

WMATA ITCL Managed Services Contract

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Guidance on Skill Level Selection

Skill Level	Level Number ²	Typical Experience ³	Typical Skills ¹
Junior	1	1 - 3 years	Individual is able to work successfully with guidance; is able to manage simple to medium complexity work efforts; does not provide leadership to others
Mid-Level	2	4 - 7 years	Individual is able to work without assistance; is able to manage medium complexity work efforts; has some industry experience; can provide limited leadership to others
Senior	3	8 - 11 years	Individual is able to work without assistance; is able to manage complex work efforts; may have advanced education; may have deep industry experience; is expected to provide leadership for others
Expert	4	12+ years	Individual is able to work without assistance; provides leadership for others; able to manage highly complex work efforts; may have advanced education; has extensive industry experience

Notes:

Skill Level generally defines the level of knowledge, expertise and/or experience necessary in the key skills or technologies for a given role.

Level Number generally maps to the skill level and typical number of years or experience. Customers are encouraged to consider all three factors as it relates to the level of work that is expected of the resource.

Typical Experience is generally representative of the approximate number of years it takes to acquire the skills and experience levels listed. It is one factor to consider when defining the role being filled. Customers should use their best judgment in defining the Skill and Experience Level that is most appropriate for the work and role that needs to be filled when creating a request for a resource.

Artificial Intelligence (AI) Engineer

Skill Levels 2, 3, 4

The AI Engineer develops and utilizes simulations and models. Evaluates tools, technologies, architectures, models, and test results. Leads meetings regarding AI with external parties and internal business-embedded innovation teams. Collaborates with lead engineers to define subsystem requirements and acceptance criteria.

Applications Architect

Skill Levels 2, 3, 4

The Applications Architect is the functional expert for an application, a defined set of applications or a portfolio of related applications. Brings an understanding of the enterprise, business system, and industry to the team(s) supporting or interfacing with the application. Provides expertise in the business process supported by the application, prepares and reviews designs, recommends improvements, and provides guidance during the testing process. Helps the Programmers establish a clear understanding of the business functional requirements and either creates the functional designs to meet the requirements or reviews and approves the designs written by the Programmers. Understands all aspects of their specific application(s), and the underlying business process. The more experienced Applications Architect plans, analyzes, and defines high-level software strategies and solutions. Experienced Application Architects coordinate with other Applications Architects to define technical requirements and long-range plans for meeting customer requirements.

Business Analyst

Skill Levels 1, 2, 3, 4

The Business Analyst plans, develops, tests, and documents computer programs, applying knowledge of programming techniques and computer systems. Evaluates user requests for new or modified program. Reviews, analyzes, and evaluates business systems and user needs. Formulates systems to parallel overall business strategies. Leads analysis and solution definition. Understands the business issues and data challenges of the organization. Identifies organization's strengths and weaknesses and suggests areas of improvement. Reviews and edits requirements, specifications, business processes and recommendations related to proposed solution. Develops functional and non-functional specifications, uses cases and system design specifications for systems. Conducts effective joint applications development and brainstorming sessions. Interviews and surveys subject matter experts and stakeholders to gather requirements. Understands agile development and the universal modeling language.

Business Continuity Planner

Skill Levels 2, 3, 4

The Business Continuity Planner provides specialized expertise in business continuity planning, project management and problem analysis and resolution. Participates in major project assignments to assist business partners in resolving business issues related to work area (business function), recovery planning, and recovery plan development/enhancements. Capitalizes on business opportunities to refine processes to mitigate exposure during disruptions of service, and possibly, improve day-to-day operations. Facilitates and coordinates the development of work area (business function) business continuity plans for business units. Assists business units with assessment of potential business impact. Defines critical, time-sensitive functions. Designs, develops, and documents business continuity plans. Recommends recovery strategies and options. Assists with the implementation of recovery solutions, coordinates business continuity plan exercises. Develops schedules for training/awareness for business partner associates. Coordinates development of business unit schedules for

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annual business continuity documentation maintenance, updates, exercises, and independent reviews. Reports business continuity status to senior management. Provides expertise and support when a disruption occurs.

Business Process Engineer

Skill Levels 2, 3, 4

The Business Process Engineer applies process improvement and re-engineering methodologies and principles to conduct process modernization projects. Additional duties may include activity and data modeling, developing modern business methods, identifying best practices, and creating and assessing performance measurements. Provides group facilitation, interviewing, training, and other forms of knowledge transfer. Serves as a key coordinator between multiple project teams to ensure enterprise-wide integration of re-engineering efforts.

