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Summary

Since 1976, [John Sloan](#) has worked in research, product development, and information technology. At [Wright State University](#), he led a systems administration and network engineering group, introducing the campus to UNIX and the Internet. While at the [National Center for Atmospheric Research](#), he was the head of the section responsible for that national lab's supercomputers, mass storage system, and server farm. While at [Bell Laboratories](#) and later [Avaya Labs](#), John worked as a firmware and software engineer on teams to develop and ship six different successful commercial products and major features, working on some for as many as six release cycles. John has published an article in the [Proceedings of the IEEE](#), an entry in the [Encyclopedia of Computer Science](#), and many [conference papers and technical reports](#). He is the inventor of two patents. John has served on both industry and academic advisory panels, has been an invited speaker and panelist, and has served as a visiting scientist and consultant domestically and internationally. He has worked with development groups in such exotic locales as China, India, Australia, Scotland, Ireland, and New Jersey. He has taught university courses in real-time and embedded software design at the undergraduate and graduate level. He has masters and bachelors degrees in Computer Science from [Wright State University](#) in Dayton Ohio. He entertains his friends by blogging under the pen name [Chip Overclock](#). John is currently a consulting technologist with the [Digital Aggregates Corporation](#), a firm he founded in 1995.

Keywords

Languages: Java (SE, ME), C++, C, SAS, Perl, FORTRAN, COBOL, Forth, various assemblers.

Platforms: Linux (Yggdrasil, RedHat, SUSE, Fedora, MontaVista, Ubuntu), U-Boot, BusyBox, VxWorks, CMX RTX, C-Executive/PSX, pSOS, POSIX, UNIX, BSD, System V, Solaris, SunOS, AIX, AIX/370, IRIX, OSF-1, UNICOS, MVS; Berkeley sockets, POSIX threads, STL, ASN.1, SPI, ZPL; ClearCase, SCCS, RCS, CVS, Subversion; Make, Ant, Eclipse, JUnit, JProfiler, Cobertura, DevRocket, IAR EWB; log4j, DOM, wsdl4j, XMLBeans, JAX-B, ServiceMix, JNI, XML, WSDL, JBI, JMS, Axis, various RPCs.

Domains: SOA, EDA, ESB, telephony, telecom, ATM, VTOA, VOIP, CDMA, ISDN, B-ISDN, web services, mass storage systems, OO, hard/soft real-time, device software, embedded systems, distributed systems, supercomputing, HPC, inter-process communication, multi-threaded, concurrent, highly-parallel, multiprocessor, multicore, device drivers, interrupt handlers.

Targets: Pentium 4, ARM, SPARC, PowerPC, MPC8xx, MPC83xx, MPC56303, i960, MIPS, IBM 370, PDP-11.

Highlights

- Recipient, Wright State University College of Engineering and Computer Science Outstanding Alumni Award (2008).
- Member, Engineering Technology Advisory Board, DeVry University, Westminster CO (2005-2007).
- Author, "Mass Storage Systems", *Encyclopedia of Computer Science*, Wiley (2003).

- Inventor, telecomm-related U. S. patent 6,457,036 (2002).
- Recipient, Lucent GROWS Award, "Results Oriented Focus", for customer field support (1998).
- Co-inventor, mass storage-related U. S. patent 5,566,331 (1996).
- Member, Advisory Panel, McData Corp., Broomfield CO (1995-1996).
- Scientific visitor and lecturer, Meteorological Agency, Science Foundation, People's Republic of China (1995).
- Principle author, invited paper on mass storage systems, *Proceedings of the IEEE* (1993).
- Taught undergraduate and graduate level course in real-time/embedded software design (1982-1986).

History

Digital Aggregates Corporation Consulting Technologist and Founder
Arvada Colorado USA 1995/11-Present

- Developed portions of 3GPP2 CDMA base station protocol stack in C++ for client's VxWorks-based platform.
- Ported Linux 2.6 kernel to AT91 (ARM) evaluation board.
- Wrote board support package, configured, installed and modified Linux kernel, modified U-Boot, configured and modified BusyBox, developed device drivers, daemons, applications for telecom product on client's MPC83xx platform.
- Reverse-engineered competitive commercial product and developed firmware emulation on client's ARM platform.
- Taught course in embedded development customized for client's code base.
- Designed and developed framework for commercial web services business orchestration product for major telecom equipment vendor.
- Consulted on requirements and architecture for Fibre Channel optical switching product.
- Consulted with foreign government on purchase of supercomputer and other data processing systems.

Avaya Inc. (spin off) Member of the Technical Staff
Westminster Colorado USA 2000/02-2006/08

- Developed service-oriented architecture/event-driven middleware platform using JBI enterprise service bus for business process automation product (CPM).
- Developed C software under Linux for high-availability/survivability feature for PBX product under ISO 9001 conformant processes at SEI CMM 3 (CM ESS).
- Developed portable, reusable library of C++ classes based on POSIX threads for embedded Linux and VxWorks applications.
- Developed error recovery subsystem, trap generation, alarm management, and other embedded software in C++ under VxWorks for VOIP media gateway product (G700).
- Routinely dealt directly with customers, both on-site and remotely, for troubleshooting, site support.

Lucent Technologies/Bell Labs Member of the Technical Staff
Westminster Colorado USA 1996/12-2000/02

- Developed hard real-time software in Java and device software and drivers in C, implementing analog station and trunk applications, CODEC and SLIC

interfaces, and related infrastructure under C-Executive for VOIP access concentrator product (R300).

- Developed traffic shaping, survivability, error recovery, power-on self-test, and other embedded and device software in C++ and assembler under VxWorks for ATM network interface card product (TN2305).
- Developed several connection admission control algorithms in C under pSOS for ATM switch product (A500).
- Performed troubleshooting of ATM network issues remotely and on-site for Fortune 500 customers.

**National Center for Atmospheric
Research
Boulder Colorado USA**

Section Head,
Software Engineer V
1989/07-1996/12

- Managed section responsible for multi-terabyte mainframe-based mass storage system, several supercomputers, file servers, and other UNIX-based distributed systems.
- Developed mass storage architecture, benchmarks, and simulation software in C, SAS, Perl under UNIX, publishing several papers on this work (MSS).
- Developed user interface, task control, file management, and graphical imaging software in C for distributed Solaris-based film and fiche output production system (TAGS).
- Developed portable UNIX-based software tool libraries in C, ported across many platforms, and reused in several projects by other developers (LIBTOOLS).

**Wright State University
Dayton Ohio USA**

Senior Computer Systems Engineer,
Senior Systems Programmer
1976/03-1989/06

- Taught undergraduate/graduate-level ten-week course in real-time/embedded software development.
- IT manager; system administrator; network engineer; mainframe systems programmer.
- Developed real-time code in C, PDP-11 assembler, FORTH for robotic and distributed applications.
- Developed mainframe-based systems code in IBM assembler, including I/O channel programming.

Education

M.S. Computer Science 1983/12/03 Wright State University, Dayton Ohio USA
1980/09-1983/10
B.S. Computer Science 1980/08/19 Wright State University, Dayton Ohio USA
1974/09-1980/06

Memberships: IEEE, ACM

Resources

Resume: <http://www.diag.com/people/jsloan/Resume.doc>
C.V.: <http://www.diag.com/people/jsloan/Vita.doc>
Samples: <http://www.diag.com/navigation/downloads/index.html>
Blog: <http://www.chipoverclock.com/>
LinkedIn: <http://www.linkedin.com/in/johnsloan>