



NETWORK ENGINEER

DEFINITION

Under general supervision, designs, analyzes, configures, and manages the District's physical and virtual network and telecommunications infrastructure; implements upgrades for mission critical systems; consults with users, gathers data, analyzes and evaluates system requirements, and modifies systems; and performs related work as required.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision from assigned manager. Exercises technical and functional direction to staff on a project or in problem resolution.

CLASS CHARACTERISTICS

This is the fully competent class in the Network Engineer series responsible for designing, implementing, and managing the District's network and telecommunications infrastructure. Responsibilities require the use of tact, discretion, and independent judgment and to have full and thorough knowledge of the concepts, practices, procedures, and policies of assigned function. Work is typically reviewed upon completion for technical soundness, appropriateness, and conformity to policy and requirements and the methodology used in arriving at the end results are not reviewed in detail.

EXAMPLES OF TYPICAL JOB FUNCTIONS (Illustrative Only)

- Designs, analyzes, implements, and manages districtwide physical and virtual network and telecommunications infrastructure systems to accommodate District needs and comply with information technology services policies, regulations, and guidelines; ensures the functionality and operational stability of network and telecommunications infrastructure and systems.
- Inventories, installs, programs, tests, and repairs equipment hardware and systems associated with network and data security, including but not limited to firewalls, intrusion detection systems, and traffic analyzer.
- Monitors and analyzes network and telecommunications performance; reviews system event/audit logs; detects problems and identifies inefficient use of resources; conducts root cause analysis and recommends solutions; conducts capacity planning.
- Assesses business process technologies and architecture at system and component levels to determine possible risks and exposures to security models; documents network and telecommunications infrastructure security assessments and reviews.
- Designs, configures, and implements disaster recovery and backup solutions and procedures.
- Interviews, analyzes, and documents end user work processes and infrastructure and system requirements; conducts technical reviews; develops or refines specifications; designs, recommends, implements, and evaluates upgrades, expansions, and solutions.
- Individually or as a team member, works on and is responsible for network and telecommunications infrastructure and system research, development, installation, upgrade, and maintenance projects, including conception and initiation, definition and planning, launch and execution, monitoring and

controlling, and close-out; defines project requirements, methods, and end objectives in consultation with end users; estimates and tracks project budget; coordinates project activities with team members, other information technology services staff, user representatives, and outside vendors.

- Develops and recommends comprehensive standards, policies, and procedures pertaining to network and telecommunications operations and security.
- Assists with the development of bid specifications for acquisition of network and telecommunications equipment and services.
- Writes and maintains user and technical operating instructions and documentation; prepares training materials and conducts informal training programs on the use and operation of the applications and advises on best practices.
- Stays abreast of new trends and innovations in technology related to network and telecommunications operations; researches, recommends, and evaluates vendor solutions and technologies; implements improvements; works with staff to maintain, revise, or improve operations and systems.
- Performs other duties as assigned.

QUALIFICATIONS

Knowledge of:

- Network and telecommunications infrastructure, storage, and security design, analysis, installation, and management methods and techniques.
- Principles and procedures for use of complex network hardware, protocols and configurations such as Transmission Control Protocol/Internet Protocol (TCP/IP), Local Area Network (LAN), Software Defined Network (SDN), Wide Area Network (WAN), wireless, and operating systems as they relate to switched and non-switched telecommunications networks.
- Principles, practices, and techniques of database structure management and computer programming.
- Principles and practices of project management, identifying technology needs and issues, researching and evaluating technology, applications, and the most effective courses of action, and implementing solutions.
- Business continuity and disaster recovery planning.
- Internet Protocol addressing and routing such as Open Shortest Path First (OSPF), Border Gateway Protocol (BGP), and Interior Gateway Routing Protocol (IGRP).
- Operating systems including but not limited to Microsoft Windows server and client, and one of the following: UNIX, Linux, or Solaris.
- The organization, operation, and functions of the department as necessary to assume assigned responsibilities and to determine appropriate point of escalation.
- Recent and on-going information services related developments including information technology, current literature, and sources of information related to the operations of assigned functional area.
- Applicable federal, state, and local laws, regulatory codes, ordinances, and procedures relevant to assigned area of responsibility.
- Modern office practices, methods, and computer equipment and applications related to the work.
- English usage, spelling, vocabulary, grammar, and punctuation.
- Recordkeeping principles and procedures.
- Techniques for providing a high level of customer service by effectively dealing with the public, students, and District staff, including individuals of diverse academic, socio-economic, ethnic, religious, and cultural backgrounds, disability, and sexual orientation.

Ability to:

- Demonstrate understanding of, sensitivity to, and respect for the diverse academic, socio-economic, ethnic, religious, and cultural backgrounds, disability, and sexual orientation of community college students, faculty and staff.
- Perform specialized and technical support functions in the design, analysis, engineering, implementation, and management of network and telecommunications infrastructure, storage, and security.
- Perform analyses of network and telecommunications requirements and needs; identify, evaluate, and solve systems problems; design and implement new or revised systems and procedures; provide technical advice and consultation, and ensure efficient network and telecommunications system utilization.
- Participate in design sessions and process improvement sessions to identify business and user needs and discuss network and telecommunications capabilities and modifications needed for improvement.
- Interpret, apply, explain, and ensure compliance with federal, state, and local policies, procedures, laws, rules, and regulations.
- Apply independent technical judgment to complex technical situations.
- Prepare clear and concise technical documentation including network diagrams, user procedures, reports of work performed, and other written materials.
- Maintain current knowledge of technological advances in the field.
- Operate modern office equipment including computer equipment and specialized software applications programs.
- Organize and prioritize a variety of projects and multiple tasks in an effective and timely manner; organize own work, set priorities, and meet critical time deadlines.
- Use English effectively to communicate in person, over the telephone, and in writing.
- Use tact, initiative, prudence, and independent judgment within general policy, procedural, and legal guidelines.
- Establish, maintain, and foster positive and effective working relationships with those contacted in the course of work.

Education and Experience:

Any combination of training and experience that would provide the required knowledge, skills, and abilities is qualifying. A typical way to obtain the required qualifications would be:

Equivalent to graduation from an accredited four-year college or university with major coursework in network engineering, management information systems, computer science, or a related field and five (5) years of progressively responsible experience in supporting and implementing network, telecommunications and/or other information technology infrastructure systems.

Licenses and Certifications:

- Possession of, or ability to obtain, a valid California Driver's License by time of appointment.
- Possession of, or ability to obtain, a Cisco Certified Network Administrator (CCNA) certificate, or Cisco

Certified Network Professional (CCNP) certificate.

- Ability to obtain a VMware Certified Professional (VCP) certificate is desirable.

PHYSICAL DEMANDS

Must possess mobility to work in a standard office setting and use standard office equipment, including a computer; vision to read printed materials and a computer screen; and hearing and speech to communicate in person and over the telephone. Standing in and walking between work areas is frequently required. Finger dexterity is needed to access, enter, and retrieve data using a computer keyboard or calculator, to operate standard office equipment, and to install switches and appliances. Positions in this classification frequently bend, stoop, kneel, and reach to perform assigned duties, as well as push and pull drawers open and closed to retrieve and file information. Employees must possess the ability to lift, carry, push, and pull materials and objects up to 50 pounds with the use of proper equipment.

ENVIRONMENTAL ELEMENTS

Employees work in an office environment with moderate levels, controlled temperature conditions, and no direct exposure to hazardous physical substances.

Salary Grade: C1-72

FLSA: Non-Exempt

EEO Code: H-50

Board Approved: April 2021