Cloud Administrator

Skill Levels 2, 3, 4

The Cloud Administrator brings expertise in the most senior capacities in supporting and maintaining Cloud-based architecture in both implementation and post-implementation roles. An ideal person in this role will have worked with a variety of programming languages and infrastructure platforms. Works with outside vendors tasked with the implementation and on-going administration of cloud-based solutions, such as SaaS and SOA.

Cloud Architect

Skill Levels 2, 3, 4

The Cloud Architect designs, develops, implements, utilizes, and conforms to enterprise cloud architecture application solutions, strategies, processes, and standards, focusing on expertise in cloud technologies. Collaborates with business owners, Analysts, Engineers, development teams, and infrastructure services to define, establish, and communicate application and data architecture standards, policies, and directions. Designs high quality architectures, and drives architecture activities that are aligned to organization requirements set by leadership on behalf of stakeholders and are consistent with enterprise architectural standards. Has expert knowledge in Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS).

Cloud Developer

Skill Levels 2, 3, 4

The Cloud Developer brings expertise as a programmer and designer for Cloud Services. A Cloud Developer has experience implementing and developing applications to interface with Service Oriented Architecture (SOA) and other offerings from the major Cloud Service Providers. Analyzes, designs, develops, maintains, and enhances application code. Possesses knowledge of the technologies used and supported by the Application Team. Works with the Business Analyst, Application Architect, and other Application Development Team members to ensure that the design and code meets customer requirements. May also work with SaaS and Cloud service providers.

Cloud Engineer

Skill Levels 2, 3, 4

The Cloud Engineer researches, designs, develops, tests, and evaluates systems that support cloud implementation and integration with cloud service providers, applying principles and techniques of computer science, engineering, and mathematical analysis. Plans and conducts technical tasks associated with the implementation and maintenance of private/public cloud enterprise infrastructure. Develops and executes

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cloud solution roadmaps as they relate to business. Executes company strategy to achieve business objectives.

Cybersecurity Engineer

Skill Levels 2, 3, 4

The Cybersecurity Engineer develops and implements advanced cyber defense solutions and changes for organizations. Safeguards the corporate infrastructure from infiltrations of exfiltration. Assures that the system is built to specification and is deployed successfully. Designs, maintains, and operates highly-complex and high secure communications network environments. Performs in-depth network security analysis and conducts preliminary incident response, event analysis, and threat intelligence. Reviews security events that could be a detriment to the organization's overall security stance.

Data Analyst

Skill Levels 2, 3, 4

The Data Analyst assesses complex data systems and programs in support of ad-hoc and standing management or customer requests. Creates programs, methodologies, and files for analyzing and presenting data. Examines data quality, applications, and functions. Produces output and sustains operation. Researches new data sources and analytical tools. Contributes to new product development and improvement in product delivery and presentation. Develops awareness of and familiarity with issues and events affecting organization, department, and/or customer. Uses and supports database applications and analytical tools. Uses timely and appropriate participation of users/customers in data collection and query systems.

Data Scientist

Skill Levels 2, 3, 4

The Data Scientist collects and analyzes statistics and information from multiple sources to spot trends and to gain maximum insight that can give the company a competitive advantage, and communicates informed conclusions and recommendations across an organization's leadership structure. Strategizes and identifies unique opportunities to locate and collect new data, explores and mines data from many angles, and determines what it means. Communicates data findings to both business and IT leaders to influence how an organization approaches and meets business challenges of an evolving customer base and changing marketplace, using strong business acumen. Finds and recommends new uses for existing data sources. Designs, modifies, and builds new data processes. Builds large and complex data sets.

Data Warehouse Architect

Skill Levels 2, 3, 4

The Data Warehouse Architect designs, develops, and implements the data architecture for a data warehouse. Selects appropriate hardware, software, tools, and system lifecycle techniques for the different components of the end-to-end data warehouse architecture including ETL, metadata, data profiling software, database platform, performance monitoring, reporting and analytic tools. Defines and documents the technical architecture of the data warehouse, including the physical components and their functionality. Sets or enforces standards and overall architecture for data warehouse systems. Monitors the data warehousing industry and assists in establishing the organization's data warehousing strategy and selection of strategic warehousing tools and techniques. Ensures compatibility of the different components of the data warehouse architecture and alignment with broader IT strategies and goals. Educates the project teams on the standards and architecture of each component of the data warehouse architecture. Possesses strong written and oral communication skills.

