SAI CHAND MEDAPATI

Senior Network Engineer

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As a **Senior Network Engineer** with over **9+ years of experience**, I specialize in designing, deploying, and managing **enterprise networking and hybrid cloud infrastructures** for large-scale organizations. I have **8+ years of experience as an Azure Systems Engineer** and **5+ years working with VMware**, with a strong focus on **Microsoft Azure, VMware, Kubernetes, and Databricks**. My expertise includes **building and optimizing Azure network entities**, **application/server management**, and **cost optimization strategies** to ensure high-performance, scalable, and cost-efficient cloud environments. Leveraging **advanced routing protocols** like **BGP, OSPF, MP-BGP, and EIGRP**, along with **switching technologies** such as **VLAN, VXLAN, EtherChannel, and LACP**, I ensure **seamless global connectivity and optimized data flows** across complex enterprise infrastructures.

My proficiency extends to **automation, orchestration, and scripting technologies**, including **PowerShell, Git, Azure CLI, and Terraform**, driving **30% operational efficiency gains** through streamlined infrastructure provisioning. I have extensive experience in **continuous integration and continuous deployment (CI/CD)**, including **script writing and management** to enable **automated deployments and infrastructure as code (IaC)**. Additionally, my expertise in **Azure AD, AWS IAM, Okta, Web Application Firewalls (WAF), and data protection strategies** ensures a **secure cloud environment**, significantly reducing security risks. With a strong foundation in the cloud, I optimize **network performance and resource allocation**, enhancing system reliability and business continuity.

I am adept at **network security, troubleshooting, and performance monitoring**, utilizing tools like **SolarWinds, Splunk, and Wireshark** to proactively identify and resolve issues. My experience with **load balancing solutions** such as **NGINX, Citrix NetScaler, and Cloud Load Balancers** ensures **high availability and performance** under dynamic workloads. Additionally, I specialize in **disaster recovery solutions**, including **Azure Site Recovery, AWS Backup, and GCP Cloud Backup**, ensuring **RTO under two hours** for critical business operations. With a **strong analytical and organizational mindset**, I developed **multi-cloud architectures using Aviatrix expertise** includes designing **Transit Gateway**, enhancing security with encryption, and automating network deployment via **Terraform integration. Proficient in troubleshooting with CoPilot analytics and optimizing application-centric networking across cloud platforms**. I am committed to delivering **secure, scalable, and high-performance network architectures** that align with business objectives, I drive **digital transformation** by integrating **cutting-edge cloud, security, and networking solutions** for enterprise success

Technical skills:

Category	Skills
Networking Protocols	RIP, IGRP, EIGRP, OSPFv2/v3, IS-IS, BGP v4
Routing & WAN	HDLC, PPP, PPPOE, MPLS, IPSEC VPN, Route Redistribution,SD-WAN, Multicast
Switching & Layer Tech	VLAN, VXLAN, STP (PortFast, UplinkFast), EtherChannel
Security	Cisco ASA, Checkpoint, Port Security, DHCP Snooping, IPS/IDS, VPNs (SSTP, IPsec/SSL), IP Source Guard (IPSG),fortnet
Switches	Cisco Catalyst/Nexus switches (9300, 3850, 4510, 6513, 9508), Arista switches (7150S, 7160, 7260QX), Juniper switches,microtik,tplink, genesis
Cloud & Virtualization	AWS (VPC, subnets, security groups, IAM), Azure (ExpressRoute, Firewalls), Red Hat OpenShift, Virtual Machines, NFV, Containerized Microservices, GCP, Aviatrix, F5 Load Balancers
Load Balancing/QoS	NGINX, QoS, Traffic Shaping, Load Balancing
Monitoring Tools	SolarWinds, Wireshark, PRTG, SNMP, NetFlow, Splunk
Automation/Scripting	Python, Ansible Playbooks, Terraform, Power, GIT
Databases/Storage	Oracle 19c, Microsoft SQL Server 2019, Amazon RDS, Azure SQL Database
Cloud	Azure CLI, PowerShell, ARM Templates, and Terraform, azure , Iaas ,Azure CDN ,Azure customed DNS server,Microtik Virtual routers , Azure Site Recovery, NAT inter routing
frameworks/Libraries	*Go:* net/http, Gin, Echo, Chi, Go-gRPC, Go kit Python: Twisted,NAPALM,Scapy,Paramiko

