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Top Skills

Linux

RedHat

CentOS

Languages

French

German

Certifications

Red Hat Certified Systems
Administrator

Andrew J. Caines

Linux & Storage Systems Architect

Vienna, Virginia, United States

Summary

Linux systems and storage architect and engineer experienced with environments ranging from US federal government to multinational ISP to one-person IT shop and systems from IBM supercomputers to Raspberry Pi. I've supported all major flavours of unix but specialise in and exclusively use Linux and FreeBSD platforms (though I work very well with other platform users).

Specialties: System and network security, Enterprise storage, web, mail, DNS, and other Internet service hosting, Linux platform desktops, high availability.

Experience

H.A.L. Plant

Systems Architect

October 2006 - Present (19 years 1 month)

Designed, built and managed the systems, network and cloud environments for my own operations, the H.A.L. Plant:

- Evaluated top ESPs (SendGrid, Mailgun, Postmark) and implemented enterprise-grade email security with full SPF, DKIM, DMARC, MTA-STS, and TLS-RPT including comprehensive reporting
- Deployed runZero for continuous asset discovery and vulnerability detection across on-premise and cloud environments
- Secured all internal and cloud services with automated Let's#Encrypt certificates with CAA DNS records to enforce trusted issuance
- Collected performance metrics and aggregated systemd logs using Netdata including AI anomaly analytics
- Deployed email archive and sharing cloud service on Linode / Akamai Cloud
- Boosted team productivity by integrating multiple LLM platforms including Proton#Lumo, OpenAI#ChatGPT, Google#Gemini, Anthropic#Claude, xAI#Grok, and others with Quora#Poe

- Migrated CVS repositories to Git, establishing end-to-end CI/CD workflows that automate build, test, and deployment of web content to GitHub#Pages and Netlify
- Designed, deployed and managed network with Gigabit wired, Ethernet over power line, and 802.11 ac/n on router and APs running OpenWRT, VoIP and IPv6
- Built and used physical and virtual systems running NixOS, Fedora, Ubuntu, Arch Linux, Debian, Linux Mint, CentOS, Oracle Linux, and FreeBSD on x86, x86_64 and arm7 desktop, server, and cluster nodes
- Hosted various Web, email, web proxy, IRC proxy, media, and other servers providing local and public services

Lumon Industries

Goat Wrangler

May 2022 - January 2023 (9 months)

Seventh Floor

Mysterious and important things.

QinetiQ US

Linux Systems and Storage Architect

December 2019 - May 2022 (2 years 6 months)

Lorton, Virginia, United States

Built, secured, and scaled high-performance platforms that powered AI/ML/DL workloads while delivering enterprise-grade storage, virtualization, and compliance across on-premise and hybrid environments.

- Scaled the ML/DL environment, doubling NVIDIA#Tesla#V100 GPU capacity and maintaining CUDA toolchains (PyCharm, PyTorch, TensorFlow) and upgraded to a redundant all-flash SSD storage tier, delivering sub-millisecond latency for AI data pipelines.
- Integrated RHEL/CentOS hosts into a proprietary directory service, simplifying authentication for data-science teams.
- Designed and ran a VMware#vSphere/ESXi/vCenter fabric that hosted virtually all on-premise applications, improving resource utilization.
- Automated lifecycle management for Linux servers, Docker containers, and VMs, supporting CI/CD pipelines.
- Remediated critical vulnerabilities including full Log4j#/Log4Shell mitigation and deployed ClamAV, Red#Canary, and Carbon#Black EDR across the fleet.
- Applied DISA STIG hardening on RHEL/Ubuntu, delivered a minimized and hardened platform for remote deployment.

- Migrated from ad-hoc storage to enterprise-class solutions using iX#Systems TrueNAS#CORE with ZFS on Supermicro servers, providing encrypted, FOUO-compliant data tiers.
- Implemented automated snapshot and replication policies, ensuring tiered backups, ransomware resilience, and rapid recovery.
- Integrated TrueNAS#CORE instances into the corporate directory, enabling seamless, secure user access to encrypted network storage.
- Rescued critical data after a failed Google#Cloud-to-on-prem migration, completing the transition without external assistance.
- Managed vendor relationships (Red#Hat, Dell, Atlassian, iX#Systems, Tenable, GitLab, Red#Canary, Carbon#Black).
- Trained junior admins, help-desk staff, and application owners, establishing cross-functional teams.