Data Warehouse/Business Intelligence (BI) Developer

Skill Levels 2, 3, 4

The Data Warehouse/Bi Developer is responsible for the successful delivery of business intelligence information to the entire organization and is experienced in Data Warehouse and BI development and implementations. Gathers business requirements and creates technical designs. Designs, develops, and supports new and current ETL processes employing industry standards and best practices to enhance loading of data from and into different source/ target systems. Provides support to the organization's business requirements in the application and consumption of information from the Data Warehouse. Review, analyze, modify, and create ETLs, testing, debugging, integration and implementation processes. Documents technical needs for ETL processes and databases. Ensures optimal technical infrastructure is utilized.

Database Administrator

Skill Levels 1, 2, 3, 4

The Database Administrator is responsible for data analysis and database management. Involved in maintenance, enhancement, designing of data dictionaries, physical and logical database models, and performance tuning. Knowledge of the utilities and production tools used for data storage management to support the Application Team. Coordinates physical changes to computer databases. Codes, tests, and implements physical databases, applying knowledge of database management system. Designs logical and physical databases. Reviews description of changes to understand how they will affect the physical database. Establishes physical database parameters. Uses structured query language (SQL) to define database objects using database definition language (DDL) and control access to database objects using data control language (DCL). Calculates optimum values for database parameters, such as amount of computer memory to be used by database, following manuals and using calculator. Specifies user access level for each segment of one or more data items, such as inserting, replacing, retrieving, or deleting data. Specifies which users can access databases and what data can be accessed by user. Corrects errors and refines changes to database. Uses database utility programs and 3rd party utilities to monitor database performance, such as distribution of records and amount of available memory. Modifies database programs to increase processing performance (performance tuning).

Database Architect

Skill Levels 2, 3, 4

The Database Architect designs, develops, and implements infrastructure to provide highly-complex, reliable, and scalable databases to meet the organization's objectives and requirements. Develops strategies for data acquisition, archive recovery, and implementation of a database. Analyzes organization's business requirements for database design, and executes changes to database as required.

Enterprise Architect

Skill Levels 2, 3, 4

The Enterprise Architect works across Application Development, Service Delivery and Infrastructure to identify, research, discuss, design, and implement key enterprise architecture standards. Other responsibilities include researching, designing, documenting, building, and piloting prioritized topics for standards. Manages the list of potential standards and works with the application development management team to prioritize efforts.

Works closely with Development, Infrastructure, and Service Delivery teams to understand their needs and ensure the best enterprise standard is implemented. Works closely with development teams to pilot and prove out the standard. Drives the identification, development and implementation of key new standards in areas such

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as Performance Testing, Security, Event Management, Web UI Framework, .NET Design Standards, Application To Application Communication, and Caching. Proposes new enterprise standards based on business need, IT need and technology advances. Assists development teams with implementing the standards into business applications. Investigates new technologies and techniques that should be developed into an agency enterprise architecture standard. Leads key enterprise architectural design projects as necessary. Operates as business savvy technical leader across the organization. Influences development teams to design high-quality, technical solutions that fit the enterprise's architecture standards. Educates application development managers, developers, and business analysts on Commonwealth Enterprise Architecture Standards.

ERP Analyst

Skill Levels 1, 2, 3, 4

The ERP Analyst assists with the development and maintenance of the Enterprise Resource Planning (ERP) program. Customizes and configures workflow to allow the integration of client/server applications. Tests ERP layout to ensure the system is meeting corporate needs. Analyzes business processes and establishes protocol to improve performance. Reviews and maintains documentation specifications and operating procedures.

ERP Database Administrator

Skill Levels 1, 2, 3, 4

The ERP Database Administrator administers, maintains, develops, and implements policies and procedures that ensure the security and integrity of the company's Enterprise Resource Planning (ERP) database. Implements data models and database designs, data access and table maintenance codes. Resolves ERP database performance issues, database capacity issues, replication, and other distributed data issues.

ERP Developer

Skill Levels 1, 2, 3, 4

The ERP Developer reviews, analyzes, and modifies the programming systems including encoding, testing, and debugging to support an organization's Enterprise Resource Planning (ERP) applications. Ensures that software can be completely integrated into the ERP system. Designs new modules to improve system efficiency. Manages the implementation of ERP software modules, interfaces, conversions, or technical infrastructure.

Geographic Information System (GIS) Analyst

Skill Levels 2, 3, 4

The GIS Analyst is responsible for performing a wide variety of production tasks for Geospatial projects and data management. Assists and supports Project Managers and Developers in meeting project deliverable requirements and deadlines. Uses various GIS software as well as various geographic data formats and standard data conversion and transformation methods, for geographic analysis. Performs data model design and development tasks. Develops Geographic Databases through use of GIS/GPS and advanced technologies for specialized purposes. Updates Geospatial data on an as-needed basis. Creates maps, reports, and presentations in support of various GIS and technology projects. Understands and implements ESRI versions and versioning schemes. Writes end user documentation as necessary. Provides on-going support for GIS programs and functions requiring programming and analysis. Troubleshoots problems associated with existing GIS applications, tools and data. Maintains and updates software used in geographic data input, analysis, and reporting. Recommends improvements or changes to GIS software to increase workflow efficiency. Resolves system outages or performance issues.

