Jeffrey E Fall

Full stack development
Product development
DevOPS & automation
AWS, Azure

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Open to remote only

Summary:

- Website and Software dev, Automation. Cloud Migration and provisioning. Cloud Operations. Monitoring
- EMC/Dell Powermax REST API for storage provisioning w/ interface to Cinder Block storage in OpenStack
- CEPH integration EMC storage to Redhat Openshift at amica.com
- Full CI/CD projects using Jenkins, TFS and Github demo is here
- Electrical Engineering Background: Product development. Have RF background too.
- Enjoy product development – electric cars, drones.
- Programming Languages: Python3, Golang, C, C++, Perl
- OS: MacOS, Windows Server 2019, Redhat linux 8, 9. Ubuntu Linux 22.04, Raspberrian Linux.
- Monitoring – Splunk. Have published Splunk apps. See Splunk apps click here
- Python – Expert Python coding fullstack and realtime. See http://findrisingstocks.com as example
- Full CI/CD knowledge. See class I taught and DEMO click here
- Full Terraform, Chef and Puppet knowledge see: click_here
- Python automation for Netapp SDK storage delete usecases. See my github repo here
- Ansible automation using modules and yaml and become superuser. See yaml file here
- Full AWS lifecycle including EC2 and storage see: click_here

Skills breakout:

- Ansible / IAC - Complete Ansible playbooks from scratch and deployments with Ansible Tower
- Salt - Saltstack - installation and setup of master(s) pushing configuration to multiple minions.
- Cloud: Advanced - Azure 7 years AWS 7 years. GCP 3 years prototyping
- Sys Admin: Advanced - 15 years expert Linux Redhat, Ubuntu, Windows 10, Server 2019, 2012
- Infrastructure: Advanced - 15 years hands on Networking, Storage, Compute: Enterprise level.
- Networking 20 years: Advanced – IPV4 DHCP, DNS + static, WIFI, Cisco IOS, some IPV6
- VPN config and tunnels: Above Average: reverse SSH, Global Protect, Pulse Secure, OpenVPN
- Ansible: 10 years, above industry average. YAML Playbooks. Move databases. See here
- Terraform: IAC 2 years, intermediate. AWS infrastructure configuration
- Wireshark: 15 years, above industry average. Websense / Forcepoint analysis of intrusion detection mechanisms
- Epic Server: intermediate Migration to new data centers with St Josephs and Stanford Health as storage admin
- VMWare: Advanced – P2V, ESXi bringup, Vcenter complete installation from 2019 Server.
- Citrix: intermediate from working at Citrix Online and Stanford Healh
- JSON: [“years” : “15”, “level” : “expert”] see my site https://findrisingstocks.com which uses JSON
- Python: 15 years expert. Python development on Eclipse, Visual Studio Code. See here
- IAC Infrastructure as Code: Terraform and Ansible on-prem data centers and on AWS and Azure clouds

Education:
University of Pittsburgh, Pittsburgh, Pennsylvania. BSCS. Computer languages. Minor Mathematics.

Technical Skills:
DevOPS: Puppet, Chef, Jenkins, Ansible, Terraform, Kurbernetes K8 and Splunk
Cloud: Amazon AWS, Microsoft Azure, GCP
Development: Python, Java, Go, C, C++, Swift, PHP, YAML, git, p4

Professional Experience:

Experis: (contract) CI/CD DevOPS / IBM and Kyndryl Automation Engineer Aug 2021 – April 2024 (completed).

