

Roles Required to Provide Tech Support

The type and number of staff required to meet a district's technical support needs will vary widely based on the size of the district and the quality and quantity of the devices to be supported. The following descriptions of technology support roles are to be considered when developing technical support staffing needs and job descriptions. In many districts one or two people may fulfill all of these roles and some roles may be handled by providers outside the district.

The following descriptions are provided as a representation of the general nature and level of work found in positions of a typical technology support program. They are not intended to cover all of the duties and qualifications required for district-specific job descriptions for these positions.

A. Technology Assistant

An employee in this role performs basic tasks to aid in the ongoing on-site support of teachers and students using computers in classrooms. The employee provides hardware and software support to teachers including but not limited to answering basic questions about software use, LAN use for file storage and backup, and troubleshooting printer malfunctions. The employee may assist in the development of applications for users, generate ad hoc reports, and develop user documentation. Tasks also include troubleshooting problems such as logging on to computer systems or software, printing malfunctions, or routine error messages. In some cases, the employee will research appropriate manuals to find answers. If standard techniques do not resolve the situation, the employee will seek assistance from the appropriate technical professional.

1. ILLUSTRATIVE EXAMPLES OF WORK

- a. Ensure teachers know how to use available software and hardware
- b. Ensure equipment is working properly
- c. Perform disk backups as required
- d. Assist users in the full utilization of hardware and software
- e. Provide timely resolution of computer problems by providing answers or referral
- f. Install new software

2. KNOWLEDGE, SKILLS, AND ABILITIES

- a. General knowledge of computers
- b. General knowledge of related information technology devices
- c. General knowledge of software packages utilized
- d. Ability to communicate with users to determine the nature of problems

- e. Ability to communicate effectively with users who may not be adept in clarifying problem situations
- f. Ability to assist users with applications development
- g. Ability to establish and maintain effective working relationships
- h. Ability to solve independently most minor problems

3. SUGGESTED TRAINING AND EXPERIENCE

- a. Graduation from high school
- b. Three years of experience in the use of computing and information technology resources
- c. Specific knowledge of the particular software or systems supported may be required
- d. An equivalent combination of training and experience which provides the required knowledge, skills, and abilities for the position.

B. Technology Technician I

The Technology Technician I performs skilled repair and maintenance of all technology-related equipment as well as technical support for all technology-related systems. Employee provides technical support to users including, but not limited to, technical advice on equipment setup and operation, general troubleshooting, and software installation. Employee typically works from a site-specific location rather than from a district-wide central location. Employee reads and interprets schematics, wiring diagrams, and repair manuals to provide required technical support.

1. ILLUSTRATIVE EXAMPLES OF WORK

- a. Repairs, maintains, and upgrades technology-related equipment
- b. Reads and interprets schematics, wiring diagrams, and manuals
- c. Operates standard and specialized electronics devices in testing and troubleshooting computers and other technology-related equipment
- d. Maintains an inventory of electronic components needed to make timely repairs
- e. Uses a work-order tracking system for routine repair and maintenance of equipment
- f. Refers complex problems to higher level technical support

2. KNOWLEDGE, SKILLS AND ABILITIES

- a. Basic knowledge of electronic principles and fundamentals of physics as applied in electronics
- b. General knowledge of computers and related technology devices
- c. General knowledge of electronics devices
- d. Familiarity with the operation and uses of standard test equipment
- e. Basic knowledge of mathematical principles as applied in electronic circuit analysis

- f. Ability to systematically troubleshoot standard electronics devices
 - g. Ability to communicate effectively with users
3. SUGGESTED TRAINING AND EXPERIENCE
- a. Graduation from a two-year college or technical school
 - b. One year experience; or equivalent combination of training and experience
- C. Technology Technician II
- The Technology Technician II supports and maintains both administrative and instructional computers, software, and networks. This work includes repair of all technology-related equipment. Employee provides on-site assistance in classrooms, media centers, computer labs, and administrative offices. Employee identifies problems and takes appropriate corrective action. Employee installs and upgrades all technology-related equipment in network and stand-alone environments. Typically, this employee will provide first response support from the system level for the maintenance and operation of computers, software, and networks at the building level. Employee may have multiple sites to maintain. Complex problems are referred to Technician III or Network Engineer positions. This position is distinguished from the Technician I by its emphasis on building-level support and more specialized knowledge of computer hardware, software, and computer networks.
1. ILLUSTRATIVE EXAMPLES OF WORK
- a. Under the supervision of the Technician III or Network Engineer, assists with the installation of hardware, software, and related peripherals
 - b. Ensures the maintenance of all computers, software, and local area networks by monitoring performance
 - c. Installs upgrades to hardware and software
 - d. Makes recommendations to building-level staff regarding upgrades and replacement of technology-related equipment
 - e. Reads and interprets schematics, wiring diagrams, and manuals
 - f. Operates standard and specialized electronic devices in testing and troubleshooting computers and other technology-related equipment
 - g. Attends classes and seminars to enhance knowledge of equipment and operating systems
2. KNOWLEDGE, SKILLS AND ABILITIES
- a. Strong knowledge of computers and related technologies
 - b. General knowledge of components of local area networks
 - c. Understanding of mechanical, electronic, and computer principles as applied to the repair and maintenance of computers and peripherals

