Fred Clift

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WORK EXPERIENCE

PRINCIPAL DEVELOPER/ARCHITECT

3/2012 – Present, BetterLinux/BetterServers, Provo, UT

- Technical Architect for custom server resource metering and control software
- Develop C/Perl/Python applications, modifications of open-source software
- Apache Module development
- CloudStack IAAS development

Directly responsible creation and maintenance of custom linux server control software. Created a custom apache module for use in CDN/cache-invalidation product. Also work on RPM packaging, testing, command-line tools to monitor our product, trouble-shooting/analysis of heavily loaded production linux servers to find good automated methods of metering and resolving problems. BetterLinux is comprised of a few kernel modules and some user-land control software used to provide per cgroup, per uid, per block-device cpu and disk-io limits and shaping. I work with our 3 kernel developers to design and implement limits and tools to allow servers to optimize throughput and run complicated workloads. Created POC custom CDN tool with instant invalidation. Uses custom kernel interface to gather file-system events, a custom apache module and control software to send cache-invalidation notificaiton to CDN endpoints in near-real-time. Developed custom modifications to Apache CloudStack

DEVELOPMENT MANAGER/PRODUCT OWNER

2/2011 – 2/2012, AccessData, Lindon, UT

- Responsible for 3 development teams, local and remote
- Product Owner for CIRT – an enterprise application for distributed incident-response and management software.
- Product Owner for Core Processing Engine – the forensics technology that the majority of AccessData's products are based on
- Worked with internal and external customers (Other product development teams, Senior Management, Technical Account Managers) to define and create features for CIRT and forensic analysis software.
- Managed QA team members assigned to my products/projects

Directly responsible for project coordination, hiring, training, team advocacy, development processes and new feature design. Manage developers at remote locations. Use agile/scrum development processes.
Responsible for complex enterprise products, managing product requirements with input from all stakeholders. Responsible for ensuring business requirements being properly translated into technical requirements. Responsible for coordinating product and component dependency coordination with other dev teams in the company.

INTERNET SYSTEMS/SAAS ARCHITECT/CLOUD TEAM-LEAD

9/2008 – 02/2011, VERIO, Orem, UT

- Responsible for Architecture and Design of Verio's "Virtual Private Server" and Cloud product lines.
- Q3 2009-Q3 2010 was Team Lead and architect designing and developing Verio's next-gen Cloud Computing product delivery platform (SAN/ISCSI/GFS/LVS/Openvz) Low level diagnosis, debugging, and correction of Open-source C software (LVS software load balancer, openvz). Significant python development of a cloud-management system. Helped hire, and led team of 16 developers. Worked with QA team lead to develop and implement agile development processes and continuous build/integration/testing environment.
- Represented Verio as a SaaS industry expert, presenting a paper at SaaS University in Chicago, July 2009.
- Work with internal and external customers (Product Management, Operations, and other product development teams, end users, Japanese OEMs) to define and create hosting and cloud products.
- Over a decade of experience with OS and Internet technologies. Virtualization expert, DNS, GEO-IP/GEO-DNS research. TCP/IP, IPV6, HA, Load Balancing, Firewalls, DHCP, LAMP stacks, SMTP/POP/IMAP etc. Proficient with network analysis tools such as tcpdump, wireshark, netperf, etc. System software development on linux and FreeBSD. Developed FreeBSD, Linux and Solaris virtual servers running under a combination of in-house and 3rd party virtualization systems. We provide managed, automatic application updates and tools to let resellers of our product do distributed management of their accounts.

MANAGER/ARCHITECT VPS DEVELOPMENT

6/2005 – 9/2008 VERIO, Orem, UT

Managed a team of from 7 to 14 developers, local and remote. Oversaw development of virtualization technologies, OS customization, Internet hosting plans, SaaS deployment of 3rd party applications, custom web-based control panels, migration tools, new hardware certification, Responsible for build tools, version control systems (CVS, Subversion, and RCS), static analysis tools, etc. Also act as Lead Architect for enhancements to these products.

