

JAMES F. URSETTO

SKILLS

- Performance analysis:** identification of bottlenecks in hardware, software, and the network.
- Optimization:** acceleration of existing applications and workflows.
- Bridging:** facilitating collaboration between sysadmins and developers.
- Development:** large applications and small scripts in Perl, Python, C/C++ and Lisp.
- HP-UX:** extensive knowledge of HP hardware and software on HP-UX 10 and 11.
- Large sites:** management of very large environments with NFS, NIS, SSH, SD-UX, and Serviceguard.
- Open source:** Linux, Samba, Apache, and other enterprise-class products.
- Documentation:** clear, easy to understand descriptions of complex technical concepts.

EXPERIENCE

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| 4/2008 - 5/2008 | Chicago Mercantile Exchange | Chicago, Illinois |
| Built a Perl CGI web app which moves scheduler jobs between environments. It accepts change request information and multiple XML file uploads, performs XML transforms using standard modules, and emails the results. Users receive feedback on progress and errors, and can be asked to confirm selected changes. Application also interfaces with Oracle and LDAP. | | |
| 7/2007 - 3/2008 | Ursetto Consulting, Inc. | Chicago, Illinois |
| Ported 32-bit HP-UX business app to Linux and Mac OS X and added 64-bit support. Migrated authorization from UNIX/NIS to PAM, enabling use with LDAP. Fixed buffer overflow issues; corrected memory leaks using Valgrind. Developed content management system for web-based collaborative editing. | | |
| 6/2006 - 6/2007 | Acxiom Corporation | Chicago, Illinois |
| Development | Rearchitected 10-year-old C and Perl-based login and load balancing app to allow multiple user sessions. Replaced adhoc databases with one SQL database, and improved security. | |
| Architecture | Conducted architecture review and audit in Internet and batch environments. Corrected systemic NTP sync issues by rearchitecting NTP environment. | |
| Optimization | Reduced shell script runtime from 50 hours to 25 seconds. | |
| Web | Upgraded Apache and custom modules from 1.3.9 on 10.20 to 1.3.37 on 11i. Legacy mod_perl install (Perl 5.5, 10.20) had to be retained and numerous Oracle issues resolved. Traced webserver lockups to CGI database lock issue. | |
| Documentation | Introduced wiki as centralized documentation repository. Diagrammed a complex, undocumented batch workflow with AT&T Graphviz. | |
| Administrative | Wrote Perl framework to audit Linux systems and publish results to intranet. Built and standardized Perl 5.8 environment and site modules. Solved ext3fs corruption caused by EMC Powerpath. Fixed AMD CPU tick loss on Linux. Implemented QLogic HBA failover and networked install of RHEL AS4. Researched Red Hat Satellite Server and implemented custom channels and profiles. | |
| 5/2006 - 5/2006 | Information Resources, Inc. | Chicago, Illinois |
| Migrated an undocumented in-house web application from Java 1.1 on HP-UX 10.20 to Java 1.4 on 11i. | | |
| 11/2005 - 5/2006 | Ursetto Consulting, Inc. | Chicago, Illinois |
| Developed an interface to Objective C which allows users to write Cocoa applications for Mac OS X in Scheme, akin to PyObjC for Python. Created documentation tool for code and articles, transforming Scheme XML source into HTML output. Wrote tutorials and documentation (see http://ursetto.com/docs/). | | |
| 8/2005 - 10/2005 | Acxiom Corporation | Chicago, Illinois |
| Eliminated crashes and plugged resource leaks in legacy C app, a UNIX-to-mainframe job dispatcher. Repaired and standardized RPM environment on 15 Red Hat Enterprise Linux servers. Rebuilt and packaged local Perl modules for upgrade to 5.6. Solved recurring production Java exception. Alleviated link saturation during backups. | | |
| 7/2004 - 7/2005 | Information Resources, Inc. | Chicago, Illinois |
| Optimization | Improved Perl CGI script response time from 60 seconds to 1 second. Lowered shell script runtime from 60 minutes to 5-10 minutes, alleviating client timeouts. Saved 60% disk space and 48% time in C++ application with algorithm and compilation changes. | |

