

Network Engineer Requirements

1. Education

Bachelor's degree or diploma in Computer Networking, Information Technology, Telecommunications, Computer Science, or a related field.

Relevant professional certifications are an advantage.

2. Required Experience

- 3+ years of experience in network engineering or network administration.
- Experience working with ISP, telecom, enterprise, or data-center networks is preferred.
- Experience managing large-scale networks with high traffic volumes is an advantage.

3. Technical Skills

- Routing & Switching
- Strong understanding of TCP/IP, VLANs, subnetting, IPv4 and IPv6.
- Strong knowledge of OSPF and BGP.
- Understanding of static routing and route filtering.
- Experience with Layer 2/Layer 3 switching.
- Knowledge of STP/RSTP/MSTP, LACP and link aggregation.
- Experience with 10G/25G/40G/100G Ethernet is preferred.

ISP Networking

- Understanding of ISP network architecture.
- Experience with BGP peering and transit.
- Knowledge of Internet routing and IP addressing.
- Experience with DHCP, DNS and NAT.
- Understanding of CGNAT is an advantage.
- Knowledge of QoS and traffic engineering.

Multicast / IPTV

- Understanding of IGMP and IGMP Snooping.
- Experience with PIM-SM/PIM-SSM.
- Understanding of multicast routing and IPTV networks is highly desirable.

Network Security

- Experience configuring and troubleshooting firewalls.
- Knowledge of ACLs, NAT, VPNs and network security.
- Experience with FortiGate or similar enterprise firewalls is an advantage.

Network Equipment

Experience with equipment from vendors such as:

- Cisco
- Huawei
- MikroTik
- Fortinet
- Juniper
- Experience with Cisco Nexus or data-center switching is an advantage.

4. Server & Linux Skills

The engineer should have basic-to-intermediate Linux administration skills, including:

- Ubuntu Server / Debian.
- Network troubleshooting using Linux tools.
- SSH and remote administration.
- Basic scripting.
- Understanding of services such as Nginx, DHCP, DNS and monitoring systems.

5. Monitoring & Troubleshooting

- Experience with network monitoring systems such as Zabbix, PRTG, Grafana, Prometheus or similar.
- Ability to analyze:
 - CPU and memory utilization
 - Interface utilization
 - Packet loss
 - Latency
 - Errors/drops
 - Bandwidth utilization
 - Routing problems
- Ability to use tools such as Wireshark, tcpdump, ping, traceroute and MTR.

6. Fiber & Physical Networking

- Understanding of fiber-optic networking.

- Knowledge of SFP/SFP+/SFP28/QSFP/QSFP28 modules.
- Understanding of single-mode fiber and optical power levels.
- Ability to troubleshoot fiber links and physical network issues.
- Knowledge of structured cabling and data-center networking is an advantage.

7. Documentation & Operations

- Ability to create and maintain:
 - Network diagrams
 - IP address plans
 - VLAN documentation
 - Configuration backups
 - Network change records
 - Troubleshooting reports
- Follow proper change-management and maintenance procedures.
- Participate in network maintenance and emergency troubleshooting when required.

8. Certifications

Certifications are preferred but not mandatory:

- CCNA / CCNP
- HCIA / HCIP
- MTCNA / MTCRE
- Fortinet NSE/FCP
- JNCIA/JNCIS