

**CLARKSVILLE-MONTGOMERY COUNTY SCHOOL SYSTEM  
CLARKSVILLE, TENNESSEE  
JOB DESCRIPTION**

**Job Title: Senior Network Engineer**

**Department: Technology**

**Grade: Administrator Pay Grade 501**

**Job Description**

**Date Reviewed: November 2019**

**Reports To: Chief Technology Officer**

**Purpose of Job**

The purpose of this job is to provide management, administration, and oversight with regard to the technical operation and security of the network, to include but not limited to network architecture, network operations, customer technical support, and special projects. This job also is responsible for the supervision and management of Network Engineers' performance on a daily basis.

This position is considered Mission Essential to the District and the Technology Department, in accordance with HUM-A012. A Mission Essential Employee is critical in addressing incidents that result in an interruption of normal functionality of district technology resources for students and staff.

**Essential Duties and Responsibilities**

**The following duties are normal for this job. These are not to be construed as exclusive or all-inclusive. Other duties may be required and assigned.**

Designs and specifies networks, including installation methods, hardware, software, and procedural requirements.

Designs and maintains security infrastructure for technology assets, to include configuration of firewall and other network resources.

Develops security policies and best practices for the district at the network and user level.

Tests, collects, and analyzes information for development of new networks and for modification/redesign of existing networks.

Monitors network activity to identify and address abnormalities or areas of concern.

Conducts periodic audits to determine security inefficiencies and potential violations.

Functions as the central point of information distribution with regard to system-wide network issues.

Supervises Network Engineers, to include but not limited to: workload assignment, performance goals, evaluations, training, instruction, corrective action, and other supervisory duties as designated by the Chief Technology Officer.

Responsible for development and implementation of professional development training for Network Engineers.

Works with Chief Technology Officer and Technology Coordinator to establish and implement policies and procedures with regard to technical operations.

Researches, coordinates, and involves appropriate parties with regard to the development and acquisition of network equipment and software and security enhancements.

Provides customers with hardware/software support and instruction on network utilization.

Performs maintenance functions on network hardware, programs and reports; tests/troubleshoots networks for errors.

Maintains documentation of current network design and amends documentation to include all design modifications.

Collaborates with Network Engineers regarding repairs, replacement and/or updates of hardware/software at customer sites.

Collaborates with Network Engineers regarding the installation of hardware/software on network equipment.

Responsible for quality control of network operations.

Provides communication and training to Technology Department regarding networking and security best practices.

### **Networking Skills**

Experience maintaining complex campus networks to include the use of dynamic routing protocols, managing firmware updates, monitoring and tuning performance (Qos).

Experience installing and configuring iSCSI networks.

Experience installing and administering VPN tunneling technologies to secure district resources off-site.

Experience with virtual switching/ networking in VMWARE.

Solid understanding of OSI model and applies knowledge to troubleshoot network issues.

Experience with network monitoring and logging systems using SNMP Protocol.

Experience administering an Enterprise wireless environment.

Experience with highly complex TCP/IP networks (networks that contain multiple routers and multiple media) and the ability to debug and program at the network level.

Experience with non-TCP/IP networking protocols.

Experience with Dynamic Host Configuration Protocol (DHCP) and Domain Name System (DNS).

### **Security**

Knowledge of security best practices as they relate to servers, networks and client machines.

Experience creating network security policies to follow industry standards and best practices.

Experience administering firewall and IDS security devices to include writing security and NAT policies.

Experience with host security (for example, passwords, ids/gids, file permissions, file system integrity, use of security packages).

Experience with configuring and monitoring IDP/IPS and content filtering devices.

Experience analyzing network, server and application logs.

### **Additional Job Functions**

Performs other duties as required.

### **Minimum Training and Experience Required to Perform Essential Job Functions**

- Bachelor's Degree in Computer Science or Computer Networking required, with three to five years of networking experience; or any equivalent combination of education, training, and experience, which provides the requisite knowledge, skills, and abilities for this job.
- Active CompTIA Network+ Certification.
- Active CCNP Certification or the ability to obtain such certification within six months of hiring.
- Two years experience working in a supervisory or management level position.
- Valid driver's license and the ability to provide reliable transportation to deliver equipment or provide needed services to all CMCSS locations.

