Job Descriptions
Information Technology

Business Intelligence Developer

The Business Intelligence Developer (BID) is experienced in developing Business Intelligence Applications. This role requires the ability to work with commercial off-the-shelf (COTS) and custom tools designed to analyze business data that could include financial, operational, or other metrics reporting. This technology typically provides historical, current, and predictive views of operations. The Business Intelligence Developer will work with online analytical processes, business performance management, benchmarking, or predictive analytics applications. The Business Intelligence Developer's responsibility within the various stages of the development/implementation cycle can include requirements gathering, analysis, design, construction, testing, deployment, tool administration and configuration, and end-user training.

BID1

Years of Relevant Experience	2 to 4 years
Preferred Education	4 year college degree
Role Description	- Experience in at least four areas of the software development lifecycle. - Create systems for operational and analytical reporting. - Develop applications using data modeling, data quality, ETL, and RDBMS tools. - Work with data warehouses, data marts, legacy systems, and other data sources. - Create metadata for business intelligence applications. - Experience with architecture that allows users to retrieve data from multiple source types (mainframes, client/server, Windows, web based, etc.), including multiple server platforms, and access vast data sources.

BID2

Years of Relevant Experience	4 to 7 Years
Preferred Education	4 year college degree
Role Description	All roles specified in BID1 plus the following: - Experience in most areas of the software development lifecycle. - Perform database design and data modeling. - Experience managing resources for maintaining the data dictionary and meta-data for business intelligence applications.

BID3

Years of Relevant Experience	7 plus years
Preferred Education	4 year college degree
Role Description	All roles specified in BID2 plus the following: • Experience in all areas of the software development lifecycle. • Mentor and supervise other Business Intelligence developers. • Experience configuring RDBMS databases and servers supporting large volumes of data for business intelligence applications.

Data Center Specialist

The Data Center Specialist (DCS) is responsible for the monitoring and control of electronic computer equipment including peripheral devices and the management, enhancement, transformation and manipulation of a variety of print streams from various systems, products, and platforms. The Data Center Specialist may enter commands at computer terminals, set controls on computers and peripheral devices, monitor computer operations, and respond to system error messages.

DCS1

Years of Relevant Experience	1 to 4 years
Preferred Education	Associates Degree or equivalent technical study
Role Description	• Serves as a technician for computer operations and production control performing technical duties in the computer room. • Enters commands, using terminal or controls on a computer or peripheral device, to integrate and operate equipment. • Determines accuracy and acceptability of input. • Analyzes priorities and schedules, executes, prints, and distributes jobs. • Monitors the system for equipment failure or errors in performance; Troubleshoots and resolves problems. • Performs duties related to Operations' peripheral devices. • Reviews, analyzes, and corrects job control language. • Documents job start and end times, all job failures and problems that occur during the shift. Reports all problems to shift supervisor. • Uses software provided to produce reports.

DCS2

Years of Relevant Experience	4 to 7 years
Preferred Education	Associates Degree or equivalent technical study
Role Description	All roles specified in DCS1 plus the following • Serves as a working supervisor for a shift of computer operations personnel. • Oversees the operation of computer hardware systems, including coordinating and scheduling the use of computer terminals and networks to ensure efficient use. • Responsible for the running of the computer room. • Assigns work. • Plans and coordinates operations throughput with agency users. .

Data Entry Operator

For data entry projects that require manual key entry and/or data capture through scanning.

DE1

Years of Relevant Experience	0 to 2 years
Preferred Education	Associates Degree or equivalent
Role Description	• Comprehensive PC skills. • Able to follow written and spoken instructions. • Minimum of 25 wpm. • Ability to accurately enter information into a computer, access information from a computer, and verify information on a screen. • Duties involve utilizing automated equipment, including electronic keyboard, display screen, and sorted memory to perform. • Ability to operate and understand basic scanning and imaging equipment, including pan, skew, and image correction techniques. • Ability to conduct basic data mining and data capture efforts.

	• Services may be required to be provided at supplier's site using supplier's equipment. Typically need an end product of electronic data, typically transmitted through FTP. • Keypunch and verify records in specified format (ex. ASCII). • The contractor must complete all data forms within an agreed-upon amount of time from receipt or average a minimum of a set number of strokes each week data forms are in possession. • The total number of keystrokes is limited to actual characters, numbers, and special characters that are keyed. Spaces, function keys, nulls, and zeros are not counted as keystrokes. • Error rate cannot exceed 1/2%. Error rate is calculated on a character (not field or record) basis. • Pickup and delivery by contractor to be made on a weekly basis. • For key entry, required that a second individual completed 100% key verification to control errors. • Knowledge of imaging and visual display operating practices, procedures, and techniques. • Knowledge of arithmetic and numbering systems. • Ability to operate equipment with speed and accuracy to ensure information is captured.

DE2

Years of Relevant Experience	2 to 4 years
Preferred Education	Associates Degree or equivalent
Role Description	• Comprehensive PC skills. • Able to follow written and spoken instructions. • Minimum of 35 wpm. • Ability to accurately enter information into a computer, accessing information from a computer, and verifying information on a screen. • Duties involve utilizing automated equipment, including electronic keyboard, display screen, and sorted memory to perform. • Ability to operate and understand basic scanning and imaging equipment, including pan, skew, and image correction techniques. • Ability to conduct basic data mining and data capture efforts. • Services may be required to be provided at supplier's site using supplier's equipment. Typically need an end product of electronic data, typically transmitted through FTP. • Keypunch and verify records in specified format (ex. ASCII)

	- The contractor must complete all data forms within an agreed-upon amount of time from receipt or average a minimum of a set number of strokes each week data forms are in possession. - The total number of keystrokes is limited to actual characters, numbers and special characters that are keyed. Spaces, function keys, nulls, and zeros are not counted as keystrokes. - Error rate cannot exceed 1/2%. Error rate is calculated on a character (not field or record) basis. - Pickup and delivery by contractor to be made on a weekly basis. - For key entry, required that a second individual completed 100% key verification to control errors. - Knowledge of imaging and visual display operating practices, procedures, and techniques. - Knowledge of arithmetic and numbering systems. - Ability to operate equipment with speed and accuracy to ensure information is captured.

Data Mart Developer

The Data Mart Developer (DMD) must have Data Mart and Data Warehouse experience and be familiar with data modeling, configuration, and performance tuning. The Data Mart Developer will have a wide range of knowledge creating and architecting complex data warehouses and normalization/denormalization of various complex databases. The Data Mart Developer need not work with a specific RDBMS, as sometimes the diversity of systems adds value.

DMD1

Years of Relevant Experience	1 to 3 years
Preferred Education	4 year college degree
Role Description	- Perform data normalization. - Focus on production data marts and maintenance of existing marts/warehouses. - Tune and monitor data marts and transitioning data marts from development to production. - Recover from production data mart emergencies.

DMD2

Years of Relevant Experience	3 to 5 years
Preferred Education	4 year college degree
Role Description	All roles specified in DMD1 plus the following: • Experience with dimensional data modeling of star schemas using modeling tools. • Develop ETL processes using enterprise ETL platforms. • Develop Business Intelligence reporting tools. • Design and implement logical schemas, key constraints, triggers, and indexing strategies.

DMD3

Years of Relevant Experience	5 plus years
Preferred Education	4 year college degree
Role Description	All roles specified in DMD2 plus the following: • Demonstrate excellent analytical, oral, and written communications skills. • Oversee the design and implementation of logical schemas, key constraints, triggers, and indexing strategies. • Participate in end user interviews, requirements analysis, and star schema design for proofs of concept using various development strategies for building data marts in an enterprise data warehouse environment. • Mentor and supervise Data Mart and Data Warehouse developers.

Data Modeling Consultant

The Data Modeling Consultant (DMC) has extensive data modeling and analysis experience, including metadata program management, data quality analysis, and logical and physical data modeling. The Data

Modeling Consultant is also well-versed in conceptual/logical modeling. The Data Modeling Consultant has the ability to use graphical modeling tools and can mentor and supervise data modelers and analysts.

DMC1

Years of Relevant Experience	1 to 4 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	- Perform business analysis, data modeling, logical and physical database design, data acquisition analysis and design, and data access analysis and design. - Create pure logical data and business models of business subject areas using data modeling. - Participate in the design and development of large database applications. - Understanding of relational and dimensional data modeling techniques including data normalization/de-normalization, entity-relationship modeling, and star schema design. - Demonstrate excellent analytical, oral, and written communications skills, including the ability to clearly communicate complex technical concepts in non-technical English. - Experience with relational database technologies. - Develop data dictionaries, metadata, and data model documentation. - Use and administer data model repositories and their associated dictionaries.

