

CHRISTOPHER COFFEY

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Experience

Jan 2014 - Present

[Northern Arizona University](#)

HPC Research Administrator

- Architect highly complex and reliable solutions across the appropriate computing environments to meet research needs and enhance system performance.
- Oversee the technical aspects of large, complex projects; managing the efforts of HPC technical support staff in the performance of assigned projects. Review completion and implementation of system additions and/or enhancements and provides management overview
- Lead the NAU cluster committee meetings involving key members from all departments with an interest in HPC research and big data
- Provide campus wide leadership for all matters associated with high-performance computing. Participated in setting direction for future NAU HPCC user services activities
- Manage and direct the HPC support team providing technical oversight and mentoring to team members for assigned projects and services
- Develop and implement solutions that enable new methods for cutting-edge, big data research involving high-performance computing
- Provided complex technical consultation on current and proposed cluster technologies to VP, and director level positions
- Advise and educate faculty and staff on transforming current scientific analyses and methods to optimally take advantage of HPC cluster and big data technologies resulting in lower cost and quicker time to solution
- Analyze scientific workloads and develop solutions for user/project problems and provide one-on-one code debugging, optimization and porting help
- Develop and deliver training tools, workshops and documentation to the research enterprise

Feb 2007 - Dec 2013

[USGS](#)

Senior Linux Systems Administrator

- Designed, built and support two RHEL 6, Moab / Torque compute clusters, 140 and 120 cores
- Create custom fair share policy in Moab to create a fair usage environment taking into consideration of 1 week of usage with a decay factor
- Designed, built and support QDR Infiniband interconnect network for low latency and high throughput computing
- Designed, built and support 132TB Lustre parallel filesystem achieving ~8GB/sec aggregate throughput
- Write documentation on architecture and support specifics
- Test and patch cluster with security fixes and upgrades as needed
- Provide technical support in creating and troubleshooting job submission scripts and software for use on clusters
- Put on "brown bags" and discussions on cluster usage and architecture details quarterly
- Actively tune and improve performance of servers and applications using tools such as sar, OProfile, and valgrind
- Support and create Linux and Mac policy as a member of USGS Bureau Unix Support Team
- Serve as a Security Point of Contact for the Flagstaff USGS campus which involves scanning, remediation of vulnerabilities on a monthly basis
- Design and manage large, multipathed petabyte SAN utilizing LVM, XFS, NFS, QDR Infiniband, and 10Gb Ethernet technologies
- Support and manage large Citrix Virtualization cloud consisting of 16 hypervisors
- Create generic filesystem snapshot strategy based on Bash, Rsync, NFS, and Samba providing snapshot access to Linux, Mac, and Windows
- Design and implement strategy to safely and quickly backup 750TB of data via QDR Infiniband interconnect
- Create robust, intelligent Perl and Bash scripts to facilitate mission critical data management tasks

- Design and implement Nagios monitoring solution of 100+ Linux and Mac systems
- Manage large projects involving many groups, people and resources with a small budget
- Educate and assist in growing skills and confidence in other group members
- Deploy and support web applications and services using Tomcat, Apache, MySQL, and PostgreSQL

Apr 2004 - Feb 2007

[City of Flagstaff](#)

Application Support Specialist

- Manage and maintain the City's border email system using Sendmail in conjunction with SpamAssassin and ClamAV to filter spam and malware
- Manage and maintain the City's internal email system consisting of GroupWise 7 running on SuSE Linux Enterprise 9
- Manage and maintain the City's DNS utilizing Bind9
- Create and maintain the City's Network Attached Storage consisting of 10TB running an open source Linux solution
- Manage and maintain the Human Resources employee leadership talent development system running on a LAMP solution
- Successfully migrated a Netware GroupWise 5.5 email system to GroupWise 7 running on SuSE Linux Enterprise 9
- Support and maintain an enterprise microcomputer infrastructure consisting of 400 Windows 2000 clients
- Manage and maintain the deployment of security patches and updates to the Windows enterprise
- Implemented a Java program to substitute the importing of incidents, provide monitoring, and statistics for the Firehouse Application used by the City Fire Department.
- Created a network boot disk with a variety of tools including: Ghost, anti-virus utilities, and a Windows pre-environment to streamline the deployment, rescue, and re-imaging of Windows 2000/XP clients
- Manage and maintain a Xiotech SAN environment that houses 30 server system volumes as well as many data volumes for each server
- Create and manage scripts to push out patches and upgrades for Windows clients
- Create Java programs to simplify and streamline data recovery and distribution
- Provide support for the City's wireless WAN, including setting up and troubleshooting of Cisco Aironet bridges and Tsunami sending units

Aug 2001 - Dec 2003

[Mars Space Flight Facility](#)

Systems Administrator

- Provided mission-critical support and maintain reliability for multiple types of servers including: Linux clusters, Sun Solaris, Windows 2003 Server, and Apple Xserve
- Managed and maintained two dual-processor Linux clusters (37 and 50 nodes) for processing of Mars image data
- Provided support, system analysis, and repairs/upgrades for system stability, performance, reliability, and durability for all computers at the facility

Certifications and Training

- RHCE on Red Hat Enterprise Linux 7 - #100-047-968
- RHCE on Red Hat Enterprise Linux 5 - #805008697531158
- GIAC Certified Incident Handler
- Red Hat Certificate of Expertise in clustering and storage management
- RH442 Enterprise Performance Tuning
- SANS 504 - Hacker Techniques, Exploits and Incident Handling

Education

Bachelor of Science in Computer Science
Arizona State University, Tempe, AZ

December 2003
GPA: 3.27 / 4.00

Skills

Skill Name	Skill Level	Experience
Linux	Expert	15 years
NFS	Advanced	11 years
Networking	Advanced	10 years
SAN architecture / management	Advanced	10 years
Lustre	Advanced	6 years
Moab	Advanced	6 years
Torque	Advanced	6 years
Slurm	Advanced	3 years