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GIS Developer

Skill Levels 2, 3, 4

The GIS Developer performs work related to the development, integration, and implementation of GIS systems and databases. Creates, maintains, displays, and updates the enterprise geographic information system. Implements GIS analysis and mapping solutions and other technical work-related to GIS. Creates new data products using various GIS software desktop and web platforms for a variety of projects and work efforts. Performs a variety of analysis tasks that are related to the development and implementation of the GIS system. Carries out GIS best practices. Troubleshoots and resolves technical issues with geospatial applications to include mobile systems. Communicates with internal and external technical resources to resolve end-user issues. Develops data quality assurance methods. Develops and maintains automated processing workflows. Creates maps, reports, and presentations in support of various GIS and technology projects.

Graphic Designer

Skill Levels 2, 3, 4

The Graphic Designer designs art and copy layouts for material to be presented by visual communications media such as books, magazines, newspapers, Internet websites, television, and packaging. Develops materials manually or utilizes graphic software to design and produce finished artwork or product. Plans content, graphic aspects, and presentation of material, product, or service.

Help Desk Analyst

Skill Levels 2, 3, 4

The Help Desk Analyst provides technical assistance to computer system users on a variety of issues. Identifies, researches, and resolves technical problems. Responds to telephone calls, emails, and personnel requests for technical support. Documents, tracks, and monitors the problem to ensure a timely resolution. Has knowledge of commonly used concepts, practices, and procedures within a particular field. Answers questions and resolves computer problems for clients in person, via telephone, or from a remote location. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems.

Infrastructure Solutions Architect

Skill Levels 2, 3, 4

The Infrastructure Solutions Architect analyzes user requirements, technical specifications, and existing technical architecture designs to develop and oversee the implementation of infrastructure architecture. Works with technical experts to analyze current technical architecture, identify problems, and learn specific technical requirements. Writes detailed description of requirements, systems interactions and interdependencies, and project plans required to deploy the chosen design. Reviews computer system capabilities, hardware, and software to determine if requested are possible within existing system. Designs changes based on existing infrastructure in order to meet requirements. Analyzes networking and computing hardware and software capabilities and makes recommendations for required components to best deliver services. Prepares workflow charts and diagrams to specify in detail operations to be performed by equipment and computer programs and operations to be performed by systems. Conducts studies pertaining to development of new information systems to meet current and projected needs. Plans and prepares technical reports, memoranda, and instructional manuals to document program development. Must be proficient with the techniques used to formulate architectures, including requirements discovery and analysis, application of abstraction, formulation

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of solution context, solution alternatives identification and assessment, technology selection, and architectural configuration. Extensive understanding and experience in technology areas for Mainframe and Distributed platforms, networking, databases, High Availability/Disaster Recovery, and IT security.

IT Auditor

Skill Levels 2, 3, 4

The IT Auditor audits information systems, platforms, and operating procedures (in accordance with established corporate standards) for efficiency, accuracy, and security. Evaluates IT infrastructure in terms of risk to the organization and establishes controls to mitigate loss. Determines and recommends improvements in current risk management controls and implementation of system changes or upgrades.

IT Governance Analyst

Skill Levels 2, 3, 4

The IT Governance Analyst works within IT Project Governance to provide oversight, direction and guidance/consultation for IT projects from project request submission through project close-out and post-implementation review. As a governance liaison, works with project managers to ensure all aspects of project management disciplines and ensures compliance with agency specific and Commonwealth project management and project governance policies, procedures, standards and guidelines have been followed. Reviews and validates project deliverables to ensure information accuracy, thoroughness, completeness and compliance. Ensures all projects have a valid project plan that maintains scope, tasks, schedules, estimates, and status, and that information is accurately disseminated to IT management. Directs corrective actions in any area where performance falls below objectives. Assists with the development, promulgation, implementation, and regular updates of IT Project Management and Systems Development standards, policies, guidelines, and any other governance policies and procedures needed for the overall IT governance framework. Ensures compliance with all policies and procedures in the execution of technology projects. Monitors the progress of technology projects and provides quick and accurate responses to IT Management as to status, issues, and risks of those projects. Serve as liaison between IT management and project managers. Monitors and supports the management of the division's technology portfolio comprised of projects, systems, data and tools. Provides mentoring, coaching, training, and on-boarding for project managers in the areas of PM tools, standards, policies, and procedures. Trains and mentors new members of the IT Project Governance team as needed. Initiates and conducts ongoing and regular IT Policy, Process, Procedure, and Standard reviews to ensure technology and governance best practices are incorporated into the agency's set of procedures. Improves business and IT compliance with legislative and regulatory policies that impact IT deliverables. Assists in the preparation of reports and materials for regularly scheduled project and program portfolio reviews with IT CIO, IT Managers, and PMs.