DMC2

Years of Relevant Experience	5 to 7 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in DMC1 plus the following: - Create physical data models for large/complex systems from a logical business model, as well as a physical data model. - Create logical and physical data models through reverse-engineering of large/complex source systems using data modeling tools.

	· Extensive hands-on experience with relational and dimensional data modeling techniques including data normalization/de-normalization, entity-relationship modeling, and star schema design. · Coordinate and interface with business analysts and technologists. · Evaluate existing data models, both logical and physical, for accuracy and flexibility. · Prepare, evaluate, and integrate existing models with enterprise models.

DMC3

Years of Relevant Experience	7 plus years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in DMC2 plus the following: · Identify inter- or intra-database relationship conflicts that occur at the schema level or those that are semantical (i.e., synonyms and homonyms). · Resolve mission-critical databases' schema, entities, attributes, or instance relationship conflicts. · Mentor and supervise data modelers and analysts.

Database Administrator

The Database Administrator (DBA) is responsible for data analysis and database management. Database Administrators typically are involved in maintenance, enhancement, designing of data dictionaries, physical and logical database models, and performance tuning. Database Administrators have a range of skills and knowledge of the utilities and production tools used for data storage management to support the Application Team.

DBA1

Years of Relevant Experience	2 to 3 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	· Skilled data dictionary analysis and design and data model analysis design. · Maintains central data repository.

	• Experience and knowledge in supporting application system development life cycle. • Responsible for data dictionary backup and recovery. • Responsible for definition of standards of data dictionaries. • May program dictionary analysis and maintenance software. • Perform performance tuning. • Monitor database performance and space requirements. • Schedule and monitor end of day data warehousing jobs. • Assist in coordinating software releases. • Communicate accurate and useful status updates. • Manage and report time spent on all work activities. • Follow quality standards. • Ability to work in a team environment. • Complete assigned tasks. • Strong communication skills; both written and spoken.

DBA2

Years of Relevant Experience	3 to 5 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in DBA1 plus the following: • Business systems analysis and design experience. • Logical data modeling techniques. • Production environment Tools/Utilities. • Knowledgeable in data analysis and database management techniques. • Execution of all responsibilities with little direct supervision of Team Lead. • Administration and scripting experience in relative platform. • Supervise performance tuning. • Author shell scripts to perform back up, restore, and monitoring tasks. • Anticipate and resolve issues specific to the team. • Determine time estimates and schedule for own work and resolve issues in a timely manner. • Identify and track issues, risks and action items.

DBA3

Years of Relevant Experience	5 plus years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in DBA2 plus the following: • Highly skilled at database design, installations, conversions. • Responsible for database backup and recovery procedures, access security and database integrity, physical data storage design and data storage management. • Participates in Database Management System selection and maintains database performance. • Expertise in specific Database Management Systems. • Knowledge of various Database Management System products. • Provide status of work to Project Team Lead. • Engage in ongoing process improvement.

Engagement Manager

The Engagement Manager (EM) must have extensive experience in a progressive consulting leadership role, providing full life cycle services in an enterprise environment. This experience should be at the project, program, and enterprise level. The Engagement Manager will also direct the technical, business, and personnel aspects of consulting, the implementation of systems, applications, COTS and management of team(s) associated with various data systems.

EM1

Years of Relevant Experience	3 to 5 years
Preferred Education	4 year college degree
Role Description	• Demonstrate analytical, oral and written communications skills. • Experience with ETL processing using enterprise ETL platforms. • Experience with Business Intelligence reporting tools. • Design data marts in an enterprise data warehouse environment, including performance tuning. • Perform data normalization in large database management systems. • Facilitate end user interviews, requirements analysis, and star schema design for proofs of concept using various development strategies for building data marts.

	• Experience with architecture that allows users to retrieve data from multiple source types (mainframes, client/server, Windows, etc.), including multiple server platforms, and accessing vast data sources.

EM2

Years of Relevant Experience	5 to 10 years
Preferred Education	4 year college degree
Role Description	All roles specified in EM1 plus the following: • Understand and recommend replication methodologies and tools. • Provide consulting leadership for full lifecycle of an enterprise wide implementation. • Oversee design and implementation of logical schemas, key constraints, triggers, and indexing strategies.

EM3

Years of Relevant Experience	10 years plus
Preferred Education	4 year college degree
Role Description	All roles specified in EM2 plus the following: • Experience managing a team of diverse resources including remote contractors and outside application/systems vendors. • Well versed in the design of data and communications infrastructure for the express purpose of delivering consulting services that could include enterprise data integration, network infrastructure consulting and capacity resource planning.

Extract, Transform, and Load (ETL) Programmer

The Extract, Transform, and Load (ETL) Programmer has worked in areas of data mart/data warehouse design and has extensive knowledge of an Extraction, Transformation, and Loading toolset or toolsets.

The ETL Programmer has worked on some or all of the following steps: Cycle Initiation, Building of reference data, Extraction, Validation, Transformation, Staging, Auditing, Publishing to target tables, Archiving, and Cleaning. Systems may involve parallel processing or traditional ETL.

ETL1

Years of Relevant Experience	1 to 3 years
Preferred Education	4 year college degree
Role Description	• Participate in writing custom ETL statements or using commercial ETL tools to prepare database for implementation. • Use SQL programming tools. • Developing and creating source system mapping. • Verify program logic by preparing test data and conducting ETL unit tests.

ETL2

Years of Relevant Experience	3 to 5 years
Preferred Education	4 year college degree
Role Description	All roles specified in ETL1 plus the following: • Develop data warehouses, data marts, and/or operational data store applications, including large-scale data volumes, focusing on ETL development. • Analyze database design, including schemas, database structures, data definitions and data models. • Develop data models, entity-relationship diagrams, data dictionaries, referential integrity, and normalization evaluation in programs to maintain the database integrity, retrieve and manipulate data. • Develop enterprise-wide multi-dimensional data warehouses using relational databases.

ETL3

Years of Relevant Experience	5 plus years

Preferred Education	4 year college degree
Role Description	All roles specified in ETL2 plus the following: • Create data models, schemas, structure, and data definitions. • Extensive enterprise wide implementation of complex BI tools and ETL tools. • Conduct ETL and data model testing. • Mentor and supervise ETL programmers. • May have worked on Parallel processing implementations.

Functional Architect

The Functional Architect (FA) is the functional expert for an application, a defined set of applications, or a portfolio of related applications. The Functional Architect is also responsible for bringing an understanding of the enterprise, business system, and industry to the team(s) supporting or interfacing with the application. The primary responsibility of a Functional Architect is to provide expertise in the business process supported by the application, to prepare and review designs, to recommend improvements, and to provide guidance during the testing process. The Functional Architect 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. The Functional Architect must understand all aspects of their specific application(s), and the underlying business process. The more experienced Functional Architect plans, analyzes, and defines high- level software strategies and solutions. Contained in the experienced role is the task of coordinating with other Functional Architects to define technical requirements and long range plans for meeting customer requirements.

FA1

Years of Relevant Experience	2 to 4 years in particular application area
Preferred Education	4 year college degree or equivalent technical study
Role Description	• Analyze, determine, and document functional requirements. • Provide definition on how the applications will support business requirements. • Conduct impact analyses of business requirements on the system. • Work with Technical Architecture Specialist in defining software / hardware requirements. • Gather and interpret user requirements into design specifications. • Participate in design of application. • Participate in design code and test reviews as appropriate. • Provide inputs to test planning. • Complete assigned tasks. • Communicate accurate and useful status updates. • Follow quality standards. • Ability to work in a team environment.

	- Strong communication skills; both written and spoken.
	- Act as the application(s) functional expert; providing expertise in the business process supported by the application.
	- Provide detailed definition on how the applications will support business requirements.
	- Work with Technical Architecture Specialist in planning and delivering technical architecture.
	- Provide expertise for defining functional architecture and infrastructure for applications.
	- Plan and develop user interface strategy.
	- Direct and participate in design of application.
	- Interpret and understand user requirements/design specifications.
	- Provide detailed definition on how the applications will support business requirements.
	- Work with Technical Architecture Specialist in defining software / hardware requirements and in planning and delivering architecture.
	- Provide expertise for defining architecture and infrastructure for applications.
	- Review and understand team work plan.
	- Identify and track issues, risks, and action items affecting own work and work of team.
	- Anticipate and resolve issues specific to the team.
	- Determine time estimates and schedule for own work and resolve issues in a timely manner.

