

INFORMATION SYSTEMS (IS) NETWORK SERVICES TITLE SERIES DEFINITIONS

I. DEFINITIONS

A. Identifying the Correct Job Family

This section defines duties performed by positions appropriately included in this job family.

No specific definitions are provided for the IS Comprehensive Services job titles because these positions spend no more than 50% of their time on duties in any other single professional IS Data, IS Network Services, IS Systems Development Services, IS Technical Services, or IS Business Automation job title, and more than 50% of their time on a combination of duties from two or more of these IS job titles.

Network Services Job Family

The Network Job Family covers those positions which plan, analyze, design, develop, test, configure, implement, integrate, maintain, and manage computer networks used for the transmission of information in voice, data, and/or video formats. The family covers all aspects of network, including file service, print service, local and Internet electronic mail networks, Internet web connectivity and mainframe gateways. Position types include network administrator, LAN/WAN administrator, server administrator, network analyst, network designer, etc. Staff occupying positions in this family have the experience to analyze, design, develop, implement, and maintain the network technology needs of the business areas. Telecommunication system (including telephones, ISDN telephones, automated call systems, PBXs, etc.) needs analysis, design, implementation, and maintenance are included in this family.

Positions which spend the majority of their time (50% or more) on one or more of the following duties are appropriately included in the IS Network Services job family titles:

1. Design networks and telecommunications facilities (Lower levels will assist.).
2. Install, configure, monitor, tune and troubleshoot network and desktop operating systems, and other system (including security) software and network hardware.
3. Administer access to network and telecommunication resources.
4. Maintain and ensure availability of centralized, decentralized, and remote network services.
5. Responsible for all aspects of network, including file service, print service, local and Internet electronic mail networks, internet web connectivity, and mainframe gateways.
6. Develop policies, procedures and standards to ensure network reliability and accessibility (lower levels participate).
7. Document network and telecommunication architectures, configurations, performance, problems and assets.
8. Research, test, and make recommendations for new, emerging, and/or upgraded network and telecommunication software and hardware. Understand and resolve integration issues.
9. Plan, arrange and monitor installation and operation of communication capabilities.
10. Responsible for network capacity planning and monitoring network and telecommunication capacity, load balances and performance of servers and telecommunication devices (such as hubs, switches and routers) and make necessary adjustments to ensure adequate network performance and throughput and to minimize downtime.

11. Plan and manage changes to the network and telecommunication facilities (such as but not limited to upgrades).
12. Establish requirements and specifications for network and telecommunication hardware and software standards and acquisitions and develop bid specifications for these services and equipment.
13. Provide expert consultation and problem solving to desktop support staff, application design and development, external third parties, and end-users with respect to the impact on the network.
14. Maintain network directories and network access structures.
15. Backup and recover network servers (lower levels will assist).
16. Install, configure, and tune the network to maximize performance.
17. Establish, maintain and use remote management facilities (including software distribution, remote control, and remote inventory) for workstations and servers.
18. Internet firewalls: Specify, acquire, install, configure, monitor, and manage internet firewalls.
19. Manage internet intrusion detection.
20. Configure protocols for Wide Area Network (WAN) and/or Local Area Network (LAN) that run on network layers, such as IP, IPX, Appletalk, UDP, etc.
21. Analyze and troubleshoot network problems.
22. Investigate new service technologies and ability to integrate with existing network systems.
23. Implement and troubleshoot remote access services, including DSL, cable, modem and wireless.
24. Configure high-end network equipment, including routers and switches.
25. Provide backbone network services to multiple departments or units.
26. Coordinate technical aspects of services between network or telecommunications service providers and institutional entities.
27. Coordinate with other government agencies to optimize use of WAN network topology.
28. Lead capacity planning process to ensure timely and cost effective advancement of Wide Area Networks (WANs).

Positions appropriately classified in the IS Network Services job family titles may perform some of the following duties, but would not spend the majority of their time on these duties:

1. Use hardware and software of a network to perform business functions.
2. Use hardware and software of a network to perform IT functions other than network services.
3. Develop application software.
4. Authorize access to network or network databases.
5. Use existing data structures to answer business questions.
6. Use reporting tools to answer business questions.
7. Participate in building or review of data models as a business representative.
8. Use network policy, standards, guidelines, or procedures in the day to day operations.
9. Install network or communications wiring or devices.
10. Procure any of the above items.
11. Perform low-level network troubleshooting or detection, including monitoring traffic levels or loads or equipment replacement.
12. Write or process voice or data network service orders.
13. Use network hardware or software to perform business functions or activities related to one's primary job functions.

B. Levels

IS PROFESSIONAL

This job title is used as an entry progressing to a development level for professional IS positions. Work is performed under close progressing to limited supervision. Although this is the entry-developmental level for this series, knowledge of fundamental IS concepts, principles and practices must have been

acquired before appointment into this job title; the focus is on learning the procedures, practices, techniques and technology for the assigned specialized area; and assignments are narrow in scope. As the employee progresses, s/he continues to develop knowledge of the specialized area and the associated IS concepts, principles, practices, and techniques.

