

Job Title: Level-2 Network Engineer
Department: Network
Manager: Department Manager
FLSA Status: Exempt
Date of last revision: September 29, 2011



General Summary

A Level-2 Network Engineer is responsible for developing and utilizing procedures and checklists, maintenance plans, network designs and other documentation in support of GWI's network infrastructure. They are expected to mentor and guide co-workers in proper engineering methods, adherence to procedures and plans and proper use of technology and GWI resources. They are expected to have at least seven (7) strong specialized skills, and to be training other GWI employees in these skills.

Level-2 Engineers will be given mid or long-term goals and projects to undertake with minimal supervision, and are expected to keep the Manager informed of status or impediments to success. They are expected to work closely with various equipment vendors, members of other departments, and other Network staff. They are expected to coordinate resources, delegate tasks and track and report progress when leading projects.

This position is responsible for maintaining and managing the lifecycle of new and existing hardware and technologies. They are responsible for building and maintaining GWI's various project, trouble, and hardware procedures and knowledgebase.

Level-2 Engineers must have the ability to meet deadlines, be a highly dependable program leader with excellent planning and time management skills, and be able to execute, document and finalize projects according to strict deadlines. This includes acquiring resources and coordinating the efforts of team members in order to deliver projects according to agreed-upon timelines.

All Level-2 Engineers are expected to have skills in self-direction and motivation, and are responsible for identifying any impediments to accomplishing their assigned duties, including lack of training; information or assistance needed from other departments; hardware; etc. These impediments must then be reported to the Network Manager. Also, Level-2 Engineers are expected to take an active role in identifying potential future projects that may be needed to improve the reliability, performance or efficiency of any of GWI's services or procedures.

General Summary - Regular Duties:

A Level-2 Network Engineer is responsible for managing, maintaining, expanding, and improving GWI's network infrastructure and service offerings. The duties of a Level-2 Network Engineer are listed below.

- Creates and execute project plans and revises as appropriate to meet changing needs and requirements
- Identifies resources needed to achieve desired goals
- Effectively communicate expectations to team members or Manager in a timely and clear fashion
- Manages day-to-day operational aspects of a project and scope
- Effectively applies GWI methodology and enforces project standards
- Track project milestones and deliverables
- Build and maintain GWI's various project, trouble, escalation, and hardware knowledgebase. Ensure documents are complete and current
- Develop and deliver progress reports to Manager
- Integrate new hardware and technologies to implement new services.
- Plan, engineer, install, maintain and troubleshoot GWI's network and telecommunication systems

- Plan, design, engineer, and implement Central Office collocations including rack and cabling systems, and low-voltage, high-amperage DC power distribution systems
- Provision, engineer, terminate, test, and install high capacity TDM, SONET, and fiber circuits to include DS-1, DS-3, and OCn circuits
- Testing, accepting, and troubleshooting of Verizon unbundled network elements deployed in GWI's network, including dark fiber, DS1, and DS3 circuits.
- Utilizing test equipment for technical troubleshooting, including but not limited to: DSL test set with TDR, PSD, DMM; load coil detection, tone generator and probe, POTS test set, punch down tool, OTDR, T-Berd, and SunSet T10 testers.
- Analytically interpreting output from, and applying, test results for each of the above test devices.
- Isolate troubles and replace, reprogram, and/or retrofitting faulty equipment as needed.
- Utilizing hardware including, but not limited to: stepladder, mechanical drill, cable stripper, cable crimper, modular jacks and plugs, cabling fish tape, impact tool, heat gun, H-Tap crimper, wire-wrap/unwrap and other telecommunications-related tools.
- Train co-workers in new hardware, technologies, topologies and services.
- Respond to and coordinate resolution of escalations.
- Troubleshoot problems and log problem reports for all issues.
- Assist co-workers in comprehensive resolution to issues.
- Participate in an on-call rotation.
- Perform field work one to two days per week
- Perform network maintenances one to two days per week
- Maintaining monitoring system nodes, updates, and network maps

Minimum Skills, Knowledge & Abilities:

- Cisco certification CCNA SP Operations or CCNA Voice or CCNA required
- Cisco certification CCIP or CCNP preferred
- Experience in five or more specialized skills is required (see below).
- Advanced networking knowledge
- Bachelor's Degree or equivalent; or
- Five years' experience as a Network Engineer; or combination of experience and education
- 3+ years' experience managing complex IT projects
- General industry and product knowledge within telecommunications
- Ability to work on numerous projects simultaneously and to adhere to strict timelines
- Ability to handle stressful situations and comfortable with accountability
- Ability to manage multiple fast-paced technical projects for enterprise clients
- Ability to professionally interact (verbally or written) with enterprise level customers
- Ability to respond professionally to written inquiries and verbal communication
- Ability to work from a list of prioritized tasks; keep busy when waiting for resources; and self-prioritize smaller tasks
- Ability to plan complex tasks and projects from concept to implementation
- Must have good working knowledge of advanced networking technology
- Excellent written and oral communication skills
- Helpful and pleasant working demeanor
- High level of professionalism for working with members of other departments
- Capable of following detailed written procedures
- Moderate Windows use and troubleshooting
- Moderate *nix use and troubleshooting

Specialized Skills:

In addition to the above skills, significant experience within seven (7) or more of the following areas is required. Advanced experience in five (5) or more of the following areas is required. Improvement of these skills and the learning of additional specialized skills applicable to GWI systems will be accomplished through on-the-job-training and other methodologies.

- Carrier Class Transport (PBB-TE, MPLS-TP)
- Carrier/Metro Ethernet Services (E-line, E-LAN, EPL, EVPL, EPLAN, EPVLAN)
- IEEE 802.1ag Connectivity Fault Management
- ITU-T Y.1731 Ethernet OAM Functions
- QoS (understanding, implementation, configuration)
- OSPF (understanding, implementation, configuration)
- BGP (understanding, implementation, configuration)
- Policy-based routing (understanding, implementation, configuration)
- SONET switching
- IPv4 and IPv6 Address space/allocations (CIDR and subnetting)
- Ethernet switching (stacked VLAN, 802.1Q-in-Q etc)
- Multi-Protocol Label Switching (AToM or EoMPLS)
- Layer Distribution Protocol/Tag-Switching
- STP, RSTP, MSTP, PVSTP, PVRSTP+, Cisco REP
- CWDM or DWDM
- VOIP (MGCP and SIP)
- Active Ethernet or Passive Optical Networking
- Session Border Controllers
- Hardware knowledge/experience: Cisco IOS and IOS XE software for routers, switches, and PIX's
- Hardware knowledge/experience: JunOS software for MX, EX, and SRX platforms
- Hardware knowledge/experience: Lucent DSLAM
- Hardware knowledge/experience: Adtran AOS for IAD, Netvanta's, and Ta5K
- Hardware knowledge/experience: HP Ethernet switches
- Hardware knowledge/experience: Lucent, Cisco or other SONET devices
- Hardware knowledge/experience: Linksys or Innomedia ATA's
- Hardware knowledge/experience: Total Control RAS
- SNMP knowledge, including working knowledge of MIB/OID definitions.
- Basic network security, including log-file, netflow and access list maintenance/analysis.
- Basic shell and PERL scripting.
- Project management
- Database administration and support
- Power and battery/generator backup systems and safety
- Central Office environment, installation and testing policies and procedures
- Test equipment, including OTDR, TBERD, OPM, Sunset, etc
- Detailed knowledge of DS1, DS3, and Fiber Optic specifications.
- Phone systems and inside wiring for phone and networking

Supervisory/Management Responsibilities:

- This position has no direct reports, but may involve task or work delegation to other Network Engineers.
- Project Management, intra-departmental and inter-departmental coordination. Network Engineers will take control of individual projects from start to finish. They will work with the Network Manager on requesting the necessary resources. During the project, they may be assigning tasks to other members of Network (with the approval of the Network Manager), as well as coordinating with members of other departments.

Working Conditions:

- Primarily normal office environment with moderate exposure to noise, dust and temperature.
- When required, ability to lift up to 50 lbs.
- Position requires excessive use of telephone, keyboard, and monitor to perform regular functions of the job.

- Significant laboratory and data-center environment work with exposure to higher noise levels, dust, and ladder work (up to 12ft). Also includes exposure to low-voltage, high amperage DC power systems.