

Mark Potter

Senior Linux Sysadmin with a focus on high performance computing

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About

I'm an HPC specialist with more than fifteen years experience in the supercomputing/HPC space and over twenty years experience in Linux system administration in corporate environments. Over these years I have held an RHCSA, done kernel customization, uncountable PXE deployments, and many complex software installations. I tend to automate anything I have to do more than twice.

EXPERIENCE

Seitel Inc. – Senior Systems Administrator

November 2021 - Present

I currently work as Sr. Sysadmin for Seitel Inc. My responsibilities include a small, ~100 node, HPC cluster and its infrastructure, a couple of TrueNAS file servers that handle ~1.5 PiB raw storage, a Proxmox VE hyperconverged environment with GPU passthrough, remote access for our entire workforce, the odd bit of networking, and monitoring for all of those bits and everything else.

- Architected and implemented TrueNAS storage solution
- Planned and executed move from in-house datacenter to colocation
- Implemented Parallels RAS for remote access to Windows desktops and applications
- Architected and implemented a Proxmox solution for remote 3D Linux workstations
- Responsible for directly supporting all users at all levels of support
- Standardized enterprise-issued devices to make support easier in a work from home environment
- Implemented Netbox for IPAM and networking visualization
- Implemented CheckMK for monitoring various infrastructure bits

SKILLS

- xCAT
- Ansible
- FreeIPA
- Netbox
- CheckMK
- Grafana
- Python
- Napalm
- Proxmox VE
- TrueNAS
- PFSense
- Parallels RAS
- Slurm
- Graylog
- Redhat Enterprise Linux
- Rocky Linux
- Warewulf
- Bright Cluster Manager
- PRTG
- Ganglia

Downunder Geosolutions – Senior Linux Administrator

June 2019 - October 2021

At Downunder Geosolutions (DUG) I was a core part of the team that managed a complex infrastructure spanning four geo-disparate sites as well as over 8000 physical nodes local to Houston. The biggest challenge was implementing current knowledge at a much larger scale without overloading the infrastructure. All of the Linux folks were responsible for everything in the environment whether that was the diskless boot images, monitoring, or infrastructure projects like Proxmox VE.

- Implemented a global FreeIPA solution to replace an aging OpenLDAP implementation
- Architected a hyperconverged Proxmox VE solution for business critical virtual machines and containers
- Developed proof of concept using Wazuh for security monitoring
- Responsible for level 3 escalations of HPC cluster issues
- Implemented a complete DNS solution for ad/malware/phishing blocking along with serving over 100,000 internal DNS entries using Ansible for deployment and Git for management
- Member of the team responsible for maintaining the diskless boot image for over 12,000 compute nodes using an internally developed PXE deployment system built on bittorrent to allow easy scaling

PCPC Direct – Senior HPC Architect

February 2014 – June 2019

PCPC Direct was a VAR that serviced the oil and gas industry as the majority of its business. My responsibilities varied from project to project based on current needs. It was a fast paced environment and required constant learning. Whether it was an RFQ that required learning and understanding a new technology or maintaining certifications the learning was constant. This is where I earned my RHCSA as well as many smaller Redhat certifications.

- Technical lead for the development of a 3D accelerated, remote workstation and collaboration solution utilizing Red Hat Virtualization, Red Hat Cloud Suite, and Nvidia vGPU technology
- Team Lead for teams managing multiple remote clusters in

a managed services environment including all systems administration tasks, maintaining and tuning schedulers/resource managers, performance tuning, and system monitoring. Responsible for deploying multiple clusters at client sites ranging from single rack clusters to clusters utilizing hundreds of nodes

- Responsible for onsite testing of non-managed clusters prior to hand-off to clients including local and remote sites
- Developed an automated system using xCAT to deploy clusters, collect inventory, run burn in, and validate results in order to drastically reduce the man hours necessary to complete the integration and testing process
- Architected a burn in suite utilizing FOSS tools to simulate various HPC workloads in order to reduce the number of failures after cluster delivery
- Responsible for software stack architecture for all HPC related RFPs including OS, scheduler/resource manager, development tools, monitoring, and applications for all hardware vendors
- Developed cluster administration documentation for in house use as well as for client use