IT Purchasing Analyst

One Skill Level

The IT Purchasing Analyst is responsible for purchasing a wide range of information technology goods and services through a variety of purchasing options. Follows procurement guidelines, selects appropriate procurement method, and processes and maintains electronic procurement requests and invoices through automated accounting systems. Reconciles vendor inquiries and discrepancies. Participates in pre-bid conferences as needed. Performs administrative and fiscal tasks, accounts payable and receivable, and IT software inventory. Compiles financial data and review/analyze for budget formulation. Develops and maintains numerous fiscal and/or procurement related spreadsheets. Performs related functions as required. Knowledge of state and federal procurement regulations and systems, such as the Virginia Public Procurement Act and the

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eVA system, is very helpful. Considerable knowledge of principles and practices of IT procurement including automated procurement systems and tools, budget monitoring and maintenance, file and records management, and related bookkeeping, governmental accounting, and fiscal procedures.

IT Security Analyst

Skill Levels 1, 2, 3, 4

The IT Security Analyst monitors and advises on information security issues related to the systems and workflow at an agency to ensure the internal IT security controls for an agency are appropriate and operating as intended. Coordinates and executes IT security related projects for the agency. Coordinates response to information security incidents. Develops and publishes Information Security policies, procedures, standards and guidelines based on knowledge of best practices and compliance with organization's IT Security policies, standards, and guidelines. Conducts campus-wide data classification assessment and security audits and manages remediation plans. Collaborates with IT management, Internal Audit personnel, and state and local government entities to manage security vulnerabilities. Creates, manages and maintains user security awareness. Conducts security research and keeps abreast of latest security issues. Prepares IT security documentation, including department policies and procedures, agency notifications, Web content, and alerts.

IT Security Architect

Skill Levels 2, 3, 4

The IT Security Architect establishes the target security/infrastructure architecture. Authors corresponding requirements, including definition of dependencies on infrastructure consolidation efforts. Defines Security/Information Assurance requirements (and dependencies). Specifies key architectural aspects of the architecture view and identifies other aspects that need definition. Researches best practices for reuse, applies governmental and other industry IT security standards, and defines the transformation approach that transitions the current architecture to the target architecture.

IT Security Auditor

Skill Levels 2, 3, 4

The IT Security Auditor plans, executes and leads security audits across an organization. Inspects and evaluates information systems, management procedures and security controls. Evaluates the efficiency, effectiveness and compliance of operation processes with security policies and government regulations. Reviews and interviews personnel to establish security risks and complications. Executes and properly documents the audit process on a variety of computing environments and computer applications. Assesses the exposures resulting from ineffective or missing control practices. Accurately interprets audit results against defined criteria; weighs the relevancy, accuracy and perspective of conclusions against audit evidence. Provides a written and verbal report of audit findings. Develops rigorous "best practice" recommendations to improve security on all levels.

IT Sourcing Consultant

Skill Levels 2, 3, 4

The IT Sourcing Consultant works independently as the team leader in the development and execution of sourcing strategies for assigned projects, assisting customers in solving IT business problems. Leads the sourcing process (creation of solicitation documents, evaluation of proposals, and execution of agreed upon negotiations strategy with selected suppliers). Leads evaluation and execution of risk mitigation strategies and establishes solid contracts that are in the long-term best interest of the customer. Manages customer expectations for

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project deliverables through effective and timely communications. Conducts post-project “lessons learned” reviews with the customers to promote knowledge transfer and customer satisfaction. Advanced knowledge of security standards and progressive experience performing security audits.

IT Strategist

Skill Levels 2, 3, 4

The IT Strategist supports top management in IT strategy formulation, IT strategic plans execution, strategic process improvements, and communication of IT strategies to all stakeholders. Analyzes business performance, industry trends, existing or new regulatory requirements and their impact on IT operations. Makes recommendations on alternative courses of action, including risk assessment, capital investment, and acquisitions needed to align IT strategy with agency strategic plan. Requires advanced knowledge of strategic planning concepts and frameworks, business issues and concepts, research methodology, general management and financial analysis. Interacts with senior management, able to articulate and defend recommendations.

