

Network Infrastructure and Devices Competencies

Level 1

Provide Customer Service and Support

- Ability to collect and use trouble ticket information to support customer needs
- Ability to work with effectively customers to solve problems and support their needs
- Ability to use customer feedback to improve quality of service

Install and upgrade server and network device hardware

- Understanding of basic network device installation techniques and technologies
- Understanding of basic network cable technologies including installation and removal of old equipment and cabling
- Ability to install, configure and repair basic computer hardware and software

Manage, administer, and secure network infrastructure

- Ability to establish and maintain user accounts and access privileges
- Ability to backup and recover end user disk files; perform maintenance activities, system backups, and restore data
- Ability to backup and recover network services; perform maintenance activities, system backups, and restore data
- Understanding of network architecture administration and management
- Ability to install, configure and maintain workstation and network firewalls
- Ability to obtain and install PKI user certificates (Optional for organizations that do not use PKI technologies)
- Ability to install, configure and maintain anti-virus software

Optimize performance of network architecture and network devices

- Ability to test basic network devices
- Ability to conduct basic operational network tests
- Ability to install, configure and use basic network troubleshooting tools
- Knowledge of practices and procedures for communicating network status

Maintain a safe and secure work environment

- Knowledge of safety rules for operating electronic and computer equipments; operate all equipment safely; keep current with and assist in the update of safety procedures
- Ability to safely maintain the organization's facilities equipment and materials

Perform network infrastructure troubleshooting

- Ability to analyze basic network problems and research solutions

- Basic understanding of requirements analysis, project planning and activity/time management; monitor workload, manage time, and prioritize requests
- Ability to evaluate new or existing technologies for potential use by the organization; query manufacturer information and systems specification resources
- Ability to prioritize network problem resolutions
- Ability to find information on the organization's network devices and systems

Optimize and maintain network software and hardware

- Ability to configure new network components and upgrades in a controlled environment
- Ability to configure and maintain basic network components for optimum performance
- Basic knowledge of network hardware and software maintenance and optimization procedures
- Ability to connect remote users
- Ability to connect wireless devices and users

Implement and monitor weekly network security

- Knowledge of organization's security policies and practices
- Ability to establish and maintain network accounts

Design, install, and expand new facilities (LAN, MAN, WAN)

- Ability to install new network architectures or configurations

Level 2

Provide customer service and support

- Work with customers to solve problems and support their needs
- Ability to coordinate and provide liaison among groups
- Ability to use customer feedback and surveys to improve service quality

Install and upgrade server and network device hardware

- Ability to develop and document network installation and upgrade plans
- Ability to configure network architecture
- Ability to configure network devices software
- Ability to resolve network problems during installation of new or expanded facilities
- Ability to document configurations of network architecture and devices
- Ability to install unique network devices

Manage, administer, and secure network architecture

- Knowledge of quality checking procedures for network architecture

- Ability to establish and maintain user accounts in special circumstances
- Ability to coordinate, communicate and document network changes
- Knowledge of procedures and practices used to create and present reports on network performance
- Ability to conduct advanced network and system backups
- Ability to retrieve and restore lost files and data
- Ability to conduct assessments of network architecture maintenance and upgrade plans
- Ability to administer and secure network architecture

Optimize performance of network architecture and network devices

- Ability to identify customer requirements for network performance
- Knowledge of techniques for researching technical alternatives and options
- Ability to test a variety of network devices
- Ability to conduct network testing
- Knowledge of procedures used to monitor operation and performance of IT infrastructure services

Maintain a safe and secure work environment

- Knowledge of how to evaluate and prepare a job site for safe work
- Ability to safely operate and maintain principal network equipment and facilities
- Knowledge of how safety policy and procedures are maintained

