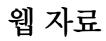
Appendix B



Web Resources

# 01장

#### www.bell-labs.com/history/unix/

Provides a history of the UNIX operating system, from its origins in the Multics system to the mature UNIX operating systems of today. Discusses many of the design and architectural considerations in the evolution of UNIX.

### www.softpanorama.org/History/os\_history.shtml

Provides a wealth of information on open-source software from a historical perspective.

### www.microsoft.com/windows/WinHistoryIntro.mspx

Provides a history of the Microsoft Windows family of operating systems.

### www.viewz.com/shoppingguide/os.shtml

Compares several popular operating systems, including Windows, Linux and MacOS, and provides a historical perspective.

### developer.apple.com/darwin/history.html

Covers the evolution of Darwin, the core of Apple's OS X operating system.

### www.cryptonomicon.com/beginning.html

Contains a link to the article, "In the Beginning Was the Command Line," by Neal Stephenson. This text is a narrative account of the recent history of operating systems, making colorful use of anecdote and metaphor.

### www.acm.org/sigcse/cc2001/225.html

Lists the operating systems course curriculum recommendation from the ACM/IEEE Joint Task Force that completed the Computing Curricula 2001 (CC2001) project. The curriculum indicates key areas of coverage for a typical operating systems course.

#### whatis.techtarget.com/

Provides definitions for computer-related terms.

### www.webopedia.com/

Provides an online dictionary and a search engine for computer-and Internet-related terms.

www.wikipedia.org/

Wikipedia is a project aimed at creating a free, open and accurate encyclopedia online. Any user may modify the entries in the encyclopedia, and all entries are licensed under the GNU Free Documentation License (GNUFDL).

# 02장

### www.pcguide.com

Provides articles discussing various aspects of computer hardware and the motivation for creating various interfaces; covers a broad range of topics relating to computer architecture.

# www.tomshardware.com

Tom's Hardware Guide is one of the most thorough hardware review sites on the Web.

### www.anandtech.com

Reviews new and emerging hardware.

### developer.intel.com

Provides technical documentation about Intel products, articles on current technologies and topics investigated by their research and development teams.

### www.ieee.org

IEEE defines many standards in computer hardware design. Members may access its journals online.

### sourceforge.net

World's most popular site for open-source software development; provides resources and utilities for software developers.

# 03장

msdn.microsoft.com/library/en-us/dllproc/base/about\_processes\_and\_threads.asp Provides a description of processes in Windows XP.

### www.freebsd.org/handbook/basics-processes.html

Includes a description of how the FreeBSD operating system handles processes. Mac OS X is based (in part) on FreeBSD.

- www.linux-tutorial.info/cgi-bin/display.pl?83&99980&0&3 Discusses how Linux handles processes.
- docs.sun.com/db/doc/806-4125/6jd7pe6bg?a=view Provides a process state-transition diagram for Sun Microsystem's Solaris operating system.

# www.beyondlogic.org/interrupts/interupt.htm Overviews interrupts and provides a detailed description of interrupt handling in the Intel architecture.

developer.apple.com/documentation/Hardware/Device-Managers/pci\_srvcs/pci\_cards\_drivers/ PCI\_BOOK.16d.html

Documents the interrupt model in Apple Macintosh computers.

# 04장

### www.serpentine.com/~bos/threads-faq/

Contains a frequently-asked-questions (FAQ) page about threads. Aside from answering basic thread questions, it provides links to books on threads, discusses some common pitfalls programmers encounter when implementing operating system support for threads and directs readers to thread packages available on the Internet.

# www.linux-mag.com/2001-05/compile\_01.html

This Linux Magazine article by Benjamin Chelf gives an overview of thread implementations. Chelf describes in detail how Linux handles Pthreads, providing sample Linux code.

- publib.boulder.ibm.com/iseries/v5r1/ic2924/index.htm?info/apis/rzah4mst.htm Provides a complete API for programming Pthreads and defines basic thread concepts.
- sources.redhat.com/pthreads-win32/ Contains an implementation of Pthreads for 32-bit Windows environments.
- java.sun.com/docs/books/tutorial/essential/threads/ Sun's tutorial on Java threads.
- java.sun.com/j2se/1.4.1/docs/api/ Java API containing a specification of the Thread class.
- archive.devx.com/dotnet/articles/pa061702/pa061702–1.asp Article that overviews multithreading using the .NET platform, including a concise presentation of multithreading concepts.
- www.microsoft.com/msj/0499/pooling/pooling.aspx Article that describes thread pooling in Windows XP.
- java.sun.com/docs/hotspot/threads/threads.html White paper that documents the relationship between Java threads and Solaris threads.
- developer.apple.com/documentation/MacOSX/Conceptual/SystemOverview/InverEnvironissues/ chapter\_14\_section\_3.html

Describes the thread manager in Macintosh OS X.

