

MUKESH SUNKARI

Network Engineer | Cloud & SD-WAN | Network Automation

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PROFESSIONAL SUMMARY

As a Network Engineer with 4 years' experience in LAN, WAN and WLAN network designing and implementation. Cisco technologies, task automation using Python and Ansible, AWS & Azure cloud network management. I have personally dealt with problems that arise with networks, configuring both the firewalls as well as putting in place secure and efficient networks. They turn to me for guidance on routing protocols, IP service, and monitoring tools, which include Wireshark. As a result, specific trends like SD-WAN, or zero-trust security are vital to consider to offer proper solutions. From my perspective I ensure networks run efficiently for Organizations and assist the achievement of their objectives through efficient networking.

PROFESSIONAL EXPERIENCE

Network Engineer — R&D

Oct 2025 – Present

Nokia Bell Labs · contract | Naperville, IL · On-site

- Engineered and validated IP/MPLS transport network solutions using Nokia Service Router (SR) platforms and MPLS-TP, supporting 5G transport, edge computing, and high-availability backbone deployments within a world-class R&D environment.
- Designed and deployed lab network infrastructure supporting advanced R&D test environments, including IP fabric topologies, spine-leaf architectures, and segment routing (SR-MPLS / SRv6) proof-of-concept implementations.
- Developed Python and Ansible-based network automation scripts for lab provisioning, configuration management, and regression testing, reducing manual setup time by 35% and enabling repeatable, scalable test workflows.
- Integrated SDN controllers and NFV orchestration platforms into test environments; deployed streaming telemetry (gNMI/gRPC) pipelines for real-time network observability, performance baselining, and proactive fault detection.
- Collaborated with Bell Labs research scientists and cross-functional global engineering teams on next-generation network architecture prototypes, contributing technical documentation, lab validation results, and test reports to support ongoing R&D initiatives.
- Configured and troubleshooted BGP, OSPF, ISIS, and MPLS routing protocols on Nokia SR OS routers; validated interoperability with multi-vendor network equipment across simulated carrier-grade environments.
- Supported physical data center lab build and cabling activities, including rack installation, structured cabling, fiber patching, and network device commissioning, ensuring lab readiness for cutting-edge R&D experimentation.

Network Engineer

Jun 2025 – Oct 2025

Comcast · Contract | Philadelphia, PA · remote

- Reduced operational costs by 20% by leading migration of legacy infrastructure to Extreme Networks Fabric, improving failover speeds and reducing latency enterprise-wide.
- Executed full-lifecycle Viptela SD-WAN deployment (DMVPN migration) across 100+ enterprise branches using V-SMART controllers and V-BOND edge routers.
- Automated infrastructure provisioning using Terraform (AWS + GCP) and Cumulus NetQ, reducing deployment time by approximately 40% through reusable IaC templates.
- Deployed Cisco DNA Center (DNAC) for centralized automation, assurance, and analytics across Catalyst 9300/9400/9410 fleet with Stackwise Virtual redundancy.
- Engineered multi-cloud hybrid environments on AWS and GCP using EC2, CloudFormation, Direct Connect, and integrated Palo Alto/GCP firewall policies.
- Managed enterprise wireless infrastructure supporting 802.11ac/ax/be standards via Cisco Meraki, Aruba, and HPE; optimized RF parameters and QoS for voice-over-Wi-Fi.

- Built CI/CD pipelines using Docker, Jenkins, Maven, and Ansible; deployed Prometheus monitoring with real-time alerting for distributed networks.
- Configured MPLS Layer 3 VPNs and BGP WAN; deployed Cisco 88xx routers for branch offices using OSPF and BGP routing protocols.