Perform network infrastructure troubleshooting

- Ability to analyze problems and research solutions to perform network troubleshooting
- Ability to recommend and test a solution to a problem discovered in network troubleshooting
- Ability to document and communicate problems and solutions found during network troubleshooting
- Ability to monitor workload, manage time and prioritize requests in performing network troubleshooting
- Ability to use manufacturer's information and specifications to perform network troubleshooting

Optimize and maintain network software and hardware

- Ability to backup and restore configurations when installing new equipment or upgrades
- Ability to test and verify that the network system meets customer specifications
- Ability to manage and maintain network hardware and software for optimal performance

- Ability to review and upgrade network configuration plans to optimize performance
- Ability to access existing network devices and software knowledge resources
- Ability to test and verify that the network system meets customer specifications

Implement and monitor network security

- Ability to development and implement network and user security requirements for access and control
- Ability to establish and maintain network accounts securely
- Knowledge of procedures and methods used in developing and implementing a network security plan
- Knowledge of serious security risks and threats to IT networks

Design, install and expand new facilities (LAN, MAN, WAN)

- Knowledge of LAN end user requirements such as suitability, feasibility security and performance
- Ability to work with vendors to install and expand network facilities
- Ability to create a design and integration plan for a part of a LAN
- Knowledge of the tools, equipment and materials needed for installation of network expansions
- Knowledge of post-installation testing and reviews of LAN equipment and transmission mediums
- Ability to design and install new network architectures or configurations
- Ability to install LAN-WAN interfaces and remote connections

Level 3

Provide customer service and support

- Ability to use quality policies and procedures in supporting customers
- Ability to coordinate and provide liaison among diverse group
- Ability to significantly improve customer service using customer feedback and surveys

Install and upgrade server and network device hardware

- Ability to develop and implement installation plans for new network facilities
- Ability to configure all the organization's network architecture and devices software
- Ability to document the configurations of all network architecture and devices
- Ability to develop a work plan and prepare a site for an installation

- Ability to install and configure wireless and telecommunication devices

Manage, administer, and secure network architecture

- Ability to conduct quality checks on network architecture
- Ability to coordinate, communicate and document significant network changes
- Ability to create and present reports on network architecture performance
- Ability to develop network architecture maintenance and upgrade plans
- Ability to develop contingency and disaster recovery plans
- Ability to administer and secure network architecture for new and emerging threats

Optimize performance of network architecture and network devices

- Ability to survey and identify customer requirements
- Ability to review and assess network architecture
- Ability to research technical alternatives and options for improving network performance
- Ability to develop and document test specifications for network performance
- Ability to test advanced network equipment and devices

Maintain safe and secure work environment

- Ability to evaluate and prepare a job site for safe work
- Ability to safely operate and maintain all network equipment and facilities
- Ability to develop and maintain the organization's safety policy and procedures

Perform network infrastructure troubleshooting

- Ability to analyze major network problems and develop solutions
- Ability to develop, test and install a solution to a problem discovered in network troubleshooting
- Ability to document and effectively communicate problems, solutions and the implementations process
- Ability to effectively use time and resources in resolving major network problems
- Ability to use Manufacturer's information and specifications to perform network troubleshooting

Optimize and maintain network software and hardware

- Ability to backup and restore configurations when installing new equipment or upgrades
- Ability to use metrics to maintain network hardware and software for optimal performance
- Ability to review and upgrade network configuration plans to optimize performance
- Ability to develop and implement a preventive maintenance plan

Implement and monitor network security

- Ability to develop and implement network security systems and user security requirements
- Ability to use industry developments and user experience to maintain and improve security
- Ability to develop and implement developing and implementing a network security plan

Design, install, and expand new facilities (LAN, MAN, WAN)

- Ability to create a design and integration plan for a LAN based on user requirements
- Ability to direct the work of vendors in designing, installing or expanding networks
- Ability to develop a detailed and complete installation work plan
- Ability to conduct post-installation tests and reviews of LAN equipment and transmission mediums
- Ability to install and test LAN-WAN interfaces