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Summary

I am a senior systems developer, with an emphasis on operating systems, storage and data communications. In this complex area, I am proud of my reputation for delivering commercial products that meet project objectives within budget and on time. In addition, I am confident of my ability to communicate with management and peers. I have a broad experience base that includes a variety of networks, personal computers, workstations, minicomputers and mainframes. I have also worked on embedded systems running the Linux operating system.

In working in the these areas, when working under the Linux operating system, I've also worked with the Kernel code. This has involved changing the Kernel itself and the development of device drivers.

Languages

C, C++, Java, Fortran, Pascal, PL/I
IBM 360/370 Assembly Language

Operating Systems

LINUX (Application, Kernel and Device Driver Development)
UNIX (Solaris, HPUX, AIX)
DEC OpenVMS
IBM OS/390 (MVS and Unix System Services), OS/2

Technologies

POSIX Threads
Sockets/Pipes/Memory Map IPC
System V IPC
TCP/IP UDP Protocols
Databases (MySQL, DB2)
Client/Server Development
WEB Servers (WebLogic and JBoss)

Work Experience

2014 to Present: HGST

Worked on the implementation of an Object Data Store that will incorporate Shingled Media Drives in addition to conventional Disk Drives.

2013 to 2014: netPolarity

Consultant working on contract to NetApp in the Advanced Products Group. Working on performance analysis of the Solid State Disk (SSD) Caching software.

2012 to 2013: Oracle Corporation, Broomfield, Colorado

Worked on the Oracle Axion storage system. Primarily on the SAN access subsystem.

2011 to 2012: Assurance Storage, Louisville, Colorado

Worked on a Storage Virtualization Engine, called AVS, that runs under the CentOS Linux operating System. My work on this project was in the addition of hardware raid controller support for the support of Raid 6 and Raid 60.

2010 to 2011: Collabera, Inc.

Consultant working on a contract with IBM on support and enhancement of the TDMF Unix product.

2009 to 2010: Atrato Corporation, Louisville, Colorado

Working on Storage Array products that are implemented on an embedded Linux Platform. My work on this project was at the back end of the Virtualization Engine in the support of dynamic device activation and deactivation and improved error recovery of devices.

2008 to 2009: IBM Corporation, Denver, Colorado

Worked on a Storage migration product called TDMF Unix. This product supports AIX, HPUX and Solaris. These products have both kernel, device drivers, and user space components.

2006 to 2008: Consultant, Thornton, Colorado

Worked on a Server Development project for Internet Messaging and Presence for Jabber, Inc. The work involves new development of functional components and porting to new platforms. I also added a MySQL adapter to allow the use of this database for persistent message objects.

Previous project was working on an embedded system for a Ericsson Telecom that involved development and testing of their new controllers in an OSE environment.

2005 to 2006: Crosswalk Inc., Westminster, Colorado

I worked on the network storage product called iGrid. My work on this project primarily concentrated on performance enhancements in the operating system kernel.

1993 to 2005: Consultant, Thornton, Colorado

I was involved in an embedded Linux system that drives a high speed continuous form laser printer for Pentax Imaging. The processor is a Power PC on a custom board. I also added the Line Printer Daemon (LPD) server to the printer to allow for network printing support.

I have taught various Unix/Linux classes including Linux Internals, Linux Systems Programming and Linux Device Drivers.

I did work porting, testing and certification of BEA System's WebLogic Server on various platforms, such as OpenVMS, OS/390 Unix System Services (USS) and Linux/390. I was also involved in the porting and testing of various components of BEA's Tuxedo to OS/390 USS and accessing the DB2 databases from Tuxedo applications. I ported and supported of the Remote Server Services (RSS) for BEA System's TOPEND transaction monitor. The RSS code was ported to UNIX (Linux, HPUX, OS/390 OpenEdition, AIX, SCO and Solaris), AS/400, OpenVMS, Windows-NT, OS/2 and OS/390 (MVS and CICS) operating systems.

