Exhibit A-1 Labor Category Listing and Definitions

Applications Programmer
Applications Systems Analyst/Programmer - Intermediate
Applications Systems Analyst/Programmer - Senior
Business Process Consultant
Business Subject Matter Specialist
Business Systems Analyst - Intermediate
Business Systems Analyst - Senior
Business Systems Specialist
Client/Server Network Architect
Client/Server Support Analyst
Communications Analyst - Intermediate
Communications Analyst - - Senior
Communications Facility Engineer
Communications Installer
Consultant
Data Architect
Data Communications Manager – Planning &
Data Entry Supervisor
Data Security Administration Manager
Data Security Analyst
Data Warehousing Administrator
Data Warehousing Analyst
Data Warehousing Programmer
Data Warehousing Project Manager
Data/Configuration Management Specialist
Database Administrator
Database Analyst/Programmer - Intermediate
Database Analyst/Programmer - Senior
Database Manager
Disaster Recovery Administrator
Disaster Recovery Analyst
Documentation Specialist - Intermediate
Documentation Specialist - Senior
Electronic Mail Coordinator
Engineering Subject Matter Specialist
ERP Business/Architectural Specialist
ERP Business Analyst - Intermediate
ERP Business Analyst - Senior
ERP Programmer
Graphics Specialist
Groupware
Help Desk Coordinator - Intermediate
Help Desk Coordinator - Senior
Help Desk Manager
Help Desk Specialist
Help Desk Support Services Specialist - Intermediate
Help Desk Support Services Specialist - Senior
Information Assurance Development Engineer
Information Assurance Engineer
Information Assurance Network Specialist
Information Assurance Systems/Network Specialist
Information Center Consultant
Information Center Specialist
Information Security Business Analyst
Information Services Consultant
Information Systems Auditor - Intermediate
Information Systems Auditor -
Information Systems Training Specialist -
Information Systems Training Specialist - Senior
Internal Communications Systems
IT Subject Matter Specialist
LAN Administrator - Intermediate
LAN Administrator - Senior
LAN Support Technician -
LAN Support Technician - Senior
LAN/WAN Administrator
LAN/WAN Integrator
LAN/WAN/MAN Administrator
Network Control Technician
Network Engineer - Intermediate
Network Engineer - Senior
Network Operations Supervisor
Network Planning Analyst – Intermediate
Network Planning Analyst - Senior
Network Planning Manager
Network Systems Administrator
Network Systems Manager
Network/Hardware Support Technician
Operations Systems Manager
Operations/Network LAN Administrator
Operations/Technical Support Analyst
Operations/Technical Support Manager
PC Products Analyst
PC Systems Specialist
PC/LAN Management Analyst - Intermediate
PC/LAN Management Analyst - Senior
Project Engineer
Project Manager – Senior
Quality Assurance Analyst - Intermediate
Quality Assurance Analyst - Senior
Quality Assurance Specialist
Security Coordinator
Software Architect

Exhibit A-1 Labor Category Listing and Definitions

Software Developer - Intermediate
Software Developer - Senior
Software Systems Engineer - Intermediate
Software Systems Engineer –Senior
Strategic Planner
Systems Administrator - Intermediate
Systems Administrator - Senior
Systems Analysis and Programming Director
Systems Engineer
Systems Management Technologist
Technical Editor
Technical Writer
Telecommunications Analyst/Technician
Telecommunications Engineer/Analyst – Intermediate
Telecommunications Engineer/Analyst - Senior
Telecommunications Manager - Single Incumbent
Telecommunications Network Help Desk
Telecommunications Programmer/Systems Analyst - Intermediate
Telecommunications Programmer/Systems Analyst - Senior
Telecommunications Technician
Telecommunications/Communications Integration Engineer
Test Engineer
UNIX Systems Administrator
Voice Communications Manager – Planning & Implementation
Voice Communications Technician
Web Content Administrator
Web Content Analyst
Web Designer
Web Operations
Web Security Administrator
Web Security Analyst
Web Software Developer
Web Technical Administrator

Exhibit A-1 Labor Category Listing and Definitions

Definitions:

Applications Programmer:
Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time, and form of desired results. Designs, codes, tests, debugs, and documents.