- IBM: IAC Infrastructure As Code - Terraform deployment of Linux VM's in IBM Cloud
- IBM: Ansible playbooks for configuration of IBM cloud set up for VM and application delivery.
- IBM: Salt - installed Saltstack master and added newer servers for configuration drift correction phasing out Ansible.
- IBM: CI/CD Jenkins automation pipe to improve VM delivery on time within an hour to internal customers.
- IBM: Collection of desired VM parameters as memory, CPU, networking and translation to Terraform code.
- IBM: Automated VM delivery app with Flask / Python delivering VM in 15 minutes with working IP address.
- IBM: Built Openshift CEPH Cluster on IBM Cloud for storage allocation and consumption for VM ASAP demos
- IBM: Automation of IBM cloud IAM security delivery using ibmcloud with Openshift API and Python with VMware NSX
- Kyndryl Automation of Service Now requests via Python via Service Now API
- IBM: Automation of VM test framework to test reliability of provisioned VM's.
- IBM: Created a stateful operator with C++ converted to GoLang for IBM Cloud Kubernetes offering.
- IBM: Mirroring of VM build out to AWS with translated Terraform code for vm replication.
- IBM: Integration of Ansible Tower to CI/CD inventory ess to control server drift and configuration.
- Kyndryl: Automated patching / upgrades of Ubuntu / Redhat servers using Anisible Tower.
- IBM: Wrote and tested one off Ansible scripts from yaml using Microsoft code for rapid testing against custom servers.
- Complete patching and upgrade of all IBM Ubuntu and Redhat servers for worldwide customers.
- Adjustment and recompile of kernels on Ubuntu to accommodate Falcon Security Driver(s)
- Test readiness of security enforcement software on Ubuntu. Change configuration to suit.
- Field all user questions on Ubuntu instances for lab Ubuntu desktop instances.

Comcast (moonlight) Java Pipeline implementation on advertising project Sept 2022 - Dec - 2022

- Groom Product Team intake for product enhancements and break down into Agile stories with points
- Finish stories from backlog for Java Code feature enhancements for Java Spring Framework
- Build additional CI/CD pipelines in AWS using Harness pipeline with Harness YAML description code.
- Interface with Data Bricks Data lake for query of additional ad revenue data via REST calls.
- Add additional REST calls via Java Spring.
- Build entire product for test using MAVEN from product git repo.

TruGlobal (contract): Storage Automation & Reporting Engineer April 2020 – July 2021

- Developed full stack storage reporting app using mysql DB and Flask and javascript, Python3
- Developed a Python test state machine using request objects to assure infrastructure ready.
- Wrote 5,000 line python program for stateful deletion of storage on Netapp filers.
- Integration of Netapp Python API into working code stack.
- Produced Python code for Netapp storage filer inventory reporting from Netbox.
- Built Netapp Golang interface for control of provising stack.
- Created automated RPM build packaging program pulling from git repo.
- Deployment to Redhat linux 8 via packaged RPM installer made in house.
- Developed Proof of Concept POC for EMC capacity reporting via PowerMax API
- Define requirements for DELL RFP for augment to OpenShift Cinder storage allocation POC
- Demo of storage provisining using FLASK webpage demo for storage lifecycle with PowerMax API for Cinder

Petsmart: (contact) Security Automation Engineer for SUSE 12 Linux January 2020 - April 2020

- Wrote parser to convert CIS/Mitre security audit files to puppet classes
- Hardened SUSE Linux with Puppet Enterprise using in house puppet classes.
- Wrote test harness for penetration testing with Tenable against SUSE linux.
- Integration of autogenerated puppet code into puppet enterprise.

Apex @Amica / Principal Splunk Lead Engineer March 2018 – Dec 2019

- Monitor Storage, Compute, Networking and Applications with Splunk.
- Monitor and report on TFS usage with custom written Python TFS connector.
- Wrote Python automation program to create BMC Remedy tickets on demand from Splunk Alerts
- Wrote Python automation app with Flask backend to allocate extra storage for simple storage incidents.
- Splunk automation alerts sending XML remediation code to Application teams.
- Integration of EMC storage to CEPH on Openstack for Proof of Concept for Migration

- Decomposition of Business Logic deployed as WAR file to microservices.
- Build Docker images of existing critical monolithic business applications including JVM and war file contents
- Build out of Kubernetes POC with focus on running JVM's and critical Apps with desired state specification.
- Evaluation of Mesos for running JVM's and critical BI apps in a fault tolerant infrastructure.
- Elimination of F5 load balancer by use of virtual load balancer and networking (POC)
- Update of C++ insurance vendor interface code.
- Introduction of Chef automation and Ansible Proof of Concept to business unit(s).
- Splunk monitoring of CEPH production stack on Openshift
- Ansible Proof of Concept playbooks written to mitigate issues predefined issues and solutions found with Splunk
- Monitoring of Ubuntu server and Desktop instances via Splunk Alerts for compute and memory issues.
- Ansible upgrade and patching of all Corporate Ubuntu Server and Desktop instances.

