The Windows NT Device Driver Book


The Windows NT Device Driver Book

See how the core components of the Windows operating system work behind the scenes—guided by a team of internationally renowned internals experts. Fully updated for Windows Server(R) 2008 and Windows Vista(R), this classic guide delivers key architectural insights on system design, debugging, performance, and support—along with hands-on experiments to experience Windows internal behavior firsthand. Delve inside Windows architecture and internals: Understand how the core system and management mechanisms work—from the object manager to services to the registry. Explore internal system data structures using tools like the kernel debugger. Grasp the scheduler's priority and CPU placement algorithms. Go inside the Windows security model to see how it authorizes access to data. Understand how Windows manages physical and virtual memory. Tour the Windows networking stack from top to bottom—including APIs, protocol drivers, and network adapter drivers. Troubleshoot file-system access problems and system boot problems. Learn how to analyze crashes.

Windows 2000 Registry

Here's the Windows 2000 Server book every administrator will need—one that contains only the most advanced information rather than rehashing the basics yet again. Written by a Windows 2000 expert and security consultant, this book provides high-level coverage of Windows 2000 system design and implementation, from planning and security to daily maintenance and troubleshooting. Includes a detailed discussion of assessing your network's security needs and implementing an effective solution. Use this book as a supplement to Mastering Windows 2000 Server.

Developing Drivers with the Windows Driver Foundation

Explains how to configure Windows XP for maximum control and flexibility, work effectively with the Registry, take advantage of the built-in firewall, and troubleshoot problems.

Programming the Microsoft Windows Driver Model

PLEASE PROVIDE DESCRIPTION

Writing Windows WDM Device Drivers

Windows 2000 Administration in a Nutshell

Start developing robust drivers with expert guidance from the teams who developed Windows Driver Foundation. This comprehensive book gets you up to speed quickly and goes beyond the fundamentals to help you extend your Windows development skills. You get best practices, technical guidance, and extensive code samples to help you master the intricacies of the next-generation driver model—and simplify driver development. Discover how to: Use the Windows Driver Foundation to develop kernel-mode or user-mode drivers. Create drivers that support Plug and Play and power management—with minimal code. Implement robust I/O handling code. Effectively manage synchronization and concurrency in driver code. Develop user-mode drivers for protocol-based and serial-bus-based devices. Use USB-specific features of the frameworks to quickly develop drivers for USB devices. Design and implement kernel-mode drivers for DMA devices. Evaluate your drivers with source code analysis and static verification tools. Apply best practices to test, debug, and install drivers. Get driver code samples on the Web.

Windows 2000 Server 24seven

-- Not only explains the new features of Windows .NET Server 2003, but also provides continued support for Windows 2000 administration.-- Covers changes in security, Active Directory, Microsoft Management Console, and integration with the .NET Framework, among many others changes.

Windows .NET Server 2003 is the first Microsoft product that is innately affected by the company's recent Trustworthy Computing initiative. If this is successful, this will be the most stable, reliable, and dependable server OS that Microsoft has ever released. It will also feature an integrated environment with the .NET Framework and the Common Language Runtime. The Ultimate Windows .NET Server 2003 System Administrator's Guide is an essential resource for planning, deploying, and administering a Windows .NET enterprise system. The authors draw on years of experience designing and administering Windows NT and UNIX systems in order to guide you through the varied tasks involved in real-world system administration. There are detailed discussions of key Windows .NET Server administrative functions, and descriptions of many advanced tools and optional components. In addition, the authors have included a comprehensive and convenient command reference.

MCSE: Windows 2000 Exams in a Nutshell

This is a guide book with software for programmers writing device drivers for Windows NT. This is the only book and sample software available on Device Drivers--NT.

Using Microsoft Windows 2000 Professional

An exhaustive technical manual outlines the Windows NT concepts related to drivers; shows how to develop the best drivers for particular applications; covers the I/O Subsystem and implementation of standard kernel mode drivers; and more. Original. (Intermediate).

