MICHAEL CAMPFIELD

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Experience

- **Managed Services, Science Applications International Corporation (SAIC)**   Oak Ridge, TN
  Principal System Administrator   Feb. 2019 – Present

  – Primary Linux architect and administrator for multiple significant impact customer-facing and internal projects including cloud-native and on-premises to cloud transitions.

  – Systems administration of Red Hat Enterprise Linux (RHEL) and CentOS versions 8, 7, and 6, Amazon Linux 2, and Ubuntu/Debian-based systems.

  – Creation and development of Puppet and Ansible-based cross-departmental and multi-project configuration management environments.

  – Extensive utilization of the HashiCorp tools suite including Terraform, Vault, Packer, and Vagrant.

  – AWS and Azure cloud engineering and solutions design.

  – Systems installation, configuration, and management using Red Hat Satellite, Ansible Tower, GitLab, Jenkins, and related tools.

  – Engineering and implementation of full lifecycle DevOps pipelines.

  – Python, Bash, and Ruby programming.

  – Full project lifecycle management with Atlastian JIRA, Confluence, and related tools.

  – Product and customer support utilizing ServiceNow.

  – Monitoring with CA Unified Infrastructure Management (UIM).

  – 24/7 oncall support duties with projects spanning multiple timezones.

  – Extensive documentation development of processes, policy, design, and implementation.

- **Research and Development Group, Oak Ridge National Laboratory**   Oak Ridge, TN
  Neutron Sciences Directorate System Administrator   June 2017 – Feb. 2019

  – Embedded team member serving Neutron Sciences Directorate's multi-facility research operations providing administration for 24x7 data acquisition systems, core infrastructure, scientific analysis workflows, a multi-petabyte high-performance storage system, and researcher support.

  – Systems administration of Red Hat Enterprise Linux and CentOS versions 7, 6, and 5 along with Ubuntu/Debian-based Linux distributions.

  – Development of Puppet-based cross-organizational configuration management environment.

  – Creation of shared DevOps environments using GitLab, Docker, Packer, Terraform, Vagrant, along with related technologies in use by multiple departments.

  – Migration and refactoring of legacy CFEngine and partially implemented Puppet 3 environments into a unified Puppet 4 codebase.

  – Deployment, troubleshooting, and user assistance for scientific computational clusters and expansion into central lab OpenStack and Red Hat Enterprise Virtualization (RHEV) environment.

  – Selection and administration of hardware and software appliances for networking, virtualization, and storage.

  – Substantial documentation addition and updating for systems, processes, and project management targeting administration group, internal users, and visiting researchers.

- **National Center for Computational Sciences (NCCS), Oak Ridge National Laboratory** Oak Ridge, TN
  High-Performance Computing (HPC) System Administrator April 2015 – June 2017
    - Member of HPC Operations group supporting the US Department of Energy's Oak Ridge Leadership Computing Facility hosting multiple petaflop-class high-performance supercomputers.
    - Development and support of infrastructure systems supporting a large-scale research environment.
    - Configuration management design and development for Red Hat Enterprise Linux and CentOS versions 5 - 7 using customized Puppet software.
    - Configuration and management of clustered VMware virtualization and NetApp storage technologies.
    - Design and testing of new hardware and software systems for integration into team, group, and center-wide initial deployments and for enhancement of existing services.

- **University of Tennessee (UT) National Institute for Computational Sciences (NICS)** Oak Ridge, TN
  Senior Linux System Administrator/HPC System Programmer Oct. 2011 – April 2015
    - Deputy manager for the Extreme Science and Engineering Discovery Environment (XSEDE) Systems Operations group with responsibilities including staff organization, project management, service deployment, quarterly report authoring, and key performance indicator evaluation.
    - Infrastructure team leader with technical supervision responsibilities over team projects and goals.
    - Deployment, customization, and troubleshooting of TORQUE and Moab batch queuing systems.
    - Lead system administrator for a SGI UV1000 1024-core, large-memory, supercomputer targeted at visualization and designed procedures for major system upgrades.
    - System administrator on mid-size scientific clusters (Cray, SGI, and Beowulf) used for algorithm scaling to supercomputer-level parallelism.
    - Initiated and led redesign of and redevelopment of Puppet 2 environment into new Puppet 3 deployment incorporating common IT systems services, high-availability tools, security systems, virtualization management, patch cycle control, and specialized HPC requirements.
    - Design, deployment, and management of VMware vSphere primary and disaster recovery sites, migration of majority of existing infrastructure and non-specialized hardware to virtual machines.
    - Administrator in charge of incorporating cross-nation DataOne project's systems, user environments, and policies from external control into NICS' management and security domain.
    - Technical requirements gathering, solution evaluation, and recommendation reporting for future project directions.
    - Service documentation and architecture guides targeting disparate experience levels and technical knowledge.