FA2

Years of Relevant Experience	4 to 5 years in particular application area
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in FA1 plus the following: - Provide functional expertise to planning organization as required. - Review tasks prior to migration into production as appropriate. Provide assistance in scheduling design work for Lead Functional Architect. - Coordinate the design and development of work estimates and act as the primary point of contact. Assist in managing and directing application team processes. - Organize and prepare work effectively to facilitate proactive resolution of problems. - Work with client and Lead Functional Architect to identify direction of software. - Ensure business requirements are supported by the software.

	• Identify and initiate continuous improvement opportunities. • Define user interface strategies. • Understand specific business needs and overall business strategy of the business customer.

FA3

Years of Relevant Experience	Five plus years in particular application area
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in FA2 plus the following: • Guide processes for Functional Architects and direct work planning and design activities. • Provide standard, well-structured work planning which defines scope, resources, commitments, quality, risk, tasks, and acceptance criteria. • Ensure that overall application designs remain within project scope. • Work with customer business units to understand their business processes. • Work with customer business units and client to identify direction of software. • Ensure business requirements are supported by the software. • Ensure goals for Functional Architects are being met and manage team commitments. • Analyze, define, and document how the applications will support functional and business requirements. Coordinate these efforts with Functional Architects. • Understand supporting/interfacing system applications. • Approve the determined need for new software/hardware. • Understand prioritization work based on business needs request/releases for work affecting an application. • Manage the accomplishment of delivery metrics, Service Level Agreements and other contractual obligations within areas of responsibility. • Sponsor coordination of the required skills, training, methodologies, and processes to ensure the success of team/project/program goals. • Coordinate and conduct project review meetings with Group Lead Functional Architects and Team Leads. • Communicate and resolve application interface issues with other Lead Functional Architects as needed. • Monitor and measure maintenance and development process effectiveness.

	• Communicate clearly the program/application goals, operational and organizational philosophies, and policies and procedures to the Functional Architects. • Communicate to team members the relationships between their work and assignments and the organizational and/ or program objectives.

Help Desk Support

Support in-house help desk teams by providing the skills listed below.

HDS1

Years of Relevant Experience	1 to 3 years field experience
Preferred Education	2 year associates degree or equivalent technical study
Role Description	• Provide service and preventive maintenance activities on element exchange/baseline products (products with element exchange service and traditional maintenance philosophies; i.e., terminals, printers, personal computers, etc.). • Basic knowledge of electrical/mechanical principles and basic electronics. • Read and comprehend technical service manuals and publications. • Knowledge of basic mathematics to read and understand various gauges, meters, and measurement devices. • Able to diagnose and repair products by replacing worn or broken parts, and making technical adjustments. • Makes appropriate use of reference publications and diagnostic aids in resolving technical problems. • Take active role in suggesting peripheral equipment. • Detect and correct equipment errors. • Prioritize and schedule own workload. • Assist in coordination of changes, upgrades and new products, ensuring systems will operate correctly in current and future environment. • Provide accurate and complete answers to general use and administrative environment questions in a timely manner. • Implement shared software, such as operating systems, configuration management tools, application and development tools, testing tools, compilers, and code editors. • Communicate accurate and useful status updates. • Manage and report time spent on all work activities. • Follow quality standards. • Ability to work in a team environment.

	• Complete assigned tasks. • Strong communication skills; both written and spoken.

HDS2

Years of Relevant Experience	3 or more years field experience
Preferred Education	2 year college degree or equivalent technical study
Role Description	All roles specified in HDS1 plus the following: • Thorough knowledge of electrical/mechanical principles and basic electronics. • Knowledge of system relationships and telecommunications. • Application of technical skill to a variety of equipment types. • Diagnoses and repairs industry systems products. • Perform routine service and repairs on industry system products without assistance. • Anticipate and resolve issues specific to the team. • Determine time estimates and schedule for own work and resolve issues in a timely manner. • Identify and track issues, risks and action items.

Information Security Specialist

The Information Security Specialist (ISS) is responsible for developing and documenting information security policies and standards, in addition to planning, coordinating, and implementing security measures for information systems. The Information Security Specialist will use software, hardware, and procedures to minimize the likelihood that the data could be maliciously accessed, stolen, modified, or deleted, and to regulate access to computer data files to prevent unauthorized usage or disclosure of information.

ISS1

Years of Relevant Experience	2 to 5 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	• Define best practice approaches to develop, implement and maintain an information security program. • Coordinate implementation of information security best practices, hardware, and software, including, but not limited to, network devices,

	servers, data classification, system management, databases, portal and desktop securities, and ancillary information security appliances such as intrusion detection, prevention, and response.
	• Develop plans to safeguard computer files against accidental or unauthorized modification, destruction, or disclosure and to meet emergency data processing needs. Monitor use of data files and regulate access to safeguard information in computer files.
	• Modify computer security files to incorporate new software, correct errors, or change individual access status.
	• Perform risk assessments and execute tests of data processing system to ensure functioning of data processing activities and security measures.
	• Encrypt data transmissions and erect firewalls to conceal confidential information as it is being transmitted and to keep out tainted digital transfers.

ISS2

Years of Relevant Experience	5 plus years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in ISS1 plus the following: • Identify and track issues, risks and action items. • Document information security policies, standards, and procedures spanning and encompassing the range of topics such as organization security, asset ID and classification, personal security, communications and operations management, access control, system development and maintenance, business continuity management, and compliance. • Document computer security and emergency measures policies, procedures, and tests. • Confer with users to discuss issues such as computer data access needs, security violations, and programming changes. • Train users and promote security awareness to ensure system security and to improve server and network efficiency.

Integration Engineer

The Integration Engineer is the key resource on a team of hardware, network and wiring technicians and is responsible for analyzing, planning, installing, and implementing network, systems/server, and/or voice/data telecommunications. The Integration Engineer also serves as a systems expert in implementing complex or proprietary systems that involve telephony or data communications.

IE1

Years of Relevant Experience	0 to 2 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	- Conduct analysis of blueprints or initial scoping design. - Meet with architects and other engineers to ensure the hardware and associated systems are implemented according to the proper standards. - Review integration plans for accuracy and consistency. - Share integration plan with the other on-site teams. - Communicate with client on approvals for network/systems integration plans. - Consult with IT managers to ensure products/servers/hardware/ telephony are being implemented and installed according to plan. - Receive and review quotes for vendor equipment. - Coordinate delivery of equipment and ensure proper installation of equipment.

IE2

Years of Relevant Experience	2 to 5 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in IE1 plus the following: - Conduct drawing review. - Create the integration plan, including network documentation. - Create back-up delivery plans. - Manage tasks of team to ensure adaptation to schedules. - Communicate blueprint and schedule modifications to architects impacted by change. - Conduct actual integration installation for proprietary hardware/servers/technology. - Integrate specialized technology. - Oversee integration of facilities that are less than 30,000 square feet.

IE3

Years of Relevant Experience	5 plus years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in IE2 plus the following: • Manage product and system integration in concert with architects and construction managers. • Oversee integration of facilities that exceed 30,000 square feet.

Network Systems Administrator

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

NSA1

Years of Relevant Experience	2 to 5 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	• Monitor, diagnose and troubleshoot network (LAN/WAN) performance, hardware and software platforms, resolve server connectivity issues in a multi-tiered and secure networking environment, and replace defective components. • Install, configure, manage and maintain server hosted network attached storage (NAS) and storage area network (SAN) disk storage technologies. • Perform server backups, restorations, fail-over recovery, and disaster recovery operations. • Maintain and administer computer networks and related computing environments including computer hardware, systems software, applications software, and all configurations. • Plan, coordinate, and implement network security measures to protect data, software, and hardware. • Perform routine server operating system and application software maintenance with patches and updates. • Test computer hardware, networking software and operating system software.

	• Confer with network users about how to solve existing system problems. • Coordinating with vendor for problem resolution. • Experience in network cabling systems and fiber optic cabling.

NSA2

Years of Relevant Experience	5 plus years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in NSA1 plus the following: • Design, install, configure, monitor and troubleshoot network equipment such as, but not limited to, Hubs, Network Interface Cards (NIC), Local Area Network (LAN) cards, hard drives, Ethernet switches, routers, wireless bridges, monitoring devices, access points, firewalls, intrusion detection systems, and content devices. • Recommend changes to improve systems and network configurations, and determine hardware or software requirements related to such changes. • Supervise other NSA's and train them in advanced skills related to networks. • Technical writing and documentation.