Ryzen at Computer Cupertino CA / Security Engineer with Python and Chef. Oct 2017 – Feb 2018

- Evaluate security concerns in Apps Pods under Kubernetes
- Apply chef automation Python Scripts to secure Apple infrastructure via recipes and Yubikey and pem
- Wrote Golang automating Username and PW rotation on Dell iDrac, Cisco UCS and Vmware ESXi 6.5
- Audit Automation accounts in LDAP to determine if the account can be decommissioned.
- Secure and harden Linux Systems including Oracle and SuSE linux.

ProKarma at Veritas EVCloud Culver City, CA / Automation Engineer July 2017 – Aug 2017

- Implemented hands off installation of Symantec End Point Manager via Chocolatey and Puppet to Azure Cloud
- Terraform scripting of Azure Roles in a Microsoft Server environment.
- Merges into git repository of puppet code for EVCloud infrastructure deployment.
- Lift and shift migration of entire EVCloud product from 5 data centers to Azure Cloud.
- Mentoring and analysis of project management practices and go forward plans for cutover to Azure.

Radients at SAP Success Factors San Francisco CA / Splunk Dynatrace Engineer Feb 2017 – May 2017

- Wrote Python code to pull daily usage from Dynatrace API for Success Factors prod websites.
- Wrote Splunk Dashboards to display Dynatrace data in stacked column and table form
- Wrote Powershell code to utilize Azure CLI 2.0.5 to create VM's and alerts and templates.
- Created VM's, Storage Accounts in Azure for SUSE Linux and Windows 2016 Datacenter Server.
- Created reports with Python code to pull statistics from Azure including VM's, Storage Accounts and Alerts.

Codesmart at Expeditors International Shipping Company Seattle WA / DevOPS Engineer Nov 2016 – Feb 2017

- Complete Chef Devops lifecycle. Wrote Chef recipes to deploy Java apps from Nexus repository
- Wrote Powershell automated installer using Chocolatey to install Chef Devops workstation on PC's
- Optimized Chef builds using SSD and Megaraid SSD RAID 0 array for faster Chef cookbook builds.
- Created custom MegaRAID solution for SuSE linux build server.

USTechSolutions Inc at Walmart Labs (consultant) Sunnyvale CA l / DevOPS Engineer Aug 2016 – October 2016

- Build Engineer for e-comm servers - Redhat, Centos and Ubuntu linux.
- Wrote puppet scripts for deployment of ongoing Linux components for Openstack deployment.
- Wrote Ansible scripts to deploy Puppet agents to newly created servers.
- Wrote Ansible scripts to provide BIOS settings over iLO
- Wrote Ansible scripts to provide Puppet verification of proper completed puppet software pushes.
- Automation of Redhat Satellite Server Provisioning
- Analysis of existing network management topology - move to CMDB push architecture.
- Golang prototyping for distributed linux provisioning.

Armada Group at Sunnyvale CA
Devops Puppet / Chef / Python tools / Storage Break Fix Engineer Sept 2015 – April 2016

- Responsible for 27,000 physical app servers worldwide. Provision with Puppet and chef
- Wrote Puppet recipes to deploy new application components for mapping team
- Wrote Ansible YAML scripts to deploy Puppet agents.
- Monitor 27,000 servers with Zabbix. Set up Zabbix Templates and alerts.
- Write custom monitoring scripts in Python.
- Security – use Ansible to patch Oracle Unbreakable Linux to pass security scans.
- Resolve all LDAP and Networking problems in multiple worldwide locations.

Intuit – San Diego CA Splunk Engineer Dec 2014 – Aug 2015

- Audit Splunk installation for Compute, Network and Netapp Storage.
- Install Splunk apps for Juniper and Cisco network monitoring. Custom configure apps.
- Wrote alerts for critical F5 load balance monitoring for NOC teams.