	Tripled speed of ksh/C++ batch application, saving three weeks of processing.
Performance	Wrote software to collect and graph gigabytes of performance data, as PerfView was inadequate. Analyzed large NFS environment and identified major bottleneck causing recurrent client timeouts and pain. Eliminated the problem entirely with NFS filesystem reorganization and parallel servers. In-depth analysis of several systems, including Oracle database servers.
System	Created method to safely inject HP-UX 11i code into 10.20 binary without needing source. Reduced risk of large outage after an NFS server crash, and decreased NFS traffic. Wrote tools to map NFS locks to filenames and processes; diagnosed root cause of lock table overflow. Determined client app crash was due to out-of-memory condition; enabled 2 extra quadrants to fix.
Networking	Feasibility study and benchmarking of jumbo Gigabit Ethernet frames. Redesigned network architecture to improve system's backups from 36 hours to 9 hours.
Web	Tracked down internal server errors in Tomcat application to outdated Java and Jakarta installations, then upgraded both. Fixed out-of-memory condition, implemented robust logging.
Architecture	Feasibility study on systemic changes required to convert batch jobs to a just-in-time architecture.

10/2003 - 2/2004 **Information Resources, Inc.** Chicago, Illinois

Analyzed performance of applications running on HP-UX 11i, using PerfView, glance, sar, tusc and tcpdump to examine system and NFS behavior. Identified a severe disk bottleneck in a C application; rewrote the algorithm and instituted kernel parameter changes to achieve a 3x speedup. Supported Platform JobScheduler and LSF. Created and optimized various Perl scripts. Solved several production issues.

12/2002 - 9/2003 **Ursetto Consulting, Inc.** Chicago, Illinois

Authored GUI applications in Perl and Python with C extensions, using wxWindows and GTK. The Python app is cross-platform, running on Windows, Unix and OS X. Wrote C, C++ and assembly code for Hitachi SH-4 platform.

6/2002 - 11/2002 **Information Resources, Inc.** Chicago, Illinois

IRI was managing their NIS environment with a large collection of shell, Perl and C code built up over several years. Replaced with a thoroughly documented, modular Perl solution using industry standard components. Eliminated security holes and file corruption; added detailed logging capability. Transition to new system was seamless.

IRI also had a client/server application intricately tied to their NIS master. Rearchitected the server, splitting off NIS code into a separate program. Rewrote Visual Basic client from scratch to reflect changed architecture, overhauling the interface and network protocol. Designed the system for gradual cutover and documented it carefully.

3/2000 - 1/2002 **ABN AMRO** Rosemont, Illinois

Supported large HP environment including D, K, N, and V class servers. Implemented critical MC/ServiceGuard cluster and highly customized scripts. Audited and tested existing clusters. Upgraded production server from 10.20 to 11.00 in minimal time, via cold install and data restore; documented procedure for team. Assessed impact of security vulnerabilities. Deployed SSH widely for secure administration and auditing; diagrammed SSH infrastructure.

1/1999 - 2/2000 **United Airlines** Elk Grove Village, Illinois

Worked with a team of architects and administrators to design and manage one of the largest HP-UX environments in the Chicago area. Technical support contact for Operations Control Center, comprising 8 J-class servers and 100+ workstations. Supported several Ks running Informix.

Technical implementation of Business Resumption Project, comprising 6 K-class servers, 85 B180 workstations and 200+ users. Worked with developers to port and test applications. Physical setup and OS configuration; CDE interface design; NFS/NIS implementation; and documentation. Site was activated successfully for one month during August 1999 fire. Upgraded site as requirements grew. Received award for outstanding performance.

Integral in evaluation, design and testing of load-balanced and redundant Internet firewall complex. Authored scripts to convert data from 7500-user LDAP database to Sidewinder format. Performed technical and security reviews of e-commerce and Internet application proposals, and drafted network security policies for developers.

EDUCATION

B.S., Mathematics and Computer Science; minor, East Asian Languages and Cultures; University of Illinois at Urbana-Champaign, January 1999. GPA: 3.86/4.0.