

SANTA CLARA COUNTY OFFICE OF EDUCATION
Personnel Commission

CLASS TITLE: NETWORK ADMINISTRATOR

BASIC FUNCTION:

Under the direction of the Manager - Security, Network, and Systems Engineering, and with the guidance of senior engineers, supports, configures, implements, evaluates, tests, and troubleshoots wired and wireless Local Area Networks (LAN), Wide Area Networks (WAN), telecommunications, data communications and network security systems to meet the needs of the Santa Clara County Office of Education (SCCOE) and school districts; provides network and administrative technical support for users; participates in project design and management, public relations, research and problem-solving activities.

REPRESENTATIVE DUTIES:

The following duties are examples of assignments performed by incumbents in this classification. It is not a totally comprehensive list of duties, nor is it restrictive regarding job assignments.

ESSENTIAL DUTIES:

Installs, configures, monitors, and supports network devices including switches, routers, optical equipment, firewalls, wireless controllers, network security appliances and associated enterprise network applications.

Installs, configures, monitors, and supports network infrastructure and performance between both downstream and upstream Internet Service Provider (WAN) connections.

Installs, configures, monitors, and supports advanced optical networks leveraging advanced dense wave division multiplexing (DWDM) technologies.

Installs, configures, monitors, and supports network infrastructure and performance for campus, branch, datacenter and co-location sites.

Implements, maintains, and supports complex systems for secure delivery of digital information; plans, configures and installs secure access connections to County Office servers and provides secure access for onsite and remote mobile workers and devices.

Supports network infrastructures and specific network design projects to support current and future network and computing connectivity and bandwidth requirements of internal and external systems and applications.

Supports, implements and routinely assesses options for network diversity to ensure the resiliency of network-connected systems and services.

Supports, implements and reviews network segmentation strategies to ensure the isolation of network areas required for network security and management.

Supports, implements and documents network migration strategies and processes for both internal and external projects and requirements minimizing connectivity disruptions for both systems and users.

Anticipates key growth areas and bandwidth requirements for internal and external customers and systems to ensure all network capacity planning accounts for current and future needs.

Collaborates with application owners across teams, departments and organizations to develop network design strategies accounting for support and bandwidth growth needs.

Analyzes and resolves Tier 1 and Tier 2 problems between LAN/WAN, SAN, servers, desktop computers, and enterprise applications; works with network and security system vendors to ensure optimal efficiency in network operations.

Trains and provides guidance to other Tier 1 technical support staff; oversees the work of outside contract workers on construction of network design projects.

Collaborates with, coordinates with or assists other technical team members in network-related tasks to support inter-team and inter-departmental projects and initiatives.

Supports the development of cost analyses of proposed and existing network services; recommends contractual changes, service providers and cost control measures; participates in the development of feasibility studies and cost-effectiveness studies for new network and security infrastructure and associated enterprise applications.

Performs diagnostic tests; compiles, organizes, and analyzes data to troubleshoot network problems; analyzes and resolves connectivity problems with network infrastructure and network-security systems and associated enterprise applications, LAN/WAN, SAN, servers; works with support team members to assure timely response to problem calls.

Provides recommendations and support for the development of technical policies and strategies for network system design and scaling, augmenting hosted services and broadening network support capacities.

Plans and oversees multiple network projects to completion; identifies scope of work and objectives; facilitates the resolution of complex project problems by meeting with stakeholders, vendors and other technical staff to identify problems and potential solutions; assures projects are planned and delivered according to customer needs.

Coordinates service calls and schedules appointments between service providers and users experiencing problems and ensures satisfactory resolution.

Manages user passwords and profiles related to network infrastructure and network security systems; conducts routine audits of security procedures.

Maintains and operates network monitoring and diagnostic software and equipment for capacity planning and preventative maintenance.

Receives and reviews equipment installation requests from users and customers, ensures completeness, and contacts users regarding discrepancies.

Trains users and customers in the proper use and operation of LAN/WAN systems and related equipment; trains and assists staff in department-specific software application and hardware.

