degree.

System Engineer (SE) Skill Level 1

Labor Category	Description
System Engineer (SE)	(U) Analyzes user’s requirements, concept of operations documents, and high level system architectures to develop system requirements specifications. Analyzes system requirements and leads design and development activities. Guides users in formulating requirements, advises alternative approaches, and conducts feasibility studies. Provides technical leadership for the integration of requirements, design, and technology. Incorporates new plans, designs and systems into ongoing operations. Develops technical documentation. Develops system Architecture and system design documentation. Guides system development and implementation planning through assessment or preparation of system engineering management plans and system integration and test plans. Interacts with the Government regarding Systems Engineering technical considerations and for associated problems, issues or conflicts. Ultimate responsibility for the technical integrity of work performed and deliverables associated with the Systems Engineering area of responsibility. Communicates with other program personnel, government overseers, and senior executives.

The Level 1 System Engineer (SE) shall possess the following capabilities:

(U) Contribute to the development of sections of systems engineering documentation such as System Engineering Plans, Initial Capabilities Documents, Requirements specifications, and Interface Control Documents

(U) Manage system requirements and derived requirements to ensure the delivery of production systems that are compatible with the defined system architecture(s) – Department of Defense Architecture Framework (DoDAF), Service-oriented Architecture (SOA), etc

(U) Assist with the development of system requirements, functional requirements, and allocation of the same to individual hardware, software, facility, and personnel components

(U) Coordinate the resolution of action items from Configuration Control Board (CCB) meetings, design reviews, program reviews, and test reviews that require cross-discipline coordination

(U) Participate in an Integrated Product Team to design new capabilities based upon evaluation of all necessary development and operational considerations

(U) Participate in the development of system engineering documentation, such as System Engineering Plans, Initial Capabilities Documents, Requirements Specifications, and Interface Control Documents

(U) Participate in interface definition, design, and changes to the configuration between affected groups and individuals throughout the life cycle

(U) Allocate real-time process budgets and error budgets to systems and subsystem components

(U) Derive from the system requirements an understanding of stakeholder needs, functions that may be logically inferred and implied as essential to system effectiveness

(U) Derive lower-level requirements from higher-level allocated requirements that describe in detail the functions that a system component must fulfill, and ensure these requirements are complete, correct, unique, unambiguous, realizable, and verifiable

(U) Generate alternative system concepts, physical architectures, and design solutions

(U) Participate in establishing and gaining approval of the definition of a system or component under development (requirements, designs, interfaces, test procedures, etc.) that provides a common reference point for hardware and software developers

(U) Define the methods, processes, and evaluation criteria by which the systems, subsystems and work products are verified against their requirements in a written plan

(U) Develop system design solution that satisfies the system requirements and fulfills the functional analysis

(U) Develop derived requirements for Information Assurance Services (Confidentiality, Integrity, Non repudiation, and Availability); Basic Information Assurance Mechanisms (e.g., Identification, Authentication, Access Control, Accountability); and Security Mechanism Technology (Passwords, cryptography, discretionary access control, mandatory access control, hashing, key management, etc.)

(U) Review and provide input to program and contract work breakdown structure (WBS), work packages and the integrated master plan (IMP)

Qualifications: (U) Seven (7) years experience as a SE in programs and contracts of similar scope, type and complexity is required. Bachelor's degree in System Engineering, Computer Science, Information Systems, Engineering Science, Engineering Management, or related discipline from an accredited college or university is required. Five (5) years of additional SE experience may be substituted for a bachelor's degree.

System Engineer (SE) Skill Level 2

Labor Category	Description
System Engineer (SE)	(U) Analyzes user's requirements, concept of operations documents, and high level system architectures to develop system requirements specifications. Analyzes system requirements and leads design and development activities. Guides users in formulating requirements, advises alternative approaches, and conducts feasibility studies. Provides technical leadership for the integration of requirements, design, and technology. Incorporates new plans, designs and systems into ongoing operations. Develops technical documentation. Develops system Architecture and system design documentation. Guides system development and implementation planning through assessment or preparation of system engineering management plans and system integration and test plans. Interacts with the Government regarding Systems Engineering technical considerations and for associated problems, issues or conflicts. Ultimate responsibility for the technical integrity of work performed and deliverables associated with the Systems Engineering area of responsibility. Communicates with other program personnel, government overseers, and senior executives.