IT Trainer

Skill Levels 2, 3, 4

The IT Trainer designs, develops, and delivers IT Training through a variety of channels: classroom, CBT, and seminars. Develops an agency-wide training plan. Coordinates IT strategic planning process to determine the department’s training requirements through communications with staff throughout the agency. Identifies existing training that meets the requirements and provide a gap analysis of courses to develop in-house. Develops curriculum and training plan. Develops evaluation and monitoring methods to ensure quality training. Produces written documents with clearly organized thoughts using proper English sentence construction, punctuation, and grammar.

Mobile Specialist

Skill Levels 2, 3, 4

The Mobile Specialist serves in many capacities, including Developer, Engineer, Technical Architect, and Analyst for Mobile Projects. Guides and mentors the technical team in all phases of the SDLC including requirement validation, detail design, development, and implementation. Serves as the Designer, Developer and/or Engineer on Mobile Projects. Meets with end users and technical staff of all types to gather business and system requirements. Develops and/or engineers user interface, service tier, data tier components, infrastructure or security for Mobile Projects. Develops standards, repeatable processes, and reusable components. Assists in project planning, including the development of timelines, composition of technical teams, and leveling of resources. Mentors technical team leads and team members on organizational processes and standards, promoting consistency and productivity improvement.

Network Administrator

Skill Levels 1, 2, 3, 4

The Network Administrator installs, configures, and supports the organization's local area network (LAN), wide area network (WAN), and Internet system or a segment of a network system. Maintains network hardware and software. Monitors network to ensure network availability to all system users and performs necessary maintenance to support network availability. May supervise other network support and client server specialists and plan, coordinate, and implement network security measures. Coordinates the development, implementation, and maintenance of a local area network or wide area network. Maintains the network's

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physical and logical structures, including network connections. Maintains network support software, analyzes user support statistics, and recommends appropriate measures. Installs, tests, and maintains network hardware and software. Prepares and analyzes statistics on network utilization and availability. Prepares training courses and provides user support and training in the use of available hardware, software, and utilities. Performs tuning and capacity planning activities to enhance the performance of the network resources.

Network Architect

Skill Levels 2, 3, 4

The Network Architect participates in designing and developing the network to ensure that it is secure, reliable, and robust. Implements and maintains network management servers that assist the agency in managing, monitoring, and securing the network. Develops and implements detection activities to test network vulnerability to intrusion by hostile individuals or groups. Participates in detecting, investigating, documenting, and reporting actual or potential network security violations, intrusions, or other inappropriate use. Designs backbone infrastructure, network facilities, wide area networks, local area network, wireless and telecommunication networks to provide reliable Internet access, remote access to information technology services (ITS), network security, and high-performance networking. Evaluates security products and tests security systems performance. Assists in planning, implementing, and testing disaster recovery procedures. Participates in making formal risk assessments related to network security. Certification in areas related to network management and security preferred (CNE, MCSE, MSCE+1, CISA, CCNA, CCNP, CCIE, CCSA, CCSE, CCSE-PLUS, Cisco Security Specialist). Requires experience in the technical services and support field as well as experience in network administration (DHCP, DNS, routers, firewall, etc.)

Network Engineer

Skill Levels 1, 2, 3, 4

The Network Engineer installs networking technologies and supporting networks. Assesses existing network configurations and makes recommendations based on product specifications. Configures equipment and software to meet business needs, trains others on the solution, and documents the solution for ongoing support. Functions as part of a team on larger projects, or individually provides services on support visits or smaller projects. Provides technical support and assists with the design of network solutions. Possesses experience in the technical services and support field, as well as network administration (DHCP, DNS, routers, firewall, etc.)

Program Manager

One Skill Level

The Program Manager manages programs to ensure that implementation and prescribed activities are carried out in accordance with specified objectives. Plans and develops methods and procedures for implementing programs. Directs and coordinates program activities to ensure project goals are achieved. Exercises control over personnel responsible for specific functions or phases of programs.

Programmer Analyst

Skill Levels 1, 2, 3, 4

The Programmer Analyst converts data from project specifications and statements of problems and procedures to create or modify computer programs. Prepares (or receives from systems analyst) detailed workflow chart and diagram that illustrate the sequence of steps the program must follow and also describe input, output, and logical operations involved. Analyzes workflow chart and diagram, applying knowledge of computer capabilities,

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subject matter, and symbolic logic. Confers with supervisor and representatives of departments concerned with program to resolve questions of program intent, data input, output requirements, and inclusion of internal checks and controls. Converts detailed logical flow chart to language processed by computer. Enters program codes into computer system. Inputs test data into computer. Observes computer monitor screen to interpret program operating codes. Corrects program errors, using methods such as modifying program or altering sequence of program steps. Writes instructions to guide operating personnel during installation and maintenance of the application. May work with business analyst to obtain and analyze project specifications and flow charts. May direct and coordinate work of others to write, test, and modify computer programs.

