

# Mark Kamichoff

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## To utilize my network and systems engineering skills in a position involving network engineering and architecture

### *Skills / Proficiencies*

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- Proficient in operating and administering Juniper SRX-series services gateways, Juniper NetScreen/ISG/SSG-based firewalls, Juniper J/M/MX-series routers, Cisco IOS and NX-OS-based platforms, and F5 load-balancing products (LTM, GTM, FirePass).
- Experience with various host operating systems including, but not limited to, GNU/Linux, FreeBSD, Solaris, IRIX, and several versions of Microsoft Windows.
- In-depth knowledge of various network and application-level protocols such as TCP/IP, IPv6, BGP, OSPF, IS-IS, MPLS, IPsec/IKE, HTTP, DNS[SEC], and others.
- Broad knowledge and experience with IPv6 relating to addressing, routing protocols, LAN deployments, tunneling, and translation techniques.
- Proficiencies in ISC BIND, Apache HTTP Server, MySQL, Quagga, Netfilter, PF, and various FOSS network tools including tcpdump, Wireshark, Nmap, arpwatsh, scapy, socat, and others.
- Network management experience with MRTG, RRDtool, SmokePing, RANCID, Observium, Juniper's Network and Security Manager (formerly NetScreen-Security Manager), and other FOSS tools.
- Programming experience in PHP, Perl, Python, and C (focusing on the Berkeley sockets and OpenGL APIs).
- Extensive troubleshooting experience focusing on analysis of the synergistic effects of enterprise applications, Unix operating systems, firewalls, intrusion detection systems, and load balancers.
- Active certifications: JNCIE-SP #632, JNCIP-SP #814, JNCIS-SP, JNCIA-SEC, JNCIA-Junos
- Inactive certifications: JNCIP-SEC, JNCIS-SEC, JNCIA-DX, JNCIS-ER, JNCIA-SSL, CCNA Routing and Switching

### *Professional Experience*

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**Network Development Engineer III** at Amazon Web Services  
(Seattle, WA)

July 2019 - Present

- Designing the next generation data center fabrics for AWS with a focus on seamless scalability and cost savings

**Network Development Engineer II** at Amazon Web Services  
(Seattle, WA)

February 2014 - June 2019

- Designed and delivered the topology for the 3rd generation of AWS' data center commodity network fabrics
- Led the development of integration and migration procedures for a new core network design

- Responsible for leading network scaling projects across various AWS data centers
- Used a popular templating engine with Python to develop safe network change management scripts

**Sr. Network Design Engineer II (originally Sr. Network Architect)**      October 2012 - February  
at Time Warner Cable (Charlotte, NC)      2014

- Led the full integration of the enterprise IT network from a large acquisition
- Designed a solution to centrally integrate all regional hub site locations with the enterprise IT network
- Performed various consulting roles relating to firewall deployment, advanced routing, and switching

**Network Architect** at Time Warner Cable (Charlotte, NC)      December 2008 - October  
2012

- Led the migration from NetScreen-5000-series firewalls to Juniper SRX3600 services gateways in TWC's enterprise data centers
- Designed the address scheme, configuration, and network topology for the implementation of IPv6 on TWC's IT networks and data centers
- Architected and deployed a highly-available SSL VPN-based solution using the F5 FirePass product to allow users to securely access corporate resources
- Assisted in the redesign of the national IT network from a security and firewall perspective
- Designed the network architecture to allow mission-critical applications to be available in the event of a DR, utilizing various technologies including MPLS L2VPNs, GSLB, and NAT to achieve quick failovers between geographically-separate data centers

**Sr. Firewall Engineer** at Time Warner Cable (Charlotte, NC)      January 2007 - December  
2008

- Maintained and troubleshoot Juniper firewalls on the IT network. Provided support for complications experienced with BGP and OSPF processes on Juniper ISG-series firewalls
- Served as an escalation point for firewall-related problems and issues on the IT network
- Developed and integrated the ESD software with several network management applications
- Assisted in the configuration of Internet connection redundancy between the data centers, utilizing BGP and multiple upstream providers
- Participated in the rapid migration and reconfiguration of 100+ VPN tunnels to compensate for the readdressing of all Internet firewalls in the Charlotte data center
- Enabled the Juniper NetScreen-Security Manager to be operational in a DR event

**Firewall Engineer** at Time Warner Cable (Charlotte, NC)      May 2005 - December  
2006

- Performed routine configuration and management of Juniper NetScreen, ISG, and SSG-series firewalls
- Designed a network of Juniper J-series routers connected via GRE tunnels to provide headend networks access to certain corporate applications. Multiple routing instances and FBF were utilized to handle overlapping address space while eliminating the need for NAT
- Developed and maintained ESD, a web-based CMDB-like device and inventory management system based on PHP, Perl, and MySQL
- Created a web-based interactive firewall policy request database to assist with auditing and compliance requirements
- Administered a customized performance and reporting suite of utilities based on MRTG, RRDtool, SmokePing, and drraw
- Performed routine administration of several Debian GNU/Linux-based monitoring servers

