RAHUL TAVVA

SENIOR NETWORK ENGINEER

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PROFILE SUMMARY

- Accomplished Network Cloud Infrastructure Engineer / Architect with over 12 years of consulting and engineering experience, specializing in designing, implementing, and securing large-scale enterprise networks and hybrid cloud solutions for Fortune 500 clients including PepsiCo, Keurig Dr Pepper, and Citizens Bank.
- Certified in CCNP (Routing & Switching), Microsoft Azure Administrator & Fundamentals, Azure Network Design & Implementation, and AWS Cloud Practitioner, with expert-level skills in BGP, OSPF, Cisco SD-WAN, and multi-cloud networking across Azure and AWS platforms.
- Led global Cisco vManage SD-WAN rollout across 3,000+ sites, delivering centralized policy control, segmentation, and dynamic routing—resulting in $3M+ annual cost savings and a scalable, cloud-ready WAN architecture.
- Architected hybrid connectivity using Azure ExpressRoute and VPN Gateways, enhancing network performance, redundancy, and cloud integration for globally distributed sites while replacing costly legacy circuits.
- Migrated security and delivery infrastructure to Azure-native solutions (NSGs, Azure Firewall, Load Balancer, Application Gateway), reducing third-party dependency and achieving $2–3M in infrastructure and licensing savings.
- Built and deployed hub-and-spoke Azure network architectures with Route Server, Private Link, and Service Endpoints—ensuring secure, scalable, and compliant cloud designs for industries with strict regulatory requirements.
- Implemented Azure Traffic Manager and Azure Front Door to provide geo-distributed traffic control and failover—enhancing global application performance while optimizing data egress and latency costs.
- Integrated AI/ML-driven analytics and anomaly detection into traditional and cloud environments using Azure Network Watcher, Sentinel, and SolarWinds—improving visibility, reducing MTTR, and enabling predictive maintenance.
- Designed AI-based auto-remediation workflows and intelligent routing policies within SD-WAN and cloud platforms—reducing manual intervention and ensuring SLA compliance for high-demand applications.
- Applied AI-powered capacity planning and utilization forecasting to optimize infrastructure spend, right-size resources, and eliminate overprovisioning across enterprise networks.
- Developed and implemented automated incident response frameworks using Azure Logic Apps—accelerated root cause isolation and streamlined escalation across support teams.

TECH SKILLS

Networking Technologies:

Cisco Routers & Switches, Cisco Catalyst, Cisco ISR/ASR, Cisco vManage SD-WAN, DMVPN, VPN, MPLS, QoS, NAT, ACL, STP, VTP, HSRP, VRRP, EtherChannel, IP SLA

Routing & Switching Protocols:

BGP, OSPF, EIGRP, RIP, VLAN, VXLAN, Multicast, Static/Dynamic Routing

Cloud Platforms & Networking:

Microsoft Azure (VNET, Subnets, NSG, Azure Firewall, VPN Gateway, ExpressRoute, Load Balancer, Application Gateway, Traffic Manager, Front Door, Network Watcher, Route Server, Private Link, Service Endpoints)

AWS (VPC, Subnets, Route Tables, Internet Gateway, NAT Gateway, Site-to-Site VPN, Transit Gateway)

Security & Firewalls:

Azure DDoS Protection, Azure Firewall, Network Security Groups (NSGs), Cisco ASA, Palo Alto (basic exposure), ACLs, IPsec VPN, Cloud-based access controls

Monitoring & Management Tools:

SolarWinds NPM, Wireshark, SNMP, Syslog, NetFlow Analyzer, Azure Monitor, Azure Network Watcher, Azure Sentinel, Cisco Prime Infrastructure

Automation & AI Integration:

Azure Logic Apps, Azure Automation, AI/ML-based anomaly detection, predictive analytics for capacity planning, automated remediation workflows

Change & Configuration Management:

ITIL Change Management, Network Documentation (Visio), Configuration Backups, Version Control, RFC Documentation, CMDB Alignment