Manufacturing Techniques, Inc. (MTEQ)

Senior Linux Systems Engineer

December 2019 - December 2020 (1 year 1 month)

Lorton, VA

MTEQ acquired by QinetiQ in December 2020.

CSRA Inc

Senior Linux Systems Engineer

April 2017 - December 2019 (2 years 9 months)

Rockville, MD

Award-winning work supporting the National Institute of Allergy and Infectious Disease (NIAID) of the National Institutes of Health (NIH), a division of the United States Department of Health and Human Services.

National Institute of Allergy and Infectious Diseases (NIAID)

Senior Linux Systems Engineer

April 2017 - October 2019 (2 years 7 months)

Rockville, MD

Supporting the Operations and Engineering Branch (OEB) of the Office of Cyber Infrastructure and Computational Biology (OCICB).

Neovera

Sr. Unix Systems Engineer

June 2012 - April 2015 (2 years 11 months)

Reston, VA

Supported multiple customers in dedicated, diverse hosting environments running a wide variety of applications on RHEL, CentOS and Debian Linux platforms.

Digicon

Sr. Lead Unix Administrator

March 2012 - May 2012 (3 months)

Federal Trade Commission, Washington DC

Contractor to the United States Federal Trade Commission.

Federal Trade Commission

Sr. Lead Unix Administrator

July 2009 - May 2012 (2 years 11 months)

Washington, DC

Contractor supporting all unix systems, federal government workers, contractors and suppliers.

Systems supported included Sun/Fujitsu/Oracle M5000, M4000, Sun/Oracle Blade T6130 and X6240 servers, 6000 chassis, Sun V series, NetApp and Sun StorEdge SAN storage, IronPort mail gateways.

Software supported included Sun/Oracle Solaris 8, 9 and 10, Apache httpd and Tomcat, web applications including EMC Documentum, Micropact entellitrak, ISC BIND, Sun Java Desktop (Gnome).

HireStrategy

Sr. Unix Systems Administrator

July 2010 - March 2012 (1 year 9 months)

Federal Government

Subcontracted to AAC, Inc.

AAC Inc

Sr. Unix Systems Administrator

July 2010 - March 2012 (1 year 9 months)

Federal Trade Commission, Washington DC

Contractor to the United States Federal Trade Commission (FTC)

OPOWER

Unix Systems Administrator

June 2009 - April 2010 (11 months)

Managed many hosted CentOS servers and MySQL databases providing web, application, database, storage, secure file transfer and other services, handled vendor relations and supported entire company with systems and network issues.

Georgetown University

Senior Unix and Linux Systems Administrator

November 2007 - April 2009 (1 year 6 months)

As part of the University Information Services division, I managed all Solaris and Linux systems in collaboration with other members of the unix team and other groups.

AOL

Senior Unix Systems Engineer

July 2005 - September 2006 (1 year 3 months)

Provided unix engineering service to the Internet Access group

InfoStructures

Senior Unix Systems Engineer

October 2003 - June 2004 (9 months)

Provided unix engineering support to The Smithsonian Institution in Washington, DC

WorldCom

Team Lead, Web Hosting Unix Operations

January 2001 - November 2002 (1 year 11 months)

Provided unix engineering support to the Enterprise and Managed Web Hosting division

UUNET

Senior Systems Software Engineer

March 1999 - January 2001 (1 year 11 months)

Provided unix engineering support to the Enterprise Web Hosting division

National Association of Securities Dealers (NASD)

Unix Systems Administrator / Security Administrator

December 1998 - March 1999 (4 months)

Provided unix systems administration and security to the NASD unix group

Tracer Technologies, Inc.

Support Engineer

March 1997 - October 1998 (1 year 8 months)

Provided customer support, web design and other services

Panasonic UK

Computer Operations Analyst

October 1996 - March 1997 (6 months)

Contracting through my own limited company, my first real computer job was helping Panasonic UK with their IBM SP/2 multinode system and various other unix systems.

Education

Queen Mary University of London

Ph.D., Particle Physics · (1995 - 1996)

University of Birmingham

M.Sc., Applied Radiation Physics · (1994 - 1995)

University of Birmingham

B.Sc., Physics · (1990 - 1994)

Bournemouth School

A Level, Physics, Chemistry, Mathematics, Further
Mathematics · (1989 - 1990)