NYSERNet Position Description

Position Title:	Network Engineer
Title of Immediate Supervisor:	Director, Network Operations
Program/Department/Unit:	Network Operations

Main Function:

Provide configuration, implementation, operational support, and documentation of various networking technologies in use by NYSERNet on its backbone network, member connections, network peerings, and internal LANs. This position will focus on the operation and implementation of NYSERNet's network within the Research & Education (R&E) industry, with an emphasis on enabling our members' advanced network connectivity needs. The network consists of Juniper and Cisco switching and routing equipment, ADVA DWDM Optical systems, Palo Alto Firewalls, and a substantial fiber optic cabling plant and co-location facilities which span New York State and extend south to Ashburn, VA. The Network Engineer will be an active contributor in projects supporting the operation, growth, and evolution of NYSERNet's network and its member connectivity services.

Duties and Responsibilities:

Network Engineering
- Perform network configuration tasks to implement new network services, infrastructure, connections, and features.
- Participate in member meetings to understand their connectivity needs, propose solutions, and provide support.
- Perform technical support for NYSERNet's remote locations.
- Maintain excellent communication with NYSERNet staff and the Director of Network Operations on all tasks and projects.
- Develop and maintain technical documentation of the various network elements.
- Establish configuration templates and implementation standards.

Network Operation
- Monitor the ongoing operation of the NYSERNet network.
- Develop a set of procedures for the operation and routine implementation tasks of the network.
- Assist in the ongoing monitoring and management of the network.
- Investigate and pilot automation technologies to streamline current operational practices, leveraging above template and standards work.
- Provide support for the office LAN, Firewalls, and Data Center wired and wireless networks supporting the staff and IT services.
- Assist in the operation of various network support systems (e.g. DNS, DHCP, SNMP, log servers, NTP)
- Participate in the on-call staff rotation for supporting the 24x7 operation of the NYSERNet network.
- Perform regular audits of the operation and health of the NYSERNet network and its support systems.
- Participate in maintenance tasks on the NYSERNet network.

Advanced Research & Education Networking
- Provide support to NYSERNet members and collaborate with R&E partner organizations, particularly in the areas of advanced and high-performance networking technologies (e.g. IPv6, LFN optimization, next-generation networks)
- Provide consultative services to NYSERNet member campuses based on expertise and campus needs.

Miscellaneous
- Other duties as assigned.

Knowledge/Experience:
- Bachelor's degree or equivalent with appropriate course work in related fields.
- Minimum of two years of experience with network implementation and/or operations.
- Experience with Juniper and/or Cisco software and hardware required.
- Network protocol experience required: BGP, Ethernet (e.g., VLANs, 802.1q, 802.3ad); IPv6 desirable
- Experience with DWDM Optical Network systems desired.
- Experience with working in a Linux environment and basic scripting languages preferred.
- Experience with fiber optic cabling plants, co-location facilities, and -48VDC power is a plus.
- Experience with network management platforms and automation tools is a plus.
- Experience with network security and firewalls is a plus.
- Excellent collaboration, written/verbal communications and troubleshooting skills are essential.

Working Environment:
Primarily a Microsoft desktop environment, including Office 365, Windows 10, Word, Excel and Visio. Occasional work outside of non-traditional hours and travel to NYSERNet remote facilities is required.

NYSERNet staff operate in a hybrid work environment and offer flexible work arrangements. This position requires proximity to NYSERNet's main office in Syracuse, New York for agile response to network- and member-related needs.

NYSERNet is an Equal Opportunity Employer that does not discriminate on the basis of actual or perceived race, color, creed, religion, national origin, ancestry, citizenship status, age, sex or gender (including pregnancy, childbirth and pregnancy-related conditions), gender identity or expression (including transgender status), sexual orientation, familial status, marital status, military service and veteran status, physical or mental disability, genetic information, domestic violence victim status, reproductive health decision-making, or any other characteristic protected by applicable federal, state or local laws and ordinances. NYSERNet is dedicated to this policy with respect to recruitment, hiring, placement, promotion, transfer, training, compensation, benefits, employee activities, access to facilities and programs and general treatment during employment.