Applications Systems Analyst/Programmer - Intermediate:
Under general supervision, formulates and defines system scope and objectives through research and fact-finding to develop or modify moderately complex information systems. Prepares detailed specifications from which programs will be written.
Designs, codes, tests, debugs, documents, and maintains those programs. Competent
to work on most phases of applications systems analysis and programming activities, but requires instruction and guidance in other phases.

Applications Systems Analyst/Programmer - Senior:
Under general direction, formulates and defines system scope and objectives. Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time, and form of desired results. Prepares detailed specifications from which programs will be written. Designs, codes, tests, debugs, and documents those programs. Competent to work at the highest technical level of all phases of applications systems analysis and programming activities. May be responsible for completion of a phase of a project. Regularly provides guidance and training to less- experienced analyst/programmers.

Business Process Consultant:
Responsible for most complex systems process analysis, design, and simulation. Requires highest-level understanding of organization's business systems and industry requirements. Focus is on process analysis and re-engineering, with an understanding of technical problems and solutions as they relate to the current and future business environment. Creates process change by integrating new processes with existing ones and communicating these changes to impacted Business Systems teams. Recommends and facilitates quality improvement efforts. May lead re-engineering team and act as project manager in some cases.

Business Subject Matter Specialist:
Provides technical knowledge and analysis of highly specialized applications and operational environments, high-level functional systems analysis, design, integration, documentation and implementation advice on exceptionally complex problems that need extensive knowledge of the subject matter for effective implementation. Participates as needed in all phases of software development with emphasis on the planning, analysis, testing, integration, documentation, and presentation phases.

Business Systems Analyst - Intermediate:
Under general supervision, formulates and defines systems scope and objectives through research and fact-finding combined with an understanding of applicable business systems and industry requirements. With this knowledge, develops or modifies moderately complex information systems. Includes analysis of business and user needs, documenting requirements, and revising existing system logic difficulties as necessary. Guides and advises less-experienced Business Systems Analysts. Competent to work in some phases of systems analysis and considers the business implications of the application of technology to the current business environment.

Business Systems Analyst - Senior:
Under general direction, formulates and defines systems scope and objectives based on both user needs and a good understanding of applicable business systems and industry requirements. Devises or modifies procedures to solve complex problems considering computer equipment capacity and limitations, operating time, and form of desired

results. Includes analysis of business and user needs, documentation of requirements, and translation into proper system requirement specifications. Guides and advises less-experienced Business Systems Analysts. Competent to work at the highest technical level of most phases of systems analysis while considering the business implications of the application of technology to the current and future business environment.

Client/Server Network Architect:
Top-level technical expert responsible for design and development of a client/server environment. Develops strategy of client/server system and the design infrastructure necessary to support that strategy. Advises on selection of technological purchases with regards to processing, data storage, data access, and applications development. Sets standards for the client/server relational database structure for the organization (SQL, ORACLE, SYBASE, etc.). Advises of feasibility of potential future projects to management.

Client/Server Support Analyst:
Under general supervision, assists with personal computer operating systems software and communication system software. Designs, tests, and maintains personal computer systems. Responsible for analyzing and solving personal computer-related problems. Responsible for security, integrity, and reliability of personal computer systems. Tests and integrates new hardware, systems and modifications to existing equipment and systems. Performs research/investigations, analysis, design, testing, and installation of supported hardware and software. Schedules installation of new hardware and software and modifications to existing systems. Monitors performance of hardware and its capacity in all assigned locations. Recommends and implements enhancements to existing hardware and systems.

Communications Analyst - Intermediate:
Under general supervision, assists Senior Level Communications Analyst or Department Manager in the planning, design, and implementation of communications networks. Responsible for providing assistance and technical support for network design activities. Assists in the review/assessment of user needs. May conduct feasibility studies for projects. May assist in the evaluation and selection of equipment. Typically requires two to four years experience in telecommunications with particular emphasis in traffic engineering and network design. Frequently reports to Data/Voice Communications Management or Internal Communications Systems Consultant.