# 05장

www.ddj.com/documents/s=924/ddj9801g/9801g.htm

Describes a method for implementing mutual exclusion in Java. It describes, both generally and specifically for Java, how a programmer might implement mutual exclusion between a number of threads.

### www.cs.utexas.edu/users/EWD/

Contains electronic copies of manuscripts authored by E. W. Dijkstra, including his seminal paper that introduced semaphores.

# www.osdata.com/topic/language/asm/coproc.htm

Describes several machine-language instructions for concurrency, such as test-and-set and swap.

### developer.java.sun.com/developer/Books/performance2/chap3.pdf

Chapter from Sun's multithreaded and network programming book. It describes how to handle mutual exclusion in Java. The discussion is motivated by describing some circumstances that mutual exclusion helps avoid; then the article provides a thorough treatment of implementing mutual exclusion to avoid these unwanted circumstances.

### www.teamten.com/lawrence/242.paper/242.paper.html

Provides a survey of mutual exclusion algorithms implemented by operating systems running in a multiprocessor environment.

# 06장

- developer.java.sun.com/developer/Books/performance2/chap4.pdf This page from Sun's Web site provides a detailed description of how to use Java monitors.
- hissa.nist.gov/rbac/5277/titlerpc.html Compares several popular RPC implementations.
- java.sun.com/docs/books/tutorial/essential/threads/synchronization.html This is Sun's example of implementing mutual exclusion in the consumer/producer relationship in Java.

# 07장

### www.diee.unica.it/~giua/PAPERS/CONF/03smc\_b.pdf

Discusses an efficient approach to deadlock prevention in a real-time system.

www.db.fmi.uni-passau.de/publications/techreports/dda.html Describes a solution to deadlock detection in distributed systems.

# www.linux-mag.com/2001-03/compile\_01.html This Compile Time article describes how to deal with deadlock, using the Dining Philosophers example. The beginning of the article also reviews mutual exclusion primitives (e.g., semaphores) and concurrent programming.

# 08장

- www.linux-tutorial.info/cgi-bin/display.pl?85&0&0&0&3 This portion of the Linux tutorial describes process scheduling in Linux.
- developer.apple.com/techpubs/mac/Processes/Processes-16.html Describes process scheduling for the Apple Macintosh.
- www.oreilly.com/catalog/linuxkernel/chapter/ch10.html Contains the online version of O'Reilly's Linux kernel book. This page details process scheduling in Linux version 2.4.
- www.javaworld.com/javaworld/jw-07-2002/jw-0703-java101.html Describes thread scheduling in Java.
- csl.cse.ucsc.edu/rt.shtml Details the results of the real-time operating system scheduler research unit at the University of California, Santa Cruz.
- www.ittc.ku.edu/kurt/ Describes the Kansas University real-time scheduler that uses a modified Linux kernel.

# 09장

### www.kingston.com/tools/umg/default.asp

Describes the role of memory in a computer. Although the discussion is geared toward today's computers (which use virtual memory, a topic introduced in the next chapter), it describes many fundamental memory concepts.

### www.linux-mag.com/2001-06/compile\_01.html

Describes the working of the malloc() function in C, which allocates memory to newly created variables. The article also considers some basic allocation strategies that were discussed above (including first-fit, next-fit and worst-fit).

### www.memorymanagement.org

Presents memory management techniques and garbage collection. The site also contains a glossary of over 400 memory management terms and a beginner's guide to memory management.

# 10장

www.redhat.com/docs/manuals/linux/RHL-8.0-Manual/admin-primer/s1-memoryconcepts.html

Overview of virtual memory from Red Hat (a Linux vendor).

www.howstuffworks.com/virtual-memory.htm Overview of virtual memory.