Network Systems Analyst

The Network Systems Analyst (SAN) works with technical architects and client users to obtain current systems requirements, technical specifications, and bandwidth needs (i.e. number of users, operational procedures, systems size and configuration, etc). The Network Systems Analyst writes detailed descriptions of user needs; programs functions and steps required to add, modify, enhance or change network, hardware, and systems software attributes or configurations. In addition, the SAN may review computer system capabilities, workflows, and scheduling limitations to determine if a program request or program change is possible within the existing system.

SAN1

Years of Relevant Experience	0 to 2 years
Preferred Education	4 year college degree or equivalent technical study

Role Description	- Research, test, evaluate, and recommend telecommunications and data network systems. - Analyze workload, including traffic and utilization trends. - Interface with users, consultants, technical teams, and vendors to determine the most appropriate type of hardware/network/systems installation. - Support complex PCs and LAN/WAN networks throughout the organization. - Knowledge and experience with local and wide area networking, communications, and related hardware and software. - Monitor performance of system/network/program performance after implementation and installation.

SAN2

Years of Relevant Experience	2 to 5 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in SAN1 plus the following: - Identify areas that need upgraded equipment, such as modems, fiber optic cables, and telephone wires. - Analyze user requirements, procedures, and problems to automate processing or to improve existing computer system. - Study existing information processing systems to evaluate effectiveness. - Devise ways to apply existing systems resources to additional operations. - Plan, design, and develop new computer systems to improve production or workflow, as required. - Prepare workflow charts and diagrams that detail the operations to be performed by equipment and computer programs and operations, as well as personnel.

SAN3

Years of Relevant Experience	5 years plus
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in SAN2 plus the following:

	- Possess advanced knowledge and experience in the area of local and wide area networking, communications, and related hardware and software. - Conduct system studies that will help the organization realize maximum benefit from investing in equipment, personnel, and business processes. - Plan and prepare technical reports, memoranda, and instructional manuals to document program development. - Perform system upgrades and correct errors to maintain system after implementation.

Product Specialist

The Product Specialist (PS) is the expert for a technical development or execution environment product or set of products. The primary responsibility of a Product Specialist is to ensure the availability and facilitate the productive use of a product for Application Teams or end users. The Product Specialist may own part of a product, all of one product, or several products depending on the nature of the product(s) and their use. The Product Specialist requires significant to expert experience and skills in the product supported. The Product Specialist will usually also have significant experience in the operating environment(s) (e.g., HP/UX, NT, MVS, etc.) on which the product is implemented. If the product is one that was internally developed, the supporting PS should also have most of the skills of a Programmer. The Product Specialist is responsible for collaborating with Technical Architecture Specialist, System Specialists, Programmers and vendors to ensure and enhance the use of the product and effect migration to new versions of a product.

PS1

Years of Relevant Experience	1 to 2 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	- Make sound recommendations on functional and technical improvements to the product. - Analyze the functional and technical impact of product planning decisions. - Develop appropriate functional and usability standards for products. - Track and document expected volume and type of use of the product. - Participate in product design reviews to verify that design meets quality standards and functional/technical requirements. - Perform impact analyses on production fixes and enhancements to establish priorities. - Provide basic product support and provide accurate and complete answers to detailed product questions in a timely manner. - Provide effective on-site product support as needed. - Accurately sets severity of identified defects. - Provide input to training and / or documentation materials regarding latest technical and functional design changes.

	- Document all work for future reference.
	- Review the system test approach and conditions used as the basis for detailed test scenarios.
	- Follow quality standards.
	- Analytical and customer service skills.
	- Communicate accurate and useful status updates.
	- Ability to work in a team environment.
	- Complete assigned tasks.
	- Strong communication skills; both written and spoken.

PS2

Years of Relevant Experience	2 to 5 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in PS1 plus the following: - Actively contribute as an expert or actual designer. - Coordinate product design reviews to verify that design meets quality standards and functional/technical requirements. - Provide accurate estimates for design and programming efforts for system changes and enhancements. - Coordinate enhancements to business and logical data models with data base administration to make the appropriate changes to the physical data model. - Confirm that technical architecture will support all changes required by product enhancements. - Effectively lead product tests and trials. - Identify appropriate business examples to illustrate key concepts / features. - Anticipate, identify, track and resolve issues and risks affecting own work and work of the Application Team. Develop contingency plans as necessary. - Apply specific expertise to ensure that products meet defined customer objectives. - Anticipate and resolve issues specific to the team. - Determine time estimates and schedule for own work and resolve issues in a timely manner. - Identify and track issues, risks and action items.

PS3

Years of Relevant Experience	5 years plus
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in PS2 plus the following: • Demonstrate expertise in teaching / conveying technical and / or functional courses / concepts. • Develop appropriate work programs / budgets and use to effectively schedule tasks/assignments. • Identify improvements to project standards to achieve high quality services / products.

Programmer

The Programmer (PR) is responsible for analysis, design, coding, component and assembly testing of all application code owned by the Application Team. Programmers typically are involved in maintenance (including production support), enhancement, and development work. Programmers have a range of skills and knowledge of the technologies used and applications supported by the Application Team. The Programmer works with the Functional Architect and Technical Architecture Specialist on an as needed basis to ensure that design and code meets customer requirements.

PR1

Years of Relevant Experience	Less than 2 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	• Code enhancement and development programs and/or required fixes to production problems using the functional and technical programming standards. • Test enhancement and development programs. • Participate in structured code reviews / walkthroughs. • Execute all required process steps. • Create and provide content for operational documentation to Technical Writers. • Utilize configuration management tools, design tools, debugging tools, and any other environment specific tools necessary to create, test, and implement an application. • Research problems before approaching the Team Lead or Functional Architect for assistance. • Limited functional knowledge. • Follow quality standards.

	- Support installation of application releases into production as directed. - Communicate accurate and useful status updates. - Ability to work in a team environment. - Complete assigned tasks. - Strong communication skills; both written and spoken.

PR2

Years of Relevant Experience	2 to 5 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in PR1 plus the following: - Analyze and design enhancements, development programs, and/or required fixes to production problems. - Design applications to functional and technical programming standards. - Work with Functional Architects to gather and interpret user requirements into design specifications. - Develop system specifications and interfaces. - Determine time estimates and schedule for work. - Possess moderate functional and process knowledge. - Assist in managing and directing Application Team processes. - Coordinate work with other software developers on Application Teams. - Assist Team Lead or Test Team Lead in monitoring estimated-time-to-complete (ETC) and actuals for assigned tasks. - Develop application designs in support of the systems specifications and interfaces, perhaps in conjunction with application or technical architects. - Operating System expertise sufficient to perform performance and tuning diagnostics. - Work with users to ensure that solutions meet business requirements. - Execution of all responsibilities with little direct supervision of Team Lead. - Generally aware of new developments in industry and process and has ability to apply them to work as appropriate. - Anticipate and resolve issues specific to the team. - Determine time estimates and schedule for own work and resolve issues in a timely manner.

	• Identify and track issues, risks, and action items.

PR3

Years of Relevant Experience	5 to 8 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in PR2 plus the following: • Plan all required process steps. • Review and understand the Application Team's work plan. • Provide status of work to Team Lead. • Anticipate, identify, track and resolve issues and risks affecting own work and work of the Application Team. Develop contingency plans as necessary. • Engage in ongoing process improvement. • Possess detailed functional and process knowledge. • Utilize deep modeling, design, and coding skills. • Provide expertise in one or more database environments.

Project Manager

The Project Manager (PM) directs, administers, and regulates an enhancement or development program. The Project Manager is the individual ultimately responsible to the agency. The Project Manager's primary responsibility is to drive the entire effort from start to finish. The Project Manager must ensure that the program is completed on schedule and that the final product meets the business, technical, and established quality requirements. The difference between a PM1, PM2, and PM3 will depend on the size of the project, and the breadth and scope of the project.

PM1

Years of Relevant Experience	2 to 5 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	• Responsible for the development of estimates for the enhancement or development effort in planning, analysis, design, construction, testing, and implementation. • Accountable for delivery of all work tasks identified in the program plan. • Responsible for the capture and reporting of required program management metrics.