Communications Analyst - - Senior:
Under general direction, assists in the planning, design, and implementation of communications networks. Responsible primarily for the assessment and optimization of network design through review and assessment of user needs. Conducts feasibility studies for large projects, develops requests for proposal, evaluates vendor products, and makes recommendations on selection. May function as lead position providing guidance and training to less-experienced analysts. Typically requires at least five years of experience in telecommunications with strong emphasis in network design, traffic engineering, equipment vendors, and carriers. Frequently reports to a Data/Voice Communications Manager or Internal Communications Systems Consultant.

Communications Installer:
Assists in the planning, design, and implementation of communications networks. Responsible for providing assistance and technical support for network design activities. Assists in the review/assessment of user needs. Performs feasibility studies for small projects. Assists in the evaluation and selection of equipment.

Consultant:
Works with end user groups to evaluate and solve technical problems. Evaluates existing systems and/or user needs to analyze, design, recommend, and implement system changes.

Data Architect:
Designs and builds relational databases. Develops strategies for data acquisitions, archive recovery, and implementation of a database. Works in a data warehouse environment, which includes data design, database architecture, metadata and repository creation. Translates business needs into long-term architecture solutions. Defines, designs, and builds dimensional databases. Develops data warehousing blueprints, evaluating hardware and software platforms, and integrating systems. Evaluates reusability of current data for additional analyses. Reviews object and data models and the metadata repository to structure the data for better management and quicker access.

Data Warehousing Administrator:
Coordinates the data administration technical function for both data warehouse development and maintenance. Plans and oversees the technical transitions between development, testing, and production phases of the workplace. Facilitates change control, problem management, and communication among data architects, programmers, analysts and engineers. Establishes and enforces processes to ensure a consistent, well-managed and well-integrated data warehouse infrastructure. Expands and improves data warehouse to includes data from all functions of the organization using data manipulation, transformation and cleansing tools. Requires three yeas of experience in the field.

Data Warehousing Analyst:
Works in a data warehouse environment, which includes data design, database architecture, metadata and repository creation. Reviews data loaded into the data warehouse for accuracy. Responsible for the development, maintenance and support of an enterprise data warehouse system and corresponding data marts. Troubleshoots and tunes existing data warehouse applications. Conducts research into new data warehouse applications and determines viability for adoption. Assists in establishing development standards. Evaluates existing subject areas stored in the data warehouse. Incorporates existing subject areas into an enterprise model. Creates new or enhanced components of the data warehouse. Requires two years experience in the field.

Data Warehousing Programmer:
Responsible for product support and maintenance of the data warehouse. Performs data warehouse design and construction. Codes and documents scripts and stored procedures. Designs/implements data strategy methods. Develops appropriate programs and systems documentation. Assists with Meta data repository management. Prepares/implements data verification and testing methods for the data warehouse. Creates index and view scripts. Requires two years experience in the field.

Database Administrator:
Participates in the design, creation, and maintenance of computerized
databases. Responsible for quality control and auditing of databases to ensure accurate and appropriate use of data. Works with management to develop database strategies to support company needs. Consults with and advises users on access to various databases. Works directly with users to resolve data conflicts and inappropriate data usage. Directs the maintenance and use of the corporate data dictionary. Typically requires two to four years of experience.

Database Analyst/Programmer - Intermediate:
Under general supervision, designs, implements and maintains moderately complex databases. Maintains database dictionaries and integration of systems through database design. Competent to work on most phases of database administration but may require some instruction and guidance in other phases. Requires two years experience in the field.

Database Analyst/Programmer - Senior:
Under general direction, designs, implements and maintains complex database with respect to JCL, access methods, access time, device allocation, validation checks, organization, protection and security, documentation and statistical methods. Includes maintenance of database dictionaries, overall monitoring of standards and procedures and integration of systems through database design. Competent to work at the highest level of all phases of database management. Requires three years experience in the field.

Database Manager:
Responsible for all activities related to the administration of computerized databases. Assigns personnel to various projects and directs their activities. Reviews and evaluates work and prepares performance reports. Confers with and advises subordinates on administrative policies and procedures, technical problems, priorities, and methods. Consults with and advises users of various databases. Projects long- range requirements for database administration in conjunction with other managers in the information systems function as well as business function managers. Prepares activity and progress reports regarding the database management section. Typically requires five to seven years of experience.

