

## **NYSERNet Position Description**

**Position Title:** Network and Facilities Engineer  
**Title of Immediate Supervisor:** Chief Technology Officer  
**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, customer connections, network peerings, and internal LANs. Also provide engineering, implementation, and operational support for NYSErNet Points of Presence (PoPs) throughout its network footprint, including its Syracuse Data Center and 32 Ave of Americas Colocation Facility in New York City. This position will focus on the operation and implementation of NYSErNet's network and facilities within the Research & Education (R&E) industry, with an emphasis on enabling our customers' advanced network connectivity needs. The network consists of Juniper and Cisco switching and routing equipment, ADVA DWDM Optical systems, and a substantial fiber optic cabling plant and co-location facilities which span New York State and extend south to Ashburn, VA. The Network and Facilities Engineer will be an active contributor in projects supporting the operation, growth, and evolution of NYSErNet's network, its customer connectivity services, and the underlying facilities and physical plant that underpin the network.

### **Duties and Responsibilities:**

#### **Network & Facilities Engineering**

- Perform network configuration tasks to implement new network services, infrastructure, connections, and features.
- Participate in customer meetings to understand their connectivity needs, propose solutions, and provide support.
- Oversee Ethernet and fiber circuit builds, dark fiber acquisition, and local loop implementations.
- Implement and provision new customer connections, backbone links, external network connections, dark fiber installations and PoPs.
- Maintain the fiber, 48VDC plant, and PoPs across NYSErNet's footprint to industry best practices.
- Maintain strong technical documentation of the various network elements, fiber plant, 48VDC power plant, and PoPs.
- Maintain excellent communication with NYSErNet staff and the Chief Technology Officer on all tasks and projects.

#### **Network Operation**

- Assist in the ongoing monitoring and operation of NYSErNet's fiber optic, circuit, optical, and routed network.
- Provide technical support for NYSErNet's remote facilities.
- Provide technical support for client support requests.
- Participate in the emergency on-call staff rotation for supporting the 24x7 operation of the NYSErNet network.

#### **Facilities Operation**

- Oversee and monitor the Colocation infrastructure at 32AofA including power, physical security/access control and video monitoring systems.
- Ensure adherence to all standard operating procedures (SOP), method of procedures (MOP), and emergency response procedures (ERP) established for the critical environments, as well as formal change control process where required.
- Provide support for and installation of DC power where necessary across NYSErNet facilities.
- Manage infrastructure of all NYSErNet PoPs including the colocation site at 32 Avenue of the Americas.
- Monitor the health and operation of all NYSErNet PoPs to industry best practices.
- Provide backup support for NYSErNet Syracuse Data Center Services.
- Maintain all fiber optic testing and diagnostics equipment.
- Maintain inventory of spare fiber jumpers, optics, and associated equipment and supplies across NYSErNet's facilities.
- Liaise with vendors and other personnel for problem resolution, remote hands services, and facilities support.

#### **Miscellaneous**

- Other duties as assigned.
- Travel as required across NYSErNet's service footprint for facilities support, network repairs, and customer meetings.

### **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 fiber optic cabling plants, co-location facilities, and 48VDC power is required.
- Experience with fiber optic cabling installation, termination, testing and proficiency in OTDRs (Optical Time Domain Reflectometers) is required.
- 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 network management platforms and diagnostic tools is a plus.
- Excellent collaboration, written/verbal communications and troubleshooting skills are essential.

**Working Environment:**

NYSERNet's offices are located in downtown Syracuse, NY, with remote colocation facilities in New York State, New Jersey, Pennsylvania and Ashburn, Virginia. Flexible work arrangements, including telecommuting are possible, provided physical access to NYSERNet facilities can be achieved within a reasonable time frame. Occasional work outside of non-traditional hours and travel to NYSERNet remote facilities and the Syracuse office is required. This position will also be on the overnight emergency on-call support rotation for the network, approximately 10-13 weeks/year. The desktop environment is primarily Microsoft-based, including Office 365, Windows 10, Word, Excel and Visio.

NYSERNet is an Equal Opportunity Employer.