### www.memorymanagement.org

Provides a glossary and guide to physical and virtual memory management.

developer.intel.com

Provides technical documentation regarding Intel products, including Pentium and Itanium processors. Their system programmer guides (e.g., for the Pentium 4 processor, developer.intel.com/design/Pentium4/manuals/) provide information on how memory is organized and accessed in Intel systems.

www-3.ibm.com/chips/techlib/techlib.nsf/productfamilies/PowerPC\_Microprocessors\_and\_ Embedded\_Processors

Provides technical documentation regarding PowerPC processors, found in Apple computers. Descriptions of virtual memory management in these processors is located in the software reference manuals (e.g., the PowerPC 970, found in Apple G5 computers, www-3.ibm.com/chips/techlib/techlib.nsf/products/PowerPC\_970\_Microprocessor).

h21007.www2.hp.com/dspp/tech/tech\_TechDocumentDetailPage\_IDX/1,1701,958!13!253,00.html Describes virtual memory organization for PA-RISC processors. PA-RISC is primarily used in highperformance environments. See also cpus.hp.com/technical\_references/parisc.shtml.

# 11장

- publib16.boulder.ibm.com/pseries/en\_US/aixbman/admnconc/vmm\_overview.htm Describes virtual memory management in AIX, which is IBM's UNIX-based system.
- www.csn.ul.ie/~mel/projects/vm/ Describes virtual memory management for the Linux 2.4 kernel.
- www.informit.com/isapi/product\_id~%7B6D5ACA10-5AB0-4627-81E5-65B9F6E080AC% 7D/content/index.asp

Describes virtual memory management in Windows 2000 running on an Intel x86 processor.

developer.apple.com/documentation/mac/Memory/Memory-2.html Describes virtual memory management in the Apple Macintosh operating system.

msdn.microsoft.com/library/default.asp?url=/library/en-us/appendix/hh/appendix/ enhancements5\_3oc3.asp

Discusses memory management enhancements in Windows XP.

www.nondot.org/~sabre/os/articles/MemoryManagement/ Lists links to several articles related to memory management.

# 12장

- www.disk-tape-data-recovery.com/storage-history.htm Provides a short history of persistent data storage media.
- www.almaden.ibm.com/sst/storage/index.shtml Describes physical limitations of storage technology and promising fields of research IBM has pursued to solve them.
- colossalstorage.net/colossal11.htm Provides links to sites describing evolving storage technologies.
- www.cosc.brocku.ca/~cspress/HelloWorld/1999/03-mar/disk\_scheduling\_algorithms.html Contains an article from Hello World, a magazine for computer science students; the article overviews disk scheduling algorithms.
- www.pcguide.com/ref/hdd/index.htm Discusses hard disk characteristics.
- www.microsoft.com/windows2000/techinfo/administration/fileandprint/defrag.asp Describes how to use the disk defragmenting utilities in Windows 2000.
- www.pcguide.com/ref/hdd/perf/raid/ Provides an in-depth introduction to RAID.
- www.acnc.com/04\_00.html Provides a summary of most RAID levels.
- linas.org/linux/raid.html Contains articles about RAID and its implementation in Linux systems.
- www.pdl.cmu.edu/RAID/

Overviews RAID and provides links to current RAID research.

# 13장

- www.linux-tutorial.info/cgi-bin/display.pl?95&0&0&0&3 Contains a tutorial describing file systems in Linux.
- www.redhat.com/docs/manuals/linux/RHL-8.0-Manual/admin-primer/s1-storage-basics.html Overviews file system concepts.
- www.itworld.com/nl/db\_mgr/

Contains articles about data management strategies.

- www.winnetmag.com/articles/index.cfm?articleid=3455 Includes information about the Windows NT file system.
- www.osta.org/specs/pdf/udf201.pdf Contains the 2.01 revision of the Universal Disk Format(UDF) file system, which is commonly used to organize data on DVDs.
- storageconference.org/

Contains articles and presentations from the annual cooperative IEEE-NASA Storage Conference, highlighting techniques and technologies that manage mass storage devices.

www.sqlcourse.com/

Provides an interactive tutorial, teaching the basics of SQL.