Documentation Specialist - Intermediate:
Under general supervision, prepares and/or maintains systems, programming, and operations documentation, including user manuals. Maintains a current internal documentation library. Competent to work on most phases of documentation.

Documentation Specialist - Senior:
Under general supervision, is responsible for preparing and/or maintaining systems, programming, and operations documentation, procedures, and methods including user manuals and reference manuals. Maintains a current internal documentation library. Provides or coordinates special documentation services as required. Competent to work at the highest level of all phases of documentation. May act as project leader for large positions.

Engineering Subject Matter Specialist:
Provides technical knowledge and analysis of highly specialized applications and operational environment, high-level functional systems analysis, design, integration, documentation, and implementation advice on exceptionally complex problems that necessitate high-level knowledge of the subject matter for effective implementation. Participates as needed in all phases of software development with emphasis on the planning, analysis, modeling, simulation, testing, integration, documentation and presentation phases.

ERP Business/Architectural Specialist:
Adapts functional business requirements and processes to technical solutions based upon comprehensive enterprise application solution sets. Enterprise resource planning and management processes, including but not limited to: knowledge management, investment analysis, data warehousing, e-commerce, return on investment analysis, human resource analysis, material management and logistics, supply chain management, procurement, ordering, manufacturing, decision support, and information dissemination.

ERP Business Analyst - Intermediate:
Under general supervision, serves as subject matter expert associated with content, processes, and procedures associated with enterprise applications. Applies functional knowledge to design and customize workflow systems that provide seamless integration for client/server applications. Writes functional requirements, develops test plans, and works with production issues.

ERP Business Analyst - Senior:
Under general direction, serves as senior subject matter expert associated with content, processes, and procedures associated with ERP. Defines detailed requirements, analyzes business needs, and validates solutions with the client. Details requirements through product development and other functions to support the project team. Monitors other business analysts in software development methods and processes and implementation of those methods. Evaluates development projects and assists in tailoring the development process to meet the project needs.

ERP Programmer:
Under general supervision, works primarily in ERP client/server enterprise application. Designs and develops all aspects of data conversion. Builds application tables,
panels, and reports. Codes individual modules and complex functions. Develops application tables, panels, and reports for projects. Responsible for software integration and external interface development. Troubleshoots and resolves testing issues. Responsible for technical documentation.

Information Assurance Development Engineer:
Analyzes and defines security requirement for computer systems which may include mainframes, workstations, and personal computers. Designs, develops, engineers, and implements solutions that meet security requirements. Provides integration and implementation of the computer system security solution.

Information Assurance Engineer:
Establishes and satisfies complex system-wide information security requirements based upon the analysis of user, policy, regulatory, and resource demands. Supports customers at the highest levels in the development and implementation of doctrine and policies. Applies know-how to government and commercial common user systems, as well as to dedicated special purpose systems requiring specialized security features and procedures.

Information Assurance Network Specialist:
Analyzes general information assurance-related technical problems and provides basic engineering and technical support in solving these problems. Designs, develops, engineers, and implements solutions that meet network security requirements. Performs vulnerability/risk analyses of computer systems and applications during all phases of the system development life cycle.

Information Assurance Systems/Network Specialist:
Installs, configures and maintains organization's operating systems. Analyzes and resolves problems associated with server hardware, NT, applications software. Detects, diagnoses, and reports NT related problems on both NT server and NT desktop systems. Performs a wide variety of tasks in software/hardware maintenance and operational support of NT Server systems.

IT Subject Matter Specialist:
Provides extremely high-level subject matter proficiency for work described in the task. Provides advanced technical knowledge and analysis of highly specialized applications and operational environment, high-level functional systems analysis, design, integration, documentation, training, and implementation advice on complex problems that require doctorate level knowledge of the subject matter for effective implementation.

LAN Administrator - Intermediate:
Under general supervision, responsible for the acquisition, installation, maintenance, and usage of the organization’s local area network. Manages LAN performance and maintains LAN security. Ensures that security procedures are implemented and enforced. Installs all network software. Evaluates, develops and maintains telecommunications

systems. Troubleshoots LAN problems. Establishes and implements LAN policies, procedures, and standards and ensures their conformance with information systems and organization objectives. Trains users on LAN operation. Typically requires two to four years of experience. Frequently reports to a PC support manager or Senior LAN Administrator.

