

William Totten
110 Kells Ave
Newark, DE 19711

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University of Delaware
Network and System Services
413 Academy Street
Newark, DE 19716

Dear Hiring Manager,

I am pleased to contact you regarding the “Research HPC Systems Programmer, IT-Network and Systems Services” position (Job ID 102057) which recently posted. I am excited for the opportunity and to serve the University of Delaware community.

The most gratifying experiences in my career were related to supporting researchers and High Performance Compute (HPC) clusters. An HPC cluster is nothing without active research programs using it. People will only continue to use the resource if they are successful. The design, documentation, and education which comes from the HPC support team are critical to the success of these research programs.

I enjoy the challenges which come with working on HPC clusters. For example, HPC’s have unique monitoring needs. The sheer number and density of components makes hardware failures a constant reality. Engineering the systems to avoid data loss, outages, and report on failures proactively is one of my strengths. Researchers often use software which is not well documented. As a result, compiling can be very difficult (especially in the biomedical space). I consider it a good day when I can dig into a package, figuring it out, and make it work.

My experience working Moffitt Cancer Center, which is equal parts hospital and research center, provided me with a great background to balance the needs of an open research organization with security necessary to provide services to the biomedical and other industry users which will inhabit the STAR Campus. Building a cluster that is designed to meet user needs will help keep UD at the forefront of cutting edge research. This will help sustain funding to the cluster and help to lead the university further down the “Path to Prominence”.

I am also interested an any role the HPC team can play in research oriented data warehouses for the university community. My recent experience with large data warehouses gave me a great background in designing different kinds of massively parallel systems. In particular, I have interest in Open Source technologies such as Hadoop with Hive/Impala and the lower-cost data warehouses like GreenPlum and Aster. I see “shared nothing” big data systems as a logical next step for a general purpose HPC group.

Beyond my work with HPC clusters, I am an accomplished system administrator. I have extensive knowledge of many UNIX and Linux variants. I enjoyed rolls relating to UNIX security, application/middleware support, and architecture. My broad experience with UNIX/Linux coupled with technologies like VMWare, Nagios, etc. allows me to integrate with and help support the non HPC systems relatively seamlessly without distracting me from the cluster. My favorite aspects of work are designing and building complex systems. In my current position, this work is split among multiple people, and I am limited to designing solutions for others to build. I look forward to the opportunity to begin building and implementing again as a Research HPC Systems Programmer. For me, the perfect role has a little bit of all of these components.

Thank you very much for your consideration. I can be reached anytime via email at William.Totten@pobox.com or by phone at (302) 222-9325.

Sincerely,

William Totten

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Skills

OS Linux (RedHat, CentOS, Arch, Gentoo, Debian, Slackware), ESX, AIX, Solaris, HP-UX, FreeBSD, SunOS

Languages perl, Bourne/Korn shell, awk, C, L^AT_EX, HTML, python, Tcl/Jacl, scheme, prolog, pascal

Applications VMware, VMware VI SDK, Nagios, Rocks HPC Cluster, Torque, MOAB, Kerberos, Samba, Axway Secure Transport, Remedy ARSPerl, Men and Mice, bind, Mondo Rescue, Apache, PowerPath, Linux iSCSI/multipath, LVM(Linux, AIX, HP-UX), Veritas, Citrix ICA client(Linux, Solaris), Dazel Output Server, WebSphere 5.x,6.0,7.0, SunONE, Digi Console Server, Big Brother, Tripwire, Unix Privilege Manager, PowerBroker, NDM, SSH2, OpenSSH, MS Office, OpenOffice, LibreOffice

Employment

JPMorgan Chase & Co. (Aug. 2012 - Present)

Engineer Lead - Solutions Architecture I provided infrastructure architecture solutions for a data management ecosystem supporting consumer lines of business. The position encompassed planning, design, and project support for all areas of a data management ecosystem supporting a 375 Terabyte Teradata data warehouse.

- Design infrastructure for business-line applications.
- Manage capacity planning process for Data Warehouse, ETL, BI, and Analytics spaces.
- Scope new projects to provide forecasts for hours, capital, and expenses.
- Develop processes and reports to ensure major workloads adhere to standards.

Engineer Lead - Technology Operations I designed and implemented a platform for running a Django web framework application. The position combined the roles of solutions architect and implementation engineer.

- Developed a Django application environment to support the requirements of an acquired code base.
- Identified project requirements.
- Documented system configurations.
- Opened requests and acquired approvals in the various bank request systems.

H. Lee Moffitt Cancer Center and Research Institute (Nov. 2006 - Jul. 2013)

Network System Analyst As a system administrator, I supported research, clinical, and business supporting UNIX/Linux Systems, including a High Performance Compute (HPC) Cluster which meets the requirements for listing on NSF grant applications. This position encompassed all aspects of UNIX support, from supporting hardware and building servers to project participation and architectural decisions. This position required 24-hour support of patient impacting systems, with membership in an on-call paging rotation.