The Level 2 System Engineer (SE) shall possess the following capabilities:

- (U) Contribute to the development of sections of systems engineering documentation such as System Engineering Plans, Initial Capabilities Documents, Requirements specifications, and Interface Control Documents
- (U) Manage system requirements and derived requirements to ensure the delivery of production systems that are compatible with the defined system architecture(s) – Department of Defense Architecture Framework (DoDAF), Service-oriented Architecture (SOA), etc
- (U) Assist with the development of system requirements, functional requirements, and allocation of the same to individual hardware, software, facility, and personnel components
- (U) Coordinate the resolution of action items from Configuration Control Board (CCB) meetings, design reviews, program reviews, and test reviews that require cross-discipline coordination
- (U) Participate in an Integrated Product Team to design new capabilities based upon evaluation of all necessary development and operational considerations
- (U) Participate in the development of system engineering documentation, such as System Engineering Plans, Initial Capabilities Documents, Requirements Specifications, and Interface Control Documents
- (U) Participate in interface definition, design, and changes to the configuration between affected groups and individuals throughout the life cycle
- (U) Allocate real-time process budgets and error budgets to systems and subsystem components
- (U) Derive from the system requirements an understanding of stakeholder needs, functions that may be logically inferred and implied as essential to system effectiveness
- (U) Derive lower-level requirements from higher-level allocated requirements that describe in detail the functions that a system component must fulfill, and ensure these requirements are complete, correct, unique, unambiguous, realizable, and verifiable
- (U) Generate alternative system concepts, physical architectures, and design solutions

- (U) Participate in establishing and gaining approval of the definition of a system or component under development (requirements, designs, interfaces, test procedures, etc.) that provides a common reference point for hardware and software developers
- (U) Define the methods, processes, and evaluation criteria by which the systems, subsystems and work products are verified against their requirements in a written plan
- (U) Develop system design solution that satisfies the system requirements and fulfills the functional analysis
- (U) Develop derived requirements for Information Assurance Services (Confidentiality, Integrity, Non repudiation, and Availability); Basic Information Assurance Mechanisms (e.g., Identification, Authentication, Access Control, Accountability); and Security Mechanism Technology (Passwords, cryptography, discretionary access control, mandatory access control, hashing, key management, etc.)
- (U) Review and provide input to program and contract work breakdown structure (WBS), work packages and the integrated master plan (IMP)
- (U) Provide technical direction for the development, engineering, interfacing, integration, and testing of specific components of complex hardware/software systems to include requirements elicitation, analysis and functional allocation, conducting systems requirements reviews, developing concepts of operation and interface standards, developing system architectures, and performing technical/non-technical assessment and management as well as end-to-end flow analysis
- (U) Implement comprehensive SOA solutions
- (U) Implement operational view, technical standards view, and system and services view for architectures using applicable DoDAF standards
- (U) Develop scenarios (threads) and an Operational Concept that describes the interactions between the system, the user, and the environment, that satisfies operational, support, maintenance, and disposal needs
- (U) Review and/or approve system engineering documentation to ensure that processes and specifications meet system needs and are accurate, comprehensive, and complete
- (U) Conduct quantitative analysis in non-functional system performance areas like Reliability, Maintainability, Vulnerability, Survivability, Produceability, etc.)
- (U) Establish and follow a formal procedure for coordinating system integration activities among multiple teams, ensuring complete coverage of all interfaces
- (U) Capture all interface designs in a common interface control format, and store interface data in a commonly accessible repository
- (U) Prepare time-line analysis diagrams illustrating the flow of time-dependent functions
- (U) Establish a process to formally and proactively control and manage changes to requirements, consider impacts prior to commitment to change, gain stakeholder buy-in, eliminate ambiguity, ensure traceability to source requirements, and track and settle open actions
- (U) Assess each risk to the program and determine the probability of occurrence and quantified consequence of failure in accordance with an approved risk management plan
- (U) Manage and ensure the technical integrity of the system baseline over time, continually updating it as various changes are imposed on the system during the lifecycle from development through deployment and operations & maintenance
- (U) In conjunction with system stakeholders, plan the verification efforts of new and unproven designs early in the development life cycle to ensure compliance with established requirements

(U) Support the planning and test analysis of the DoD Certification/Accreditation Process (as well as other Government Certification and Accreditation (C&A) processes)

(U) Support the development and review of Joint Capability Integration Development System (JCIDS) documents (i.e., Initial Capability Document, Capabilities Description Document, IA Strategy)

Qualifications: (U) Fourteen (14) years experience as a SE in programs and contracts of similar scope, type and complexity is required. Bachelor's degree in System Engineering, Computer Science, Information Systems, Engineering Science, Engineering Management, or related discipline from an accredited college or university is required. Five (5) years of additional SE experience may be substituted for a bachelor's degree.