LAN Administrator - Senior:
Under general direction, responsible for administration and day-to-day operation of organization's local area network (LAN). Provides integrated team support and maintenance of LAN hardware and software. Maintains integrity of the LAN hardware and software. Installs LAN software upgrades, including planning and scheduling, testing and coordination. Studies vendor products to determine those which best meet organization needs; assists in presentation of information to management resulting in purchase, and installation of hardware, software, and telecommunications equipment. Performs LAN security procedures, including implementing login requests. Evaluates new products and technologies to determine impact on existing system configurations. Prepares proposals, cot/benefit analyses, and feasibility studies. Provides liaison support between the PC/LAN team, vendors and internal support group as needed. Typically requires five to seven years of experience. Frequently reports to an information systems executive.

LAN Support Technician - Intermediate :
Under general supervision, monitors and responds to technical control facility hardware and software problems utilizing hardware and software testing tools and techniques. May interface with vendor support service groups to ensure proper escalation during outages or periods of degraded system performance. May assist with installation of terminals and associated hardware. May provide LAN server support. Requires strong knowledge of PC/LAN communications hardware/software, in a multi-protocol environment, and network management software. Typically requires two to four years experience in data communications troubleshooting.

LAN Support Technician - Senior:
Under general direction, monitors and responds to complex technical control facility hardware and software problems utilizing a variety of hardware and software testing tools and techniques. Provides primary interface with vendor support service groups or provides internal analysis and support to ensure proper escalation during outages or periods of degraded system performance. May provide LAN server support. Requires extensive knowledge of PC/LAN communications hardware/software in a multi-protocol environment and network management software. May function as lead position providing guidance and training for less-experienced technicians. Typically requires at least four years of experience in data communications troubleshooting.

LAN/WAN Administrator:
Monitors LAN, WAN, and servers. Provides batch monitoring, tape back-up, and restoration. Administers mail system and implements new database architecture. Monitors and conducts performance evaluation of networks. Supports, installs, maintains, and troubleshoots all local area and wide area networking devices and related software for branch offices and internal and external networks.

LAN/WAN Integrator:
Responsible for the overall integration of the enterprise-wide network including the planning, design, installation, maintenance, management, and coordination of the corporate LAN/WAN (may include local, metropolitan, and wide area networks). Has responsibility for technical architecture and recommendations relate d to LAN/WAN. Is typically a top-level technical contributor with advanced knowledge and experience in the area of local and wide area networking, communications, and related hardware/software. Maintains high level of technical expertise and studies vendor products to determine those which best meet organization needs. Presents information to management, which may result in the purchase and installation of hardware, software, and telecommunications

equipment. Recommends network security procedures and policies. Knowledgeable in a multi-platform operating environment. May work with Voce and/or Data Communications Analysts.

LAN/WAN/MAN Administrator:
Monitors LAN, WAN, MAN, and servers. Provides batch monitoring, tape backup, and restoration. Supports, installs, maintains, and troubleshoots all local area and wide area networking devices and related software for branch offices and internal and external networks.

Network Engineer - Intermediate:
Under general supervision, oversees the purchase, installation, and support of network communications, including LAN/WAN systems. Works on problems of diverse scope where analysis of situation requires evaluation and judgment. Responsible for evaluating current systems. Assists in the planning of large-scale systems projects through vendor comparison and cost studies. Requires thorough knowledge of LAN/WAN systems, networks, and applications. Typically requires two to five years of experience.

Network Engineer - Senior:
Under general direction, manages the purchase, installation, and support of network communications, including LAN/WAN systems. Responsible for evaluating current systems. Works on complex problems where analysis of situation requires in-depth evaluation of various factors. Plans large-scale systems projects through vendor comparison and cost studies. Provides work leadership and training to lower level network engineers. Requires expert knowledge of LAN/WAN systems, networks, and applications. Typically requires at least five years of experience.

