



JOB TITLE: SENIOR NETWORK SYSTEM ADMINISTRATOR

Classification: Classified
Salary Range: 49

Retirement Type: PERS*
Board Approved: June 17, 2013

BASIC FUNCTION:

Under direction, performs highly complex duties in the design, development, installation, upgrade, integration, administration and maintenance of the District's wired and wireless network infrastructure; monitors network servers, equipment and devices for performance and stability; designs, installs and monitors network security devices, software, protocols and processes; serves as a technical advisor and/or project manager on difficult and complex network, communication and configuration issues; and performs related duties as assigned.

REPRESENTATIVE DUTIES:

Perform highly complex duties at a professional mastery level in the design, development, integration and administration of the District's networks.

Responsible for design of the District's network architecture, including switching, routing, overall network services and network security, and participates in researching technology alternatives and planning for expansion of network capacity to support the District.

Troubleshoots and resolves the most complex network performance and connectivity problems.

Designs and develops complex, multi-segment network infrastructure; designs, develops, installs, integrates and maintains the network physical infrastructure incorporating multiple technologies and protocols; installs, upgrades, replaces, configures, integrates and maintains network hardware, software and devices, including servers, switches, routers, bridges, gateways and cabling and other wiring equipment; creates, reallocates or deletes subnets or virtual networks to improve performance and increase security.

Designs, develops, installs, configures and maintains network operating system software and network infrastructure applications; maintains software installation libraries; monitors directories and domains and audits server logs to identify performance issues and device failures; installs server fixes and service packs to maintain reliability and security.

Designs, develops, installs, configures, maintains and troubleshoots the VoIP (Voice Over IP) network infrastructure, including PoE (Power Over Ethernet) switches, UPSs (uninterruptible power supplies, voice routers, call processing servers, voicemail servers and other VoIP related equipment; creates, reallocates or deletes voice subnets; performs tuning to ensure high quality and reliable voice services.

Designs, develops, installs, configures, maintains and troubleshoots SANs (Storage Area Networks), including HBAs (Host Bus Adapters), fibre channel switches, fibre channel and SATA drives, fibre channel cables and associated firmware and software; works with storage vendor on major SAN installs, upgrades and troubleshooting of problems.

Designs, conducts site surveys, installs and maintains wireless access points and associated wireless equipment, devices and software throughout District locations; creates and maintains

firewalls and authentication servers and encryption methods to wireless access points; creates and maintains wireless domain services to allow wireless roaming; troubleshoots and resolves wireless interference, connectivity, performance and security problems.

Troubleshoots, diagnoses and resolves server connectivity and performance issues; administers network standards, including naming conventions and address protocols; monitors, analyzes and manages network traffic and other conditions to achieve optimal performance and uptime; analyzes data to minimize network congestion.

Analyzes network capacity and growth requirements and recommends network infrastructure upgrades and enhancements to meet long-term District needs; develops plans for server room expansion including rack space, floor space, cooling and power requirements; installs server racks, uninterruptible power supplies and other server support equipment; develops specifications for network hardware, software and cabling upgrades and enhancements.

Designs, installs and administers new security systems and methods; creates and maintains security rights on network resources; maintains and administers the firewall rule base and authentication systems; monitors for network intrusions and security breaches; implements and enforces the enterprise network security policy and remote access standards and guidelines.

Performs project leadership functions for network installation projects; participates in planning and managing large migration and conversion projects; creates network management scripts to automate software installation, workstation management and network resource assignments; creates scripts to automate bulk configuration changes to network switches.

Provides technical advice, solutions and field training to user support staff; develops tools to assist staff in deploying software, configuring settings and troubleshooting and resolving a variety of workstation problems; performs advanced troubleshooting on network hardware, software and connectivity problems; performs third level problem resolution.

Maintains an inventory of hardware components and software as well as surplus computer hardware and equipment to be rebuilt and redistributed to users.

Researches and evaluates hardware and software for compatibility, serviceability, design and performance; develops specifications and recommends the purchase of computer/network-related hardware and software.

Develops prototype systems to test for integration, feasibility and reliability; conducts cost benefit analyses; participates in the selection of vendors; develops support and training materials for user support staff on new technologies and their integration in the District's network infrastructure.

Monitors trends and developments in systems, networking and multi-platform communication technologies; consults with vendors and other sources on industry and product direction, functionality and capabilities.

Provides back up support to other members of the network services and user support team.

Performs other related duties as assigned or requested.

JOB QUALIFICATIONS:

Education and Experience:

A typical way of obtaining the knowledge, skills and abilities outlined above is graduation from a college or university with a major in computer science, management information systems or a closely related field or Micro Soft Certified Systems Engineer (MCSE) certification or Cisco Certified Systems Associate (CCNA), depending on the area assigned, through a standards based organization; and at least four years of progressively responsible experience in the analysis, design, project management, development and administration of network infrastructures; or an equivalent combination of training and experience.

OTHER QUALIFICATIONS:

Knowledge/Areas of Expertise:

Wired and wireless network architectures and theory and principles of network design and integration, including topologies, protocols and network load distribution.

Principles, methods and techniques for layout, installation, configuration, integration and operation of network systems, components, equipment and devices.

Principles, methods and techniques for installation, configuration, integration and operation of VoIP network systems, components, equipment, devices and software.

Principles, methods and techniques for installation, configuration, integration and operation of Storage Area Network systems, components, equipment, devices and software.

Server hardware and operating system architecture, directory services, characteristics, commands and components applicable to District servers and computer platforms.

Standard network management software, equipment, tools and utilities.

Methods and techniques for performing connectivity testing and network analysis and troubleshooting.

Principles, practices and methods of network administration and maintenance, including configuration, performance tuning and diagnostic tools.

Wired and wireless network security principles, equipment, software, practices, techniques and tools, including encryption standards and authentication methods.

Principles, practices and methods of systems administration and maintenance.

Disaster planning and recovery techniques.

Database management systems and software.

Standard programming and scripting languages and utilities applicable to responsibilities.

Network media and cable plant design and layout.

Project management methods, tools and techniques.

Basic knowledge of building construction including reading building plans, framing, construction materials, electrical and general concepts for the proper installation of network cable and wireless networking equipment.

Abilities/Skills:

Design, configure, manage and maintain the operations of complex wired and wireless network systems to achieve optimal technical performance and user support.

Troubleshoot complex network hardware, software and/or connectivity problems and make modifications and fixes to resolve problems.

Develop conceptual frameworks and apply state-of-the-art technology to the design and management of operating system and network infrastructures.

Perform business and functional analyses and reach sound conclusions regarding customer needs and requirements.

Understand and apply the analysis of functional requirements to the development of proposals, specifications and recommendations for efficient, cost-effective network systems and technology solutions.

Establish and maintain project schedules and balance responsibilities for multiple projects to ensure timely, high-quality results.

Assess customer needs, set priorities and allocate resources to most effectively meet needs in a timely manner.

Prepare clear, concise and accurate system documentation, reports of work performed, and other written materials.

Make sound, expert independent decisions within established guidelines.

Communicate clearly and effectively orally and in writing.

Work collaboratively and effectively as a project leader and team member.

Establish and maintain effective customer-focused working relationships with managers, customers, vendors, consultants, employees and others encountered in the course of work.

WORKING CONDITIONS:

Typical office environment.

Extensive computer work.

Long periods of standing and sitting.

Move from one location to another as needed.

Lift and carry up to 25 pounds.

* Previous employment performed in a different public retirement system may allow eligibility to continue in the same retirement system.