# 14장

- www.cs.arizona.edu/computer.help/policy/DIGITAL\_unix/AA-Q0R5B-TET1\_html/TOC.html Discusses the remote procedure call (RPC) model.
- www.omg.org/library/wpjava.html Demonstrates how Java, RMI and CORBA are used in distributed systems.
- java.sun.com/products/jdk/rmi/ Java RMI home page, which contains links for white papers, specifications and RMI tutorials.
- java.sun.com/j2se/1.4.2/docs/guide/rmi/spec/rmi-TOC.html Provides the Java platform's remote method invocation system specification.
- www.omg.org/gettingstarted/corbafaq.htm Introduces CORBA and provides links to detailed specifications.
- www.omg.org/docs/formal/02–12–06.pdf Detailed CORBA architecture and specification.
- msdn.microsoft.com/library/default.asp?url=/library/en-us/dndcom/html/msdn\_dcomtec.asp DCOM technical overview provided by Microsoft.

- research.microsoft.com/~ymwang/papers/HTML/DCOMnCORBA/S.html Architectural comparison of DCOM and CORBA.
- ftp://ftp.cs.vu.nl:/pub/papers/amoeba/comcom91.ps.Z Status report on the Amoeba distributed operating system.
- www.cs.vu.nl/pub/amoeba/Intro.pdf Introduction to the Amoeba distributed operating system.
- ftp://ftp.cs.vu.nl:/pub/papers/amoeba/cs91.ps.Z Compares the Amoeba and Sprite distributed operating systems.

# 15장

- www.nsa.gov/selinux/index.html Lists documents and resources for Security-Enhanced Linux.
- www.microsoft.com/windowsxp/security Provides links for maintaining security in Windows XP systems.
- www.sun.com/software/solaris/trustedsolaris/index.html Provides information about the trusted Solaris operating environment.
- www.computerworld.com/securitytopics/security/story/0,10801,69976,00.html Discusses two security flaws in Windows NT and 2000 and how they were fixed.
- people.freebsd.org/~jkb/howto.html Discusses how to improve FreeBSD system security.
- www.deter.com/unix Lists links for UNIX-related security papers.
- www.alw.nih.gov/Security/Docs/networksecurity.html Provides an architectural overview of UNIX network security.
- www.newsfactor.com/perl/story/7907.html Compares Linux and Windows security.
- itmanagement.earthweb.com/secu/article.php/641211 Discusses the future of operating systems security.
- www-106.ibm.com/developerworks/security/library/lsec/index.html?dwzone=security Provides links to Linux security issues and how to address these issues.
- www.securemac.com/
  - Provides security news for Apple systems.
- www.linuxjournal.com/article.php?sid=1204 Describes how to create a Linux firewall using the TIS Firewall Toolkit.

www.rsasecurity.com

Homepage of RSA security.

www.informit.com/isapi/guide~security/seq\_id~13/guide/content.asp

Discusses operating system security overview, operating system security weakness.

www.ftponline.com/wss/

Homepage of the Windows Server System magazine, which contains various security articles.

### www.networkcomputing.com/1202/1202f1d1.html

Provides a tutorial on wireless security.

#### www.cnn.com/SPECIALS/2003/wireless/interactive/wireless101/index.html

Provides a list of wireless security technologies for computers, PDAs, cell phones and other wireless devices.

# www.securitysearch.com

This is a comprehensive resource for computer security, with thousands of links to products, security companies, tools and more. The site also offers a free weekly newsletter with information about vulnerabilities.

### www.w3.org/Security/Overview.html

The W3C Security Resources site has FAQs, information about W3C security and e-commerce initiatives and links to other security-related Web sites.

#### www.rsasecurity.com/rsalabs/faq

This site is an excellent set of FAQs about cryptography from RSA Laboratories, one of the leading makers of public-key cryptosystems.

#### www.authentidate.com

Authentidate provides timestamping to verify the security of a file.

#### www.itaa.org/infosec

The Information Technology Association of America (ITAA) InfoSec site has information about the latest U.S. government legislation related to information security.

#### www.securitystats.com

This computer security site provides statistics on viruses, Web defacements and security spending.

### www.ieee-security.org/cipher.html

Cipher is an electronic newsletter on security and privacy from the Institute of Electrical and Electronics Engineers (IEEE). You can view current and past issues online.

### www.scmagazine.com

SC Magazine has news, product reviews and a conference schedule for security events.