Certifications

Cisco Certified Network Associate (CCNA)

Cisco Certified Network Professional (CCNP)

Work History

Senior Network Engineer

T-Mobile, Chicago, IL **2023-11 – Current**

As a Senior Network Engineer, I have designed and deployed optical systems using PON modules, CWDM/DWDM technologies, and optical splicing techniques to support 5G RAN integration. I have configured and managed complex network infrastructures with Cisco, Fortinet, and T-Mobile custom switches, implementing LACP and NGINX for load balancing to optimize performance. I have also deployed and managed Palo Alto, Fortinet, and Cisco ASA firewalls, designing robust security policies and utilizing Panorama and Forti Manager for centralized management. I have automated cloud infrastructure using Terraform, PowerShell, and ARM templates to deploy scalable solutions in Azure and AWS. Additionally, I have implemented SD-WAN, wireless technologies, and data center optimizations using Cisco ACI, Arista, and Juniper to ensure high availability and reliability.

Network Engineering & Optical Systems

- Designed and maintained complex optical cable infrastructures using CWDM/DWDM, PON modules, and optical splicers with vendor equipment from Ericsson, Anritsu, and T-Mobile custom switches.
- Led end-to-end deployments and configurations of Ericsson 5G RAN modules, including RF transmission analysis and 802.11e protocol optimization.

Infrastructure & Load Balancing

- Configured and managed NGINX for high-availability load balancing in multi-tiered web applications across hybrid environments.
- Designed and deployed LACP-based link aggregation across Cisco Catalyst/Nexus, Fortinet, and custom-built switches to boost bandwidth utilization and redundancy.
- Administered F5 BIG-IP for internal/external VIPs, reducing service latency and downtime for critical business services.

Security & Firewall Solutions

- Implemented Palo Alto Networks' next-gen firewall technologies (Prisma Access, Prisma Cloud, PA-7000 series, VM-Series) using Panorama, GlobalProtect VPN, and advanced threat prevention tools like Wildfire.
- Migrated legacy firewall platforms (Checkpoint, Juniper, ASA) to Palo Alto using MT 3.3, enhancing security posture and operational efficiency.
- Provisioned policies and managed devices using Fortinet FortiManager/FortiAnalyzer, enforcing unified security controls across global sites.

Cloud & Virtualization Technologies

- Migrated virtual infrastructure to Nutanix AHV and supported VMware and NSX environments with Palo Alto integration for secure east-west traffic.
- Built and deployed infrastructure on Azure and AWS using Terraform, ARM templates, Azure CLI, PowerShell, and configured services like Azure VNET, NSG, Route 53, ELB, and VPN gateways.
- Integrated Prisma Access and Proofpoint with CrowdStrike for unified threat intelligence and Zero-Day attack prevention.

Automation & Monitoring

- Automated network configurations and deployment tasks using Python, Ansible, and Terraform, saving over 100 man-hours annually.
- Monitored and analyzed over 300 devices using NetScout nGenius, SolarWinds, Splunk, and Wireshark to reduce MTTR by 40% and ensure SLA compliance.

Access Control & Identity Management

- Deployed Cisco ISE for wired/wireless 802.1x authentication, integrating with ClearPass and NAC for secure user/device access.
- Supported migrations from Cisco ACS to ISE and implemented certificate-based authentication with profiling and endpoint visibility.

Data Center Experience

- Scaled data center backbones using Cisco Nexus 3000/5000/7000 with VPC and VXLAN, achieving over 10 Tbps throughput and 99.9% uptime.
- Worked on Arista 7150S, 7160, and 7260QX series for spine-leaf architecture with ACI and Big Switch integration.