Network Planning Analyst – Intermediate:
Under general supervision, plans and evaluates moderately complex existing network systems and makes recommendations for resources required to maintain and/or expand service levels. Provides assistance in network planning, engineering, architecture, and the development of technical standards and interface applications. Evaluates new products as assigned. Provides resolution for network problems. Typically requires four to six years of experience in telecom networks. Frequently reports to a higher Network Planning position or a Telecommunications Department Director/Manager.

Network Planning Analyst - Senior :
Under general direction, plans and evaluates complex existing network systems and makes recommendations for resources required to maintain and/or expand service levels. Provides highly skilled technical assistance in network planning, engineering, and architecture. Develops technical standards and interface applications, identifies and evaluates new products, and provides resolution for network problems. May interface with vendors to identify and purchase hardware and software. May function as lead position for other Network Planning Analysts. Typically requires six to eight years of experience in telecom networks. Frequently reports to a Telecommunications Department Director/Manager or a higher Network Planning position.

Network Systems Administrator:
Provides system administration of Network, Web, and/or communication systems, including Local Area Network (LAN) and Wide Area Network (WAN) systems, involving network security. Prepares technical implementation plans that provide integrated solutions including actions, milestones, timelines and critical paths required for complete solutions.

Network Systems Manager:
Supervises all personnel engaged in the operation and support of network facilities, including all communications equipment in large scale or multi-shift operations. Supervises complex operations that involve two or more additional functions such as, but not limited to, network operations, systems security, systems software support, and production support activities.

Network/Hardware Support Technician:
Monitors and responds to hardware, software, and network problems. Provides the routine testing and analysis of all elements of the network facilities (including power, software, communications machinery, lines, modems, and terminals). Monitors and controls the performance and status of the network resources.

Operations/Network LAN Administrator:
Supports, monitors, tests, and troubleshoots hardware and software problems pertaining to LAN. Recommends and schedules repairs. Provides end users support for all LAN- based applications. Installs and configures workstations.

Operations/Technical Support Analyst:
Provides technical guidance for directing and monitoring information systems operations. Implements machine modifications to increase the capacity of the system. Directs compilation of records and reports concerning production, machine malfunctioning and maintenance.

Project Engineer:
Manages long-term IT engineering projects. Performs engineering design evaluations and works to complete projects within budget and scheduling restraints. Develops, implements, and monitors information systems policies and controls to ensure data accuracy, security, and regulatory compliance. Reviews reports of computer and peripheral equipment production, malfunction, and maintenance to determine and address problems.

Project Manager – Senior:
Responsible for all aspects of the development and implementation of assigned projects and provides a single point of contact for those projects. Takes projects from original concept through final implementation. Interfaces with all areas affected by the project including end users, computer services, and client services. Defines project scope and objectives. Develops detailed work plans, schedules, project estimates, resource plans, and status reports. Conducts project meetings and is responsible for project tracking and analysis. Ensures adherence to quality standards and reviews project deliverables. Manages the integration of vendor tasks and tracks and reviews vendor deliverables. Provides technical and analytical guidance to project team. Recommends and takes action to direct the analysis and solutions of problems.

Quality Assurance Analyst - Intermediate :
Under general supervision, carries out procedures to ensure that all information systems, products and services meet minimum organization standards and end-user requirements. Thoroughly tests software to ensure proper operation and freedom from defects. Documents and works to resolve all problems. Reports progress on problem resolution to management. Devises improvements to current procedures and develops models of possible future configurations. Performs workflow analysis and recommends quality improvements. Frequently reports to a Quality Assurance Manager.

Quality Assurance Analyst - Senior:
Under general direction, carries out procedures to ensure that all information systems, products and services meet organization standards and end-user requirements. Performs and leads tests of software to ensure proper operation and freedom from defects. May create test data for applications. Documents and works to resolve all complex

problems. Reports progress on problem resolution to management. Devises improvements to current procedures and develops models of possible future configurations. Acts as information resource about assigned areas to technical writers and other Quality Assurance Analysts. Performs complex workflow analysis and recommends quality improvements. Frequently reports to a Quality Assurance Manager.

Quality Assurance Specialist:
Provides development of project Software Quality Assurance Plan and the implementation of procedures that conforms to the requirements of the contract. Provides an independent assessment of how the project's software development process is being implemented relative to the defined process and recommends methods to optimize the organization's process.