Protocols & Services:

DHCP, DNS, NTP, HTTP/HTTPS, TCP/IP, FTP/SFTP, SNMPv2/v3

Operating Systems:

Windows Server, Linux (basic CLI), Azure-based IaaS environments

Documentation & Collaboration:

Microsoft Visio, Office Suite (Excel, PowerPoint, Word), SharePoint, Confluence, JIRA, Teams, ServiceNow

CERTIFICATIONS

- CCNA-Cisco Certified Network Associate R & S.
- CCNP-Cisco Certified Network Professional R & S.
- Microsoft Certified: Azure Fundamentals.
- Microsoft Certified: Azure Administrator Associate.
- Microsoft Certified: Designing and Implementing Microsoft Azure Networking Solutions.
- AWS Certified Cloud Practitioner.

EDUCATION

Bachelor Of Commerce
2006 - 2009
Osmania University

Master Of Business Administration
2010 - 2012
University Of The Incarnate Word

WORK EXPERIENCE

Kairos Technologies Inc
Client: Pepsico Inc, Plano Texas **March 2019 – Current**
Senior Network Engineer

Responsibilities:

- Supported a complex enterprise network ecosystem spanning over 3,000 remote locations, encompassing hybrid Azure cloud environments, industrial OT infrastructure, and enterprise-grade IT systems.
- Led the deployment of Cisco SD-WAN (vManage) across 3,000+ remote sites, replacing legacy MPLS infrastructure with centralized policy enforcement, segmentation, and secure cloud breakout—achieving $3M+ in annual recurring cost savings and improving scalability and manageability.
- Executed full-site network remediation for brownfield locations and new greenfield facilities—handling end-to-end infrastructure refreshes including switch/router upgrades, firewall provisioning, structured cabling, IP schema redesign, and smart hands coordination.
- Collaborated with cross-functional teams to design and implement IT/OT converged network architectures, ensuring isolated yet interconnected environments for manufacturing automation systems, SCADA, production lines, and plant-floor applications.
- Integrated layered segmentation between IT and OT networks using Cisco SD-WAN, ACLs, and Azure Firewall to enforce access boundaries, minimize lateral movement, and improve monitoring visibility across industrial systems.
- Led several wireless refresh and expansion projects, including heatmap surveys, AP placement, wireless controller upgrades, and RF interference mitigation—ensuring reliable connectivity for handhelds, industrial IoT devices, and mobility users across warehouse and production areas.
- Designed and deployed secure wireless networks in high-density and RF-challenging OT environments, aligning coverage with production layouts, sensor placements, and environmental considerations.

- Configured and managed Microsoft Azure networking services including VNETs, NSGs, Azure Firewall, VPN Gateway, Application Gateway, Load Balancer, and Traffic Manager, enabling resilient hybrid cloud connectivity across business units.
- Integrated AI-powered observability and automation into both IT and OT network environments using Azure Sentinel, Network Watcher, and SolarWinds—enabling real-time analytics, anomaly detection, and a 40% reduction in incident response times.
- Implemented AI-based traffic optimization and auto-remediation workflows across SD-WAN and cloud infrastructure, reducing operational overhead and enhancing SLA performance for manufacturing-critical apps.
- Partnered with InfoSec to enforce cybersecurity best practices across OT segments—conducting vulnerability scans, asset profiling, and implementing segmentation and firewall policies aligned with NIST and ISO 27001 standards.
- Acted as primary escalation for WAN outages, coordinating with ISPs and leveraging SD-WAN dynamic path selection to maintain uptime across plant and distribution center operations.
- Led the ITIL-compliant Change Management process, overseeing risk assessments, stakeholder communications, and approval cycles for all network and cloud-related deployments.
- Maintained comprehensive network documentation, including LLDs, device configs, policy maps, change logs, wireless layouts, OT asset zoning, and remediation reports—supporting audit readiness and global standards alignment.