General Networking & Operations

- Designed and supported multi-vendor routing environments (OSPF, BGP, EIGRP) with sub-50ms failover and 40% faster convergence.
- Managed SD-WAN (Viptela/Versa), WAN optimization (Riverbed/Steelheads), and implemented L4-7 load balancing across WAN/LAN.

Network Infrastructure and DevOps Engineer

Los Angeles Housing Department, Los Angeles, CA **2021-04 - 2023-09**

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my technical skills to the Los Angeles Housing Department. My experience spans the full lifecycle of network infrastructure management, including automated switch deployments, software updates using Python, Ansible, and Terraform, cloud architecture management (Azure, AWS, GCP), and implementing robust security measures. I specialize in RDS management, hybrid cloud integrations, workload protection, load balancing, latency reduction, and ensuring web recovery and disaster recovery for mission-critical systems.

Switch Deployment & Automated Software Updates:

- Lead the deployment and configuration of enterprise-grade network switches (Cisco, Juniper) using automated tools such as Ansible and Terraform to streamline setup, configuration, and version control.
- Use Python scripts to automate repetitive tasks, including switch software updates, configuration backups, and network performance monitoring.
- Leverage Ansible playbooks and Terraform configurations to handle rolling updates of switch firmware (IOS, NX-OS, etc.), ensuring zero downtime and compliance with internal change management processes.
- Implement version control strategies and create custom Ansible roles for maintaining network configurations across large-scale switch deployments.

Automation & Orchestration:

- I automated the lifecycle of network devices (Cisco and Juniper switches) through Ansible playbooks and Python scripts. This included tasks such as switch software updates, configuration backups, and troubleshooting, allowing for zero downtime during updates. Terraform was used to automate the provisioning of cloud resources, reducing manual intervention and enhancing the scalability and security of the network infrastructure. My automation efforts ensured smooth rollouts and consistent compliance with internal change management policies.

CI/CD Pipelines & Infrastructure as Code (IaC):

- At the Los Angeles Housing Department, I architected and managed CI/CD pipelines using tools like Jenkins and Azure DevOps to automate the deployment of network configurations and infrastructure changes across hybrid cloud environments. I integrated automated tests to ensure that infrastructure updates were seamless and met compliance standards. By leveraging Terraform and Ansible, I implemented Infrastructure as Code (IaC) to streamline the provisioning and management of both on-prem and cloud resources, significantly reducing manual configuration errors and improving deployment speed.

Security & Workload Protection:

- Implement advanced security measures across cloud environments using IAM roles, policies, and Zero Trust principles in Azure AD, AWS IAM, and GCP IAM to secure infrastructure and data.
- Configure and manage firewall solutions (FortiGate, Palo Alto) and intrusion detection/prevention systems (IDS/IPS) for securing both cloud and on-premise workloads.
- Use Python scripts to automate the auditing of security policies and monitor for compliance across cloud resources.
- Defined AWS Security Groups which acted as virtual firewalls that controlled the traffic allowed to reach one or more AWS EC2 instances.

Public IP Management:

- Configure and manage public IP assignments using AES Elastic IPs in AWS, GCP, and Azure, ensuring optimal performance for critical services and applications while maintaining robust security controls.
- Automate IP address assignment and auditing processes using Ansible and Python scripts to ensure streamlined IP management and minimize downtime during failover scenarios.

Load Balancing & Latency Optimization:

- Implement load balancing solutions (NGINX, Citrix NetScaler, AWS ELB, GCP Load Balancer) to distribute traffic efficiently across application servers, ensuring high availability and fault tolerance.
- Optimize networking paths and reduce latency using Python-based network performance tuning scripts and integration with cloud-native load balancing and CDN solutions (AWS CloudFront, Azure CDN).
- Deploying and optimizing secure virtual appliances with Aviatrix's Gateways for inter-cloud routing.
- Integrating Aviatrix Edge to facilitate SD-WAN links for optimized global enterprise networking.