System Engineer (SE) Skill Level 3

Labor Category	Description
System Engineer (SE)	(U) Analyzes user's requirements, concept of operations documents, and high level system architectures to develop system requirements specifications. Analyzes system requirements and leads design and development activities. Guides users in formulating requirements, advises alternative approaches, and conducts feasibility studies. Provides technical leadership for the integration of requirements, design, and technology. Incorporates new plans, designs and systems into ongoing operations. Develops technical documentation. Develops system Architecture and system design documentation. Guides system development and implementation planning through assessment or preparation of system engineering management plans and system integration and test plans. Interacts with the Government regarding Systems Engineering technical considerations and for associated problems, issues or conflicts. Ultimate responsibility for the technical integrity of work performed and deliverables associated with the Systems Engineering area of responsibility. Communicates with other program personnel, government overseers, and senior executives.

The Level 3 System Engineer (SE) shall possess the following capabilities:

(U) Contribute to the development of sections of systems engineering documentation such as System Engineering Plans, Initial Capabilities Documents, Requirements specifications, and Interface Control Documents

(U) Manage system requirements and derived requirements to ensure the delivery of production systems that are compatible with the defined system architecture(s) – Department of Defense Architecture Framework (DoDAF), Service-oriented Architecture (SOA), etc

(U) Assist with the development of system requirements, functional requirements, and allocation of the same to individual hardware, software, facility, and personnel components

(U) Coordinate the resolution of action items from Configuration Control Board (CCB) meetings, design reviews, program reviews, and test reviews that require cross-discipline coordination

(U) Participate in an Integrated Product Team to design new capabilities based upon evaluation of all necessary development and operational considerations

(U) Participate in the development of system engineering documentation, such as System Engineering Plans, Initial Capabilities Documents, Requirements Specifications, and Interface Control Documents

(U) Participate in interface definition, design, and changes to the configuration between affected groups and individuals throughout the life cycle

(U) Allocate real-time process budgets and error budgets to systems and subsystem components

(U) Derive from the system requirements an understanding of stakeholder needs, functions that may be logically inferred and implied as essential to system effectiveness

(U) Derive lower-level requirements from higher-level allocated requirements that describe in detail the functions that a system component must fulfill, and ensure these requirements are complete, correct, unique, unambiguous, realizable, and verifiable

(U) Generate alternative system concepts, physical architectures, and design solutions

(U) Participate in establishing and gaining approval of the definition of a system or component under development (requirements, designs, interfaces, test procedures, etc.) that provides a common reference point for hardware and software developers

(U) Define the methods, processes, and evaluation criteria by which the systems, subsystems and work products are verified against their requirements in a written plan

(U) Develop system design solution that satisfies the system requirements and fulfills the functional analysis

(U) Develop derived requirements for Information Assurance Services (Confidentiality, Integrity, Non repudiation, and Availability); Basic Information Assurance Mechanisms (e.g., Identification, Authentication, Access Control, Accountability); and Security Mechanism Technology (Passwords, cryptography, discretionary access control, mandatory access control, hashing, key management, etc.)

(U) Review and provide input to program and contract work breakdown structure (WBS), work packages and the integrated master plan (IMP)

(U) Provide technical direction for the development, engineering, interfacing, integration, and testing of specific components of complex hardware/software systems to include requirements elicitation, analysis and functional allocation, conducting systems requirements reviews, developing concepts of operation and interface standards, developing system architectures, and performing technical/non-technical assessment and management as well as end-to-end flow analysis

(U) Implement comprehensive SOA solutions

(U) Implement operational view, technical standards view, and system and services view for architectures using applicable DoDAF standards

(U) Develop scenarios (threads) and an Operational Concept that describes the interactions between the system, the user, and the environment, that satisfies operational, support, maintenance, and disposal needs

(U) Review and/or approve system engineering documentation to ensure that processes and specifications meet system needs and are accurate, comprehensive, and complete

(U) Conduct quantitative analysis in non-functional system performance areas like Reliability, Maintainability, Vulnerability, Survivability, Produceability, etc.)