Also, I worked on the development of a suite of products for Messaging Middleware and cross platform file transfer support. The products communicate over TCP/IP and runs under UNIX (Linux, SunOS, HPUX, OS/390 OpenEdition, SCO and Solaris), OpenVMS, Windows-NT, OS/2 and OS/390 operating systems. These products have a simple to use and consistent Application Programmers Interface (API), for easy application development. These products are written in 'C' and Java.

One of my clients was MCI where I was the Lead Developer for a Client/Server Middleware package called the "REGISTRY". This product provides a consistent application programmer interface across platforms, for easy application programming, which communicates over TCP/IP and runs under UNIX (AIX. HP-UX, UniSys, SunOS, Solaris and Digital Unix), VAX/VMS, Windows-NT, OS/2 and MVS/ESA operating systems.

1992 to 1993: McData Corporation, Broomfield, Colorado

I was involved in the development of the McData 6200 communications controller, A UNIX based multi protocol controller for the IBM mainframe market. The controller supports Ethernet, Token ring and Fiber optic (FDDI) communication topologies and the TCP/IP, DECnet and VTAM 3.4 protocols. The controller is based on the Intel 486 processor and runs under the control of UNIX System V. I was also

involved in the testing of this product and have written programs and scripts that run on the IBM mainframe, utilizing the TCP/IP socket libraries, and on UNIX and VAX/VMS systems running as clients. As a research project, I ported the Spider Software TCP/IP stack to the 6200's UNIX environment for use as possible server gateway product.

1988 to 1992: Mesa Archival Systems, Boulder, Colorado

I participated in the design and implementation of the Data Library System (DLS). This system is hosted on an IBM mainframe running under MVS/XA and appears to the users as an infinite UNIX file system. My direct responsibility was for the application program interface, network servers and utilities, all are written in C. The application program interface is a subroutine library that gives the appearance of a UNIX environment under MVS. The networks supported are the Network Systems HYPERchannel using Netex and TCP/IP. The TCP/IP implementations supported are the IBM, Interlink and UltraNet products. For the TCP/IP implementation, I wrote the FTP, RSH/RMT and Telnet servers, that give the appearance of a UNIX environment. All of the TCP/IP servers are written to use Berkeley socket libraries as provided by the vendors. The RSH/RMT server was adopted by the Interlink Corporation and marketed as their TCP/Datastore product. I also, designed and wrote the DLS utilities to import and export ANSI labeled tapes, UNIX tar tapes and MVS standard labeled tapes.

1986 to 1988: Synergetics International, Boulder, Colorado

I designed and implemented a communications subsystem for remote data acquisition systems that operates over VHF/UHF radio links. The Model 140 system runs on a DEC MicroVAX II and supports multiple datalink protocols. The Model 125 system runs on an IBM PC class machine and supports a single datalink protocol. Both systems are written in C. The implementation was a complete protocol stack to support Synergetics' proprietary COENET network and included a socket like application program interface. The datalink protocols supported are based on IEEE 802.2 and DEC's DDCMP.

1980 to 1986: Auto-trol Corporation, Denver, Colorado

I integrated the TCP/IP and X.25 protocols into the company's CAD/CAM product line. This work included integrating the file transfer programs into the CAD/CAM system as callable subroutines and writing a Telnet server and an X.28/X.29 PAD for the Apollo system, as none existed at the time that ran under Aegis operating system. I also designed and wrote a proprietary file transfer system that ran on DEC VAX/VMS, Apollo Aegis and Univac V77 systems using asynchronous links. I also designed and wrote microcode for a front end communications processor for the Univac V77, this was based upon the TI-9900 microprocessor.

1973 to 1980: Texas Instruments Incorporated, Austin, Texas

I worked on network system development, operating system development, real-time process control systems, system utilities, assemblers, compilers and linkage editors.

Education

B.S. Physics, 1973
Indiana State University
Terre Haute, Indiana