The Ultimate Windows Server 2003 System Administrator's Guide

Faster, stronger, better than it was before - this is the
only Windows XP book readers will ever need!

CompTIA A+ Exam Cram (Exams 220-602, 220-603, 220-604) Windows Server can drastically reduce the cost of enterprise networking -- but only if your servers are properly configured. In this book, Windows Server expert Curt Aubley walks you through every aspect of setting up Windows Server for your custom environment, stressing it to evaluate and forecast, and sizing hardware to achieve maximum value. Aubley doesn't just show you how to make your current Windows Server-based solutions run quickly and cost-effectively: he covers the "whys" you'll need to address any Win2K performance challenges. You'll find specific, detailed recommendations for sizing and tuning both Windows software and hardware, including CPU, memory, disk subsystem, network, and other potential bottlenecks. Aubley presents detailed coverage for maximizing performance and scalability in each leading Windows Server application, including: optimizing file servers, IIS 5-based web servers, database servers running SQL Server 7 or 2000, messaging servers running Exchange 5.5 or 2000, backup systems, and domain controllers. He also offers insight into the performance overhead associated with security on Windows Server.

Managing the Windows 2000 Registry Offers test-taking strategies and tips while covering topics including troubleshooting, system performance, storage access, security settings, and administrative tools.

The Windows 2000 Device Driver Book Practical knowledge and skills of the Windows 2000 Registry database are critical for system administrators, technical support personnel, and advanced Windows NT/2000 users. This book was created to clarify many of the frequently asked questions surrounding one of the most confusing components of the Windows 2000 operating system. Offering a comprehensive overview of Registry concepts and features, complete coverage of Registry backup and recovery protocols, as well as troubleshooting the most common system problems this book should be of interest to system engineers facing challenges with the increasingly complex network. The text contains: a concise overview of the Windows 2000 Registry structure, valid data types, and data storage methods; a full chapter dedicated to securing and protecting your Registry while avoiding conflicts that create difficulties completing everyday tasks; step-by-step instructions dedicated to the various methods of backing up and restoring the Registry database; and a definition of the interface of the Registry editors, keys, and utilities for novice users. The text examines and explains multiple Registry configurations and network settings and includes instructions for fine-tuning your Registry. There are detailed descriptions of the Windows 2000 boot process and tips and techniques for eliminating boot failures. The text includes descriptions of popular third-party tools for exiting the Registry and a complete listing of additional Windows 2000 Registry information sources.

Special Edition Using Microsoft Windows XP Home The Microsoft® Windows® driver model (WDM) supports Plug and Play, provides power management capabilities, and expands on the driver/minidriver approach. Written by long-time device-driver expert Walter Oney in cooperation with the Windows kernel team, this book provides extensive practical examples, illustrations, advice, and line-by-line analysis of code samples to clarify real-world driver-programming issues. And it's been updated with the latest details about the driver technologies in Windows XP and Windows 2000, plus more information about how to debug drivers. Topics covered include: Beginning a driver project and the structure of a WDM driver; NEW: Minidrivers and class drivers, driver taxonomy, the WDM development environment and tools, management checklist, driver selection and loading, approved API calls, and driver stacks Basic programming techniques; NEW: Safe string functions, memory limits, the Driver Verifier scheme and tags, the kernel handle flag, and the Windows 98 floating-point system synchronization; NEW: Details about the interrupt request level (IRQL) scheme, along with Windows 98 and Windows Me compatibility The I/O request packet (IRP) and I/O control operations; NEW: How to send control operations to other drivers, custom queue implementations, and how to handle and safely cancel IRPs Plug and Play for function drivers; NEW: Controller and multifunction devices, monitoring device removal in user mode, Human Interface Devices (HID), including joysticks and other game controllers, minidrivers for non-HID devices, and feature reports Reading and writing the registry; NEW: The System Management Interface and tools, Windows Management Instrumentation (WMI) NEW: System wakeup, the WMI control for idle detection, and using WMIMOFCK Specialized topics and distributing drivers; NEW: USB 2.0, selective suspend, Windows Hardware Quality Lab (WHQL) certification, driver selection and loading, officially approved API calls, and driver stacks COVERS WINDOWS 98, WINDOWS ME, WINDOWS 2000, AND WINDOWS XP! CD-ROM FEATURES: A fully searchable electronic copy of the book Sample code in Microsoft Visual C++® A Note Regarding the CD or DVD The print version of this book ships with a CD or DVD. For those customers purchasing one of the digital formats in which this book is available, we are pleased to offer the CD/DVD content as a free download via O'Reilly Media's Digital Distribution services. To download this content, please visit O'Reilly's web site, search for the title of this book to find its catalog page, and click on the link below the cover image (Examples, Companion Content, or Practice Files). Note that while we provide as much of the media content as we are able via free download, we are sometimes limited by licensing restrictions. Please directly any questions or concerns to booktech@oreilly.com.

