Sean Elizabeth Caron (she/they)

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Summary

Experienced HPC and big data systems administration lead. Tenacious and self-directed with excellent problem-solving skills and a focus on continuous improvement. Passionate about automation and infrastructure-as-code principles.

Skills

C/C++, Python, Go, Perl, UNIX shell, HTML/CSS, JavaScript, SQL

Linux, FreeBSD, Solaris, Plan 9, OpenVMS, VMware ESXi, Windows Server, Mac OS X

10/40/100 Gigabit Ethernet, Fibre Channel, TCP/IP, Cisco IOS/NX-OS, Juniper JUNOS, Arista EOS, Mellanox MLNX-OS

AFS, AWS, Apache, Docker, Drupal, Duo, Gitlab, Globus Connect Server, Google Cloud Platform, GPFS, Joomla, Jupyterhub, Kerberos, KVM, Lustre, MD/RAID, MediaWiki, MySQL, Nagios, Nginx, NFS, OpenID Connect, OpenLDAP, OpenVPN, Postfix, PostgreSQL, Puppet, RStudio Server, Samba, Singularity, Slurm, Sun Grid Engine, Tomcat, Xen, ZFS

Experience

UNIVERSITY OF MICHIGAN CENTER FOR STATISTICAL GENETICS, ANN ARBOR, MICHIGAN

11/2022 – Present: OS Programmer Lead

Provide administrative and technical leadership for on-premise HPC operations including strategy, architecture, data life cycle, budgeting, procurement and supervision of junior staff.

Facilitate NIST 800-53 FISMA and NIST 800-171 CUI compliance efforts.

Execute projects to improve the cluster environment and reduce technical debt as an individual contributor.

7/2018 – 11/2022: UNIX Systems Administrator Senior

Further scaled the Center's Linux HPC cluster to approximately 7,000 cores and 25 PB of storage.

Assessed, documented and secured systems to NIST 800-53 FISMA Moderate standards.

Deployed and maintained a 3 PB DDN GridScaler 14KXE NAS.

Rolled out 40 and 100 Gigabit Ethernet on Mellanox and Arista switches.

Improved cluster accessibility through the deployment of Jupyterhub and RStudio Server.

Designed and implemented automated business processes and systems administration tools including a user account request management system and a distributed disk health monitor.

2/2011 – 7/2018: UNIX Systems Administrator

Scaled the Center's Linux HPC cluster by an order of magnitude to over 5,000 cores and 20 PB of storage. Improved availability of cluster gateway nodes from less than 90% to 99.9%.

Re-architected cluster network according to hierarchical design principles for improved performance and manageability. Rolled out 10 Gigabit Ethernet on Cisco switches.

Managed mission-critical enterprise infrastructure services on Linux.

Virtualized infrastructure services with VMware ESXi.

Migrated cluster to the Slurm batch scheduler.

Implemented automated, revision-controlled configuration management with Gitlab and Puppet.

UNIVERSITY OF MICHIGAN SCHOOL OF PUBLIC HEALTH, ANN ARBOR, MICHIGAN

2/2006 – 2/2011: Systems Administrator Associate

Managed mission critical enterprise infrastructure services on Linux and Solaris.

Virtualized infrastructure services with Xen and VMware ESXi.

Assisted with general administrative tasks on Novell NetWare 6.5 in eDirectory and Windows Server 2003/2008 in Active Directory.

Configured Cisco and Juniper switches. Performed pilot testing of Bluecat Proteus DNS/DHCP appliance. Assisted with rule set creation on Checkpoint firewall.

Education

UNIVERSITY OF MICHIGAN COLLEGE OF ENGINEERING, ANN ARBOR, MICHIGAN

9/2001 – 12/2009: Bachelor of Science in Engineering (Electrical Engineering)

Concentration in signal processing and control systems.

Licensure and Certifications

UNITED STATES FEDERAL COMMUNICATIONS COMMISSION, WASHINGTON, D.C.

4/2017: Amateur radio license, general class (FRN 0024324345)