### **KNOWLEDGE OF JOB**

Has considerable knowledge of the policies, procedures, and activities of the district and practices as they pertain to the performance of duties relating to the position. Has thorough knowledge of practices as necessary for the completion of daily responsibilities. Knows how to develop and administer operations and staff plans and objectives for the expedience and effectiveness of specific duties of the department. Knows how to keep abreast of any changes in policy, methods, computer operations, equipment needs, etc. as they pertain to department operations and activities. Able to effectively communicate and interact with supervisors, members of the general public, and all other groups involved in the activities of the department. Able to assemble information and make written reports and documents in a concise, clear, and effective manner. Has good organization, human relations, and technical skills. Able to use independent judgment and work with little direct supervision when necessary. Has the ability to comprehend, interpret, and apply regulations, procedures, and related information. Has comprehensive

knowledge of the terminology, principles, and methods utilized within the department. Has the mathematical ability to handle required calculations. Is knowledgeable and proficient with computers. Able to read, understand and interpret financial reports and related materials.

**(ADA) MINIMUM QUALIFICATIONS OR STANDARDS  
REQUIRED TO PERFORM ESSENTIAL JOB FUNCTIONS**

**PHYSICAL REQUIREMENTS:** Must be physically able to operate a variety of automated office machines and computer equipment which includes a mainframe computer, personal computer, printer, modem, calculator, telephone, etc. Must be able to use body members to work, move, or carry objects or materials, up to forty-five lbs. Must be able to exert up to forty-five pounds of force occasionally, and/or up to ten pounds of force frequently. Physical demand requirements are at levels for active work.

**DATA CONCEPTION:** Requires the ability to compare and/or judge the readily observable functional, technical, structural, or compositional characteristics (whether similar to or divergent from obvious standards) of data, people, or things.

**INTERPERSONAL COMMUNICATION:** Requires the ability of speaking and/or signaling people to convey or exchange administrative information. Includes giving assignments and/or directions to co-workers or assistants.

**LANGUAGE ABILITY:** Requires the ability to read a variety of informational documentation, directions, instructions, methods, and procedures related to the job of position. Requires the ability to understand and communicate within computer operating systems and requires an understanding of network protocols. Requires the ability to write reports with proper format, punctuation, spelling and grammar, using all parts of speech. Requires the ability to speak with and before others with poise, voice control, and confidence using correct English and a well-modulated voice.

**INTELLIGENCE:** Requires the ability to learn and understand complex principles and techniques; to make independent judgments in absence of supervision; to acquire knowledge of topics related to the position.

**VERBAL APTITUDE:** Requires the ability to record and deliver information to supervisors and officials; to explain procedures and policies; and to follow verbal and written instructions, guidelines and objectives.

**NUMERICAL APTITUDE:** Requires the ability to utilize mathematical formulas; add and subtract totals; multiply and divide; determine percentages; determine time and weight; and utilize statistical inference.

**FORM/SPATIAL APTITUDE:** Requires the ability to inspect items for proper length, width, and shape, visually with office equipment.

**MOTOR COORDINATION:** Requires the ability to coordinate hands and eyes while using automated office equipment.

**MANUAL DEXTERITY:** Requires the ability to handle a variety of items, office equipment, control knobs, switches, etc. Must have the ability to use one hand for twisting or turning motion while coordinating other hand with different activities. Must have average levels of eye/hand/foot coordination.

**COLOR DISCRIMINATION:** Requires the ability to differentiate colors and shades of color.

**INTERPERSONAL TEMPERAMENT:** Requires the ability to deal with people (i.e. staff, supervisors, general public, and officials) beyond giving and receiving instructions such as interpreting departmental policies and procedures. Must be adaptable to performing under moderate stress when confronted with an emergency related to the position.

**PHYSICAL COMMUNICATION:** Requires the ability to talk and/or hear: (talking - expressing or exchanging ideas by means of spoken words). (Hearing - perceiving nature of sounds by ear).

**ATTENDANCE:** A regular and dependable level of attendance is an essential function for this position.

The Clarksville-Montgomery County School System is an Equal Opportunity Employer. In compliance with the Americans with Disabilities Act, the school system may provide reasonable accommodations to qualified individuals with disabilities and encourages both prospective and current employees to discuss potential accommodations with the employer. Signatures below indicate the receipt and review of this job description by the employee assigned to the job and the immediate supervisor.

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**Employee's Signature**

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**Supervisor's Signature**

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**Date**

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**Date**