

Graham Paasch, CCNP, JNCIP-SP

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Network Development Engineer

IT Leadership | Network Engineering | Enterprise Networking Solutions | CI/CD

A results-focused and detail-oriented Network Development Engineer with 9 years of extensive experience leading engineering, operations, and support of complex and mission critical network. Proven record of consistently delivering effective and innovative solutions to complex problems. Verified ability to provide infrastructure that is secure, reliable, and high performing, with a focus on delivering smooth experiences for stakeholders and clients using lead edge technologies.

SKILLS & EXPERTISE

- Network Engineering
- CCNP Routing and Switching
- Cisco ACI
- Agile Methodologies
- Network Administration
- Network Programmability
- Cisco Viptela SD-WAN GNS3 lab
- AWS certification study
- Multiple Label Switching (MPLS)
- Technical Thought Leadership
- Border Gateway Protocol (BGP)
- Juniper and Cisco Hardware

SELECTED ACHIEVEMENTS

- **ARM** – Setup Cisco ACI for an internal lab. Completed 40 CE credits of Cisco Training for Cisco ACI.
- **Spectrum Enterprise** – Produced automation on a Linux server using Python Paramiko, requested modules to update Cisco ACS through a REST API, automatically applying AAA configuration to targeted list of 32,867 devices.
- **Charter Communications** – Developed methodology to change the operating system on a network device enabling a starting configuration that maintained in-band management settings and generated significant team time savings. Worked on a merger of 4 unique ISP networks, gaining routing and switching experience on a variety of gear, in a variety of ISP scenarios such as last mile turnup of CPE, Edge 9K programming, and Cell Tower Backhauls.
- **Continuous Learning** – Experience with Cisco Viptela SD-WAN running GNS3 on Dell PowerEdge R610 homelab. Took the JNICE-SP exam, demonstrating a professional skillset in routing and switching via passing the per-requisite qualifications.

PROFESSIONAL EXPERIENCE

Insight Global Contract at Google/GFiber | Austin, TX

January 2024 to October 2024

QA Automation Software Engineer (Networking)

- Fiber to Home service provider lab network: Juniper, Nokia, OLT, BNG, ONU, GPON, XGSPON
- PyATS automation framework
- Python network automation: Ixia - ixnetwork_restpy, Polatis - SCPI, Netmiko, Paramiko, XML, JSON, YAML, Object Oriented Design with PyATS aetest
- Setup Github and helped implement collaboration strategies and practices: Code review via pull requests, branching with Jira, rebasing and merging
- Gave slide presentations of project progress and technical demonstrations using Google Meetup

Apex Systems Contract at Amazon | Austin, TX

November 2022 to April 2023

[Hewlett Packard Enterprise](#) (NYSE:HPE) is an American multinational enterprise information technology company based in Spring, TX founded as part of the splitting of the Hewlett Packard company. It employs 59,400 employees and generates \$27B in annual revenues.

Network Engineer III

In my role at Amazon via Apex Systems, I utilized my industry experience to support the development and implementation of digital solutions. As a Network Engineer III, my role was pivotal in configuring new equipment in the datacenter, and contributing to a culture of automation.

Key Responsibilities & Achievements:

- Gathering, verifying, and uploading data to AWS version control repositories.
- Configuring Linux hosts and Juniper TOR devices in a DevOps style approach. Utilizing scripts written in Python.
- Leveraging my deep understanding of IP networking fundamentals and application of IP protocols to ensure seamless

network operations.

- Utilize my strong network analysis fundamentals and troubleshooting skills to identify, diagnose, and resolve complex network issues promptly.
- Exhibit expertise in a wide range of protocols and technologies, including DWDM, T1/DS1, DS3, SONET (OC3, OC48), 802.2/3, 802.1d VLANs/STP, IPv4 & IPv6, TCP, BGP, OSPF, HSRP/GLBP, PIMv2, IGMP, LDP, TACACS, IPSEC & VPNs, netflow, DNS, and HTTP.