# www.cdt.org/crypto

Visit the Center for Democracy and Technology for U.S. cryptography legislation and policy news.

csrc.nist.gov/encryption/aes The official site for the AES includes press releases and a discussion forum. www.pkiforum.org/ The PKI Forum promotes the use of the Public Key Infrastructure. www.verisign.com VeriSign creates digital IDs for individuals, small businesses and large corporations. Check out its Web site for product information, news and downloads. www.thawte.com Thawte Digital Certificate Services offers SSL, developer and personal certificates. www.belsign.be/ Belsign is the European authority for digital certificates. www.interhack.net/pubs/fwfaq This site provides an extensive list of FAQs on firewalls. www.indentix.com Identix specializes in fingerprinting systems for law enforcement, access control and network security. Using its fingerprint scanners, you can log on to your system, encrypt and decrypt files and lock applications. www.keytronic.com Key Tronic manufactures keyboards with fingerprint recognition systems. www.ietf.org/html.charters/ipsec-charter.html The IPSec Working Group of the Internet Engineering Task Force (IETF) is a resource for technical information related to the IPSec protocol. www.vpnc.org The Virtual Private Network Consortium has VPN standards, white papers, definitions and archives. VPNC also offers compatibility testing with current VPN standards. www.outguess.org Outguess is a freely available steganographic tool. www.weca.net/OpenSection/index.asp Wi-Fi alliance provides information about Wi-Fi and resources for setting up and securing a Wi-Fi network. 16장

### www.kernel.org/

Official site for hosting the latest Linux kernel releases. It also includes a brief description of Linux and contains links to Linux resources.

### Ixr.linux.no/

Contains a cross-reference to recent releases of the Linux source code. Users can navigate the source code specific to an architecture and version number, search the source for identifiers and other text, and compare two different versions of the source side by side. The /Documentation directory provides links to files referenced in the chapter.

### Ioll.sourceforge.net/linux/links/

Provides an index of categorized links to a selection of online Linux resources. Categories include kernel, documentation, distributions, security and privacy, graphics and software applications.

### www.linux.org/

Provides updated Linux information including news, development status and links to documentation, distributions, applications, source code and other resources.

### www.kernelnewbies.org/

Provides information for people new to the Linux kernel. Features include a glossary, FAQ, articles, documentation, useful scripts and mailing lists.

# www.spinics.net/linux/

Contains a large number of Linux resources, including links to information on kernels, security, embedded Linux and more.

### www.tldp.org/LDP/lki/index.html

Part of the Linux Documentation Project hosted at www.tldp.org that discusses Linux kernel internals. The Linux Documentation Project provides many guides, HOWTOs and FAQs for those interested in the kernel, and for users and administrators.

### www.tldp.org/LDP/lkmpg/index.html

Focuses on programming for the Linux environment, including details on programming kernel modules and adding entries to the proc file system.

### www.tldp.org/HOWTO/Module-HOWTO/

Describes how to program Linux loadable kernel modules (LKMs) and discusses the use and behavior of LKMs.

### www.csn.ul.ie/~mel/projects/vm/

Provides documentation of the Linux version 2.4 virtual memory system, which remains largely intact in version 2.6. The documents include a comprehensive discussion of Linux virtual memory and a companion code commentary.

### www.linuxjournal.com/search.php?query=&topic=4

The Linux Journal Web site provides numerous articles on Linux. Be sure to search the "Linux Kernel" category.

#### www.linuxsymposium.org/2003/

Provides information about the Linux Symposia, annual gatherings of the top Linux kernel developers from over 30 countries.

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Ise.sourceforge.net/
  Home to the Linux Scalability Effort, an organization dedicated to porting Linux to larger and more
  complex computer systems.
www.linux-mag.com/
  Online version of Linux Magazine, which provides articles, guides and tutorials for Linux systems.
www.linuxdevices.com/
  Provides articles and resources on Linux for embedded systems and discusses how Linux scales to
  devices such as cell phones and PDAs.
www.linuxsecurity.com/
  Contains articles, documentation and other links to information regarding Linux security for both
  users and developers.
kernelnewbies.org/documents/kdoc/kernel-locking/lklockingguide.html
  Contains information written by a kernel developer about kernel locks and semaphores.
www.plig.org/xwinman/index.html
  Describes the window managers available for the X Window Manager as well as some of the
  desktop environments that run on X.
user-mode-linux.sourceforge.net/
  Explains how to download, install and use User-Mode Linux(UML).
Ism.immunix.org
  Provides links to documentation, downloads and mailing lists for the Linux Security Modules
  project.
```