

CLASS TITLE: SYSTEM ENGINEER III – NETWORK SERVICES

PURPOSE OF THE CLASSIFICATION: Under direction is responsible for evaluating, testing, recommending, implementing and maintaining data communications hardware and operating systems in support of a large Metropolitan Area Network (MAN), administering data communication management and utility applications, analysis and optimization of network traffic flow, detecting, isolating and correcting network errors and outages, designing building and campus networks and other related assigned duties.

ESSENTIAL TASKS:

- Assists in projects to develop or improve services over the network
- Monitors, analyzes and optimizes network traffic flow
- Evaluates, tests, recommends, implements and maintains network management, monitoring and troubleshooting applications
- Maintains compliance with internal business processes, including configuration and change management
- Evaluates, tests and recommends new networking technologies
- Assists IT Security in research, evidence gathering, documentation and network analysis
- Creates network performance reports on schedule and/or request
- Collaborates with executive management and department leaders to assess short and long term network capacity needs
- Creates and maintains documentation related to network configuration, mapping and processes and service records
- Designs, modifies, recommends and deploys local and wide area and wireless networks, including routers, switches, uninterruptible power supply (UPS's) and other hardware
- Conducts research on network products, services, protocols and standards to remain abreast of developments in the network industry
- Oversees new and existing equipment, hardware and software upgrades
- Interacts and negotiates with vendors, outsourcers and contractors to secure network products and services
- Configures networks to ensure smooth and reliable operation to fulfill business objectives and processes
- Monitors network performance and troubleshoots problem areas as needed
- Oversees installation, configuration, maintenance and troubleshooting of end user workstation hardware, software and peripheral devices as required
- Ensures network connectivity of all servers, workstations, telephony equipment, fax machines and other network appliances
- Practices network asset management, including maintenance of network component inventory and related documentation and technical specifications information
- Monitors and tests network performance and provides network performance statistics and reports
- Participates in managing network security solutions as required
- Manages and/or provides guidance to junior members of the team
- Must report to work on a regular and timely basis

Reasonable accommodations may be made to enable individuals with disabilities to perform the essential tasks.

QUALIFICATIONS

Training and Experience: Graduation from an accredited college or university with a bachelor's degree in data communications, computer sciences, electrical engineering or other related fields, including or supplemented by coursework in data communications and computer sciences and five (5) years of experience in data communications; or possession of a current CCNA (Cisco Certified Network Associate) Certification, or equivalent, for the past seven (7) consecutive years in addition to 7 years of current experience in engineering data networks; or an equivalent combination of training and experience per Personnel Policies and Procedures, Section 128.

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Knowledge, Abilities, and Skills: Considerable knowledge of networking standards, protocols and best

practices, including Transmission Control Protocol/Internet Protocol (TCP/IP), Open Shortest Path First (OSPF), Virtual Redundant Routing Protocol (VRRP), Border Gateway Protocol (BGP), Ethernet, Virtual Local Area Networks (VLAN's), Multiprotocol Label Switching (MPLS), Domain Name System (DNS) Dynamic Configuration Host Protocol (DHCP), Simple Network Management Protocol (SNMP), sFlow and wireless communications, including IEEE 802.11 Wireless LAN protocol, IEEE 802.15 Wireless Personal Area Network (WPAN), Bluetooth and point-to-point wireless methods, Voice over Internet Protocol (VoIP), Supervisory Control and Data Acquisition (SCADA) and streaming media, information security, including encryption, Virtual Private Network (VPN), IEEE 802.1x, Port-based Network Access Control (PNAC) RADIUS, firewalls, Access Control Lists (ACL's), network access control systems and intrusion prevention/detection systems; knowledge of security standards and practices such as International Standardization Organization (ISO) 17799 Information Security, National Institute of Standards and Technology (NIST) Special Publications 800 series and Internet Engineering Task Force (IETF) security Requests for Comments (RFC's), business processes for information technology, including Information Technology Infrastructure Library (ITIL) and Control Objectives for Information and related Technology (COBIT). Ability to perform analysis of operating and/or data communications systems from technical feasibility aspects; ability to work independently and to recognize, analyze and solve complex problems; ability and willingness to train junior members of the network services team; demonstrated ability in making oral presentations and writing reports for different audiences on network and IT topics, project management, including planning, work breakdown structure, setting milestones and status reporting; ability to exercise excellent customer service, interpersonal skills and problem resolution meeting customer expectations; and the ability to understand and influence the behavior of others within the organization, customers or the public in order to achieve job objectives and cause action or understanding.

Physical Requirements: Physical requirements include arm and hand dexterity enough to use a keyboard and telephone; frequent lifting up to 20 pounds; occasional lifting and carrying up to 60 pounds; occasional pushing and pulling up to 60 pounds; may be subject to sitting, walking, standing, reaching, bending, kneeling, crawling, handling, feeling, climbing, smelling and twisting; and vision, speech and hearing sufficient to perform the essential tasks.

Licenses and Certificates: CCNA (Cisco Certified Network Associate) Certification preferred; Brocade IP, Avaya, Hewlett-Packard, Juniper, Cisco, Alcatel or Extreme certification preferred; CompTIA Network+ or other manufacturer certification acceptable; Certified Information System Security Professional (CISSP) or Global Information Assurance Certification (GIAC) preferred; or possession of an appropriate network certification for the Manufacturer of the City's Core and Edge equipment must be obtained within one year from date of employment.

WORKING ENVIRONMENT: Working environment is primarily indoors in an office setting; and standby and on-call after hour support is required.

Class code: 2505

EEO Code: E-02

Pay Code: IS-44

Group: Clerical and Administrative

Series: Data Processing and Information Services

Effective Date: November 19, 2012