Monitoring & Performance Optimization:

- I implemented continuous network performance monitoring using tools like SolarWinds and AWS CloudWatch. I used Python scripts and Ansible to automate the collection of network performance data and generate real-time reports, enabling proactive identification and resolution of potential network bottlenecks and latency issues. This proactive monitoring and optimization kept the infrastructure performing at its peak and ensured minimal downtime, especially during critical updates or network changes.
- Created monitors, alarms and notifications for EC2 instances using CloudWatch.

Micro services & automatic deployment:

- I implemented a Go microservices architecture using distinct communication strategies. I built the primary API Gateway using Gin to handle external REST/JSON requests and TLS termination. For specific backend tasks, I developed REST APIs with Echo for property inventory and Chi for application logic, leveraging their middleware stacks. I structured the more complex services like Inspection and Case Management with Go kit, which communicate internally via high-performance Go-gRPC using Protobufs. This Go-gRPC mesh forms the backbone for internal service calls. Finally, I used the python twisted library for creating both client and servers which have minimum run time and have less latency .and python scapy is used to manipulate the dual LACP packets received.

Network Engineer

Goldman Sachs, Chicago, IL **2018-12 - 2021-02**

I managed and optimized a global network infrastructure comprising over 120 Cisco switches and 60+ Juniper routers. I led key initiatives including cloud migrations to AWS, the deployment of Cisco ACI, and automation of network functions using Python and Ansible, resulting in significant improvements in operational efficiency. My

role also involved enhancing network security through advanced measures like NSX-T micro-segmentation and managing IAM policies with Cisco NAC and ISE. I successfully resolved critical network incidents and ensured compliance with security and regulatory standards, contributing to the overall reliability and scalability of the department's infrastructure.

Network Lifecycle Management

- Managed the lifecycle of 120+ Cisco switches (Nexus 9508, Catalyst 9300/3850) and 60+ Juniper routers (MX204, MX480) across 15 global sites, ensuring optimal network performance and high availability for the Los Angeles Housing Department.

Incident Resolution & Troubleshooting

- Successfully resolved 250+ critical network incidents, including BGP route flapping and OSPF adjacency failures, minimizing downtime and ensuring uninterrupted network operations.

Cisco ACI Deployment

- Led the deployment of Cisco ACI with Nexus 9336C-FX2 spines, reducing provisioning time by 40%, improving scalability, and enhancing network performance for the Los Angeles Housing Department.

Cloud Application Migration

- Migrated 60+ on-premises applications to AWS, leveraging Juniper vSRX firewalls, Cisco CSR 1000v routers, and Palo Alto Networks firewalls to ensure scalability, security, and network integrity in the cloud infrastructure.
- Experience on Implementing Terraform and Cloud formation templates as Infrastructure as a Code for GCP.

Hybrid Architecture Design & Implementation

- Designed and implemented a robust AWS hybrid architecture integrating Transit Gateway, VPC peering, and 1 Gbps Direct Connect for seamless on-premise and cloud network integration.

Network Automation & Efficiency

- Automated SNMPv3 backups for Cisco IOS-XE devices and bulk BGP AS prepends on Juniper MX routers using Python and Ansible, significantly improving operational efficiency and reducing manual intervention.
- Leveraging Terraform integrated with Aviatrix for efficient cloud network automation and scaling.

Network Security Enhancements

- Strengthened network security by implementing NSX-T micro-segmentation, Juniper vSRX firewall policies, Palo Alto Networks policies, and PVLANs for trader workstations, ensuring compliance with best security practices and organizational standards.

Documentation & Compliance Support

- Authored detailed troubleshooting guides for Nexus 9000 VXLAN configurations and maintained NetBox diagrams to support PCI compliance audits, ensuring network integrity and adherence to regulatory standards.

Expertise in Network Protocols & Security

- Extensive experience with networking protocols (VXLAN/EVPN, BGP, OSPF, GRE, TCP, FTP, DNS, DHCP) and cloud security technologies such as Azure AD, IAM, and Web Application Firewalls to ensure secure, high-performing cloud environments.