	- Adjust and revise estimates when necessary. - Ensure all changes to scope follow change processes and are documented. - Ensure new estimates are approved by the client and agreed upon. - Adjust and revise estimates when necessary. - Manage, and track the program progress against the program plan. - Monitor project milestones and phases to ensure the project is on schedule. Take corrective actions if a project begins to slip its schedule. - Prepares status reports on a periodic basis for program team, team leads, group leads, and program manager and appropriate stakeholders. - Plan, organize, prioritize, and manage multiple work efforts across application teams. - Develop the detailed program plan for the enhancement or development effort. - Accountable for the final program management evaluation review with stakeholders for approval upon program completion. - Responsible to tailor and baseline all program templates. - Accountable to schedule or monitor status reviews, peer reviews, program management inspections, and software quality assurance work product and process reviews with the appropriate designated resources. - Notify team leads of project timelines, milestones, phases, work requests target dates, and approved executable work package. - Communicate and work with users and client as necessary. - Coordinate and present proposals to agencies as necessary. - Analyze and distribute reports on program metrics associated with work items related to improvement measures. - Ensure processes and activities are followed.

PM2

Years of Relevant Experience	5 to 7 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in PM1 plus the following: - Accountable for the approval and sign-off of the program plan with customer representatives, such as portfolio managers, and all affected program stakeholders. - Accountable for management of scope for the program and gaining agreement and approval of scope changes with customer representatives and affected stakeholders.

	• Build and maintain relationships with key stakeholders and customer representatives. • Direct work planning and scheduling design work. • Manage and track the program progress against the program plan. • Serve as the primary point of contact for all program-related issues and resolution of issues. • Coordinate and present proposals to agencies as necessary. • Identify and manage program risks and develop risk mitigation strategies; track to closure. • Ensure team leads adjust and revise estimates when necessary. • Anticipate issues and proactively address them. Resolve conflicts with sensitivity and tact. • Coordinate the establishment of program standards and program specific procedures with team leads. • Responsible for project compliance with standards and procedures. • Responsible for the capture and reporting of required program management metrics. • Responsible to tailor and baseline all program templates. • Develop and facilitate achievement of program service commitments and performance metrics. • Ensure that tasks provide value and support the strategic direction of the program and meet service commitments; conduct reviews with agencies. • Accountable for the final program management evaluation review with stakeholders for approval upon program completion. • Communicate effectively with customers and software / hardware suppliers supporting the State as appropriate. • Identify and track issues. • Balance workload with program members' capacity. • Communicate to team members how their work assignments relate to and help achieve program objectives. • Plan program specific training and orientation needs.

PM3

Years of Relevant Experience	7 plus years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in PM2 plus the following: • Accountable for activities with delivery cycles in excess of 8 to 12 months.

Quality Assurance Specialist

The Quality Assurance Specialist (QAS) is responsible for the design, pilot, and implementation of the software quality assurance review processes. The QAS Specialist will work with Application Teams during pre- and post- assessment periods. The QAS Specialist reports to the Quality Assurance Team Lead. For each phase end review, the Quality Assurance Specialist is responsible to plan, schedule, execute, and document findings of the review. Quality Assurance Specialists must have a detailed understanding of processes which support the software development lifecycle. The Quality Assurance Lead is responsible for communicating with the State regarding the progress of the quality approach and a summary of the metrics, as well as managing the Quality Assurance Specialists.

QAS1

Years of Relevant Experience	3 years software development and testing
Preferred Education	4 year college degree or equivalent technical study
Role Description	- Assist in software activities in defined span of control for the organization. - Track and monitor process and work product improvement opportunities. - Collect, review, and evaluate the project's required work products against standard work product templates. - Verify that established measurement procedures are used and all required metrics are collected - Respond to requests for information. - Coordinate work with others on team and across teams. - Draft report of observations, minor and major non-compliance. - Develop quality standards. - Monitor progress of action item resolution activity and ensure appropriate internal stakeholders are aware of pending deadlines. - Conduct training courses with project teams on software quality review process. - Research problems before approaching Quality Assurance Lead for assistance. - Communicate accurate and useful status updates. - Manage and report time spent on all work activities. - Follow quality standards. - Ability to work in a team environment. - Complete assigned tasks. - Strong communication skills; both written and spoken.

QAS2

Years of Relevant Experience	5 years software development, testing, and project management
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in QAS1 plus the following: • Conduct software quality phase end review activities (work product and process) for each software project and produce the required quality assurance reports, as specified in the project's quality assurance plan. • Ensure the software development process followed by the project teams is compliant with approved tailored processes. • Review and check project's software development activities and the associated internal tasks required by the agencies as employed by the project and specified in the project plan. • Prepare preliminary software quality audit package for review before conduct of audit. • Define quality standards. • Monitor progress of action item resolution activity and ensure appropriate stakeholders are aware of pending deadlines. • Assist in managing and improving quality assurance team processes. • Review and understand project team work plan. • Determine time estimates and schedule for software quality review work. Conduct reviews according to schedule. • Organize and prepare work effectively to facilitate proactive resolution of problems, rather than reactive. • Identify and track issues, risks, and action items affecting own work and work of team. • Report on progress of action item resolution and possible risk areas. • Anticipate and resolve issues specific to the team. • Determine time estimates and schedule for own work and resolve issues in a timely manner.

QAS3

Years of Relevant Experience	5 years software development, testing, and project management
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in QAS2 plus the following: • Review project's required work products to ensure compliance with approved tailored procedures and standards.

	- Review and check project's software development activities and the associated internal tasks required as employed by the project and specified in the project plan. - Compare actual project procedures to the specified standards, procedures, and, if required, specific 3rd party contractual requirements. - Perform detailed reviews of interim and final tasks as appropriate. - Ensure process improvement opportunities are reviewed by appropriate contact to identify training needs of the organization. - Perform or manage the required software quality phase end reviews of work product and process for each software project and produce the required software quality reports, as specified in the project's software quality plan. - Develop, and manage short and long-term plans and schedules for organization-wide software quality needs. - Balance workload with team's capacity by managing the team's activities according to schedule and budgets. - Coordinate and procure the required skills and techniques required. - Obtain feedback from project teams regarding the overall effectiveness of processes and procedures – Forward to appropriate stakeholders and process owners. - Provide feedback to project teams regarding process/procedure improvement opportunities and other potential areas for improvement discovered during software quality activities. - Report all software quality-revealed non-compliance. - Provide regular reports on the results of compliance reviews to the project team, project team leaders and management. Report on progress on action item resolution and possible risk areas. - Anticipate and resolve issues dealing with software quality. - Develop options and recommendations to assist teams in resolving issues. - Ensure action items are addressed and closed based on agreed dates and activities. - Ensure that defined processes are followed. - Communicate related improvement measures to the project team. - Obtain feedback from project teams regarding the overall effectiveness of software quality processes followed. Review with team and develop continuous improvement action plans. Report status to executive team. - Communicate and work with customers and other personnel as necessary. - Communicate clearly the team goals, organizational philosophies, and policies and procedures to the team. - Communicate to team members the relationship between their work assignments and the team and project objectives. - Lead efforts in developing and facilitating implementation of team goals and metrics.

Software Process Engineer

The Software Process Engineer is responsible for implementing and supporting a set of standard software engineering processes used by agencies. The Software Process Engineer participates in the entire life-cycle of software process improvement initiatives. This includes the planning, analysis, design, construction, testing, and implementation of new processes. The Software Process Engineer is responsible for identifying opportunities for improving existing processes and implementing appropriate solutions.

The Software Process Engineer is also responsible for supporting projects and individual Teams in the use and understanding of processes on an ongoing basis. The Software Process Engineer is responsible for collaborating with the Team Lead(s) and Program Managers to provide guidance to team members and facilitate continual software process improvement. The Software Process engineer must understand all aspects of the specific processes used by the Teams. The Software Process Engineer must also be familiar with industry process models and standards.

SPS1

Years of Relevant Experience	3 years in Computer Software development
Preferred Education	4 year college degree or equivalent technical study
Role Description	- Facilitate the implementation of standard software engineering processes. - Identify software development process improvement opportunities either independently or through working with projects and teams. - Assist in planning software process improvement initiatives. - Direct and participate in teams working on the analysis, design, construction, testing, and implementation of new processes. - Work with projects and teams to define the need for tailored processes and tools and assist in implementation, as appropriate. - Provide ongoing support to projects and teams in the use and understanding of the software processes. - Provide on-site support for teams on process related issues. - Provide assistance to the Software Process Engineer Lead in planning and scheduling activities. - Provide support in tracking and monitoring the success of process improvement initiatives. - Monitor and solicit feedback on the usability and functionality of implemented processes. - Communicate accurate and useful status updates. - Manage and report time spent on all work activities. - Follow quality standards. - Ability to work in a team environment. - Complete assigned tasks. - Strong communication skills; both written and spoken.

