

## NETWORK ENGINEER II (BOCES # 2)

DISTINGUISHING FEATURES OF THE CLASS: Under supervision of the Network Engineer III or other higher level technical employee, an incumbent of this position, located in the Lower Hudson Valley Regional Information Center (LHRIC) of Southern Westchester BOCES, is responsible for advanced troubleshooting and support of routers, access switches, wireless systems, voice over IP, and other networking devices. The incumbent works on specialized, complex assignments relating to the installation and relocation of hardware and software for networking equipment in accordance with established procedures and instructions. This class differs from the lower level Network Engineer I in that the Network Engineer II is involved in identifying, analyzing and resolving operational issues; administers, manages and configures “enterprise” level tools and applications which impact consortium-wide operations; and is further distinguished by the level of independence exercised in the performance of work assignments, the complexity of these assignments, and the advanced level of troubleshooting involved in finishing an assignment. The incumbent works independently or with a higher level technical employee to resolve installation, integration, maintenance and support issues for network equipment and peripherals used by LHRIC and its member school districts. The incumbent has frequent interaction with department heads and high priority clients. Supervision of subordinate staff may be a responsibility of this position. Does related work as required.

### EXAMPLES OF WORK: (Illustrative Only)

Responsible for logging and responding to network equipment related incidents using Enterprise Service Desk software; performs the appropriate action to resolve the problem or advises lower level staff on how to resolve the problem;

Performs root cause analysis on issues related to networking equipment such as routers, access switches, wireless infrastructure, and voice over IP;

Performs diagnoses of failures to determine whether they are induced by network software or hardware;

Works independently or with higher level technical employees to resolve systems integration issues involving specialized hardware and software;

Informs supervisor as to the status of all operational issues and any necessary changes according to department change management process;

Creates and maintains operating records and prepares operating reports;

Responsible for firmware and software operating system upgrades to networking equipment including wired, wireless, and server based platforms;

Assist with network design and deployment strategies for enterprise wired, wireless, voice over IP, and other networking equipment;

Installs and configures routers, access switches, wireless systems, voice over IP, and other related network equipment;

Installs and relocates hardware and software of network equipment, including assembly, configuration and transport, in accordance with established procedures and instructions;

EXAMPLES OF WORK (Illustrative Only) (cont'd.):

Performs the setup, installation, repair, maintenance, and retirement of network equipment that may weigh as much as 50 pounds;

Works with and assists contract and vendor supplied personnel engaged in the installation, maintenance and repair of network hardware and software;

Performs periodic preventative maintenance in accordance with manufacturer recommendations and departmental standards;

Monitors and responds to potential networking issues, including verifying power to routers, switches, voice over IP, and other networking equipment;

Performs lifecycle management of network and associated equipment including inventory, asset identification, documentation and asset retirement;

Modifies, updates or replaces network and associated equipment as required;

Creates and maintains network documentation through the use of industry standard productivity suites;

In consultation with higher level technical employees, plans and assigns tasks to subordinate staff;

Uses computer applications or other automated systems such as spreadsheets, word processing, Visio, calendar, email and network management software in performing work assignments.

REQUIRED KNOWLEDGE, SKILLS, ABILITIES AND ATTRIBUTES: Good knowledge of the components, operation, maintenance, configuration and repair of network equipment; good knowledge of network communications protocols and networking concepts; good knowledge of TCP/IP addressing and IP subnetting; good knowledge of wireless technologies and industry standards; good knowledge of network access control; good knowledge of network monitoring and management software; good knowledge of network segmentation, security and broadcast management; good knowledge of data communications and basic electronics terminology; good knowledge of standard communications protocols; good knowledge of basic computer communications software and hardware test equipment; skill and dexterity in the use of tools; troubleshooting skill; ability to plan, assign and review the work of others; ability to provide guidance and oversight to less senior technical titles; ability to troubleshoot complex Level 2 & 3 networking issues and perform root cause analysis; ability to communicate with outside vendors on equipment and related problems; ability to communicate clearly, both orally and in writing; ability to think logically; ability to comprehend moderately complex technical materials and understand basic wiring diagrams; ability to see all colors of wire for connection purposes; ability to move equipment and supplies weighing up to 50 pounds; ability to understand and carry out written and oral directions; ability to effectively use computer applications such as spreadsheets, word processing, Visio, calendar, email and network management software; ability to read, write, speak, understand and communicate in English sufficiently to perform the essential duties of the position; good judgment; initiative; resourcefulness; reliability; physical condition commensurate with the demands of the position.

MINIMUM ACCEPTABLE TRAINING AND EXPERIENCE: A high school or equivalency diploma and either: (a) a Bachelor's Degree\* in Information Technology or a closely related field and two (2) years of experience where the primary function of the position was the installation, operation, maintenance and problem diagnosis of network equipment including routers, switches and network communications protocols; or (b) seven (7) years of experience as described in (a).

SUBSTITUTION #1: Satisfactory completion of 30 college credits\* may be substituted on a year for year basis for up to four (4) years of the required experience.

SUBSTITUTION #2:

Current CCNA (Cisco Certified Network Associate) Routing and Switching or CCNA Wireless certification may be substituted for six (6) months of the required experience. Current CCNP (Cisco Certified Network Professional) Routing and Switching or CCNP Wireless certification may be substituted for eighteen (18) months of the required experience.

\*SPECIAL NOTE: Education beyond the secondary level must be from an institution recognized or accredited by the Board of Regents of the New York State Department of Education as a post-secondary, degree-granting institution.

SPECIAL REQUIREMENT: Possession of a valid license issued by the New York State Department of Motor Vehicles appropriate for the vehicle to be operated. The appointing authority is responsible for verifying and ensuring that the candidate meets these conditions at time of appointment and throughout the course of employment.

SPECIAL REQUIREMENT FOR APPOINTMENT IN SCHOOL DISTRICTS: In accordance with the Safe Schools Against Violence in Education (SAVE) legislation, Chapter 180 of the Laws of 2000, and by the Regulations of the Commissioner of Education, candidates for appointment in school districts must obtain clearance for employment from the State Education Department prior to employment based upon a fingerprint and criminal history background check.