Kairos Technologies Inc, Plano Texas
Client: Keurig Dr Pepper **Jan 2016 – March 2019**
Senior Network Engineer

- Managed and supported the enterprise network infrastructure across 500+ sites, including data centers, manufacturing plants, distribution centers, warehouses, and corporate offices—ensuring high availability and secure connectivity.
- Key member in the enterprise-wide Switch Refresh Project, leading the replacement of legacy switches (Cisco Catalyst 2960, 3560, and 3750 series) with next-generation Cisco Catalyst 9300 and 9500 series. This upgrade enhanced stacking capabilities, introduced higher throughput, improved PoE capacity, and enabled software-defined access readiness—contributing to a 20–25% reduction in annual maintenance costs.
- Participated in the Router Refresh Project, replacing outdated Cisco 2900, 3900, and 7200 series routers with modern Cisco ISR 4331 and 4451 routers. This modernized the WAN edge across remote sites and core offices, enhancing performance, enabling SD-WAN readiness, and reducing hardware support contract costs by over $800K annually.
- Key contributor to the Wireless Refresh Initiative, migrating from legacy Cisco AP models (AIR-LAP1142N, 2602, 2702) and 5508 WLCs to Cisco 9800 Series Wireless Controllers and Cisco Catalyst 9100 Series Access Points (AP9130, AP9120, AP9115). The refresh resulted in stronger RF coverage, improved roaming, Wi-Fi 6 readiness, and enhanced IoT device support—especially critical in large-scale warehouse and manufacturing environments.
- Conducted RF heatmap surveys, wireless coverage validations, and capacity planning to ensure optimal placement and configuration of upgraded APs—minimizing dead zones and signal interference
- Executed cutovers and migrations during change windows in coordination with local IT teams and service providers, ensuring seamless transitions with zero-impact to production operations.

- .Configured and maintained Cisco Layer 2/3 infrastructure using VLANs, trunking, EtherChannel, HSRP, spanning-tree enhancements, and high-availability routing protocols such as BGP, OSPF, and EIGRP.
- Deployed and managed Cisco ASA Firewalls, securing internal zones and enabling IPSec VPNs for site-to-site and remote workforce connectivity with encrypted transport and high reliability.
- Partnered with the InfoSec team to ensure all refresh activities were aligned with compliance standards (ISO 27001, NIST, GDPR) and implemented access control policies to isolate sensitive systems.
- Improved visibility and troubleshooting capabilities using SolarWinds NPM, Wireshark, and Cisco Prime, enabling proactive identification and resolution of network performance and security issues.
- Generated significant OPEX and CAPEX savings through hardware consolidation, support contract renegotiations, and elimination of EOL equipment—resulting in a multi-million-dollar cost reduction over a 3-year period.
- Maintained detailed documentation of all upgraded infrastructure including rack layouts, cable plans, IP addressing schemes, configuration templates, and Visio diagrams, supporting compliance and operational continuity.
- Actively participated in change control boards (CABs), reviewed implementation plans and rollback procedures, and ensured all network changes adhered to ITIL-based change management protocols.

Kairos Technologies Inc
Client: Citizens Bank, Cranston, Rhode Island. **May 2013 – Jan 2016**
Network Engineer

Responsibilities:

- Managed enterprise LAN and WAN operations, including troubleshooting, performance tuning, and infrastructure upgrades across corporate data centers, branches, and remote offices.
- Supported core data center operations, handling the deployment, configuration, and administration of Cisco routers and switches based on evolving business and compliance requirements.
- Led network optimization initiatives, including link utilization analysis, latency reduction, routing efficiency improvements, and device consolidation—resulting in improved throughput and reduced operational overhead.
- Implemented advanced routing protocols including MP-BGP, BGPv4, OSPF, EIGRP, and LDP, ensuring efficient path selection, failover, and dynamic route redistribution across multi-site enterprise networks.
- Designed scalable IP addressing schemes (VLSM, route summarization) and optimized subnetting to improve routing table efficiency and network segmentation.
- Tuned ACLs, NAT policies, and route maps to refine access control, reduce policy lookup times, and improve perimeter performance on Cisco ASA 5500 series firewalls.
- Provided escalation-level support for Cisco Catalyst switches (2950, 3500, 3600) and high-performance routers including 7200, 7600, GSR 12416/12816, ensuring high availability and performance.
- Deployed Cisco ISR routers (2800, 3800, 4400 series) across branch and remote sites, configuring WAN links, IPsec tunnels, and QoS to support real-time and business-critical applications.
- Monitored and optimized WAN infrastructure running OSPF and BGP, addressing convergence delays and optimizing route advertisements to improve data flow across MPLS circuits.
- Implemented MPLS enhancements and traffic engineering policies to optimize label-switched paths and ensure low-latency routing between key data centers and remote endpoints.

- Improved wireless performance and coverage through strategic AP placement, RF tuning, and channel planning as part of a refresh from legacy Cisco 1242, 2602 APs to 3500 and 3600 series under Cisco WLC 2500/5500.
- Supported 802.11ac and 802.11b/g deployments using CAPWAP and WCS, enhancing device density handling, roaming stability, and wireless security posture.
- Analyzed network logs and traffic using Wireshark and SolarWinds, identifying congestion points, rogue traffic patterns, and interface errors—implementing corrective actions for long-term stability.
- Developed custom reports and dashboards to track performance metrics, bandwidth utilization, and device health, improving decision-making and long-term capacity planning.
- Participated in change management and performance reviews, documenting pre/post optimization metrics and presenting improvement results to technical leadership.
- Maintained comprehensive documentation including network diagrams, IP schemas, performance baselines, and enhancement logs to support operational continuity and audit compliance.

Kairos Technologies Inc
Dallas, TX **June 2012 to April -2013**
Network Engineer

Responsibilities:

- Configured, maintained, and troubleshot a multi-customer ISP network environment, supporting both enterprise clients and service provider infrastructure needs.
- Performed end-to-end troubleshooting across OSI Layers 1–3, including legacy technologies such as Frame Relay, ATM, ISDN, and Point-to-Point, as well as advanced Layer 3 routing issues involving MPLS, BGP, EIGRP, OSPF, and RIP.
- Provided ongoing LAN/WAN support across a network infrastructure consisting of 2,000+ Cisco devices, ensuring minimal downtime and rapid issue resolution in production environments.
- Supported network monitoring and alert response, including real-time alarm notification, event acknowledgment, and escalation handling through NOC and monitoring platforms.
- Led efforts to implement new and modify existing data networks for multiple project rollouts, including provisioning of remote sites and network segmentation based on business requirements.
- Installed, configured, and maintained Cisco router platforms (2800, 3700 series) and switch infrastructure (Catalyst 4500, 6500 series) across enterprise and data center environments.
- Conducted in-depth troubleshooting for IOS bugs and anomalies, reviewing release notes, logs, and historical incidents to identify and isolate platform-specific issues.
- Assisted in MPLS-to-VPN migrations, configuring site-to-site IPsec VPN tunnels as WAN backup solutions and enhancing overall redundancy and resilience of the network.
- Designed and implemented BGP load balancing policies using attributes such as Local Preference, AS-Path, MED, and Community strings to optimize traffic flow and route selection.
- Installed and configured RADIUS and TACACS+ for secure AAA services, ensuring device access control and accounting in line with organizational security policies.
- Implemented and administered 802.1X wireless authentication using Cisco Identity Services Engine (ISE) and AnyConnect Network Access Manager (NAM), enabling secure enterprise Wi-Fi access and user-based authentication.
- Provisioned network services and equipment for remote vendors and plant sites, including configuration of routers, switches, and secure WAN/VPN access.
- Participated in data center operations, including administration and deployment of core routing and switching equipment, inventory management, cabling, and documentation.