Skills Utilized:

- Excellent understanding and application of IP networking fundamentals and IP protocols.
- In-depth knowledge and experience with BGP and OSPF routing protocols.
- Proficient in managing major router platforms, including Juniper platforms.
- Strong network analysis fundamentals and troubleshooting skills.
- Extensive experience with various network protocols and technologies.

Hays Contract at Arm | Austin, TX

June 2022 to November 2022

Network Administrator

In my role as a Network Administrator at ARM via the staffing firm Hays, I contributed to the maintenance and enhancement of the global IT infrastructure as a part of the Technology Operations Services Group (TOSG). I left this role early in favor of a fully remote position.

Key responsibilities and achievements:

- Rack and stack an internal Cisco ACI (application centric infrastructure) lab. Completed the physical setup in the data center, used the GUI work on the configuration, earned 40 Cisco CE (continuing education) training credits.
- Provide robust network support for global infrastructure, handling approximately 70% operational support and 30% project work.
- Proactively monitor network alerts and incidents, ensuring efficient resolution and minimizing downtime.
- Consistently maintain accurate and up-to-date monitoring, site documentation, and configuration.
- Collaborate as part of a global team in a "follow the sun" environment, ensuring seamless transition of work across different time zones.

Skills Utilized:

- Cisco ACI underlaying protocols: VXLAN, OpFlex, IS-IS, COOP, MP-BGP EVPN, ICMP
- Strong knowledge of Cisco technical systems, including firewalls (Cisco FirePower, ASA), Remote Access VPN (Cisco AnyConnect), and Network Access Control (Cisco ISE).
- ITIL frameworks, specifically in incident management, change management, and configuration management.
- Python and Ansible for network automation.
- Excellent written and verbal communication, attention to detail.

Hewlett Packard Enterprise Company | Austin, TX

June 2020 to May 2022

[Hewlett Packard Enterprise](#) (NYSE:HPE) is an American multinational enterprise information technology company based in Spring, TX founded as part of the splitting of the Hewlett Packard company. It employs 59,400 employees and generates \$27B in annual revenues.

Senior Network Engineer

- Responsible for supporting network capacity planning, throughput, performance and scale diagnostics while delivering agile leadership as a contractor supporting HPE, providing daily thought leadership to multiple engineering teams.
- On a team of 10, support the management network internal to a legacy organization super computer, through implementation, configuration, architecture and design using GIT and Bitbucket to ensure a collaborative ecosystem.
- Deliver thought leadership to key stakeholders to support the design and architecture for scalable network topologies.
- Designed and implemented a new architecture that enabled the sharing of resources between two super computers. As a result, enabled the legacy super computer to access integral resources despite critical global chip shortage.
- In Collaboration with the Network Architect, designed interior gateway protocols and developed description standards.
- Support multiple programming tools utilizing Python to generate configuration based on provided inputs, generated significant team time savings while troubleshooting management network triage services for layers 2 through 7.

Spectrum Enterprise | Austin, TX

July 2017 to June 2020

[Spectrum Enterprise](#), a part of Charter Communications, Inc, is a national provider of scalable, fiber technology solutions serving the largest businesses and communication service providers across the United States. It serves more than 32M customers in 41 states.

Network Developer II

August 2019 to June 2020

- Responsible for ensuring efficient and reliable network orchestration, virtualization, and automation platforms, leading integration efforts to improve production and providing daily leadership to support engineering teams and customers.
- Developed CI/CD build pipeline and automation for developed applications, managed completed complex technical projects while delivering network engineering and software development within cost efficient and Agile frameworks.

Network Engineer II

July 2017 to August 2019

- Reporting to the Network Engineering Manager, responsible for planning, designing and deploying network infrastructure, leading configuration, and troubleshooting of complex network technologies. Key Highlights:
- Designed and supported the configuration of command restrictions in Cisco ACS and prevented trunking outages.
- Delivered training, mentorship, and guidance to 20 team members to enhance expertise and best practices.
- Contributed to the development of web-based JavaScript forms, utilized Git and GitLab to increase organizational consistency, communication while ensuring accurate network device configuration among team members.
- Led configuration and troubleshooting of Metro Ethernet Forum (MEF) services and complex network technologies.
- With a focus on ARP, packet structure, TACACS failover, default gateways, vlans and management configurations, re-established remote connectivity using creative and innovative processes and methodologies.