SPS2

Years of Relevant Experience	5 years in software development and testing
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in SPS1 plus the following: • Facilitate the implementation of standard software engineering processes across agencies. • Determine time estimates and schedule for own work and resolve issues on a timely basis. • Identify and track issues, risks and action items. • Determine process to support various initiatives. • Lead the development of content for process training and deliver process training as appropriate. • Coordinate with various teams about process improvement opportunities. • Anticipate and resolve issues specific to the team. • Determine time estimates and schedule for own work and resolve issues in a timely manner. • Identify and track issues, risks, and action items.

SPS3

Years of Relevant Experience	7 years total experience; 5 years in software development and testing
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in SPS2 plus the following: • Organize and prepare work effectively to facilitate proactive resolution of problems. • Anticipate and resolve issues on a timely basis. • Communicate accurate and useful status as appropriate. • Demonstrate and promote a focus on client service. • Communicate effectively with suppliers as appropriate. • Work with internal customers and others to identify direction of software process. • Identify knowledge in a form that is reusable.

System Administrator

The System Administrator (SA) is responsible for server back up and security, along with performance tuning and capacity planning. System Administrators should possess an understanding of network and distributed computing concepts. This is accomplished by working with the Systems Management Team Lead to understand the scope of services to be provided and assessing the impact they will have on the technical infrastructure.

SA1

Years of Relevant Experience	Less than 2 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	- Familiarity with most basic system administrator tools and process; for example, can boot/shutdown a machine, add and remove user accounts, use back up programs, and maintain system database files. - Maintain the project servers. - Maintain the file and print capacity. - Ensures that backups are performed as appropriate. - Act as a front-line interface to users. - Accepts trouble reports and dispatch them to appropriate system administrators. - Ability to write scripts in a particular administrative language. - Programming experience with any applicable language. - Communicate accurate and useful status updates. - Manage and report time spent on all work activities. - Follow quality standards. - Ability to work in a team environment. - Complete assigned tasks. - Strong communication skills; both written and spoken.

SA2

Years of Relevant Experience	2 to 4 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in SA1 plus the following - Responsible for operating and other system software. - Responsible for upgrading the operating and system software and keeping patches current. - Familiarity with fundamental networking/distributed computing environment concepts.

	• Ability to do minimal debugging and modification of programs. • Execute the disaster recovery/back up procedures and archiving procedures. • Manage security for servers. • Responsible for performance tuning, capacity planning, database administration, and fault management. • Provide tier two support of the technical infrastructure. • Coordinating efforts with vendors if tier three support is required. • Responsible for ensuring high priority issues are resolved in a timely manner. • Responsible for keeping the environment up and running. • In many cases is responsible for identifying and reporting hardware problems. • Capable of writing purchase justifications. • Understands basic routing concepts. • Identify and track issues, risks, and action items. • Resolve and/or assist in resolving issues. • Review, prioritize, and research service requests. • Anticipate and resolve issues specific to the team. • Determine time estimates and schedule for own work and resolve issues in a timely manner.

SA3

Years of Relevant Experience	4 plus years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in SA2 plus the following: • Solid understanding of networking/distributed computing environment concepts. • Understands principles of routing client/server programming. • Manage expectations at all levels: customers/end users, executive sponsors. • Ensure quality standards are followed. • Understand the business application of technical support and design in an application development environment. • Work with the various Infrastructure teams and operations provider to identify the strategic direction of systems management activities. • Understands the design of consistent network-wide file system layouts. • Maintain strong relationships with employees and various tier two and three support groups. • Develop plans for disaster recovery / backup and archiving.

	• Manage the daily operations of the systems management team to ensure service levels are being met.
• Manage the systems management team's support issue and backlog.
• Monitor the team's open backlog of support issues and re-assign issues as necessary to ensure they are closed per agreed upon service levels.
• Act as the first level of escalation for high priority support issues.
• Function as the liaison to the various support groups with whom the systems management team interfaces.
• Develop the technical infrastructure maintenance strategy.
• Manage the system management resources.
• Act as a system's management expert.
• Analyze, determine, and document requirements in terms of system management needs and implement them.
• Identify, approve, and prioritize team projects.
• Manages a large site or network.
• Recommends policies on system use and services.

System Specialist

The System Specialist (SS) is knowledgeable on the usage and support of a collection of development platforms or technical architectures, and products that run on those platforms. The primary responsibility of a System Specialist is to ensure the availability and facilitate the productive use of a development platform or a test environment for Application Teams or end users. The System Specialist may support one or several instances of a platform/environment, applying their skills directly to a platform/environment and/or leveraging their skills across multiple platforms/environment. The System Specialist may, especially for usage and support of a platform, be part of an Application Team using the architecture. The System Specialist requires experience and skills in the environment supported and in the operations and common usage of products for the environment. The System Specialist is responsible for collaborating with Technical Architecture Specialists, Functional Architects, Programmer,s and vendors to coordinate and enhance the use of the platform and facilitate migration to new versions of the platform.

SS1

Years of Relevant Experience	1-3 years in desired environment
Preferred Education	4 year college degree or equivalent technical study
Role Description	• Assist in coordination of testing changes, upgrades and new products, ensuring systems will operate correctly in current and future environment.
• Make recommendations on functional and technical improvements to the environment.
• Participate in performance and volume analysis and design.
• Participate in performance improvement activities. Identify and apply potential improvements related to the environment for an application.

	• Provide accurate and complete answers to general use and environment questions in a timely manner. • Provide effective on-site environment support as needed. • Accurately set severity of identified defects. • Provide input to training and/or documentation materials regarding latest technical and functional design changes. • Ensure that all work is documented for future reference. • Follow quality standards. • Ensure effective and reliable backups are being performed and distributed properly. • Proactively address customer needs. • Track and anticipate volume and type of use of the environment. • Plan and implement shared software, such as operating systems, configuration management tools, application and development tools, testing tools, compilers, and code editors. • Basic scripting and programming skills, including languages that run on specified platform. • Analytical and customer service skills. • Communicate accurate and useful status updates. • Ability to work in a team environment. • Complete assigned tasks. • Strong communication skills; both written and spoken.

SS2

Years of Relevant Experience	3-5 years in desired environment
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in SS1 plus the following: • Plan and manage network operating system upgrades. • Actively participate in analyzing and evaluating emerging software and hardware technologies/standards. • Serve as a liaison between teams for network planning and connectivity. • Develop appropriate functional and usability standards for the environments. • Plan or assist in planning network environment, including supporting existing structure and enhancements. • Plan and coordinate testing changes, upgrades and new and standard products, ensuring systems will operate correctly in current and future environment.

	• Anticipate, identify, track and resolve issues and risks affecting own work and work of the Application or Environment team. Develop contingency plans as necessary. • Analyze the functional and/or technical impact of new product releases. • Advanced scripting and programming skills, including languages that run on specified platform. • Anticipate and resolve issues specific to the team. • Determine time estimates and schedule for own work and resolve issues in a timely manner. • Identify and track issues, risks and action items.

SS3

Years of Relevant Experience	5 plus years in desired environment
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in SS2 plus the following: • Identify opportunities for new and improved technologies/standards to be used in the organization. • Identify, plan, and implement phase-out strategies for products and technologies. • Plan and coordinate testing changes, upgrades, and new products, ensuring systems will operate correctly in current and future environment. • Demonstrate expertise in teaching/conveying technical courses/concepts. • Assist in setting architecture direction and knowledge sharing. • Plan, organize, prioritize, and manage multiple work efforts the Application or Environment Teams. • Develop appropriate work programs and use to effectively schedule • tasks/assignments.

Team Lead

The Team Lead (TL) manages an Application Team to deliver services according to defined service level commitments owned by the Application Team. The Team Lead coordinates resources and work to deliver solutions to customers on time and within budget. The Team Lead is assigned responsibility and accountability for overseeing the successful completion of all work assigned to the Application Team. The Team Lead is a process expert within the Application Team, understanding the software development / maintenance processes and verifying process conformance. The Team Lead will monitor stability of production applications owned by the Application Team. The Team Lead assists Application Team members in development activities and reviews tasks as required. The Team Lead manages and updates

progress towards Application Team objectives, assists Application Team members in resolving problems, and engages in personnel management and guidance to Application Team members. The Team Lead fosters a positive work environment by mentoring, supporting, and committing to the professional development of Application Team members. The Team Lead reports to the Group Lead or Program Manager, as appropriate. The difference between a TL1 and a TL2 will depend on the size of the project, and the breadth and scope of the project.

