Albert H Chen

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Summary of Qualifications

Experienced in leading and managing firmware/software development teams
Hands on experience in firmware, software and driver development
Full product life cycle experience
In-depth knowledge and experience with storage and network protocols
Experienced with interfacing and supporting partners, vendors and suppliers
Worked at Western Digital, Microsoft and various startups
Studied at Stanford and Cornell

Experience

Engineering Program Director (Ecosystem Architecture) / Technologist System Architect – Western Digital   [2010 – present]
Architected and directed the development and test of software to enable new storage technologies. Delivered product and technology presentations to partners/customers and at conferences.
- Directed development and test resources and efforts.
- Mentored junior engineers to build a well-rounded team.
- Authored and presented technical presentations to partners/customers and at various conferences.
- Engaged with partners and customers on product roadmap and technology integration/implementation issues.
- Architected and directed development of software to enable Host Managed Shingled Magnetic Recording (SMR) devices
  o Linux device mapper target for LBA management/indirection under Linux
  o Lower class filter driver and virtual miniport driver for LBA management/indirection under Windows
  o Host managed/aware SMR device simulator
  o Modified Linear Tape File System (LTFS) to work with single zone SMR drives
  o Library to retrieve and parse ATA sense data and device signature
- Designed and evaluated self-learning algorithms for Solid State Hybrid Drives (SSHD).
- Architected and directed development of software to enable SSHDs
  o Windows filter driver to allow merging of LBA space between multiple devices
  o Windows utility to capture and analyze IO traces (network enabled)
  o Virtual machine based evaluation framework for SSHD self-learning algorithms

Senior Program Manager – Microsoft Corporation (Windows Core Division)   [2008 – 2010]
Defined and managed Windows storage stack features and technologies such as Storport, Disk/Classpnp, Thin Provisioning, iSCSI, MPIO, Power, FCoE, Drive Optimization/Telemetry and SAN Copy offload.
- Created and introduced Fibre Channel over Ethernet (FCoE) HBA Windows Logo Program requirements.
- Worked closely with independent hardware vendors (IHVs) and OEMs on Windows storage stack issues.
- Developed functional specifications for Windows 8 features.
- Worked with technical writers and partners on MSDN articles and technical guides.
- Influenced industry and developing standards as Microsoft representative to technical standard committees (T10 and T11).
- Engaged with partners and customers on OS enhancements to enable new storage technologies.

Network Applications Manager/Principal MTS – Ciphermax Inc/Maxxan Systems   [2006 – 2008]
Led the development of storage security applications and appliances. Managed and coordinated engineering teams in China, Houston and San Jose. Developed product requirements, planned tasks and schedules; delivered product and development presentations to customers.
- Specified hardware components and developed Linux based security/management appliances.
- Developed key lifetime management services with grid/cluster functionality for high availability and load balancing.
- Worked on FIPS 140-2 validation/qualification for CM Fibre Channel encryption switches.
- Led the development of user/storage/network/security management applications (RADIUS).
- Experience with SSL/TLS, SSH, NIST AES key wrap, and erasure codes (Shamir's Secret Sharing algorithm).
- Engaged with partners and customers on product roadmap and technology demonstration.

Sustaining Engineering Manager – ARIO Data Networks   [2003 – 2006]
Led the development of Fibre Channel/SCSI to SATA JBOD controller firmware. Developed product requirements, planned tasks and schedules; delivered product and development presentations to customers.

- Established check in/check out and build process for firmware source code.
- Mentored junior engineers to build a well-rounded team.
- Worked closely with OEMs and supplier companies to resolve technical issues.
- Worked closely with customers to resolve critical field issues (onsite support) and to design future enhancements.
- Worked closely with QA team to design test plans for newly implemented features and bug fixes.
- Led the development of dual controller firmware for high availability FC-ATA JBOD system.
- Developed Linux IBM PPC 440GP I2C bus driver to support slave and multi-master transactions.
- Developed algorithms to reorder queued ATA commands for optimized performance.
- Designed packet-based IPC (Inter-Processor Communication) protocol.

Embedded Software Engineer – Nishan Systems   [1999 – 2003]
Developed converged network switch (SCSI/Fibre Channel + Ethernet) firmware/supporting software.
- Led the development of network/storage management software (both standalone and embedded web application).
- Created context sensitive Java based HTML help system.
- Architected and developed packet-based IPC (Inter-Processor Communication) protocol and service.
- Developed configuration manager for system synchronization and state change notification.
- Developed console-based management programs (CLI), SNMP agent and MIBs (Management Information Base).

Software Engineer – 3Com Corporation   [1999 – 1999]
Developed network management software and integration with HP OpenView.

Publications/Talks
SNIA Developer Conference 2015 – Host Managed SMR
Linux Plumbers Conference 2015 – Generic Device Mapper approach for SMR
OpenCompute Summit 2014 – SMR Host Managed Direction for Standardization
Linux Storage, Filesystem & Memory Management Summit 2014 – SMR Panel
OpenCompute Summit 2013 – Host Managed SMR
SNIA Developer Conference 2013 – Addressing Shingled Magnetic Recording Drives with Linear Tape File
Ubuntu Developer Summit 2010 – Optimized Block Management

Class papers/Projects/Presentations
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http://hselin.github.io/resources/cs142-hselin-htyen-writing.pdf
Ola Diabetes Care
http://stanford.edu/class/cs194h/projects/ola/finalreport.pdf
High Performance Network Multiplexing with IX++
http://hselin.github.io/resources/CS344g_ixplusplus_final%20paper.pdf
The World Wide Web
http://hselin.github.io/resources/The_World_Wide_Web.pdf
Sabrina: A Decentralized, Trigger-Action Based System for the Internet of Things
http://hselin.github.io/resources/Sabrina_Final_Report.pdf
IoT Security
https://goo.gl/n7kiov

Education
Master of Science in Computer Science (Mobile and Internet Computing) – Stanford University   [2015]
Bachelor of Science in Computer Science – Cornell University   [1999]

Certificates
Software Systems Graduate Certificate – Stanford University   [2010]
Software Security Foundations Certificate – Stanford University   [2009]

Foreign Languages
Mandarin Chinese

Additional experience (independent projects)
zfilter – Windows filter driver for thin provisioning support.
InitiatorUils – Linux command line utility to send ATA pass-through commands.

Nakulu – Application to share music with another people all over the world.
Newscartography.com – A website that charts world hotspots by integrating RSS news feeds and Google map.
Sharemydrive.com/sharemyprinter.com – A website to share your directory and printer from home across the world.