Charter Communications | Madison, WI

May 2015 to July 2017

[Charter Communications](#) (NASDAQ: CHTR) is a leading American telecommunications and mass media company with services branded as Spectrum. It serves 26M customers in 41 states, employs 98,000 people and generates \$48.1B in annual revenues.

Network Specialist I

- Responsible for supporting the development and implementation of network automation for scale and predictability leveraging common languages and configuration as code, while providing leadership to teams and customers.
- Delivered advanced troubleshooting, customer support, guidance and best practices to on-site network technicians, leading instruction on RFC2544 testing units, final configurations application, as well as setting up of testing circuits.
- Developed Visio automation utilizing Python; supported the development of a server side application utilizing PHP to parse JSON payloads. Built an API to deliver drawings in a vsdx format, reducing a multi-hour process to 10 minutes.
- Ensured the integrity of high availability network infrastructure to provide maximum performance for users.
- Selected to support the recovery of a bug inflicted core router for critical government networks. In partnership with technicians, utilized failover capabilities to reboot device, led successful resolution without losing any traffic.
- Served as a primary project resource; captured and communicated overall use of various technologies, implemented operating systems and utilized advanced networking protocols including MP-BGP, MPLS, OoS, IS-IS and OSPF.
- Partnered with the Principal Engineer to design and coordinate the turn-up of a provider edge modular router.

Madison Area Technical College | Madison, WI

September 2014 to May 2015

[Madison Area Technical College](#) is a public technical and community college based in Madison, Wisconsin. It serves students in parts of 12 counties in south-central Wisconsin, employs 2,400 staff members and enrolls approximately 30,000 students.

Teaching Assistant

- Responsible for delivering supplemental instruction on advanced course materials to 10 students each week, including network equipment configuration, NetDevOps, Python automation, and CCNA exam preparation.
- Delivered engineering guidance, mentorship and instruction; encouraged growth, success and confidence in a diverse student base, built publicly available tools such as the hosted musical instrument simulator (mbira.duckdns.org)
- Participated in the North American Cisco NetRiders competition placing 18th out of several hundred participants. Delivered a professional presentation on how to scale up to network topology to meet increasing bandwidth demands.

Gilware Data Recovery | Madison, WI

May 2014 to August 2014

[Gilware](#) is a leader in data recovery services, recovering data from over 100,000 storage devices since 2004. It utilizes leading edge technologies and its recovery engineers maintain a combined 200,000 hours of professional data recovery experience.

Data Recovery Intern

- Responsible for performing operational tasks and performance optimization to ensure the functionality of recovery systems critical to success of Gilware, utilizing hardware systems while providing support to cross-functional teams.
- In partnership with the marketing and sales teams, formed impactful relationships with new and existing client base, delivered a process improvement initiative to ensure data accuracy for critical forms and documentation processes.
- Led intake for damaged hard drives, assessed platters for damage including scoring or dust; archived replacement parts, ensured impeccable filing and documentation systems that resulted in reduced shipping costs and time.

EDUCATION, CERTIFICATIONS & TECHNICAL LEADERSHIP

Assoc. IT, Network Specialist – Madison Area Technical College, Madison, WI – 2015
CCNP Routing and Switching – Exp. September 2022

JNCIP-SP – Exp. September 2022

Top Talent Certificate of Achievement – NetRiders Cisco Network Academy – 2015

Charter Champions Award – Paramiko Automation & Network Protection

Graham's Network Lessons Juniper, Python, Wireshark, BGP, MPLS, VPON

https://www.youtube.com/channel/UCg3oUjrSYcqsL9rGk1g_IPQ

AREAS OF EXPERTISE & TECHNOLOGY PROFILE

NetDevOps | Python | REST APIs | JSON/XML/YAML | Linux | Git | Netconf | MP-BGP | MPLS | QoS, IS-IS | OSPF | Juniper
Cisco | Alcatel | Telco | Rad | ADVA | Extemem | Python | Wireshark | BGP | MPLS | VPN SevOne | Solar Winds | Splunk