TL1

Years of Relevant Experience	4 to 5 years, and 1 to 2 years project management experience.
Preferred Education	4 year college degree or equivalent technical study
Role Description	- Monitor stability of production applications owned by Application Team. - Prepare estimates for maintenance and enhancement of existing applications and development of new applications. - Perform detailed reviews of interim and final tasks as appropriate. - Process work requests; review, prioritize, and package. - Manage and review tasks of suppliers and other interfaces to the Application Team. - Conduct structured walk-throughs or inspections; manage issues to closure. - Develop and manage short and long-term plans and schedules. - Direct the development of accurate estimates for Application Team activities as required. - Balance workload with Application Teams capacity by managing the Application Teams activities according to schedule. - Manage the accomplishment of delivery metrics to support contractual obligations in the areas of service delivery and on time performance commitments and productivity improvement. - Ensure work remains within the agreed scope. - Track work plan baseline against results. - Coordinate / communicate with Group Leads and / or Program Manager to ensure initiatives are in accordance with agreed customer commitments as planned. - Proactively identify and manage issues/risks affecting the project. - Communicate accurate and useful status to Group Lead and other management on a timely basis. - Identify and initiate continuous improvements. - Instill commitment to quality, customer service, ownership, and teamwork. - Conduct post project wrap-ups. - Monitor and measure maintenance and development process effectiveness. - Ensure that defined processes are followed.

	• Manage expectations of the Application Teams internal and external customers. • Facilitate communication and knowledge sharing within the Application Teams. • Maintain awareness of new developments in industry and processes and apply as appropriate. • Develop and deepen understanding of system business requirements supported by the Application Team. • Communicate clearly the Application Team goals, organizational philosophies, and policies and procedures to the Application Teams. • Conduct structured walk-throughs or inspections; manage issues to closure. • Communicate clearly the Application Team goals, organizational philosophies, and policies and procedures to the Application Teams.

TL2

Years of Relevant Experience	5 plus years, and 2 to 3 years project management experience
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in TL1 plus the following: • Manage the resolution of high severity production problems. • Manage and direct Application Team activities employing appropriate program management and planning principles. • Coordinate work with other Team Leads as appropriate. • Coordinate and procure the required skills and techniques required by the Application Team.

Technical Architecture Specialist

The Technical Architecture Specialist (TAS) is the technical expert centered on a technology, technologies, or a portfolio of applications. The Technical Architecture Specialist is the technologist who coordinates with other parties in setting the technical approach, direction, and implementation for work. The Technical Architecture Specialist provides technical design expertise, defines what technical requirements are needed to support defined business requirements, participates in detailed design and code reviews, reviews system performance issues, reviews test plans, and provides technical guidance to the Application Team and Test Team members. The Technical Architecture Specialist is responsible for collaborating with the Team Lead(s) to coordinate project schedules, budgets, management of requests, and work authorization. The expert level Technical Architecture Specialist will interface with Executive Sponsors, Group Leads, and Lead Functional Architects to convey infrastructure requirements, plan, and schedule deployment of tasks, and resolve any issues that impact the deployment of the Application Delivery systems.

TAS1

Years of Relevant Experience	2 to 5 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	• Define test plans and criteria for acceptance for the technical components of an application. • Ensure business requirements are supported by the technical architecture. • Assist in leading technical direction of software; coordinating and presenting proposals to Group Leads, Leads, and the client. • Define and evaluate logical and physical data models. • Assist in development of overall system technical architecture - including software and hardware. • Define test plans and criteria for acceptance for the technical components of an application. • Analyze, determine, and document technical requirements and change request impact analysis. • Participate in detailed design and product test execution as required. • Develop technical programming standards. • Ensure business requirements are supported by the technical architecture. • Conduct structured walk-throughs or inspections for technical areas; resolve issues. • Assist in defining technical programming standards. • Communicate accurate and useful status updates. • Manage and report time spent on all work activities. • Follow quality standards. • Ability to work in a team environment. • Complete assigned tasks. • Strong communication skills; both written and spoken. • Perform integration of various architectures across multiple enterprises. • Develop overall system technical architecture - including software and hardware. • Perform review of technical designs, code, and component test plans. • Resolve and / or assist in resolving cross application technical issues. • Conduct structured walk-throughs or inspections for technical areas; resolve issues. • Anticipate and resolve issues specific to the team. • Determine time estimates and schedule for own work and resolve issues in a timely manner. • Identify and track issues, risks, and action items.

TAS2

Years of Relevant Experience	5 plus years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in TAS1 plus the following: • Ensure consistency and completeness across data models. • Plan and deliver development architecture environments in coordination with the Environmental Support Specialist. • Assist in managing and directing team's technical architecture processes. • Provide assistance in scheduling design work for Lead Technical Architecture Specialist. • Develop and document expert practices/standards. • Possesses strong analysis, presentation, documentation, and quality assurance skills. • Analyze, determine, and document technical requirements and impact analysis for technical and development architectures. • Explain defect priorities and enhancement classifications to client and customer when needed. • Maintain awareness of new technological developments in industry and processes – implement concepts appropriately. • Lead or participate in setting the service levels for the application. • Define overall system logical architecture. • Provide standard, well-structured work planning which defines scope, resources, milestones, quality, risk, tasks, and acceptance criteria. • Prepare contingencies, scenarios, scenario plans and action items to resolve issues. • Lead efforts in providing technical expertise, guidance, and training to the Application and Test Teams.

TAS3

Years of Relevant Experience	5 plus years, and 1 to 2 years project management experience
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in TAS2 plus the following: • Communicate effectively with IT staff, client organization, and software / hardware suppliers. • Lead efforts in designing technical strategy, direction and approach, technical architecture, data architecture, development architecture,

	performance tuning, performance and capacity analysis, technical standards, technical reliability, and flexibility.
	• Design and define overall system technical architecture – including software and hardware within the framework and constraints of technical architecture.
	• Evaluate alternative designs.
	• Maintain control of specific tools and assets.
	• Own the technical architecture for a portfolio of applications, including the interpretation and application of the technical architecture.
	• Plan design development and/or execution of architectures. Participate in the plan and design of technical architecture.
	• Assist with the preparation of estimates for new technology applications and maintenance of existing applications as part of Service Management.
	• Provide experience in utilizing the project architecture.
	• Acknowledged as highly competent in one or more technologies.
	• Communicate accurate and useful status reports and other management on a timely basis.
	• Coordinate and conduct project architecture, infrastructure review meetings, and portfolio review meetings with Group Lead, Lead Functional Architects, and Team Leads. Integrate issues and identify impacts.
	• Communicate and resolve application interface issues.
	• Communicate to team members the relations between their work assignments and the organizational and/ or program strategy, objectives, business and technology needs of the application / system.
	• Share knowledge across teams with both similar and non-similar applications, specifically focusing on Technical Architecture.
	• Interpret and communicate technical architecture to the Technology Application Architecture Team (s).

Technical Writer

The Technical Writer (TW) develops and maintains user and technical documentation and project process documentation for Application Teams. The Technical Writer understands the user's view of applications and / or technology and is able to put procedures in a logical sequence. The experienced Technical Writer provides expertise on technical concepts of applications and / or user groups and structuring procedures in a logical sequence, due to a broad understanding of the applications within their Tower.

TW1

Years of Relevant Experience	1 to 3 years
Preferred Education	4 year college degree or equivalent technical study

Role Description	- Develop, enhance, and maintain user documentation for multiple applications including documentation required for the operations provider. - Develop on-line source documentation as appropriate. - Maintain documentation libraries and subscription lists. - Identify, create, revise, and maintain documentation and templates needed by the Application Teams. - Ensure appropriate control access/use of documentation materials. - Maintain application and user documentation. - Ensure messages and terminology is consistent across all written materials. - Research and complete documentation service requests. - Communicate and work with customers and other Client Telecommunications personnel as necessary. - Work with Application Team members to enhance their understanding of end-user and technical documentation. - Communicate accurate and useful status updates. - Manage and report time spent on all work activities. - Follow quality standards. - Ability to work in a team environment. - Complete assigned tasks. - Strong communication skills; both written and spoken.