Windows XP Annoyances Windows administrators can accomplish many of their routine tasks much more quickly by using the command line (similar to the command line of DOS or Unix-based systems) than by going through the graphical user interface that most users associate with Windows. Windows 20000 Commands Pocket Reference documents the Windows command mode. It's designed for system administrators, but will also be valuable to many users. It includes most available Windows 2000 commands, as well as the most useful system administration command-line utilities from the Resource Kit. Weeded out of this book are Windows commands and command options that are obscure, obsolete, broken, unacceptably insecure, or frankly inadvisable, as well a few special-purpose classes of commands. Whenever several utilities perform essentially identical tasks, we include only the best of them. Commands are grouped according to their purpose and function; within a group, commands are arranged alphabetically. Options for each command are grouped by function and ordered by importance. The Windows 2000 Commands Pocket Reference complements Windows Administration in a Nutshell by conveying the kind of no-nonsense, boiled-down information typical of O'Reilly's highly successful companion Pocket Reference series. It's a valuable, concise reference to Windows 2000 commands and command-line utilities.

Developing Windows NT Device Drivers SECURITY SOLUTION THAT MEETS BUSINESS REQUIREMENTS. SECURITY INCLUDES: CONTROLLING ACCESS TO RESOURCES, AUDITING ACCESS TO RESOURCES, AUTHENTICATION, AND ENCRYPTION. IN ADDITION, THIS STUDY GUIDE HELPS YOU TO COMPETENTLY UNDERSTAND, EXPLAIN, DESIGN, AND IMPLEMENT A SECURE MICROSOFT WINDOWS 2000 NETWORK WITH ALL ITS TECHNOLOGY AND
MEANINGFUL PRACTICES. ALL THE INFORMATION YOU NEED TO HELP YOU PASS THE WINDOWS 2000 EXAM IS CONTAINED IN THIS LIGHTPOINT LEARNING SOLUTIONS STUDY GUIDE. Ten easy-to-read lessons Instructional graphics Clear objectives Content-oriented activities and vocabulary Troubleshooting Quiz questions and answers If you are serious about getting ahead in the high-tech computer industry, your ticket to success is through this certification. LightPoint Learning Solutions study guides are targeted to help you pass the exam on the first try. Knowledge is power. Get your knowledge and your power today through LightPoint Learning Solutions study guides.

Windows 2000 Commands Pocket Reference Focusing on the needs of the technical professional who is responsible for a series of Windows NT and Windows 2000 systems, The Windows 2000 Professional Handbook is designed to be both a handy desk reference in addition to a textbook for MCSE courses. This book provides readers with insights into how Microsoft's latest enterprise-based operating system solves the connectivity challenges with hands-on examples and cases that arise in organizations running multiple operating systems.

Inside Windows 2000 Server With this book, readers master the skills and concepts necessary to implement, administer, and troubleshoot information systems that incorporate Microsoft Windows 2000 Server. Readers preparing for this exam find the Training Guide series to be the most successful self-study tool in the market.