- d. Ability to communicate effectively with all levels of technology users
 - e. Ability to establish and maintain effective working relationships
3. SUGGESTED TRAINING AND EXPERIENCE
- a. Graduation from a two-year college or technical school with a degree in a related field
 - b. Eighteen months experience; or equivalent combination of education and experience
 - c. Experience in computer and peripheral troubleshooting
- D. Technology Technician III
- The Technology Technician III works as the senior or lead technician at the system level. This work includes repair and maintenance of all technology-related equipment as well as technical support for all technology-related systems. This employee is responsible for maintaining the operation and integrity of local area networks, file servers, and workstations. The Technology Technician III supports the Technology Coordinator and Network Engineer in the design, configuration, and installation of local area networks and file servers.
1. ILLUSTRATIVE EXAMPLES OF WORK
- a. Works with the technology coordinator and/or network engineers in the development and implementation of all technical aspects of the local technology plan
 - b. Serves as the primary contact for Levels I and II technical support staff
 - c. Monitors and evaluates all repair and maintenance work done by the technical support staff to ensure reliability of performance
 - d. Supervise and/or perform the installation of hardware, software, and related peripherals
 - e. Assist with the installation of local area networks, file servers, and other related peripherals under the supervision of the network engineer
 - f. Ensure the maintenance of all local area networks by tracking significant problems, monitoring performance, and installing upgrades to hardware and software
 - g. Assist with the training for technical support staff
 - h. Attend classes and seminars to enhance knowledge of equipment and operating
2. KNOWLEDGE, SKILLS AND ABILITIES
- a. Strong knowledge of computers and related technologies
 - b. Strong knowledge of infrastructure requirements and components of local area networks
 - c. Ability to lead technical support staff

- d. Ability to communicate effectively with all levels of technology users
- 3. SUGGESTED TRAINING AND EXPERIENCE
 - a. An associate's degree in Computer Science or related field
 - b. Two years' experience in a network environment, or any equivalent combination of training and experience
- E. Local Area Network (LAN) Engineer

The Local Area Network (LAN) Engineer is responsible for designing and implementing local area networks in a school environment. Employee supervises the installation, maintenance, and operation of local area networks and associated computer hardware and software. Employee coordinates with the Technology Coordinator the evaluation of school system networking needs and recommends improvements and modifications to existing infrastructure. Employee diagnoses and resolves complex local area network issues.

 - 1. ILLUSTRATIVE EXAMPLES OF WORK
 - a. Installs local area networks including network servers, hubs, routers, workstations, printers, and other peripheral devices.
 - b. Operate and maintain local area networks, track significant problems, monitor performance, and perform upgrades to hardware and software as required.
 - c. Install or modify existing installations of networked computer hardware, software, and other components.
 - d. Participates in long and short range technology planning.
 - e. Trains technical staff at the building level to follow proper operating procedures necessary to maintain the integrity of the network.
 - f. Maintains documentation regarding network configuration, operating procedures, and service records relating to network hardware and software.
 - g. Assists in developing and providing training to building level faculty and staff in the proper operation of the local area network.
 - h. Attends classes, seminars, conferences and reviews professional literature to enhance knowledge of trends and developments related to local area network systems.
 - 2. KNOWLEDGE, SKILLS, AND ABILITIES
 - a. Strong knowledge of local area network architecture
 - b. Strong knowledge of computers and related technologies
 - c. Strong knowledge of infrastructure requirements and components of local area networks

- d. Strong knowledge of network operating systems
- e. Considerable knowledge of local area network protocols and diagnostic tools
- f. Ability to work with technical support staff
- g. Ability to communicate effectively with all levels of technology users

3. SUGGESTED TRAINING AND EXPERIENCE

- a. Associate's degree in Computer Science or related field
- b. Two years' experience in a network environment, or any equivalent combination of training and experience
- c. Certification as a Novell Administrator, Novell Engineer, Cisco Certified Network Associate or Microsoft Engineer preferred

F. Wide Area Network (WAN) Engineer

The Wide Area Network (WAN) Engineer is responsible for designing and implementing wide area networks in a local school district. Employee supervises the installation, maintenance, and operation of a wide area network and associated computer hardware and software. Employee coordinates with the Technology Coordinator the evaluation of school system networking needs and recommends improvements and modifications to existing infrastructure. Employee diagnoses and resolves complex wide and local area network issues. The State of Arkansas Department of Information Systems under contract with the Arkansas Department of Education performs this role for the majority of school districts.