Project Coordinator

Skill Levels 2, 3, 4

The Project Coordinator provides day-to-day coordination of project tasks. Maintains version control and provides administrative support for project management information system. Prior experience of large project administration. Ability to communicate at all levels of an organization and third parties. Experience with similar scale roles and organizations. The Project Coordinator is task focused. Works under the direction of the Project Manager or Project Lead and reports to a Project Manager or Project Lead.

Project Manager

Skill Levels 1, 2, 3, 4

The Project Manager designs, plans, and coordinates work teams. Follows standard project management industry practices such as the PMI's framework. Understands business and technical objectives of a project and works closely with project sponsor. Creates project charter and work plan and tracks budget and schedule progress via appropriate metrics. Establishes project organization and methodologies and defines roles and responsibilities. Documents risks and develops mitigation plans. Manages scope. Creates and implements a communication plan. Builds an effective team, assigns tasks to team members, and evaluates outcomes. Negotiates resources. Communicates to stakeholders and project sponsor. Identifies, tracks, and ensures resolution of issues and removal of barriers. Can provide technical support to project team members. Handles complex application features and technical designs. Designs and implements the components required for complex application features. Often manages a group of applications system analysts. Relies on experience and judgment to plan and accomplish goals. Professional certification is highly desirable. Project Managers can also be expected to meet the standards of various governmental entities, i.e. the Commonwealth of Virginia.

Public Safety Consultant

One Skill Level

The Public Safety Consultant performs systems analysis, design, documentation, and implementation of complex public safety communications projects. These projects may include needs analyses, staffing studies, consolidation plans, equipment assessments and planning, budget preparation and forecasting, performance reporting/analysis and other related supporting the operation of public safety answering points and first responders. Extensive knowledge of public safety communications and enhanced 9-1-1 systems. Knowledge of current 9-1-1 industry trends in technology architecture, microcomputers, networking, and the Internet/Worldwide Web.

Radio Engineer

One Skill Level

The Radio Engineer conducts the review, analysis, and design of current and proposed voice, data, and video communications, both wire line and wireless. Develops engineering plans and networks for the organization. Performs research to develop recommendations for enhancements, expansions, and/or consolidations of voice, data and video communications, using wire line and wireless equipment, facilities and services. Engineers system/network migration details toward sharing of integrated services, while laying the foundation of Open System Interconnections. Assists in the coordination, engineering, and processing of FCC licenses. Knowledge of FCC Land Mobile Radio (LMR) rules, policies, legal rulings and ongoing spectrum issues.

Robotics Software Engineer

Skill Levels 2, 3, 4

The Robotics Software Engineer writes and programs software used to control, manipulate and operate robots and robotic equipment. Maintains existing code and creates new code bases. Defines the architecture and general software design utilized in robotic machinery. Designs, codes, and debugs to ensure robots are stable and optimized.

Software Tester/QA Analyst

Skill Levels 1, 2, 3, 4

The Software Tester/QA Analyst develops, publishes, and implements test plans. Writes and maintains test automation. Develops, maintains, and upgrades automated test scripts and architectures for application products. Writes, implements, and reports status for system test cases for testing. Analyzes test cases and provides regular progress reports. Participates in the testing process through test review and analysis, test witnessing, and certification of software.

System Administrator

Skill Levels 2, 3, 4

The System Administrator is responsible for effective provisioning, installation/configuration, operation, and maintenance of computer hardware and software and related infrastructure. Ensures that system hardware, operating systems, software systems, and related procedures adhere to organization policies, standards, and guidelines. Responsibilities include systems administration engineering and provisioning, operations and support, maintenance and research and development to ensure continual innovation. Installs new/rebuilds existing servers. Configures hardware, peripherals, services, settings, directories, storage, etc. in accordance with standards and project/operational requirements. Performs daily system monitoring, verifying the integrity and availability of all hardware, server resources, systems and key processes, reviewing system and application logs, and verifying completion of scheduled jobs such as backups. Performs regular security monitoring to identify any possible intrusions. Performs daily backup operations and regular file archival and purge as necessary. Creates, changes, and deletes user accounts, as requested. Provides Tier III/other support, per request, from various constituencies. Investigates and troubleshoots issues. Diagnoses and recovers from hardware or software failures. Coordinates and communicates with impacted constituencies. Applies OS patches and upgrades on a regular basis, and upgrades administrative tools and utilities. Configures/adds new services, as necessary. Upgrades and configures system software that supports GIS infrastructure applications or Asset Management applications, as per project or operational needs. Maintains operational, configuration, or other procedures. Performs periodic performance reporting to support capacity planning. Performs ongoing

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performance tuning, hardware upgrades, and resource optimization. Configures CPU, memory, and disk partitions.

