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| **Network Engineer** | **Class Code: 1363** |
| | **Work Days: 225** |

## GENERAL PURPOSE

Engineer enterprise data, voice, and video networks; maintain a secure transfer of data to multiple locations via internal and external networks; work with vendors, clients, carriers, and technical staff on network implementation, optimization, and ongoing management; provide high-level support and technical expertise in networking technology, LAN/WAN hardware, hubs, bridges, and routers; administer the operation of all LAN/WAN related network services according to company policies and procedures; coordinate and implement network software and hardware upgrades; troubleshoot and resolve LAN/WAN performance, connectivity, and related network problems; administer LAN/WAN security control measures; install, configure, and support voice, data, and video equipment; and provide assistance to higher level management staff.

## SUPERVISION RECEIVED AND EXERCISED

1. Receives direction from higher level management staff.

2. May exercise direct supervision over professional, technical, and/or clerical staff.

## ESSENTIAL DUTIES AND RESPONSIBILITIES

*This position description is intended to describe the general nature and level of work being performed by an employee assigned to this position. This description is not an exhaustive list of all duties, responsibilities, knowledge, skills, abilities, and working conditions associated with this position. All requirements are subject to possible modification to reasonably accommodate individuals with a disability.*

1. Recommend and assist in the implementation of goals, objectives, and strategic plan; establish schedules and methods for providing specialized services; and implement policies and procedures.

2. Monitor system performance and provide security measures, troubleshooting, and maintenance as needed.

3. Maintain needed files and databases by adding and deleting files on the network servers and backing up files to guarantee their safety in the event of problems with the network.

4. Analyze and resolve technical problems for established networks.

5. Plan, test, recommend, and implement network, server, and workstation hardware and software.

6. Provide network documentation, training, and guidance to computing system clients and programmers.

7. Troubleshoot and resolve complex network production problems.

8. Develop and write procedures for installation, use, and troubleshooting of network and communications hardware and software.

9. Install, configure, and maintain Wireless, LAN/WAN hardware and all network components.

10. Install, upgrade, and configure network printing, user access, security, software, and services.

11. Maintain Active Directory security accounts and groups.

12. Monitor and support non-network related data center infrastructure equipment and hardware.

13. Support, maintain, and collaborate in Data Center Disaster recovery operations.

14. Create Category 5 and 6 cables from bulk supplies.

15. Establish user profiles, user environments, and security for networks being installed.

16. Establish and maintain user accounts on VoIP servers and unified messaging servers.

17. Work as a team member with other technical staff to ensure connectivity and compatibility between systems.

18. Work with vendors to resolve complex network problems.

19. Document network problems and resolutions for future reference.

20. Answer all trouble calls/emails and enter work orders into Helpdesk Ticketing software.

21. Monitor and maintain security on networks and servers on network monitoring and log monitoring systems.

22. Assist in administering and maintaining local and web-based versions of our Helpdesk Ticketing software.

23. Interact with internal clients to resolve help desk issues and communicate with internal clients in a professional manner, maintaining confidentiality.

24. Provide timely responses to internal clients.

25. Demonstrate attendance sufficient to complete the duties of the position as required.

26. Perform related duties similar to the above in scope and function as required.


**QUALIFICATIONS (KNOWLEDGE, SKILL, ABILITY REQUIREMENTS)**

**Knowledge of:**

1. Networking and associated protocols including TCP/UDP, EIGRP, OSPF, BGP, DNS, SNMP, and other internet-related protocols, WAN protocols-SONT, OptEMan.

2. Gigman, ATM Frame Relay, DSL, HDLC, LAN protocols Ethernet, Spanning Tree, VLAN, and HSRP.

3. IP addressing to include subnetting, route aggregation, and BGP route maps.

4. Transmission of data using IP multicast.

5. Traffic shaping, quality of service, and packet trace analysis.

6. Dynamic routing protocols on large networks.

7. Installation and support of telecommunications circuits.

8. Desktop Hardware and Software (Microsoft and Apple).

9. Windows Server and Active Directory.

10. Current diagnostic software and tools.

11. Routers, switches, VoIP, and unified messaging.

12. Microsoft Exchange and SMTP.

13. Methods and Techniques of Web Filtering.

14. Security Hardware and Software (Access Control Lists, firewalls, IPS, IDS, Anti-Virus, Encryption).

15. Video Conferencing.

16. Monitor network utilization and security trends and alerts for DDoS (Distributed Denial of Service) and malicious threats.

17. Procedures, methods, and techniques of project and workflow management and organization.

**Ability and Skill to:**

1. Manage multiple projects/requests.

2. Interpret and apply federal, state, and local laws, codes, and regulations.

3. Establish and maintain effective working relationships with various constituencies.

4. Prepare clear and concise correspondence, reports, and other written materials.

5. Interpret the organizational and division strategic plan and create relevant goals and plans for assigned areas of responsibility.

6. Effectively adapt and adjust program services to meet changing priorities and customer-specific needs.

7. Analyze problems, identify alternative solutions, project consequences of proposed actions, and implement recommendations in support of goals.

8. Communicate clearly and concisely, both orally and in writing, in English.


**Education, Training, and Experience:**

A typical way of obtaining the knowledge, skills, and abilities outlined above is a bachelor's degree in a computer-related field and four (4) years of experience  supporting a data and voice network; or an equivalent combination of training and experience.


**PHYSICAL AND MENTAL DEMANDS**

The physical and mental demands described here are representative of those that must be met by an employee to successfully perform the essential functions of this class.

**Physical Demands**

Employees must be able to perform the essential functions of the position with or without accommodation. Employees in this classification must be able to travel countywide to a variety of sites within a reasonable time frame, read written and electronic materials, and communicate clearly with

those contacted through the course of work (typically in person, on the phone, and via email); perform deskwork for extended periods; and access and operate all required equipment for job duties. Employees in this classification often lift, carry, push, and pull heavy objects. The position may include the need to traverse uneven surfaces and may lift and/or move up to 50 pounds and lift up to 100 pounds with assistance.

### Mental Demands

While performing the duties of this class, employees are regularly required to use written and oral communication skills; read and interpret information; analyze and solve problems; use mathematical reasoning; make observations; learn and apply new information or skills; perform highly detailed work; work on multiple, concurrent tasks with frequent interruptions; work under intensive deadlines and meet productivity requirements; and interact successfully with various groups of people encountered in the course of work.

### WORK ENVIRONMENT

The work environment characteristics described here are representative of those an employee encounters while performing the essential functions of this class. Reasonable accommodations may be made to enable individuals with disabilities to perform essential functions.

Employee typically works in an office environment that is fast-paced with high pressure.