1. ILLUSTRATIVE EXAMPLES OF WORK

- a. Designs and implements wide area networks including network servers, hubs, routers, workstations and other peripheral devices
- b. Installs and configures wide area network servers for email, Internet, and Proxy services
- c. Installs and configures all necessary telecommunication devices
- d. Operates and maintains wide area networks, tracks significant problems, monitors performance, and performs upgrades to hardware and software as required
- e. Installs or modifies existing installations of networked computer hardware, software, and other components
- f. Participates in long- and short-range technology planning
- g. Trains technical staff at the system and building level to follow proper operating procedures necessary to maintain the integrity of the network
- h. Maintains documentation regarding network configurations, operating procedures, and service records relating to network hardware and software

- i. Assists in developing training for building level faculty and staff in the proper operation of the wide and local area networks
- j. Attends classes, seminars, conferences and reviews professional literature to enhance knowledge of trends and developments related to wide and local area network systems

2. KNOWLEDGE, SKILLS AND ABILITIES

- a. Strong knowledge of wide and local area network architecture
- b. Strong knowledge of computers and related technologies
- c. Strong knowledge of infrastructure requirements and components of wide and local area networks
- d. Strong knowledge of network operating systems
- e. Considerable knowledge of wide and local area network protocols and diagnostic tools
- f. Ability to work with technical support staff
- g. Ability to communicate effectively with all levels of technology users

3. SUGGESTED TRAINING AND EXPERIENCE

- a. Associate's degree in Computer Science or related field
- b. Two years' experience in a wide area network environment, or any equivalent combination of training and experience
- c. Knowledge of networking protocols
- d. Experience in routed and frame relay network environments
- e. Experience with network management utilities
- f. Certification as a Cisco Systems Engineer, Novell Administrator, Novell Engineer, or Microsoft Engineer or any equivalent combination of training, certification, and/or experience which provides the required knowledge, skills, and abilities

G. Technology Coordinator

The Technology Coordinator is responsible for the supervision of system-level technology staff, technicians, and network engineers as well as with school-based instructional technology integration specialists. This individual coordinates the technical implementation of the school district's instructional technology plan at the building level. The employee should promote and implement the use of instructional and administrative technology systems. The employee should work collaboratively with district and school-based personnel to use technology and include technology applications as an integral part of each user's job duties.

1. ILLUSTRATIVE EXAMPLES OF WORK

- a. Supervises the daily activities of the technical support staff

- b. Assigns, monitors, and evaluates all repair and maintenance work done by the technical support staff to ensure reliability of performance
 - c. Provides onsite assistance to staff in the selection of technology resources and solutions.
 - d. Develops, coordinates, and implements technical support staff training
 - e. Works with system-level personnel to assess and plan for new technologies
 - f. Facilitates planning and implementation of local and wide area networks
 - g. Investigates and disseminates information on best practices for technology support
 - h. Communicates with technology vendors for the procurement of technology hardware and software
 - i. Supports school staff in the operation of instructional and administrative technology systems
 - j. Complete or assist with completing district E-rate applications and paperwork required for consortium E-rate applications filed on the district's behalf.
 - k. Serves as a source of information on trends, research, applications, and effective practices related to technology use in the district's programs
2. KNOWLEDGE, SKILLS, AND ABILITIES
- a. Knowledge of wide and local area network architecture
 - b. Knowledge of computers and related technologies
 - c. Knowledge of infrastructure requirements and components of wide and local area networks
 - d. Knowledge of network operating systems
 - e. Knowledge of wide and local area network protocols and diagnostic tools
 - f. Ability to work with and supervise technical support staff
 - g. Ability to communicate effectively with all levels of technology users
3. SUGGESTED TRAINING AND EXPERIENCE
- a. Bachelor's degree in Computer Science or related field
 - b. Two years' experience in a networked environment, or any equivalent combination of training and experience

Districts that do not use the Arkansas Department of Education's APSCN administrative data system will need to plan for adequate programming and support staff to meet the district's needs and state reporting requirements. Although the data processing, programming, and support roles are not described here, districts should consider these types of roles when developing a technology support program.