System Analyst

Skill Levels 1, 2, 3, 4

The System Analyst specializes in analyzing, designing, and implementing information systems. Assesses the suitability of information systems in terms of their intended outcomes and liaises with end users, software vendors, and programmers to achieve these outcomes. Plans a system flow from the ground up. Writes technical requirements from a critical phase. Interacts with software architects to understand software limitations. Helps programmers during system development, e.g. providing use cases, flowcharts, UML and BPMN diagrams. Documents requirements and contributes to user manuals. Knowledge of the limitations and capabilities of computer systems, applicable programming languages, computer hardware and software, computer operating systems, writing program code, and automated mapping. Analyzes systems and procedures, writes and revises standards and procedures, communicates effectively, and trains others. Identifies, understands, and plans for organizational and human impacts of planned systems. Ensures that new technical requirements are properly integrated with existing processes and skill sets.

Technical Support Analyst

Skill Levels 2, 3, 4

The Technical Support Analyst maintains, analyzes, troubleshoots, and repairs computer systems, hardware, and computer peripherals. Documents, maintains, upgrades, and replaces hardware and software systems. Supports and maintains user account information including rights, security, and systems groups. Performs basic operation, monitoring, installation, trouble shooting, relocations, or maintenance of communications equipment. Identifies and resolves basic communications problems. Prepares or assists in the preparation of service record documentation. Shows awareness of standards and regulatory requirements related to assigned tasks. Provides technical assistance and support for applications and hardware problems. Installs, maintains, moves, and assists in testing and upgrading new and existing hardware/software. Reviews and recommends procurement of information technology equipment. Maintains the necessary security controls over software. Makes presentations and briefings for training sessions. Prepares briefings, reports, and evaluations on system efficiency and utilization.

Technical Writer

Skill Levels 2, 3, 4

The Technical Writer develops and maintains user and technical documentation and project process documentation for Application Teams. Understands the user's view of applications and/or technology and is able to convey procedures in a logical sequence. The experienced Technical Writer leverages their broad understanding of the organization's applications and their expertise with technical concepts to structure procedures and documentation that is logical to all user groups. Ensures message and terminology is consistent across all written materials. Identifies, creates, revises, and maintains documentation and templates needed by the Application Teams.

UI/UX Designer

Skill Levels 2, 3, 4

The UI/UX Designer provides user-centered interaction and visual design methodology to improve the usability,

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ease of use, appeal, and functionality of the interaction between the customer and the product or service, addressing all aspects of a product or service as perceived by users. Implements interaction design and visual design as part of a multi-disciplinary team, including various designers, applying skills to a website or computer product, and working primarily with navigation structures and interface functions. Designs the visual layout for software Web applications, leveraging emergent technologies, electronics, and/or desktop and mobile devices. Researches interaction design and technology trends. Develops the “look and feel” of a specific computer interface and navigates the functionality of that interface, maximizing the potential of human-computer interaction. Applies user experience (UX) research and design methodologies throughout all phases of projects.

UI/UX Developer

Skill Levels 2, 3, 4

The UI/UX Developer designs, develops, and implements cross-browser and cross-platform user interfaces, such as graphics and multimedia, for web applications, web pages, and web components. Performs complex application programming activities in the latest technologies: Angular, Typescript, Node.js, HTML, CSS, etc. Creates features that are scalable, accessible, and rendered effectively across multiple browsers, operating systems, and device types (Desktop, mobile, tablet, etc.). Collaborates with product owners, designers, and other developers on different permutations to find the best solution possible. Ensures components are fully automated with unit and functional testing. Identifies ways to improve the existing components, making them more easily consumable to improve functionality and customer experience.

UX Analyst

Skill Levels 2, 3, 4

The User Experience (UX) Analyst analyzes current systems and product information and how they are used by consumers, and recommends interface designs based on understanding of users' needs. Researches system and product usability; interviews consumers to understand their needs; identifies usage patterns of users through surveys, log analysis, task analysis, and field observation; determines users' needs and presents findings to management, the product development team, and internal stakeholders. Documents suggestions and requirements for improving user experience. Designs, develops, and improves new and existing products and applications that best meet consumers' expectations and desires. Presents product and system solutions, ideas, and recommendations to the product development team and internal stakeholders that align with user needs and serve organization requirements.