- Created Network error monitoring for Splunk real-time dashboards.
- Corrected Splunk Indexing storage NFS mount problems and source type issues with regex.
- Interface Splunk with EMC VMAX and VNX SNMP data for storage performance monitoring.

Websense – San Diego CA Perm Employee Build Engineer Nov 2012 – May 2014

- Develop on demand build system using Linux, curl and Python for building off shore software to on shore
- Managed HP and Dell Compellent Storage Arrays attached to Vmware server farm.
- Managed migration from older Dell/EMC arrays to EMC VNX
- Assist build team with Jenkins. Introduce Puppet for provisioning new systems.
- Build out of in house cloud for security analysis of new threat signatures.
- Evaluation of AWS and Azure cloud based computing platforms for customer deployments.
- Built in house cloud provisioning system as AWS / Azure too expensive.
- Perl and PHP scripts written to automate build system on multiple AWS cloud based Linux hosts.
- Product development on XEN based security appliance for custom code fixes in C++.

Nasscomm – Seattle WA part time (Contractor) Storage Developer May 2013 – Sept 2013

- Analysis of EMC custom VNX and Isilon monitoring script at ATT in Seattle
- Generation of security certificates to enable SSL encrypted path for data exchange
- Test of custom ATT generated dash board written in C# with new certificates.

Netapp, Boulder CO (Contractor) Storage Performace Engineer. Mar 5 2012 – Jun 29 2012
Storage Performance – Splunk

- Mapping storage performance of cache based Netapp storage with fio and vdbench
- Running storage performance tests and graphing with Gnuplot and Excel
- Created automated Perl test harness for automated storage performance testing
- Working on Linux Driver caching solution using SSD's. Building installable .ko
- Testing Caching performance against Facebook cache.
- Build Engineer – Linux device drivers for storage cache testing, gmake w/ gnu software stacks
- Kernel Development – Bcache kernel modification. Addition of metadata for internal caching solution
- Storage performance test scripts written in Python to run continuous FIO read/write performance testing.
- Create runbooks to hand off performance testing to new Netapp hires.

Dell Computers (DELL) Direct employee – presales engineer Oct 4 2011 – Feb 15 2012
Storage Architecture: Compellent Equallogic PV consultant

- PDA group: Respond to RFP's for customer storage configurations for a GO/NO-GO decision
- Test Compellent Storage designs in Lab with IO-meter and VD-bench for performance
- Certify Multipathing solutions against RFP's
- Augment RFP's with best practices relying on vendor information
- Provide support to Field Engagements to promote sales process.
- Answer any questions from any field person about any Storage Issue to further a sale.
- Certified on Compellent for Top Gun Sales and Top Gun Storage Architecture
- Attended various Equallogic Seminars.

Volt/St Joseph's Hospital, Anaheim CA (contractor) Aug 2011 – Oct 2011
Storage Architecture consultant

- Senior Datacenter architect. Plan migration of 2,600 servers to two data centers
- Build "what if" scenarios with different storage platforms. Study costs and trade offs
- Interview hospital IT teams to provide background to build proposal.
- Provide input to storage section of data center green field build proposal.
- Submitted team crafted proposal as requested to St Joseph's Hospital CTO.
- Specification of approved array vendors such as HP/3PAR, DELL, HDS, EMC
- Size current EPIC storage requirements; Plan new storage to EPIC best practices.
- Elimi9nate EPIC hotspots on storage for greater EPIC performance under highest load.
- Use Splunk to understand error conditions of app work load of apps to be migrated.

Collabera/Accenture @Stanford Medical Palo Alto CA (Contractor) May 2011 – Aug 2011
Storage consultant

- Senior Datacenter Storage Admin – Avamar setup of 600 servers of SHC for Accenture.
- Created LUNS on EMC VMAX for consumption by VMware on Cisco UCS
- Work with EPIC professional services to plan EPIC migration to Las Vegas data center.

