

Andrew Crouthamel

Senior Network Engineer

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Education

Degree Programs:

- B.S. Information Technology, Columbia Southern University

Certificates:

- Introduction to OpenStack (LFS152x), The Linux Foundation on edX
- Programming for Everybody (Getting Started with Python), University of Michigan on Coursera
- Python Data Structures, University of Michigan on Coursera
- Using Python to Access Web Data, University of Michigan on Coursera
- Introduction to the Internet of Things and Embedded Systems, University of California, Irvine on Coursera.
- The Arduino Platform and C Programming, University of California, Irvine on Coursera.

Certifications: VCP, CCNA R&S, CCNA Security, CCAI, Master CSSA & CSSR, Security+, Network+, A+, SysAid

In Progress: CCNP R&S

Professional Experience

Network Engineer – SSC Space U.S., Horsham, PA 10/2015-Present

Maintain and improve all networking infrastructure, including all switches, firewalls, cabling. Work with customers such as NASA, ESA, and JAXA to ensure stable satellite communications to a global network of ground stations.

- Lead project to overhaul datacenter, replacing all power runs, five of ten server racks, and cabling for all.
- Implemented new DMZ design and circuits for NASA Restricted IONET connection.
- Implemented new Cisco Firepower IPS modules in 19 Cisco ASA's, tied to a Firepower Management Center.
- Completed implementation of a global segregated management network to improve workflow.
- Created extensive documentation and inventory of IT systems and circuits.
- Improved NetBrain and SolarWinds monitoring and management systems to ensure timely and meaningful notifications.
- Saved \$175,000 annually in communications account problems.

IT Manager – Carson Helicopters, Perkasio, PA 5/2014-10/2015

Maintain and improve all IT infrastructure, including all servers, switches, firewall, cabling, desktop computers, phones. Manage Active Directory domain and services including Group Policy, Exchange, DNS, DHCP & WSUS. Provide support for all employees.

- Managed several interns, assigning projects, reviewing progress, and ensuring efficiency.
- Replaced phone system and phones with hosted VoIP solution and dedicated T1 circuit for SIP trunking.
- Designed and managed warehouse and hangar wiring project.
- Increased network speed more than 10X through implementation of gigabit Ethernet; included new stacked switches.
- Implemented Bandwidth Management, QoS, VLANs, and DHCP Snooping to improve network performance.
- Planned and implemented new ERP server and software rollout with RemoteApp and GPO.
- Migrated email filtering and archiving system to Barracuda hosted services.
- Implemented new site-to-site VPN between facilities and SSL VPN remote access.
- Implemented new print server, with all printers pushed via GPO.
- Implemented ticket tracking and IT management software.
- Removed all login scripts, all mapped drives and Adobe/Java software pushed out through GPO.
- Implemented Folder Redirection for domain user files.

- Suggested alternate office software and email solution using Google Apps for Work to save more than \$10,000 annually.

Senior Network Engineer – Temple University, Philadelphia, PA 9/2013-5/2014

Operate, maintain and improve Zenoss and OPNET monitoring infrastructure, PacketFence network access control systems, FreeRADIUS AAA infrastructure, and F5 load balancing appliances. Servers maintained included majority of Red Hat Linux.

- Upgraded 16-server Zenoss Resource Manager infrastructure to 4.2.4.
- Wrote several custom ZenPacks to monitor FreeRADIUS, PacketFence, and other requirements.
- Upgraded PacketFence to 4.1.0, worked with Inverse to track down numerous bugs and implement custom code.

Senior Network Engineer I – ACTS Retirement-Life Communities, Ambler, PA 8/2012-7/2013

Managed and improved Cisco networking infrastructure, Aruba wireless infrastructure including AirWave and ClearPass Linux servers, VMware vSphere ESXi data center infrastructure, and analyzed networking and application issues. Completed IT projects to improve ACTS systems.

- Designed, deployed, and maintained \$4 million Aruba wireless infrastructure, providing full coverage across 26 campuses.
- Implemented off-site datacenter for disaster recovery, utilizing VMware vCenter Site Recovery Manager (SRM).
- Designed, deployed, and maintained SonicWALL firewalls for campus internet access and dynamic VPN (OSPF) WAN backup.
- Improved infrastructure monitoring and management with NetFlow and SNMP configurations for critical devices.
- Redesigned and simplified DNS/WINS server structure in organization.
- Implemented WSUS server to manage updates for 1,000+ systems.

Cisco Academy Instructor – Bucks County Community College, Bristol, PA 1/2011-Present

Instruct enrolled students in Cisco Certified Networking Associate (CCNA) curriculum, modules 1 through 4 during weekday evening hours. Maintain lab environment equipment, server and workstations. Provide after-class support for students when needed.

- Maintained 95% course satisfaction results from anonymous student surveys.