IS SENIOR

Positions at this level work under general supervision. The technical work performed by a position at this level may be reviewed by the position's assigned supervisor for agreement with established technical direction, policies and standards. This is the full performance level, and it is the level that an employee in this series can reasonably expect to attain. An employee at this level has acquired a broad knowledge of general IS concepts, principles, practices and techniques **and** broad knowledge of the job family and job title to which the position is assigned. Positions at this level may lead positions at the Professional and Senior level in the completion of projects and work assignments. Positions at this level may support the activities of IS Specialists, Consultants, and/or Administrators and may work under the day-to-day direction of IS Specialists, Consultants, and/or Administrators.

C. Job title Definitions

IS NETWORK SERVICES PROFESSIONAL

This job title is used as an entry progressing to a development level for professional IS Network Services positions. Work is performed under close progressing to limited supervision. Positions spend the majority of their time performing any combination of the following duties:

- Support agency internet access.
- Monitor and maintain appropriate firewall security.
- Work with vendors on the installation and maintenance of network software and hardware.
- Assist with the diagnosis and resolution of problems related to internet applications and systems software and/or hardware (may include gateways, hubs, routers, servers, and bridges) and communications between connected computer platforms.
- Perform capacity monitoring with common, recognized tools.
- Assist with projects for the network and/or server configuration.
- Administer LAN security at the direction of the agency/campus Security Officer.
- Perform network configuration file backup.
- Provide access to network file services at the direction of the agency/campus Security Officer.
- Consult with end users and Help Desk Staff on LAN hardware and software changes/problem definitions.
- Support established operational Local Area Networks (LAN) and/or Wide Area Networks (WAN) or assigned aspects of established, operational mainframe networks.
- Monitor operation of the networks.
- Install and maintain LAN/WAN connectivity media.
- Support telecommunications technology and network related functions to ensure adequate telecommunications resources are available to the agency and its customers.
- Procure new telecommunications services and hardware.
- Provide problem resolution for telephone and voice mail system hardware, wireless equipment, and telephone company services.
- Implement telecommunications practices and procedures to manage customer needs.
- Use telecommunications programming techniques to configure telecommunications services.

IS NETWORK SERVICES SENIOR

Positions in this job title perform professional IS work related to software, hardware and connectivity which supports the functions of computers in network configurations. Networking considerations addressed by positions in this job title may include assisting Network Administrators with projects for network design and maintenance, problem/change management and definitions, installation and maintenance of network and/or server software. Positions in this job title support networks and/or servers for a majority of the time. Senior level positions spend the majority of their time performing any combination of the following duties:

- Design and install agency internet access.
- Install appropriate firewall security.
- Ensure backup of files required for network configuration/recovery.
- Coordinate projects for installation and maintenance of vendor releases of network and/or server software.
- Install LAN's and/or WAN's.
- Diagnose and resolve problems related to applications and systems software and/or hardware (may include gateways, hubs, routers, switches, servers, and bridges) and communications between connected computer platforms.
- Monitor and control production systems and support equipment, activities, and performance for mainframe networks as well as perform problem determination for the network.
- Implement LAN Hardware and software changes.
- Participate in the design of LAN's and/or WAN's.
- Coordinate the use of LAN/WAN connectivity media.
- Investigate and diagnose problems related to telecommunications.
- Coordinate the installation and delivery of voice telecommunications hardware and software.
- Participate in the design of new telecommunications services and hardware.
- Install, program, and maintain telecommunications equipment.
- Assist Network Services Specialists and/or Consultants with their responsibilities.

This job title includes, but is not limited to, the following representative positions or job types. Positions do not need to exactly match one of these representative positions in order to be appropriately classified at this level.

Representative Positions

IS Internet Support Senior - Positions design, install, and support agency internet access; install, monitor, and maintain appropriate firewall security; monitor operation of the internet access, Web servers, and firewalls; and oversee installation of relevant software and hardware and maintenance by vendors. Positions may install, diagnose and resolve problems related to internet applications and systems software and/or hardware (may include gateways, hubs, routers, servers and bridges) and communications between connected computer platforms.

IS Local Area Network (LAN) Coordinator - Positions are responsible for supporting all aspects of a LAN. Applications supported by the LAN are standard word processing, spreadsheet, electronic mail/calendaring, database management packages, and other types of applications. The supported LAN uses established systems and network software. Diagnostics and capacity monitoring are performed with common, recognized tools. Positions assist with projects for the network and/or server configuration, monitor usage, manage security and storage capacity, ensure backup of files, provide access to files and consult on LAN hardware,

software, changes/problem definitions. Positions coordinate projects for installation and maintenance of vendor releases of network and/or server software.

IS Network Support Senior - Positions are responsible for supporting established, operational Local Area Networks (LAN) and/or Wide Area Network/s (WAN) or assigned aspects of established, operational mainframe networks. Positions may also be responsible for designing and installing LAN's or WAN's; may install, diagnose and resolve problems related to applications and systems software and/or hardware (may include gateways, hubs, routers, switches, servers and bridges) and communications between connected computer platforms; and monitor operation of the networks and oversee installation of network software and maintenance by vendor as assigned. Mainframe positions also monitor and control production systems and support equipment, activities, and performance for mainframe networks as well as perform problem determination for the network.

IS Telecommunication Senior - Positions provide telecommunications facility planning, design, configuration management, consulting and support. Duties include support of Telecommunications technology and network related functions to ensure adequate telecommunications resources are available to customers. Positions have in-depth knowledge of the telecommunications field and are responsible for the full scope of telecommunication systems.

II. QUALIFICATIONS

The qualifications required for these positions will be determined at the time of recruitment.