Skylar Thompson
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Computer Skills

Computer Languages — Have experience with application programming in C, C++, and administrative scripting in Bourne shell, Perl, Python, Tcl, and SQL. Have experience with parallel programming using MPI in C. Can use the LaTeX computerized typesetting language.

Hardware — Have worked with standard Intel and AMD hardware, and also with with a variety of proprietary hardware from Digital, Sun, and SGI. Set up hardware RAID systems, in addition to software RAID systems in GNU/Linux and FreeBSD. Have worked with Ethernet switches from Dell, Extreme, HP, and Nortel. Have worked with Cisco 2500 and AGS+ routers. Have worked with EMC CX3, IBM and Data Direct SANs, and Isilon and BlueARC NAS systems. Have worked with Brocade and QLogic Fibre Channel switches. Have experience with Spectra Logic and Oracle Storagetek tape libraries. Have experience maintaining a 100-node Infiniband network.

Operating Systems — Administered GNU/Linux (Red Hat and Debian), FreeBSD, NetBSD, Microsoft Windows (3.1 through 2008), and Oracle Solaris.

Servers — Setup numerous software packages for servers: IBM Tivoli Storage Manager and GPFS, Teradactyl TiBS, Samba, Apache, NIS, NFS, Sendmail, Postfix, RHN Satellite, UW-IMAP/POP3, Squid, BIND DNS, RADIUS, Nagios, ISC DHCP, CUPS, MySQL, and PostgreSQL.

Work Experience

Systems Engineer June 2006 – present
University of Washington, Genome Sciences Department Seattle, WA

- Respond to user requests and infrastructure emergencies in a timely manner.
- Maintain disk storage systems with an aggregate of five petabytes of usable space.
- Designed IBM Tivoli Storage Manager (TSM)-based backup/archive tape system, and scaled it to eight petabytes over time.
- Designed Environment Modules-based software management system to make platform differences and software upgrades transparent to our end users, scalable to multiple platforms and over one thousand package versions, with a bare minimum of configuration for each version.
- Write scripts to automate tasks internally for the system administration group and externally for users.
- Maintain approximately 100 servers, including file, database, and web servers. Maintain approximates 500 cluster nodes and the associated schedulers and resource managers.
- Analyze and solve performance problems at the software and hardware levels.
- Implemented and maintain a Nagios network monitoring system for thousands of hosts and services.
- Write and maintain documentation for complex software and hardware systems.

Software developer September 2005 – present
Bootable Cluster CD (BCCD)

- Migrated the BCCD from the BBC to the Debian Linux distribution, culminating in the release of BCCDv3.
- Wrote automated build process to improve reliability of BCCD releases, and ported the build process to a continuous integration system.

- Respond to user requests for additional software and hardware support, and provide support for instructors using BCCD.

System Administrator January 2003 – June 2006
Earlham College Computer Science Department Richmond, IN

- Administered eight FreeBSD and Linux servers.
- Maintained approximately 30 Red Hat Linux clients using disk imaging systems, and three 16-node Beowulf x86/PPC clusters.
- Maintained building data/voice wiring, including a 600-port wiring closet.
- Provided end-user support for approximately 25 faculty and students from the Mathematics, Physics, and Computer Science departments.
- Setup Nagios network monitoring to enable rapid notification of system faults.
- Setup a request tracker ticket system to keep track of problems and user requests.
- Redesigned tape-backup scheduling script to support tape rotation and error notification.
- Trained new staff in the use of the administrative tools used on each of the supported operating systems, and created documentation for common tasks.
- Requested quotes for new equipment and submit proposals to the department.

Researcher May 2005 - June 2006
Earlham College Cluster Computing Group Richmond, IN

- Benchmarked distributed/clustered molecular dynamics package to develop canon for further testing.
- Assisted in implementation of the x86- and PPC-based LittleFe portable concept computational clusters.

Awards

2010 - Andrew Fitz-Gibbon, Dave Joiner, Henry Neeman, Charles Peck, Skylar Thompson. Teragrid 2010 Best Paper in Education, *Teaching High Performance Computing to Undergraduate Faculty and Undergraduate Students.*

2013 - Co-recipient, University of Washington Distinguished Staff Award, Genome Sciences Information Technology Services.

Other publications

2014 Ivan Babic, Aaron Weeden, Mobeen Ludin, Skylar Thompson, Charles Peck, Kristin Muterspaw, Andrew Fitz-Gibbon, Jennifer Houchins, Tom Murphy. XSEDE '14, Article No. 73, *LittleFe and BCCD as a successful on-ramp to HPC*

Additional Experience

Certifications — IBM Tivoli Storage Manager V6.1 Administration

Conferences — Assisted as an instructor in Supercomputing Education program, SC08-SC13, XSEDE13-14. Co-led LittleFe buildout event at SIGCSE13, and a computational science workshop at the Shodor Foundation.

References

Available upon request.