Owner – Shrike Tools LLC, Doylestown, PA 10/2009-Present

Provide IT consulting and education, specializing in network engineering.

- Produced video training course Mastering Wireshark 2 for Packt Publishing
- Produced video training course RF Fundamentals for Cisco WIFUND (200-355) for Pluralsight
- Produced video training course 802.11 Technology Fundamentals for Cisco WIFUND (200-355) for Pluralsight
- Produced video training course Implementing a Wireless Network for Cisco WIFUND (200-355) for Pluralsight

Systems Administrator – Health Business Systems, Warminster, PA 2/2009-8/2012

Continually managed 1,000+ SonicWALL firewalls and VPNs, ensuring connectivity and security for all client networks. Responded to telephone calls, emails, and personnel requests for technical support for 1,600 Linux (Scientific Linux) and Microsoft servers. Implemented and managed backup and recovery systems, anti-virus software, hardware solutions, monitoring, updates and resource monitoring. Assisted customers to ensure HIPAA and PCI compliance as related to technical systems and networking requirements. Designed custom security solutions for customers, integrating various security services and products to ensure data integrity, including IDS/IPS, Content Filtering, Gateway Anti-Virus and Gateway Anti-Spyware.

- Managed several interns, assigning projects, reviewing progress, and ensuring efficiency.

- Designed and implemented Zenoss SNMP monitoring system for 1,000+ servers and devices of various operating systems.
- Improved reliability and security of SonicWALL Enhanced OS firewall VPNs by reconfiguring tunnels for IKEv2 with AES-256.
- Increased VPN uptime by configuring endpoint firewalls and local VPN configuration with DDNS names or static IPs.
- Implemented VMware ESXi 4.1 infrastructure for internal and customer servers.
- Reduced operating costs by consolidating servers in VM environments and merging firewall appliance roles.
- Upgraded SonicWALL management server (GMS) to improve capabilities and configured analytical reports for all customers.
- Discovered and implemented creative licensing strategy to save \$27,000 per year in licensing costs.
- Sold \$25,000 worth of new products during support calls and discovered \$35,000 worth of unbilled accounting mistakes.

Systems Administrator – The Edcomm Group, Fort Washington, PA 8/2006-2/2009

Maintained Microsoft Windows 2003 Active Directory domain and services including Group Policy, Exchange, DNS, WINS, DHCP & WSUS. Maintained and improved network infrastructure, firewall, and VPN connectivity. Provided 24/7 help desk support for local and remote users, as well as off-hours critical server support on rotation.

- Implemented QoS and VPN on Checkpoint firewall to provide fast and efficient remote access in high load environment.
- Placed in charge of information security, reduced firewall rules by 25% while increasing security.
- Increased network speed more than 10X through implementation of gigabit Ethernet; included new stacked switches.
- Increased bandwidth and network redundancy for servers through implementation of link aggregation and NIC teaming.
- Self-taught Inter-Tel phone system and physical layer termination, saving \$10,000 in phone vendor support calls.
- Purchased international SIM cards and PC cards for travelers, saving \$20,000 in roaming charges.
- Reviewed all telecom bills, resulting in savings of 20% and found alternative carriers to save 50%.

IT Coordinator (Systems Administrator) – IPG, Blue Bell, PA 3/2006-8/2006

Maintained Microsoft Windows 2003 Active Directory domain and services including DNS, WINS & DHCP. Performed backups, ensured file server access, internet connectivity and printing. Provided help desk support for local and remote users.

- Performed domain migration from 2000 Active Directory to 2003 Active Directory.
- Implemented open source asset management system; created inventory of hardware and software.

Assistant Computer Technician – SLSD, Center Valley, PA 6/2004-3/2006

- Reduced help desk resolution time through the implementation of Cerberus help desk system.
- Answered help desk support requests and set up computer systems throughout the district.

Linux Technician – The Open Store, Savannah, GA 12/2004-3/2005

- Key member in start-up company as the first brick and mortar Linux store in the United States.
- Proposed practical Linux solutions for the needs of corporate customers, including the City of Savannah.

Affiliations & Interests

Affiliations: Boy Scouts of America, Revolutionary War Veterans Association.

Interests: Linux, firefighting, auto racing, nature, canoeing, shooting sports.

Awards & Honors

- 2008 Pennsylvania recipient of the Cisco Learning Institute John Morgridge Scholarship.

- Boy Scouts of America Eagle Scout. One of the most highly decorated Scouts in the history of Troop 137.
- Boy Scouts of America Certificate of Merit, Presidential Letter of Recognition, Governor of Pennsylvania Letter of Recognition, Senate of Pennsylvania Resolution of Recognition, Franconia Township Resolution of Recognition all for heroism in saving baby sister from drowning in May 1997.
- Champions of Caring award winner for community service.

References available on request.