Directly responsible for project coordination, hiring, training, team advocacy, development processes and new feature design. Split time between Management and Software Development about 80/20. Manage developers at remote locations. Worked with our R&D team to develop and deploy new ISCSI/SAN environment for our next-generation hosting platforms.

OWNER

1/1994 - Present Clift Consulting, Provo, UT

A variety of Consulting: Expert Witness (internet/computer usage characterization), Software Development Process creation, Custom low-level C code to interact with PC bios for disk analysis, FreeBSD/Linux administration consulting, Firewall/VPN consulting, Geographic-DNS configurations for per-region web server load balancing, LVS/NAT based high availability and load balancing solutions. Windows 2000/XP/Server 2008/IIS administration, repair, Point-of-sale software installation and support. Electronics design consulting for embedded systems. Network Protocol reverse engineering.

Open-source software project contributor: FreeBSD (libc), XFree86, OpenVZ, xv

PARTNER – DENTED ARMOR PRODUCTIONS

4/1996 - Present Dented Armor Productions/BlackMud, Richmond Virginia/Provo Utah, UT

Partner/developer with 3 others in this business. Responsible for Co-location/system-administration of company servers, C based internet game design and development, some customer service, advertising and volunteer management/supervision.

The game has existed on the Internet since 1993 - I joined the team in 1996 and am one of the senior technical developers and partners. We've been providing a text-based multi-player role-playing game for more than a decade. http://blackmud.com/

TEAM LEAD HOSTING DEVELOPMENT

9/2001 - 6/2005 VERIO, Orem, UT

Reporting to a remote manager, was a team-lead for the hosting product development team. De-facto Manager of local team. Lead a team of 7 software developers responsible for Virtual Private Server Technology. Acted as architect for enhancements to these products. Developed network installation systems for remote unattended OS installs (FreeBSD, Solaris, Linux). Developed distributed authentication system for administrator access to Verio products. Integrated 3rd party licensed and open-source applications with our Virtual Server and Shared hosting platforms. C programming, perl, shell programming, python

SOFTWARE DEVELOPMENT ENGINEER III

7/1999 - 9/2001 VERIO, Orem, UT

Member of the hosting product development team. Worked on Virtualization Technology, OS modifications, Hosting Plan creation and configuration, 3rd party application integration, migration tools, new hardware certification etc. C programming, perl, shell programming, python

COMPUTER AND NETWORK SUPPORT REPRESENTATIVE (CSR)

9/1995 - 7/1999 Brigham Young University, Provo, UT

Was responsible for Brigham Young University Computer Science Department's Network configuration and unix workstations. Approximately 80 student lab workstations and 30 faculty/office systems. Solaris, HPUX, Linux system administration, backups, unattended installs, developed software to synchronize local unix accounts with other university systems outside the department. Network administration, IP address allocation, routing, dhcp etc. Managed 4 part-time student employees. (Full time employment while enrolled in MS CS program)

EDUCATION

9/1995 - 4/2001 Brigham Young University / Computer Science, Provo, UT

Master's Degree, Emphasis: Machine Learning and Neural Networks, Thesis: "Improved Performance of Hopfield Associative Memory"

9/1987 - 4/1995 Brigham Young University / Electrical and Computing Engineering, Provo, UT

Bachelor's Degree -Emphasis: VLSI design, Math Minor, Senior Project: Texture Recognition with a Tactile Sensor

PUBLICATIONS/CONFERENCE   PAPERS

- "Improved Hopfield Networks by Training With Noisy Data" Proceedings of the IEEE International Joint Conference on Neural Networks IJCNN'01, pages 1138–1143, 2001.
- "Resource limiting on the Virtual Private Server" BSDCan 2008 – The Technical BSD Conference. Ontario Canada, May 2008
- "Delivering Applications In a SaaS Model – Best Practices" SaaS University Conference, Chicago July 2009