- Created runbooks for IDC team in India.
- Monitoring of proper operation of Avamar Backup servers with EMC on site Avamar lead.
- Day to day operations of Avamar and Networker backups as required by Accenture and SHC.
- Restores of EMC VMAX corrupted LUNS. Monitoring of Oracle Databases.
- Provisioning of EMC VMAX for day to day needs of Oracle DBA's.
- Emergency Avamar restores of servers as required by Management and Accenture teams during migrations.
- Migration LUN creation and zoning for migrating servers and databases
- Monitored migrated servers with Splunk for operational errors and correctness.
- Setup puppet master to assist with migration to green field Cisco UCS servers.
- Create run book for Avamar backups and restores to hand to Run team.

ATT, Redmond, WA (Contractor) **Dec 2010 – May 2011**
Storage consultant

- Senior Datacenter Storage Admin – SAN/Servers / Address Book Application Performance testing of 1.0 and 1.2 release of Address Book Application on SAN Support of SAN infrastructure LUNS between production and backup site via SRDF.
- Response to Address Book incidents and outages Response to SAN outages including Symmetrix and VMAX production and backup sites Audit of WWN mappings on Brocade DCX switches.
- Oracle performance tuning. Storage tuning. Application and storage performance metrics.
- Day to Day storage operations with EMC VMAX.

T-Mobile, Bellevue, WA (Perm employee via agency) **May 2010 – Oct 2010**
Storage consultant

- Senior Datacenter Storage Admin – SAN/Servers / Oracle / Data mining and config.
- Create Method of Procedures (MOP's) for all changes to data center infrastructure Day to day management of EMC Symmetrix DMX's including time finder and SRDF.
- Zoning and configuration of Brocade DMX switches. Hold weekly meetings on all projects. Replication from an Oracle single instance to Oracle RAC under Symmetrix. Migration of Oracle instance from single to Oracle RAC with Symmetrix time finder/mirror.
- EMC VPLEX, 3PAR metro evaluation for replication between local data centers.
- Measured storage performance with Oracle database workloads. Graph performance with Cacti monitoring tool.
- EMC V-Max migration planning from Symmetrix to VMAX via SRDF.
- Oracle DBA – looking for deadlocks with Oracle 11 instance.

Citrixonline, Santa Barbara, CA (Contractor) **Nov 2009 – Apr 2010**
SAN Architect

- Senior Datacenter Architect – SAN refresh HDS Hitachi Storage, Brocade Director switches.
- Audit SAN – build configuration database, Manage refresh SAN fibre channel cable with MTP cable project Schedule day to day operation of Hitachi USPV and USP-VM arrays with operations resources
- Plan installation and configuration of HDvM and Storage Navigator with Hitachi resources and operations.
- Migration of Oracle 11i Databases from Hitachi USPV to EMC VMAX w/ timefinder/mirror
- Manage upgrades of 3 remote data centers with similar function Provision storage for Citrix Xen servers from HDS AMS-1000. Provision storage for Microsoft Exchange 2007/2010 from Netapp Fas filers. Brocade DCX re-zone to match new business requirements and make SAN more reliable.
- Attach of EMC/Dell CX3 arrays to Hitachi USPV for migration to HDS Modular AMS 2000 array
- Create and document storage systems. Create runbook for storage HDS
- SRDF / timefinder implementation to legacy mainframe. Staff training and handover to prod team.

Lawrence Livermore National Labs, Livermore, CA (Contractor) **Nov 2008 – Oct 2009**
Datacenter Storage and ESX Architect

- Senior Datacenter Architect and PM – Vmware ESX Architecture and roll out. Storage refresh.
- Analysis of existing storage environment – redesign of Finisar monitoring solution. Upgrade to 8 gig Finisar monitoring pending.
- Design and deployment of Live Site Ops monitoring with SNMP connection into Netapp, Hitachi and 3PAR storage systems.
- Display of real time performance with Splunk monitoring tool.
- Rollout Splunk to external stakeholders Architecture of Vmware Cluster using Virtual Center and ESX servers. Attachment to 3Par storage over iSCSI on dedicated IP network to green field Vmware rollout.
- Upgrade of storage infrastructure to 8 gig SAN using Brocade 5300 class switches.
- Data Domain DD690 De-duplication systems.
- Rollout of Vmware 4.0 vSphere Cluster using iSCSI on 3par 400 backend. Documentation of whole process and handoff to Live Site team.
- Splunk architecture and rollout of monitoring tool for Live Site team and data base teams See: http://jeffreyfall.com:8000 for sample. Decommission of Hitachi Lightening arrays. Upgrade to 3par 800 series