(U) Establish and follow a formal procedure for coordinating system integration activities among multiple teams, ensuring complete coverage of all interfaces-

- (U) Capture all interface designs in a common interface control format, and store interface data in a commonly accessible repository
- (U) Prepare time-line analysis diagrams illustrating the flow of time-dependent functions
- (U) Establish a process to formally and proactively control and manage changes to requirements, consider impacts prior to commitment to change, gain stakeholder buy-in, eliminate ambiguity, ensure traceability to source requirements, and track and settle open actions
- (U) Assess each risk to the program and determine the probability of occurrence and quantified consequence of failure in accordance with an approved risk management plan
- (U) Manage and ensure the technical integrity of the system baseline over time, continually updating it as various changes are imposed on the system during the lifecycle from development through deployment and operations & maintenance
- (U) In conjunction with system stakeholders, plan the verification efforts of new and unproven designs early in the development life cycle to ensure compliance with established requirements
- (U) Support the planning and test analysis of the DoD Certification/Accreditation Process (as well as other Government Certification and Accreditation (C&A) processes)
- (U) Support the development and review of Joint Capability Integration Development System (JCIDS) documents (i.e., Initial Capability Document, Capabilities Description Document, IA Strategy)
- (U) Provide technical direction for the development, engineering, interfacing, integration, and testing of all components of complex hardware/software systems to include requirements elicitation, analysis and functional allocation, conducting systems requirements reviews, developing concepts of operation and interface standards, developing system architectures, and performing technical/non-technical assessment and management as well as end-to-end flow analysis
- (U) Develop comprehensive SOA solutions
- (U) Develop operational view, technical standards view, and system and services view for architectures using applicable DoDAF standards
- (U) Conduct and/or approve end-to-end system trade analyses to optimize system operations over its life-cycle through the proper balance of non-functional system performance areas
- (U) Improve standard integration strategies based upon rationale for previous decisions that resulted in improved integration performance
- (U) Fully define interfaces in terms of origination, destination, stimulus, and data characteristics for software; and electrical and mechanical characteristics for hardware
- (U) Use validated models, simulations, and prototyping to mitigate risk and reduce cost of system development
- (U) Develop alternative courses of action, workarounds, and fall-back positions with a recommended course of action for each risk, and monitor and re-evaluate risks at appropriate milestones. Monitor risks using earned value management (EVM) data
- (U) Maintain knowledge of current and evolving agency, national, and international standards applicable to the system development of interest. Apply and enforce use of suitable standards to ensure consistency and interoperability of developer hardware and software
- (U) Ensure effective, periodic review and control of the evolving configuration of a system, both hardware and software components and associated documentation, during the life of the system

(U) Serve as a member of the CCB

(U) As a participant within an Analysis of Alternatives (AoA) effort, recommend a preferred solution based on selection criteria adjusted for reasonableness and validity of assumptions, technology limitations, environmental impact, and life-cycle costs

(U) Develop system design alternatives that consider life cycle cost, reuse, complexity, risk, system expansion, and growth

Qualifications: (U) Twenty (20) years experience as a SE in programs and contracts of similar scope, type and complexity is required. Demonstrated experience in planning and leading Systems Engineering efforts is required. Bachelor's degree in System Engineering, Computer Science, Information Systems, Engineering Science, Engineering Management, or related discipline from an accredited college or university is required. Five (5) years of additional SE experience may be substituted for a bachelor's degree.

Test Engineer (TE) Skill Level 0

Labor Category	Description
Test Engineer (TE)	(U) Analyzes system requirements and concept of operations documents, acquisition plans, and system descriptions to develop evaluation and test plans and procedures, prepare for and conduct the data collection and analysis, and report status and results. Supports the development of Government test and evaluation documentation e.g., Test & Evaluation (T&E) Strategy, Test & Evaluation Master Plan, Event Test Plans, Test Readiness Assessments, and T&E Reports. Works with other test organizations to support T&E program integration. Provides specialized T&E capabilities tailored to system functions, level, maturity, and performance area as assigned in the SOW.