Software Architect:
Works independently designing and developing new software products or major enhancements to existing software. May lead a large development team in the design of highly complex software systems. Acts as highest-level technical expert, addressing problems of systems integration, compatibility, and multiple platforms. Responsible for project completion. Performs feasibility analysis on potential future projects to management.

Software Developer - Intermediate:
Under general supervision, develops codes, tests, and debugs new software or enhancements to existing software. Has good understanding of business applications. Works with technical staff to understand problems with software and resolve them. Resolves customer complaints with software and responds to suggestions for improvements and enhancements. May assist in development of software user manuals. Requires two years experience in the field.

Software Developer - Senior:
Under general direction, participates as high-level technical expert in design development, coding, testing, and debugging new software or significant enhancements to existing software. Works with technical staff to understand problems with software and develops specifications to resolve them. Resolves customer complaints and responds to suggestions for improvements and enhancements. Participates in the development of software user manuals. May act as team leader on less complex projects. Assists in training less experienced software development staff. Requires five years experience in the field.

Software Systems Engineer - Intermediate:
Under general supervision, works from specifications to develop or modify moderately complex software programming applications. Assists with design, coding, benchmark testing, debugging, and documentation of programs. Applications generally deal with utility programs, position control language, macros, subroutines, and other control modules. Competent to work on most phases of software systems programming applications, but requires instruction and guidance in other phases.

Software Systems Engineer –Senior:
Under general direction, formulates and defines specifications for complex operating software programming applications or modifies/maintains complex existing applications using engineering releases and utilities from the manufacturer. Designs, codes, tests, debugs, and documents those programs. Responsible for applications dealing with the overall operating system, such as sophisticated file maintenance routines, large telecommunications networks, computer accounting, and advanced mathematical/scientific software packages. Competent to work at this highest technical level on all phases of software systems programming applications. May have responsibility for the evaluation of new and existing software products. May assist other systems programmers to effectively utilize the system’s technical software.

Systems Administrator - Intermediate:
Under general supervision, responsible for installing, configuring, and maintaining operating system workstations and servers, including web servers, in support of business processing requirements. Performs software installations and upgrades to operating systems and layered software packages. Schedules installations and upgrades and maintains them in accordance with established IT policies and procedures. Monitors and tunes the system to achieve optimum performance levels. Ensures workstation/server data integrity by evaluating, implementing, and managing appropriate software and hardware solutions. Ensures data/media recoverability by implementing a schedule of system backups and database archive operations. Supports media management through internal methods and procedures or through offsite storage and retrieval services. Develops and promotes standard operating procedures. Conducts routine hardware and software audits of workstations and servers to ensure compliance with established standards, policies, and configuration guidelines. Develops and maintains a comprehensive operating system hardware and software configuration database/library of all supporting documentation.

Systems Administrator - Senior:
Under general direction, responsible for activities related to system administration. Assigns personnel to various projects, directs their activities, and evaluates their work. Ensures long-term requirements of systems operations and administration are included in the overall information systems planning of the organization. Responsible for the installation, maintenance, configuration, and integrity of computer software. Implements operating system enhancements that will improve the reliability and performance of the system.

Systems Analysis and Programming Director:
Develops software within an organization. Directs the software engineering function in developing, releasing, and maintaining software applications/operating systems according to business needs.

Systems Engineer:
Performs a variety of systems engineering tasks and activities that are broad in nature and are concerned with major systems design, integration, and implementation, including personnel, hardware, software, budgetary, and support facilities and/or equipment. Provides quality assurance review and the evaluation of new and existing software products.

Systems Management Technologist:
Analyzes, develops, operates, and maintains software libraries and catalogs. Provides support and direction for user groups in the use of the software/hardware systems and programs to support an integrated system.

Technical Writer:
Writes a variety of technical articles, reports, brochures, and/or manuals for documentation for a wide range of uses. Coordinates the display of graphics and the production of the document.

Telecommunications Analyst/Technician:
Provides maintenance of the switching equipment. Performs more complex activities for routine maintenance on switch. Reads and interprets circuit diagrams and electrical schematics.