Relevant Skills and Certifications

  - Red Hat Certified System Administrator (RHCSA) certified for RHEL 8. Cert. ID: 200-195-550.
  - Red Hat Certified Engineer (RHCE) and RHCSA certified for RHEL 7 (inactive). Cert. ID: 150-136-190.
  - 15+ years experience with Linux server and workstation administration using distributions based on Red Hat Enterprise Linux/CentOS, Ubuntu/Debian, and SUSE/SLES operating systems.
  - AWS Certified Cloud Practitioner.
  - Microsoft Certified: Azure Fundamentals.
  - ITIL v4 Foundation Certified. Certification number: GR671115199MC.
  - DevOps Institute: DevOps Foundation Certification. Certification number: GR797011428MC.
  - Extensive experience designing, implementing, and transitioning configuration management solutions in Puppet and Ansible.
  - Full DevOps tools and workflow experience with Puppet, Ansible, the HashiCorp suite, GitLab, Jenkins, and related utilities.
  - Project management with Atlastian products including JIRA and Confluence.

- Virtualization and container technologies utilizing AWS, Azure, VMware, Kubernetes, Docker, Packer, Terraform, Vagrant, and additional technologies.
- Programming in shell scripting, Python, Ruby, and Perl along with working knowledge of C/C++.
- Monitoring and performance analysis with Check_MK, Nagios, Elasticsearch, Kibana, and other toolsets.
- PostgreSQL and MariaDB/MySQL replicated database cluster design, deployment, and optimization.
- HPC and Beowulf-style cluster deployment and administration using nfsroot, stateful provisioning, batch scheduling, and load balancing.
- High-availability and load-balanced resource implementation and orchestration using Cloud, Pacemaker/Corosync, HAProxy, and Linux Virtual Server (Keepalived/IPVS).
- Multi-tier data backup and recovery using AMANDA, BackupPC, and other open-source technologies.
- Authentication and authorization tools including LDAP, PAM, PIV, and RSA.
- Implementation, configuration, and updates for Request Tracker (RT) ticketing systems including in-source feature extensions and customization.
- Batch job scheduling systems using Adaptive Computing's TORQUE and Moab with working knowledge of the Maui scheduler.
- Obtained US Department of Energy (DOE) L security clearance (inactive).

Open Source, Presentations, Research, and Papers

- "Tech-ronomicon: Keeping documentation that won't drive you mad." Presentation for the League of Professional Systems Administrators, East Tennessee (LOPSA-ETENN), February 2021.

- "mimeograph" A high-level configuration and templating environment for HashiCorp Vagrant. https://www.github.com/campfield/mimeograph

- "Designing Configuration Management for Friends and Enemies." Invited presentation for the US DOE's National Laboratories Information Technology (NLIT) Summit 2018, May 2018.

- "Resume Writing - From ACK to discard stack: How I learned to stop worrying and hate the resume." Presentation for the LOPSA-ETENN, February 2017.

- "Packing up and shipping out for hostile environments: DevOps utilizing Packer, Terraform, and Vagrant." Presentation for LOPSA-ETENN, March 2016.

- "Serving up virtualization two different ways (with a side of hash tags)." Booth presentation at the Supercomputing 2014 conference (SC14) and LOPSA-ETENN, November 2014, January 2015.

- "Pulling no 'Punches' with Puppet." Presentation for LOPSA-ETENN, July 2013.

- "The XSEDE Ticket System: From Concept to Implementation." Paper and presentation for the XSEDE 13 conference, July 2013. DOI: 10.1145/2484762.2484792.

- ORCiD researcher ID: 0000-0002-9708-2879.

- American Library Association (ALA) membership ID: 2297939.

<u>Education</u>

- **Indiana University-Purdue University Indianapolis (IUPUI)** Indianapolis, IN
  Master of Library and Information Science (MLIS) 2023

  – Coursework synergy between information sciences and existing computer science specializations.

  – Knowledge and information acquisition, analysis, and curation.

  – Facilitated learning and research environment support.

  – Academic, private, and public library management.

- **University of Tennessee** Knoxville, TN
  Master of Science in Computer Science 2002

  – Member of Computer Science's Labstaff group responsible for systems administration of departmental systems including Linux, Solaris, and research clusters.

  – Experience with data mining, graph theory, and algorithm optimization.

  – Focus on computational theory, software engineering, and hardware design.

  – Fully developed operating system in C including kernel, task scheduler, and IO functionality.

  – Thesis topic: "Design and simulation of self-organizing microbial computational automata."

- **University of Tennessee** Knoxville, TN
  Bachelor of Science in Computer Science 1999

  – Focus on programming in C and Perl, algorithm design, and software implementation processes.

  – Extensive foundation in multiple areas of mathematics and various scientific disciplines.

  – Thesis topic: "Prediction of weight patterns in neural network training."