The Level 0 Test Engineer (TE) shall possess the following capabilities:

(U) Assist with any or all of the Level 1 tasks as constrained by technical training and previous testing experience

(U) Conduct research into and apply knowledge of Government test and evaluation concepts and related engineering, acquisition, and operations activities as needed to support the T&E activities

Qualifications: (U) No demonstrated experience is required. Bachelor's degree in Math, Science, Engineering, Statistics, Engineering Management, or related discipline from an accredited college or university is required. Professional Certification is not required. Four (4) years of TE experience may be substituted for a bachelor's degree.

Test Engineer (TE) Skill Level 1

Labor Category	Description
Test Engineer (TE)	(U) Analyzes system requirements and concept of operations documents, acquisition plans, and system descriptions to develop evaluation and test plans and procedures, prepare for and conduct the data collection and analysis, and report status and results. Supports the development of

Government test and evaluation documentation e.g., Test & Evaluation (T&E) Strategy, Test & Evaluation Master Plan, Event Test Plans, Test Readiness Assessments, and T&E Reports. Works with other test organizations to support T&E program integration. Provides specialized T&E capabilities tailored to system functions, level, maturity, and performance area as assigned in the SOW.

The Level 1 Test Engineer (TE) shall possess the following capabilities:

- (U) Assist with any or all of the Level 1 tasks as constrained by technical training and previous testing experience
- (U) Conduct research into and apply knowledge of Government test and evaluation concepts and related engineering, acquisition, and operations activities as needed to support the T&E activities
- (U) Plan and Execute Performance Analysis
- (U) Assess operational and system performance requirements for testability and criticality to frame and prioritize T&E objectives and enable evaluation planning
- (U) Review planned acquisition approaches to support T&E schedule alignment with decision maker needs for T&E support
- (U) Coordinate with program Systems Engineering (SE) and review T&E-related SE information to leverage functional analysis, system descriptions, parameter selection and dependencies, Modeling and Simulation, and initial performance risk assessments to inform evaluation planning
- (U) Assess operational environments and priorities for evaluation attention and scenario selection, and to coordinate user participation in T&E
- (U) Analyze performance risk areas to focus T&E planning
- (U) Specify, validate, and adapt Modeling and Simulation for T&E use
- (U) Plan program and event level risk-tailored performance estimation and analysis of system and operational Effectiveness and Suitability metrics & conditions; levels of T&E include inspection, demonstration, paper analysis, survey, simulation, and physical test
- (U) Apply Statistical Analysis of variations in performance behavior to characterize confidence in performance estimates
- (U) Design surveys for evaluation of Subject Matter Expert (SME) input and user assessments of performance
- (U) Select, develop, & use analysis tools
- (U) Participate in the T&E Working-level Integrated Product Team (WIPT) and/or Integrated Test Team for coordination of evaluation plans
- (U) Execute the evaluation plan on data collected by the Testing Tasks
- (U) Produce Evaluation Plans (metric framework, scenarios/threads, timelines, requirements/T&E cross-walk), Analysis Plans, Data Requirements, Risk Assessments, Evaluation Reports, Status reports; provide input to Government T&E products (e.g., Technology Readiness Assessments, Test & Evaluation Strategy, Test & Evaluation Master Plan, T&E Plans & Procedures and Test Readiness Reports)
- (U) Plan and Execute Performance Data Collection
- (U) Plan program and event level testing for collection of data required for analysis and to synch T&E events with supported decision points

(U) Design data sampling schemes to optimize the information/resource balance and to control testing uncertainties

(U) Select, coordinate, and calibrate Instrumentation, collection and data management tools, targets, & facilities

(U) Ensure test readiness including training of test event participants re conduct of the event; equipment readiness, and security, legal, and privacy compliance arrangements

(U) Establish and employ Data & Configuration Management capabilities

(U) Support Data Authentication group functions; and comply with program Discrepancy Reporting criteria and processes

(U) Participate in T&E WIPT and/or Integrated Test Team for coordination of data collection plans

(U) Execute Testing and Data Collection per plan

(U) Produce associated Test Plans, Procedures, and Reports/Briefings, Data Management Plan

Qualifications: (U) Two (2) years experience as a TE in programs and contracts of similar scope, type and complexity is required. Bachelor's degree in Math, Science, Engineering, Statistics, Engineering Management, or related discipline from an accredited college or university is required. Four (4) years of additional TE experience may be substituted for a bachelor's degree.