Network Engineer

Jun 2021 – Aug 2023

Infinite Computer Solutions · contract | Remote

- Designed spine-leaf data center fabrics using Cisco ACI and Arista Cloud Vision Portal (CVP), improving east-west traffic throughput and network scalability.
- Migrated on-premises Palo Alto firewalls to GCP VM-Series with zero downtime; translated 500+ firewall rules across cloud environments.
- Built Azure network automation using CLI, PowerShell, and ARM templates; optimized VNet peering, Azure DNS, and Application Security Group configurations.
- Designed and managed optical transport infrastructure using Nokia PSS and Ciena MCP platforms for high-capacity backbone deployments.
- Configured Zscaler ZTNA policies and advanced threat protection for cloud app control across distributed remote workforce.
- Administered Fortinet FortiGate, Juniper SRX, and Palo Alto firewalls with IPSEC/SSL VPN; resolved CUCM VoIP call flow issues and DNS/DHCP conflicts.
- Managed incident and change lifecycle via ServiceNow; reduced MTTR through proactive troubleshooting using Wireshark, Extrahop, and Catchpoint.

Network Engineer

Jan 2021 – Jun 2021

FIS Global · contract | Remote

- Administered enterprise routing (OSPF, BGP4, EIGRP, RIPv2) and switching (VLAN, ISL trunk, port-channel) infrastructure supporting 24x7 financial market operations.
- Hardened network security by implementing ACLs, NAT/PAT, and IPsec site-to-site VPNs on Cisco routers across headquarters and branch offices.
- Configured Cisco VPN Concentrator 3060 for enterprise-wide VPN tunnels; resolved DNS, DHCP, and IP conflict issues affecting finance market uptime.
- Operated Catalyst 6500/7600 ASA Service Modules and IDS/IDSM-2 to defend against DoS attacks and secure CDN-delivered content.
- Performed packet-level diagnostics using Wireshark; maintained SNMP-based monitoring and network documentation for large-scale infrastructure.

TECHNICAL SKILLS

SD-WAN	Cisco Viptela (V-SMART, V-BOND, V-EDGE), Cisco DNA Center, Silver Peak, DMVPN migration
Routing & Switching	BGP4, OSPF, EIGRP, MPLS, VRF, VxLAN, HSRP, VRRP, VPC, STP/RSTP, 802.1q, LACP, EtherChannel
Cisco Platforms	ASR 1000/9000, Catalyst 8000/9000, ISR 4000, Nexus 7K/9K, Cisco 88xx, DNA Center
Juniper Platforms	MX304, MX10004/08/03, MX2020 (SDN-enabled), SRX Firewall Series, Junos OS
Cloud Networking	AWS (EC2, Direct Connect, ELB, CloudFormation, VPC), Azure (VNet, DNS, App Security Groups, Private Link), GCP, OpenStack
Security / NGFW	Palo Alto (PA-5440, PA-3200, PA-800), Cisco ASA/Firepower, Fortinet FortiGate, Juniper SRX, Checkpoint, Zscaler ZTNA, ISE, ClearPass
Wireless	Cisco Meraki, Aruba (3000 Controller, APs, ClearPass), Catalyst 9800, 802.11ac/ax/be (Wi-Fi 6/6E)
Automation & IaC	Python, Ansible, Terraform, Bash, Cumulus NetQ, ARM Templates, PowerShell, Azure CLI
DevOps / CI-CD	Docker, Jenkins, Maven, Git, Linux (Ubuntu/CentOS), CI/CD pipeline design
Monitoring & Ops	Splunk, LogicMonitor, SolarWinds, Prometheus, Infoblox, Extrahop, Wireshark, ServiceNow, JIRA

Load Balancing	F5 LTM, Citrix NetScaler, Cisco ACE 4700, AWS ELB, Azure Application Gateway
Protocols	TCP/IP, DHCP, DNS, NTP, SNMP, NetFlow, SIP, VoIP, TACACS+, RADIUS, IPsec, SSL/TLS, GRE, NAT/PAT

EDUCATION

Master of Science — Business Analytics

Aug 2023 – May 2025

Trine University | Angola, IN, USA

CERTIFICATIONS

- Cisco Certified Network Associate (CCNA) — Cisco Systems
- HackerRank SQL Certification — Basic & Intermediate