TW2

Years of Relevant Experience	3 to 5 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	Description All roles specified in TW1 plus the following: - Review and prioritize documentation service requests. - Determine procedures for use of on-line documentation tools and version control documentation as appropriate. - Assist or guide other Technical Writer as needed to develop and maintain user and technical documentation for their assigned applications. - Educate both business and technical groups on the essential need for developing and using standard documentation for all processes. - Organize and prepare work effectively to facilitate proactive resolution of problems, rather than reactive. - Research problems before approaching Lead Technical Writer or Team Lead for assistance.

	• Assist the Application Team Lead in monitoring budget by providing estimated-time to-complete and actuals for assigned tasks.
	• Identify and make recommendations around documentation and templates needed by the Application Teams.
	• Work with users and other State personnel to ensure that the solutions meet State business requirements.
	• Identify and initiate continuous improvement opportunities.
	• Direct the development of accurate estimates for documentation requests/activities as required.
	• Develop options and recommendations to assist documentation team members in resolving issues.
	• Lead efforts in developing and facilitating implementation of the Documentation team goals and metrics.
	• Develop workable, practical, measurable work plans defining activities, schedules, and tasks with Team Leads and the Lead Technical Writer.
	• Review and understand the Application Teams workplan.
	• Anticipate and resolve issues specific to the team.
	• Determine time estimates and schedule for own work and resolve issues in a timely manner.
	• Identify and track issues, risks, and action items.

TW3

Years of Relevant Experience	5 years plus
Preferred Education	4 year college degree or equivalent technical study
Role Description	Description All roles specified in TW2 plus the following: • Review and approve procedures for use of on-line documentation tools as appropriate. • Identify business and technical documentation needs not currently addressed. • Manage Technical Writer. • Own documentation libraries and subscription lists. • Promote the need for developing and using standard documentation for all processes within the organization. • Perform detailed reviews of interim and final tasks as appropriate. • Oversee processing of service requests. • Manage, deploy, and schedule Technical Writer activities.

	• Develop and manage short and long-term documentation plans and schedules.
	• Understand work requests/needs within Application Teams.
	• Manage the accomplishment of delivery metrics in support of contractual obligations in the areas of service delivery, on time performance.
	• Work with Team Leads and Group Leads to set documentation goals.
	• Ensure work remains within the agreed project scope.
	• Coordinate work with other Lead Technical Writers as appropriate.
	• Coordinate and procure the required skills and techniques required by the Application Teams for documentation needs.
	• Communicate accurate and useful status reports to Group Lead and other management on a timely basis.
	• Anticipate, identify, track, and resolve issues and risks affecting own work and work of the Application Team. Develop contingency plans as necessary.
	• Manage expectations of the Technical Writers' internal and external customers.
	• Define documentation quality standards as needed.
	• Conduct post project reviews and quality assessments.
	• Ensure that defined processes are followed.
	• Communicate related improvement measures to the team.
	• Communicate clearly to Technical Writers their goals, organizational philosophies, and policies and procedures.

Telecom Engineer

The Telecom Engineer (TE) configures and installs hardware, wiring, and specialized equipment according to local building and electrical codes. The Telecom Engineer may also be responsible for the end-to-end installation of cable, wiring, and related equipment. The Telecom Engineer typically works closely with facilities/construction managers and site-based project managers. The Telecom Engineer should be able to accurately estimate the time and materials needed for tasks assigned. It is not uncommon for the Telecom Engineer to supervise a team of people and coordinate activities with other construction teams.

TE1

Years of Relevant Experience	0 to 2 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	• Ensure proper connectivity from site-to-site and internal to facility. • Experience with CAT5, Romex, and similar cables/wiring. • Pull cable and ensure adherence to all building codes. • Escalate construction and installation problems to the construction/integration manager, as needed.

	• Prepare all job-related paperwork. • Close out work authorization when equipment is in service.

TE2

Years of Relevant Experience	2 to 5 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in TE1 plus the following: • Inspect customer premises to ascertain available space for equipment installation. • Determine the type and quantity of equipment that can be installed to provide requested communication facilities. • Create floor plan of equipment arrangement for customer or architect approval. • Prepare cost estimate for equipment and installation and submit data to management for authorization to proceed. • Order equipment and prepare installation specifications. • Monitor progress of installation to ensure facilities are ready on specified date.

TE3

Years of Relevant Experience	5 plus years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in TE2 plus the following: • Lead full integration teams and interact with large infrastructure teams. • Act as telecommunications interface to outside vendors and construction manager. • Direct activities related to the selection and installation of telephone facilities and special equipment on premises to meet customer's communication requirements.

Tester

The Tester (Test) is a member of a team which plans, constructs, and executes product tests, system tests, unit tests, load tests, volume tests, network tests as well as works with others for release control processes. The more experienced Tester manages, plans, constructs, and executes tests and integrates with release control process.

Test1

Years of Relevant Experience	Less than 2 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	• Create test models for product test and release control (plans, data, and scripts). • Conduct structured walk-throughs. • Execute assembly or product tests. • Meet time estimates for assigned tasks. • Communicate accurate and useful status updates. • Follow quality standards. • Ability to work in a team environment. • Complete assigned tasks. • Strong communication skills; both written and spoken.

Test2

Years of Relevant Experience	2 to 4 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in Test1 plus the following: • Define product test plans and criteria for acceptance. • Develop, update, and maintain testing standards and procedures. • Resolve testing process questions / issues. • Assist in the planning, creation, and control of the test environments. • Conduct inspections; resolve issues. • Coordinate and execute assembly or product tests with the Test Team, Application Team, and the Program Manager. • Assist Team Lead or Test Team Lead in monitoring estimated-time-to-complete (ETC) and actuals for assigned tasks. • Work with Test Team members to enhance their testing skills and build technical and business knowledge. • Update and test release installation procedures. • Generally aware of new developments in industry and processes and ability to apply to work as appropriate. • Determine time estimates and schedule for work efforts.

	• Define and utilize entry / exit criteria for testing. • Schedule the design of structured walk-throughs or inspections; resolve issues. • Work with users to ensure that solutions meet business requirements. • Anticipate and resolve issues specific to the team. • Determine time estimates and schedule for own work and resolve issues in a timely manner. • Identify and track issues, risks and action items.

Test3

Years of Relevant Experience	4 plus years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in Test2 plus the following: • Review and understand the Test Team work plan. • Assist in managing and directing Test Team processes. • Anticipate, identify, track and resolve issues and risks affecting own work and work of the Test and/or Application Teams. Develop contingency plans as necessary. • Research problems before approaching the Team Lead or Test Team Lead for assistance. • Assist or guide Testers as needed. • Develop understanding of system business requirements supported by the Test team. • Assist Application Teams to plan and execute component and assembly tests. • Participate in assembly or product test execution as required.

Voice/Data Engineer

The Voice/Data Engineer (VDE) directs and participates in all activities related to the selection and installation of telephone facilities and special on-premises equipment that will meet the customer's communication requirements. The Voice/Data Engineer is responsible for all technology and connectivity involving telecommunications and data networks. The Voice/Data Engineer will typically specialize in telephony and data interfaces and systems that have proprietary functions within the communications area of a corporation/business. General wiring excluded, the Voice/Data Engineer ensures that any specialized conduit or wiring is properly deployed and installed according to code. The Voice/Data Engineer is also an expert in audio/visual, teleconferencing, and voice mail equipment. Often times, the Voice/Data Engineer is specialized or is certified in a particular piece of equipment.

VDE1

Years of Relevant Experience	0 to 2 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	• Ensure proper connectivity of voice and data services and technologies. • Interact and work with Telecom Engineer, Integration Engineer, or Project Manager. • Prepare all job-related paperwork. • Close out work authorization when equipment is in service.

VDE2

Years of Relevant Experience	2 to 5 years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in VDE1 plus the following: • Prepare equipment floor plan for customer or architect approval. • Determine telephone, data services/components, and audio visual equipment placement within facility. • Act as installer of equipment for data/voice or Audio visual use. • Install, test, configure, and train users on products and equipment. • Support systems and products associated with telecommunications/telephone and data within a facility or department.

VDE3

Years of Relevant Experience	5 plus years
Preferred Education	4 year college degree or equivalent technical study
Role Description	All roles specified in VDE2 plus the following: • Familiar with at least one type of equipment or service that is highly specialized.

	• Prepare cost estimate for equipment and installation and submit data to management for authorization to proceed with job.
	• Order equipment and prepare installation specification.
	• Monitor installation progress to ensure that the facilities are ready on projected date.
	• Lead a team of installers and junior Voice/Data Engineers

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