VPN Management & IAM Integration

- Configured user roles and policies for authentication using Cisco NAC and monitored logged-in users' statuses via Cisco ISE, ensuring secure access control and compliance across the Los Angeles Housing Department's network.
- Enhancing security posture using Aviatrix Secure Networking platform, including advanced encryption and audit controls

Multi Cloud routing and auto fail load balance:

- Implementing Aviatrix Transit Gateway for high-performance, encrypted inter-region communication between cloud networks.

- Configuring intelligent routing policies with Aviatrix for complex multi-cloud topologies.
- Designing and deploying network infrastructure across AWS, Azure, and GCP using Aviatrix to ensure seamless connectivity.
- Setting up application-specific network paths across clouds using Aviatrix Gateway.

CSS CROP

Junior Network Engineer **2016-03 - 2018-09**

I configured and optimized network traffic flow using routing protocols such as RIP, EIGRP, OSPF, and BGP, along with implementing Inter-VLAN routing and access lists to support different uses across the network. I designed and deployed secure VPN tunnels with IPsec and GRE, ensuring encrypted and reliable connectivity. I managed cloud integrations with AWS and Azure, enabling secure hybrid environments. I configured VLANs for various use cases, implemented load balancing with F5 LTM, and ensured high availability with routing backup strategies and redundant switches. I also monitored network performance and security devices, ensuring a resilient, scalable, and secure infrastructure.

Networking & Routing Protocols Expertise

- Configured Inter-VLAN routing, access-lists, dynamic routing, and redistribution to optimize network traffic flow.
- Installed and maintained Cisco backbone routers (7500, 7200, 12000) with HSRP and implemented IGP protocols (RIP, EIGRP, OSPF).
- Deployed RIP, OSPF, EIGRP, and BGP on Cisco routers and tuned routing updates using route-map and distributed lists for on-demand infrastructure.
- Designed and implemented VPN tunnels with IPsec and GRE on Cisco ASA, ensuring secure network connectivity.
- Utilized BGP for network redundancy and optimized multi-homed connectivity by manipulating AS-path.
- Designed and configured LANs with Cisco 4510 and 6513 switches, implementing HSRP, STP, and RSTP for network resiliency.

Security & Access Control

- Configured and managed Cisco ASA firewalls and Juniper NetScreen firewalls, ensuring robust security for enterprise networks.
- Implemented AAA services using Cisco Secure ACS for user authentication and access control.
- Designed and configured security policies with F5 LTM for application layer security and traffic optimization.
- Deployed VPN solutions with Pulse Secure for secure login and Single Sign-On (SSO) across production environments.
- Troubleshooting and optimized security devices, including Juniper firewalls, Blue Coat proxies, and F5 load balancers.

WAN & Cloud Networking

- Implemented WAN IP infrastructure using Frame Relay, T1/T3, and DSL technologies, ensuring reliable site-to-site communication.
- Configured OSPF redistribution and LSA filtering to prevent flooding and optimize routing across WAN links.
- Led WAN network architecture expansion, integrating new users and applications to ensure scalability.
- Worked with multi-cloud platforms (AWS, Azure) to integrate cloud connectivity and ensure secure hybrid environments.

Network Design & Troubleshooting

- Designed, configured, and maintained enterprise LANs and WANs, incorporating best practices in network segmentation, routing, and security.
- Used tools like Wireshark and sniffer for packet analysis, identifying and troubleshooting network performance issues.

- Managed and troubleshoot network components including Cisco Nexus 5K/2K, ASA5595, ACE 4710, and MPLS configurations.
- Implemented VLAN, HSRP, and IP routing configurations to optimize network performance and redundancy.
- Delivered break-fix support and hardware troubleshooting for network devices, ensuring minimal downtime.

Education

2012 - 2016

Amrita School of Engineering
(Bachelor of technology)
– – Coimbatore