

RAVI KOOTHATI

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Software Developer with 9+ years of expertise developing system platform software for enterprise network management systems virtualized firewalls, network switches and cloud-native infrastructure solutions.

SOFTWARE DEVELOPER

IBM SEVONE

APR 2024 – TILL DATE

- **Developed network management features** for enterprise-scale Network Management System (NMS), serving Fortune 500 clients across 5 major feature releases.
- **Engineered containerized NAT solutions** using D-Bus and CAP_NET_ADMIN configurations, enabling seamless network address translation across distributed NMS environments.
- **Enhanced cluster resilience and scalability** by developing peer removal capabilities for inaccessible nodes and HSA environments, improving system availability during maintenance windows and reducing manual intervention
- **Strengthened system security and stability** through proactive dependency management, including critical Golang security patches, container image migrations to verified publishers, and automated kernel cleanup processes
- **Led critical escalation resolution** for high-priority customer issues, including NMS upgrade failures, database schema errors, ICMP plugin malfunctions, and SDP export problems, minimizing customer downtime
- **Developed robust database migration strategies** with idempotent SQL schema updates, preventing upgrade failures and ensuring seamless version transitions across production environments
- **Collaborated with cross-functional teams** on OAuth2 OIDC authentication implementations, containerized deployment strategies, and peering configurations, facilitating system integrations.
- **Implemented comprehensive testing frameworks** using Playwright and TypeScript for flow integration testing, enhancing code quality.
- **Streamlined device discovery** poller process by resolving issues that caused failures due to unset constants and memory exhaustion errors, ensuring successful network device identification.
- **Enhanced usability and debuggability** by adding synthetic indicators for interface error monitoring, policy validation enhancements, and ingestion pipeline utilities, improving network visibility and operational efficiency

SOFTWARE ENGINEER

CISCO INC.

AUG 2020 – MAR 2024

- Developed and enhanced **Cisco ASAv, FTDv (virtualized firewalls) and ASAc (containerized firewalls)** deployments across diverse platforms including AWS, Azure, GCP, OCI, Alibaba Cloud, KVM, Nutanix and VMware.
- **Implemented SR-IOV** support of virtual NICs, achieving compatibility with **Broadcom and Mellanox DPUs** across **Cisco ASAv and FTDv** deployments on Oracle Cloud Infrastructure and private cloud platforms
- **Designed and implemented cloud-native autoscaling solutions** for ASAv deployments on **Alibaba Cloud** using **Python3** and **Terraform** infrastructure-as-code reducing operational costs by 35%
- **Led critical platform modernization initiatives** by successfully addressing dependency challenges while upgrading **Wind River Linux OS, DPDK and FXOS** components ensuring stability and compatibility.
- **Optimized system performance and reliability** by resolving **NIC underruns, memory leaks, core dumps, CPS/PPS bottlenecks, and hot-plugging functionality** across diverse **public and private cloud environments**.
- **Enhanced troubleshooting and debugging capabilities** by integrating comprehensive **datapath logs** into debug commands and **TAC reports** accessible via ASAv CLI reducing mean time to resolution.
- Actively contributed to development processes, including **code reviews, functional spec reviews, and CI/CD pipeline improvements**, fostering a collaborative engineering environment.
- **Resolved 30+ critical customer escalations** including performance degradation issues, VPN connectivity problems, hot-plugging interface challenges, and cloud-specific deployment failures.
- **Mentored and onboarded new team members**, providing guidance on best practices, debugging techniques, and cloud integrations.

SOFTWARE ENGINEER

RED PIRANHA

MAY 2020 – AUG 2020

- Developed features for Crystal Eye, a Linux based network operating system running on firewalls including **SSLVPN Module enhancements like LDAP Integration, Static IP configurations, SSL Perceive and Bump**.
- Designed system specifications for SSLVPN features and ensured seamless integration into the existing system.
- Collaborated on code reviews, test case development, documentation, and process enhancements.

- **Designed and implemented** enterprise solutions to integrate **SonicWall Switches** with **SonicWall Firewalls**, enabling granular network control and comprehensive end-user monitoring through unified management interface.
- **Worked on critical network capabilities** by resolving complex issues in **wire mode over LAG, High Availability, Memory Management**, implementing advanced **log monitoring systems**, optimizing **syslog analysis** workflows, and developing robust **FTP logging** and **TSR export** functionality within **SonicOS**.
- Developed **CLI and API frameworks** for key features, including **Flow Reporting, ARP Storm Limit controls, AWS Integration**, and **SonicWall Switch Integration** enabling automated network management.
- Built innovative web-based tools like the **TSR Analysis Tool** and **EXP Viewer** using Python 3.7 and regular expressions, creating intelligent log parsing capabilities that transformed raw network data into user-friendly analytical outputs
- Worked on a **web-based migration tool** facilitating seamless configuration transitions from competing vendors (Cisco, Fortinet, Palo Alto Networks) to SonicWall devices, minimizing deployment friction and accelerating customer onboarding.
- **Resolved 30+ critical customer escalations** by troubleshooting complex network environments using advanced virtualization tools including vSphere, LAN bridges, SSL applications, content filtering systems, load balancing configurations, VLAN implementations, 802.1x authentication, VPN tunnelling, and dynamic routing protocol

EDUCATION:

- [Master of Technology](#), Software Systems-Security, Birla Institute of Technology and Science 2021-2023 | GPA 3.6
- [Bachelor of Engineering](#), Computer Science, Visvesvaraya Technological University 2011-2015 | GPA 3.0

SKILLS & TECHNOLOGIES:

Programming	: C, C++, Python3, Golang, Terraform, REST, JSON, XML
Cloud Platforms	: AWS, Azure, GCP, Oracle Cloud (OCI), Alibaba Cloud
Virtualization	: KVM, VMware, Intel DPDK, Docker, Kubernetes
Networking	: TCP/IP, Network Security, Routing, Switching, VPN (IPsec/SSL/TLS), NAT, VLAN, HA
Tools	: Git, Perforce, Cisco TReX, Linux, Windows, Jira, Confluence, Target Process, Agile

CERTIFICATIONS & COURSES:

- [IBM SevOne NPM](#) (April 2024)
- [Oracle Certified Cloud Infrastructure Foundations Associate](#) (Feb 2022)
- [Crystal Eye Certified Engineer](#) (CECE)
- [SonicWall Network Security Administrator](#) (SNSA)
- [Certified SonicWall Security Administrator](#) (CSSA)
- Cisco Certified Networking Associate (CCNA - Cisco Internal Course)

ACHIEVEMENTS:

- As part of Hackathon 2023, 1000eyes process was integrated to into containerd daemon running Cisco FTDv to improve network monitoring for customers.
- [Cisco Connected Recognition Award for extensive work on VirtIO issues](#) (Feb 2022) for resolving intricate VirtIO issues in ASAv/FTDv deployments in OCI, contributing significantly to product enhancement.
- [Cisco Connected Recognition Award for SR-IOV Support](#) (March 2021) for pioneering SR-IOV Support, optimizing performance in ASAv/FTDv deployments in Oracle Cloud Infrastructure.
- Recognized as a [SonicWall Technical Master \(April 2020\)](#) for comprehensive contributions to firewall development, bug resolution, and rapid customer environment deployments.
- [SonicWall Outstanding Contributor for Q4 FY 2019](#)
- [SonicWall Key Contributor for FY 2018](#)