Software Skills

Area	*Strong*	*Moderate*	*Basic*
OS	FreeBSD	CentOS / Red Hat Linux	Windows server editions
Containers	Jails	Kubernetes, Helm	Docker
Virtualization	ESXi	bhyve	Hyper-V
Storage	ZFS, MPIO	NFS	iSCSI, SMB
Networking	TCP/IP	DNS, DHCP, firewalls, NAT, Web servers	Traffic shaping, DNSSEC, VLAN, LACP
Scripting	Tcl, Expect	Bourne shell	Python

Hardware Skills

Area	*Strong*	*Moderate*	*Basic*
Servers	Hitachi	Supermicro, Dell, HP	IBM
Storage	Hitachi	Brocade, QLogic, Emulex, LSI	HP, EMC, IBM, NetApp

Other Qualities

- I enjoy writing detailed code comments and documentation, making it easy for others to understand my work.
- Strong English skills: good writer; trained speaker (Toastmasters).
- Patient, tactful and warm—excellent tutor; excellent at interviewing candidates.

Work History

2010 - 2020: **Hitachi Vantara** Contractor and Employee – SIE Group – Master QA Engineer

1. Developed Helm charts that allowed a complex set of applications to run in Kubernetes.
2. Developed automatic OS installer feature prototypes for Hitachi servers, adding UEFI support and much more.
3. Developed stress test software for a Hitachi NAS management API that found elusive firmware and API bugs.
4. Found high-value remote root exploit security bugs in Hitachi management software.
5. Created and maintained NFS and SMB servers for the group using FreeBSD with ZFS and MPIO on the SAN.
6. Created a VMware ESXi cluster used for hundreds of development and test VMs.
7. Created the group's DNS system using BIND on FreeBSD and maintained it for eight years.
8. Created a high-performance test bed for Kubernetes using FreeBSD and bhyve on an in-memory ZFS pool.
9. Acted as a liaison between Hitachi and a consulting vendor for a Subversion server update project.
10. Used ipfw and dummynet to test a Hitachi NAS management API's tolerance of cluster node failovers.
11. Aggressively found bugs in storage and server plug-ins—over nine hundred bugs filed.
12. Filled the lead QA roles for VMware vCenter and Microsoft SCOM plug-in projects based in Japan.
13. Filled the lead QA, release, automation, and lab administration roles for a NetBackup OpenStorage project.
14. Developed a continuous integration and automated smoke test system using Tcl and Expect.
15. Developed NetBackup stress test software that found an elusive, high-value data corruption bug.
16. Developed a command line interface to the (H)ost (D)ata (C)ollector product using Tcl.
17. Performed manual HDC testing with Windows, Solaris, RHEL, SLES, HP-UX, and AIX.

2006 - 2009: **VMware, Inc.** Employee – CPD ESXi Group – QA Engineer 2

1. Configured from scratch over fifty clustered ESXi test environments.
2. Primary SAN administrator for CPD, including cabling, switch, SVD, and array administration.
3. Primary liaison between CPD (in Palo Alto, Bangalore and Beijing) and VMware lab employees.
4. Main contributor to the qualification of ESX 3.5 U5 on the Intel Lynnfield prototype server platform.
5. Main contributor to the qualification of ESX with the HDS TagmaStore NSC55 storage virtualization device.
6. Made SAN layout diagrams with xfig for the installation of storage virtualization devices.
7. Ran server stress tests using HP Hazard, Microsoft HCT, Oracle SwingBench, IOMeter and iozone.
8. Developed an Expect script to display enhanced FC connection information in our SAN fabrics.

1999 - 2005: **Santa Cruz Operation** Employee and Contractor – System Test Group – System Test Engineer

1. Performed fanatical hands-on and automated testing of OpenServer, finding an unprecedented number of bugs.
2. Developed Expect scripts that found elusive panics in the OpenServer network stack and device drivers.
3. Found a serious security bug and provided a code fix for the OpenServer 5 Internet Manager.
4. Tested the Linux Kernel Compatibility product, which allowed UnixWare to run Linux software.

1999: **Cabrillo College Library** – Dan Kern's Assistant Administrator for Linux and NT servers and 200+ desktops.