Prepares and updates operation documentation and guides; prepares documentation for the placement of equipment; maintains and monitors equipment inventory lists; maintains accurate records, logs, and files related to assigned LAN, WAN, and equipment inventory activities, servicing, operations, and functions; writes articles, newsletters, and technical documentation; prepares network diagrams, flow charts, graphic presentations, and narrative reports to recommend improvements or resolve problems.

Maintains current knowledge of emerging technologies and research in information technology; conducts research; assists with developing policies and strategic plans for the use and support of emerging technologies and assesses the impact on current practices.

OTHER DUTIES:

Perform related duties as assigned.

KNOWLEDGE AND ABILITIES:**KNOWLEDGE OF:**

LAN/WAN network and security protocols – TCP/IP, Quality of Service (QoS), OSPF, BGP, IPsec, 802.1x, RADIUS, SNMP.

Network Operating Systems – Cisco IOS, Cisco NX-OS, Aruba OS, Aruba-CX, PAN-OS.

Firewall technologies – Cisco ASA, Palo Alto Networks, other next-generation firewalls.

Wireless Systems – Cisco, Meraki, Aruba.

Optical Systems – Ekinops, ADVA, Cisco NCS.

Network Security Applications – Cisco ISE, Aruba Clearpass, other NAC technologies.

Analytical, research and problem solving methods; network analysis and project management procedures and techniques.

Telecommunications network design.

Project management concepts, procedures, and tools, including Microsoft Project.

State and federal laws and regulations relating to network and network security systems.

Information systems and network terminology and telecommunications policies, procedures, and vendors.

Installation of data/voice communication networks, telephone systems, and related software and hardware.

Desktop computer hardware and software.

Current trends, techniques, and general principles in enterprise technology.

Proper telephone etiquette and public relations skills.

Proper English usage, grammar, punctuation, and vocabulary.

ABILITY TO:

Apply specialized knowledge in LAN/WAN, telecommunications systems, data communications, servers, hardware and software systems.

Identify and isolate network or network-related systems problems through the performance of diagnostics, and determine appropriate action for resolution.

Establish and maintain logs, records, lists, fact sheets, and files regarding specialized transactions, procedures, and policies.

Prepare user guides and a variety of statistical and narrative reports.

Work various shifts with minimal supervision to meet user and customer needs.

Determine network and network security systems, software programs, and materials to meet user and customer requests and project requirements.

Operate a variety of computer peripheral equipment including desktop and laptop computers as well as associated software.

Anticipate network-related issues and develop effective strategies to mitigate problems before they arise or worsen.

Perform numerical calculations accurately.

Plan, organize, and prioritize assigned tasks and functions efficiently in stressful situations.

Coordinate and monitor networking activities with outside service providers/agencies.

Train users and customers in the proper and secure implementation of network equipment and infrastructure.
Establish and maintain effective work relationships with those contacted in the performance of required duties.
Communicate effectively orally and in writing.

EDUCATION AND EXPERIENCE:

Any combination equivalent to: Bachelor’s degree in Computer Science, Information Systems or related field and three years of increasingly responsible experience in network analysis and administration.

LICENSES AND OTHER REQUIREMENTS:

Valid California driver’s license.
Demonstrate proficiency in the requirements for the following certifications:

Cisco Certified Network Associate (CCNA)

Preference may be given to individuals who hold one or more of the following certifications:

- Cisco Certified Network Professional (CCNP)
- Certified Information Systems Security Professional (CISSP)
- Palo Alto Networks Certified Network Security Engineer (PCNSE)
- Aruba Certified Mobility Professional (ACMP)

WORKING CONDITIONS:

ENVIRONMENT:
Indoor and occasional outdoor working environment.
Evening or variable hours.
Driving a vehicle to conduct work.

PHYSICAL DEMANDS:
Hearing and speaking to exchange information and make presentations.
Dexterity of hands and fingers to operate computer keyboard.
Seeing to perform assigned activities.
Sitting for extended periods of time.
Bending at the waist, kneeling or crouching.

Approved by Personnel Commission: May 8, 2019



Jonathan Muñoz
Director - HR/Classified Personnel Services

Date: 05/08/19