- Wrote custom Splunk Module for custom monitoring of Laser metrics and realtime feedback in Python. http://lasers.llnl.gov

i365, Emeryville, CA (Contractor) **Aug 2007 – Nov 2008**
Datacenter CAPD PM and implementation

- Senior Datacenter Architect – Project Management – Low Cost 400TB storage grid.
- Product Specification – Architecture of low cost 200 TB storage grid. Goal: five 9's of uptime. HA configuration. Cost lower than existing storage solutions offered by top tier vendors
- Vendor Selection – Core prototype constructed from Solaris 10 servers. iSCSI arrays evaluated in terms of cost over 7 data centers. Arrays evaluated in terms of performance, recovery from induced failure, MTBF statistics.
- Program Management – Weekly reporting to management of project essentials including acceptance testing, training of staff, deployment of prototype to remote data centers, failure and recovery scenarios, system administration automation.
- System Administration and Automation – Setup Sun Clusters for HA availability of ZFS volumes. Integrate with CIFS/Samba. Build cutting edge 3.2 based cluster from open Solaris B79b and test integrated Solaris CIFS solution.
- Filesystem tuning – Tune SAMQFS filesystem for a heavy read/write environment. Review performance. Analyze source for potential bottlenecks.
- Realtime System Monitoring – Gather requirements for Cacti monitoring system. Implement Cacti monitoring of all iSCSI interfaces on Cicso Catalyst switches and Sun X4100 servers. Example: http://jeffreyfall.com:82/cacti log in guest password guest

Sun Microsystems, Newark, CA (Perm employee) **Mar 2004 – May 2007**
Storage Midrange SE6140 Array Product Evangelist - presales / post-sales

- Senior Systems New Products Presales Engineer; multiple Storage products
- Software Development and Hands On – Coded Java solution for Sun Licensing Center. Automated licensing process using Java, Tomcat Web server and mySQL. Built test harnesses from C++ using Engenio Symbol API for automated array volume and LUN configuration scripts.
- Program Management – Managed OEM product definition processes for Sun Storage products including 6130 and 6140 arrays.
- All project details including SOW, costs, beta deployment schedule, beta firmware upgrades and software program. Interaction with stakeholders on all levels inside and outside of Sun Microsystems to promote beta schedule and product. Successful deployment of SE6130 and ST6140 arrays. Managed weekly Program Management meetings with all stakeholders to manage and assure program schedules.
- Evangelist – Direct and promote adoption of 6130 and 6140 array products into PTS, Marketing and Sales organizations of Sun Microsystems assuring internal penetration of new array product. Called on Retail clients for evaluation such as Ross and Home Depot
- Performance Measurement Program – Directed Direct performance testing and specification of SE6130 and ST6140 arrays using internal Sun and external resources to provide performance metrics for winning business and/or retaining key Sun Microsystems accounts.
- Sales and Systems Engineer Program Management – Direct program direction with Sales Teams on key accounts – provide architecture specification, performance metrics and integration approaches to assure seamless delivery and data migration of array and server products to new and existing Sun Microsystems customer accounts to assure program acceptance and success at Revenue Release dates.
- Vendor competitive analysis – Evaluated array offering from competitors such as Hitachi and Netapp. Evaluated performance of Hitachi midrange arrays. Evaluated performance of Netapp FAS series arrays.

Texas Department of Health and Human Services (contractor) **Nov 2003 – Feb 2004**
For C&T Consulting, Austin, Texas
Senior Storage Area Network (SAN) engineer – MIS Division, Sybase and Oracle databases

- Directed re-architecture effort of underutilized in house Brocade based SAN
- Brought direct attached HP K-Class systems into the SAN
- Upgrade of all firmware in Brocade switches and HBA's and Compaq HSV-12000 RAID.
- Stress test of SAN for 10,000 users – complete training and documentation for Dept.
- Testing of HP Secure Path failover mechanisms under load
- Stress tested backup SAN with Netbackup.
- Delivered rapid diagnostic Microsoft VB and C# .NET app for diagnostic of 12 HP servers.

