MANOJ GUPTA

Software Engineer

Contact

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Skills

Team mentoring and enterprise product development

Distributed scalable cloud system development

Linux device drivers and kernel internals

802.11 Networking

Software

- Programming Languages: Golang, Python, C, Shell Script
- Database Technologies: PostgreSQL, ElasticSearch, Redis
- Cloud Storage: Amazon S3, GCS
- Frameworks: gRPC, Django, Apache Storm

Experienced software engineer with experience in design, development and debugging distributed systems and networking products with a passion for result oriented execution.

Work History

2020-12 - Current

Distinguished Engineer

Juniper Networks, Bangalore

- Integration of 128T router into Mistsys Cloud for configuration management and WAN assurance
- Designed and developed device lifecycle management features like scheduled and automatic image upgrade, support log file upload to cloud storage, packet capture and telemetry collection
- Developed Go microservices for device outage notification, image download proxy, logging and monitoring support for Prometheus and SignalFx
- Designed and developed image version release management and runbook for devops team

2015-05 - 2020-12

Principal Engineer

Cisco System, San Jose

- Designed and developed programmable rule-based engine for wireless intrusion and prevention system using open API framework. Signatures are programmable by customer for new definitions, actions and extendible to support new protocols.
- Designed and developed Intelligent Capture analytics framework for access points. It provides always-on, low performance impact debug infrastructure to detect client state machine anomalies and provide troubleshooting information to cloud.
- Designed architecture for next generation cloud-based access point for MSP deployments.
- Designed and developed programmable API framework using open source software stack for device telemetry and analytics. This framework is used as foundation for other team projects.
- Implemented SKB recycling, fixed kernel and driver issues to deliver AP3800 series access point.

- Messaging System: Kafka
- Web Technologies: REST APIs, Websockets, Webhooks
- Version Control System: Git
- Cloud & Devops: Microservices, Continuous Integration/Deployment (CI/CD)

2010-12 - 2015-05

Distinguished Engineer

Aruba Networks, Sunnyvale

- Mentored the team for 802.11 Broadcom driver
- Prototyped, integrated 802.11 Broadcom driver to Aruba OS, designed and implemented
- Aruba features to deliver industry first 11ac Access Point based on PowerPC P1020 CPU
- Helped the company to transition to new radio platform
- Lead the development of low cost 11ac Access point
- Optimized data path and wireless software for achieving high throughput
- Developed console over BLE for Aruba Beacons based on TI CC2540.

2006-07 - 2010-12

Principal Staff Engineer

Meru Networks, Bangalore

- Implemented various wireless features on Broadcom radio-based access point including rates per BSS, packet capture, rogue mitigation and silent client detection.
- Implemented Hybrid Beacon Coordination, rogue detection and mitigation, support for DFS, feature enhancement and defect fixing on Atheros radio-based AP.
- Implemented Atheros specific part of Radio Abstraction Layer, which models physical radios and services to interface between configuration and wireless drivers.
- Enhanced Captive portal for redirection based on FQDN and implemented secondary radius support for MAC filter on Meru controllers.

Education

2002-06 - 2004-08

M. S.: Computer Science and Engineering

University of Texas At Arlington - TX, USA
GPA: 4.0

1993-08 - 1997-07

B. Tech: Electronics and Communication Engineering

Regional Engineering College - Jalandhar, India

Patents

14 USPTO issued patents in the field of wireless networking and distributed systems.

Publications

- Provisioning Day 0 configurations through passive radio-frequency identification, TD Commons, DPUBS_SERIES, 1813, Dec 2018
- DNAC Based Anonymous DFS (A-DFS) Service, TD Commons, DPUBS_SERIES, 1188, May 2018
- H. Che, M. Gupta, S. Velayutham, C. Lagoa, and Z. Wang, "INTESER: A Integrated Solution to Provide QoS, Traffic Engineering, and Fault Tolerance in an MPLS Network," the 18th IASTED International Conference on Parallel and Distributed Computing and Systems (PDCS), Nov. 2006

Honors & Awards

- Pioneer Award, Cisco Systems, Oct 2019, Team award for Product Innovation Category - AP4800 with Intelligent Capture.
- Pioneer Award, Cisco Systems, Oct 2017, Team award for Product Innovation Category - AP3800 and AP2800 Series Access Points with Flexible Radio.
- Employee of the Quarter (MIMO), Aruba Networks, Aug 2014, Individual award for 802.11ac AP205/AP215 access points.
- Employee of the Quarter (MVP), Aruba Networks, Aug 2013, Individual award for flagship 802.11ac AP225 access point.
- Employee of the Quarter (MVP), Aruba Networks, Aug 2012, Recognition received for individual contributions towards intellectual property.
- Scholar Award, University of Texas at Arlington, 2003.