Michael Thompson

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Overview

- ° Currently serving as Chief Architect of High Performance Computing (HPC) leading, evaluating, and supervising the design, planning, acquisition, coding, testing, implementation, installation, configuration, upgrading, troubleshooting, 24x7x365 support, maintenance, and development of plans for future direction of the major university wide WSU Campus Grid, large scale server architecture and Big Data initiatives. Interface with researchers, staff and faculty throughout campus, vendors, and other universities utilizing over twenty years of technical leadership to build and maintain the complex HPC environment. In addition, provide a mastery of skills and comprehensive knowledge of HPC computing to support the completion of university wide mission critical research projects vital to the university strategic plan.
- ° Provide on-site systems and application level support for HPC services 24 hours a day, seven days a week assisting researchers, faculty, and staff with advanced programming concepts related to scientific research and academic curriculum. Provide leadership, consulting, and guidance to other HPC supporters.
- ° Consult and support other departments providing subject matter expertise in areas including but not limited to Linux, UNIX and Microsoft based operating systems, legacy software and hardware, clustering, LDAP authentication integration, parallel file systems, high speed networking, network security, data redundancy, and more. Consult with departments outside C&IT guiding the planning, purchase, and implementation of grant funded equipment relating to research computing.
- ° Participate in user groups bringing together other universities throughout the world. This allows for quick resolutions to bleeding edge hardware and software issues which arise that would otherwise be significantly more difficult to resolve in a reasonable amount of time. Use my extensive knowledge to resolve even the most unusual problems that arise in HPC typically without aid.
- ° There are currently three full time staff and two students working under my supervision to assist with Grid and Big Data support and to design, create, and post documentation on the departmental website.

Objective

- ° Actively participate and consult others to evaluate, recommend, acquire, install, and support servers, storage, operating systems, middleware, utilities, and special projects in order to extend subject matter expertise to other IT professionals. Lead, evaluate, and supervise the design, planning, acquisition, coding, testing, implementation, installation, configuration, upgrading, troubleshooting, maintenance, and development of plans for future direction of HPC resources.
- ° Research and develop emerging and innovative technology for future advancement of HPC and other enterprise systems at WSU.
- ° Develop, provide project plans, implement, supervise, and evaluate progress of participants integrating HPC systems and related projects at WSU with critical infrastructure applications and services such as Cloud resources, LDAP, firewall security, Net Backup, system monitoring and notification.
- ° Provide onsite systems and application level support for the Advanced Computing Environment 24 hours a day, seven days a week such as assisting researchers, faculty, and staff with advanced programming concepts related to scientific research and academic curriculum. Provide leadership, consulting, and guidance to other supporters of the WSU Campus Grid.

- ° Continual improvement providing an opportunity to reexamine and improve work processes so that we are more effective for our customers and team members. It also grants us the opportunity to see that our processes are still current for the needs of our department.
- ° Plan, recommend and implement experimental and production software and technology such as data center power alternatives, parallel NFS, Infiniband, research DMZ networking connecting universities around the world, Globus, VMWare, Red Hat Linux, Altair PBS Pro, MPI, and specialized requirements of high performance computing users by engaging in online forums, training, conferences, and user discussions.

Employment History

2001-Current

Wayne State University

Detroit, MI
Systems Architect Advisor

- ° Serve as Chief Architect of the multi-tiered campus wide Grid leading, evaluating, and supervising the design, planning, acquisition, conducting, coding, testing, implementation, installation, configuration, upgrading, troubleshooting, 24x7x365 support, maintenance, and development of plans for future direction of the major university wide WSU Campus Grid, large scale server architecture and Big Data initiatives. Interface with researchers, staff and faculty throughout campus, vendors, and other universities utilizing over twenty years of technical leadership to build and maintain the complex high performance computing environment. In addition, provide a mastery of skills and comprehensive knowledge of HPC computing to support the completion of university wide mission critical research projects vital to the university strategic plan.
- ° Interface with staff and faculty throughout campus, vendors, and other universities to build and maintain the working computing environment.
- ° Interface with Support, Network Operations, and Telecommunications to actualize a working computing environment.

2001-2001

Ford Motor Company (Contracted by CDI)

Dearborn, MI
Integration Systems Engineer

- ° Work directly with Sun, Microsoft, Dell, eRoom, and EMC2 to support the Global Intranet.
- ° Create standards for Ford's e-mail system.
- ° Wide range of Experience Integration with UNIX, HP, Netscape, and other foreign e-mail systems.
- ° Provide end user support for the current e-mail standard.

1997–2001

Textron Fastening Systems

Troy, MI
PC Coordinator/E-Mail Administrator

- ° Work directly with IBM, EDS, and AT&T to support the Global Intranet.
- ° Administration of multiple Microsoft Exchange Servers participating in a network of over thirty other Exchange Servers that make up 30,000+ recipients in the GAL
- ° Wide range of AS/400 Experience including remote controllers, terminals, ports, barcode printers, and hands on troubleshooting of these and many other devices.
- ° Provide training for future IS Staff and users on a one to one basis.

1994–1997

Sy Draft Inc.

Lathrup Village, MI
Computer Technician

- ° Maintain the customer base at Sy Draft
- ° Additional responsibilities include store management duties such as opening and closing the store, training other technicians, handling sales, managing inventory, and providing customer support for Windows-95, Windows-NT and all other current software products.

1990–1994

Craig Computer Company

Bloomfield, MI
Computer Technician

- ° Assembled the complete line of PC-Compatible computer systems for our customer base.
- ° Provided telephone and on-site customer support.
- ° Dealt directly with customers to answer a wide variety of questions.

Education

2009 - 2013 **Wayne State University** Detroit, MI
Masters of Business Administration

2007 - 2009 **Wayne State University** Detroit, MI
Masters of Science in Computer Science

2001 - 2007 **Wayne State University** Detroit, MI
Bachelors of Science in Computer Technology in the college of Engineering

1997 - 2001 **Oakland Community College** Royal Oak, MI
Computer Information Systems Curriculum

1994 - 1997 **Seaholm High School** Birmingham, MI
High School Diploma

Technical Capabilities

- ° Successfully implemented a Panasas 9 and 14 series parallel NFS disk backend supporting the WSU Grid over redundant 10gb links eliminating performance bottlenecks at the disk.
- ° Working with faculty to analyze their research computing needs including massively parallel and I/O intensive systems recommending optimal hardware configurations and assisting with the development of research grants to fund acquisition of new computing hardware.
- ° Project management
- ° Ability to create and maintain Web sites to educate and support users on Linux clusters, parallel programming, and Grid computing.
- ° Extensive knowledge of TCP/IP and UNIX network programming
- ° Maintain, and continually optimize a working job scheduler that can share jobs and resources across Linux, Sun Solaris, Windows, and MAC systems
- ° Extensive knowledge in windows clustering, planning, troubleshooting, and implementation.
- ° Develop PBS Pro operating on networked, multi-platform UNIX environments, including heterogeneous clusters of workstations, supercomputers, and massively parallel systems by collaborating with the vendor Altair Engineering.
- ° Extensive knowledge in software packages such as NPACI Rocks and PAM
- ° Knowledgeable in a large variety of programming languages such as Korn shell, Perl, Java, PHP, C++
- ° Develop, install, support, and maintain Linux Pluggable Authentication Modules (PAM) which integrate with WSU's LDAP (directory) and mail systems through a suite of shared libraries that determine how a user will be authenticated.
- ° Extensive knowledge of the Linux operating system, the ability to configure it and troubleshoot problems when they occur
- ° System architecture design
- ° Maintain and support local personnel in areas of desktop computing, networking, and application support