Fujitsu, Sunnyvale, CA (contractor) **Jan 2002 – Sep 2002**
Senior Storage Engineer, GR Engineering team, Enterprise storage division

- Managed Fujitsu GR series array problem reproduction and resolution between Sunnyvale based Sales Division and Japan based corporate offices.
- Managed customer expectations with key Fujitsu customers to understand Fujitsu capabilities and problem resolution strategy and time line for new firmware loads.

- Mentored and provided scoping of special array software projects to enhance array functionality as requested to gain sales advantage by custom upgrades to array firmware.

Big Sur Communications – Fabless ASIC startup (Perm Employee) **Aug 2001 – Jan 2002**
Senior Architect and Software Engineer – Direct Hire

- Architected Chip bring-up Executive Processes and functions to bring up Fibre Channel and Ethernet proposed interfaces on 16 core LXI based SoC.
- Performance measurement of University of New Hampshire iSCSI target and Cisco initiator drivers and I/O characterization.
- Architecture of iSCSI spec for distillation to hardware group for fast 10 gig wire speed implementation of iSCSI to FC by Electrical Engineers designing prototype SoC.
- Wrote Fibre Channel bring up routines in C for HP based Fibre channel SDK.

Hewlett Packard Company, Cupertino, CA (Contractor) **2000 – May 2001**
Senior Storage Software and Protocols Engineer

- Managed relationships between internal HP server divisions (software) and external hardware vendors.
- Directed Input Output Dependent Code (server BIOS) C code integration between Ft. Collins, Roseville and Cupertino HP sites between Workstations and Server Divisions.
- Managed IODC BIOS firmware escalations across HP Divisions to satisfy hot customer accounts.
- Managed redesign and implementation of DVD firmware download and test program to support live field service DVD upgrades.

Sony Electronics Corporation, San Jose, CA (Perm Employee) **1997 – 2000**

- Senior Software Architect, Remote sites video switch Manager (direct Sony employee)
- Directed Research and design broadcast system control software for control of hardware and software interfaces for large scale domestic and international broadcast systems.
- Managed external vendors and contractors to project deadlines for Rupert Murdock's AskyB Gilbert Arizona based 300 channel broadcast center meeting agreed upon SOW between AskyB and Sony.

Hewlett Packard, Network Printer Division, Boise, Idaho (Perm Employee) **1994 - 1997**
Senior Firmware Team Project Lead/Manager

- Wrote Patent application for – MOPIER process. Awarded Patent for MOPIER.
- My team designed and implemented MOPIER functionality for HP Laser jet 5 printers. Team was two engineers. Awarded Patent for MOPIER process. Environment was "C" cross-compiled from HPUX Unix development systems to AMD target emulation systems.
- Senior Division Liaison
- Directed and Managed transition of Division firmware platform from LJOS to WindRiver VxWorks embedded OS.
- Planned and implemented transition of software builds to structured Clearcase environment.
- Includes all internal and external contracts and training, systems capacity planning and upgrades. Managed all infrastructure upgrades and software deployments.

Eastman Kodak Company, Rochester, NY (Perm Employee) **1988 - 1994**
Project Manager – Real-time Image Scanning and printing driver architectures

- Directed architecture and specification of Kodak KIMS imaging printing and acquisition driver subsystems for scanner and printer groups.
- Managed cost reduction and phase out of printer vendor HBA solution and architected cost saving solution from existing inventory for SCSI printing solution.
- Managed inter-division transfer of scanning architecture from Kodak Information Management Systems to Business Information System Divisions enabling increased Time to Market and cost reductions from reuse of scanner driver stack.
- Managed software sustaining efforts for Kodak Image Writer Printer.
- Managed external vendor for porting of scanner driver to Solaris UNIX platform.