Telecommunications Engineer/Analyst – Intermediate:
Under general supervision, responsible for moderately complex engineering and/or analytical activities associated with one or more technical areas within the telecom function (such as, but not limited to, network design, engineering, implementation, or operations/user support). Typically requires two to four years of technical telecom experience.

Telecommunications Engineer/Analyst - Senior:
Under general direction, responsible for complex engineering and/or analytical tasks and activities associated with one or more technical areas within the telecom function such as, but not limited to, network design, engineering, implementation, or operations/user support. Typically requires six to eight years of technical telecom experience.

Telecommunications Programmer/Systems Analyst - Intermediate:
Under general supervision, develops telecommunications solutions to address user needs. May interface with users to define needs. Assists in the design, development, and testing of communications software interface programs. Usually involved in the implementation and testing of projects. Requires knowledge of communication protocols, hardware, and real-time operating system programming. Requires proficiency in one or more programming languages such as Assembler, FORTRAN, or "C".
Typically requires two to four years of experience in telecommunications programming.

Telecommunications Programmer/Systems Analyst - Senior:
Under general direction, develops telecommunications software solutions to address user needs. Interfaces with users to define needs. Designs, develops, and tests complex communications software interface programs. Primary responsibilities usually include technical feasibility studies and design phases of project. Requires strong knowledge of communication protocols, hardware, and real time operating system programming. May serve as project leader for lower level programmers. Requires high level of proficiency in one or more programming languages such as Assembler, FORTRAN, or "C". Typically requires four to six years of experience in telecommunications programming.

Telecommunications Technician:
Installs, troubleshoots, repairs and maintains telecommunications equipment. Provides reports, completes requests for new service, determines methodology for installing telephone service, determines appropriateness of moderate equipment changes or modifications, call switches, test trunks, test links and installs communication circuits.

Telecommunications/Communications Integration Engineer:
Provides technical direction and analysis for telecommunication activities, including planning, designing, integrating, installing and maintaining large-scale telecommunications/ communications networks and services with computer systems. Applies telecommunications/communications engineering principles and theory to propose design and configuration alternatives. Analyzes network performance, usage and traffic flows, accesses and interfaces, transmission techniques, and protocols to interface with computer systems.

Test Engineer:
Subject matter specialist providing testing know-how in for the support of user requirements of complex to highly complex software/hardware applications. Directs and/or participates in all phases of risk management assessments and software/hardware development with emphasis on analysis of user requirements, test design and test tools selection.

UNIX Systems Administrator:
Responsible for the installation, configuration, and maintenance of UNIX operating systems. Recognizes and troubleshoots problems with server hardware and applications software. Establishes and documents standards and procedures for management review. Requires extensive knowledge of computer operations and familiarity with shell and kernel programming. Typically requires two to four years of experience.

Web Designer:
Under direct supervision, designs and builds web pages using a variety of graphics software applications, techniques, and tools. Designs and develops user interface features, site animation, and special effects elements. Contributes to the design group's efforts to enhance the appeal of the organization's online offerings. Designs the website to support the organization's strategies and goals relative to external communications. Typically requires one to three years of experience in the area of web design. Requires knowledge of web-based technologies including browsers ASP pages, HTML code, object-oriented technology, and graphics software.

Web Software Developer:
Designs, develops, troubleshoots, debugs, and implements software code (such as HTML, CGI, and JavaScript) for a component of the website. Works with graphic designers and other members of a project team to develop the site concept, interface design, and architecture of the website. Responsible for interface implementation. Integrates web applications with backend databases. Deploys large web-based transaction systems using application servers. Researches, tests, builds, and coordinates the integration of new products per production and client requirements. Requires strong navigation and site-design instincts.

Web Technical Administrator:
Under general supervision, responsible for achieving overall technical integrity of organization's website. Maintains and upgrades hardware and software including website technical architecture related to hardware and telecommunication connectivity. Administers e-mail, chat and FTP services. Communicates router configuration changes and troubleshoots system errors and bugs. Maintains servers, creates monitoring reports, automates routine procedures. Works on system-level services to ensure proper patch levels on applications and operating systems. Monitors database integrity. Monitors site for acceptable performance and user accessibility. Establishes backups and monitors site security. Typically requires experience in systems technologies.