- Built and maintained a High Performance Computing (HPC) cluster used by research users to solve resource intensive problems. I managed cluster health, package/install additional software for researchers, and managed accounts. The cluster consisted of 87 compute nodes and supported over 30 software packages.
- Implemented a green strategy to power down unused compute nodes.
- Installed and maintained analytic tools for research, including Matlab, R, and many bio-medical applications.
- Supported Linux, Solaris, and AIX clinical and research systems.
- Escalation point for all UNIX based applications
- Built a kickstart process sans DHCP/PXE boot for network installs on networks which may not support DHCP.
- Primary for user access tasks.
- Primary support person for research users.

- VMware Architect. I managed cluster resources, designed standards, and approved changes. I wrote and managed a nightly compliance script to ensure adherence to standards and system integrity.
- Maintained Linux golden images, build, and patch procedures.
- Installed and maintained Internet facing managed file transfer with Secure Transport.
- Installed and maintain the center's IP Address Management utility. documentation, including adding multiple custom plug-ins.
- Configured UNIX systems to authenticate against Active Directory and configured Single Sign-On with Kerberos.
- Developed UNIX/Linux wide monitoring implementation, including personalized OS and application health checks.
- Developed Linux bare metal recovery process to simulate AIX's "mksysb" functionality using Mondo Rescue. This process is used for disaster recovery and to clone physical servers.
- Developed standard for out-of-band management of commodity hardware with IPMI.
- Developed a process whereby Linux and MacOS systems could seamlessly mount and access CIFS shares and DFS trees in a secure fashion using Public/Private Keys for automated and batch jobs. This included writing a specialized FUSE filesystem to allow multiple users to access personalized mounts via the same path.

Bank of America, from MBNA merger (Nov. 1999 - Jul. 2006)

Infrastructure Support Engineer I primarily supported infrastructure projects and applications. I designed and implemented new projects individually and with teams. The on-call rotation included support for all UNIX OS related issues.

- Worked on all phases of new projects, including design, scoping, implementation, and support.
- Performed standard system maintenance, including software installs, configurations, etc.
- Subject matter expert for perl, sh/ksh, Dazel, NTP, ssh, file transfer, and the X11 Window system.
- Audited scheduled jobs to ensure they were not capable of negative side effects.
- Developed the UNIX-side automation to support an entire Data Center migration to a different state, by finishing up the work that staged hardware and SAN replicated disks could not. We migrated our production processing in 4 hours, with nearly all customer facing applications up at the end of the window.
- Created a data transfer and synchronization utility to support data replication with incremental updates when requirements were not met by existing tools.
- Developed a quality assurance system to verify system configuration and standards compliance across all UNIX types. This system is configurable and is used to verify system compliance after all changes.

Application and Middleware Support Engineer I supported J2EE application server environments. I served as the primary support person for assigned projects. The on-call rotation supported bank-critical applications like online banking, benefits, and "Common Services" used by most internal applications.

- Team lead with responsibility for the technical efforts of four individuals to design and implement a new application server environment to replace all existing middleware with WebSphere. This included the development of management procedures, automated deployment, and management scripts.
- Supported non-standard and one-off J2EE environments.
- Supported a pre-existing application server environment focused primarily on online banking.

Security System Administrator I secured bank UNIX systems using commercial products and home-grown processes. I was responsible for implementing corporate security policy, ensuring compliance to policy, and working on yearly internal audits. I identified gaps in policy and proactively implemented solutions. Along with application support, the on-call rotation supported all UNIX access and account issues.

- Provided security liaison role on projects to ensure implementation compliance on UNIX systems.
- Administered the UNIX SSH public key infrastructure.
- Created a utility to facilitate parallel ad-hoc queries and maintenance of an entire multi-vendor UNIX infrastructure.

Delaware Technical Community College (Jun. 1999 - Aug. 1999)

Adjunct faculty I taught the second level C programming course, CIS150. For this class, I designed all tests, projects, homework assignments, and lectured students regarding topics from understanding pointers to structured program design.

University of Delaware (Apr. 1995 - Jun. 1999)

Web Master I deployed and managed the web server software and maintained web sites for the Department of Institutional Research, a collaboration site for the Society of College and University Planning, and a variety of statistic presentation sites.

Site Consultant I Assisted users and answered questions at the main computing site on campus. This included providing telephone support and in-person assistance to faculty, staff, and students. I Provided technical support for Solaris, Linux, DOS, Macintosh, and MVS.

Education

University of Delaware Bachelor of Science
Major: Computer and Information Sciences
Concentration: Computer Science Theory

References

Dr. Steven Eschrich, PhD (*HPC research user*)
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