The Microsoft Windows 2000 Professional Handbook The start-to-finish tutorial and reference for Windows 2000 kernel debugging! The expert guide to Windows 2000 kernel debugging and crash dump analysis Interpreting Windows 2000 stop screens— in depth! Making the most of WinDbg and KD Debugging hardware: ports, BIOS, PCI and SCSI buses, and chipsets Advanced coverage: remote debugging, Debugging Extensions, Driver Verifier, and more Step-by-step crash dump analysis and kernel debugging How to interpret every element of a Windows 2000 stop screen Using WinDbg: configuring options, symbol paths, DLLs, and more Debugging hardware: ports, BIOS, PCI and SCSI buses, chipsets, and more Configuring local and remote kernel debugging environments Includes extensive code samples This comprehensive guide to Windows 2000 kernel debugging will be invaluable to anyone who must analyze and prevent Windows 2000 system crashes—especially device driver authors and debuggers. Renowned kernel debugging expert Steven McDowell covers every aspect of kernel debugging and crash dump analysis— including advanced hardware debugging and other techniques barely addressed in Microsoft's documentation. Discover what Microsoft's WinDbg debugger can (and can't) do for you, and how to configure both local and remote kernel debugging environments. Learn to use Windows 2000's crash dump feature, step by step. Learn how to start and stop errant drivers, pause target systems, retrieve system and driver state, and step through source code using breakpoints and source-level debugging. McDowell demonstrates techniques for taking control of target systems, including finding "lost" memory blocks, setting process and thread contexts, and reviewing I/O system error logs. You'll learn how to use Microsoft's powerful Debugger Extensions to run virtually any command you choose, and master the new Driver Verifier, which can detect common mistakes in driver code with unprecedented speed and accuracy.

Windows 2000 Essential Reference The world's most complete guide to Windows graphics programming! Win32 GDI and DirectDraw: Accurate, under the hood, and in depth! Beyond the API: Internals, restrictions, performance, and real-life problems Complete: Pixel, lines, curves, filled area, bitmap, image processing, fonts, text, metafile, printing, and more Up to date: Windows 2000 and Windows 98 graphics enhancements CD-ROM: Exclusive and professional quality generic C++ classes, reusable functions, demonstration programs, kernel mode drivers, GDI exploration tools, and more! Hewlett-Packard Professional Books To deliver high-performance Windows applications, you need an in-depth understanding of the Win32 GDI and DirectDraw— but until now, it's been virtually impossible to discover what's going on "behind" Microsoft's API calls. This book rips away the veil, giving experienced Windows programmers all the information and techniques they need to maximize performance, efficiency, and reliability! You'll discover how to make the most of Microsoft's Windows graphics APIs—including the important new graphics capabilities built into Windows 2000. Coverage includes: Uncloaking the Windows system architecture and graphics system internal data structure Building graphics API "spies" that show what's going on "under the hood" Detecting GDI resource leaks and other powerful troubleshooting techniques Expert techniques for working with the Win32 GDI and DirectDraw APIs Device context, coordinate space and transformation, pixels, lines, curves, and area fills Bitmaps, image processing, fonts, text, enhanced metafiles, printing, and more "Windows Graphics Programming" delivers extensive code, practical techniques, and unprecedented insight— plus an exclusive CD-ROM containing original system-level tools, kernel mode drivers, sample code, and generic C++ classes for Windows graphics programming without MFC. If you want to build Windows graphics applications that deliver breakthrough performance and reliability, you'll find this book indispensable.

Windows Internals &> In This Book You'll Learn How To: Recognize the different types and forms of computer memory Identify different computer cables and connectors Troubleshoot common computer motherboard components Install core PC components, such as motherboards, processors, and memory Install and maintain multiple computer peripherals Identify network architectures and topologies Troubleshoot operating system problems Describe the core functions of Windows NT/2000/XP and Windows 9x operating systems Discover effective DOS commands excellent for troubleshooting Use the DOS operating system or command lines when your GUI is unavailable Recover from system startup failures Use and troubleshoot Windows Networking Effectively prepare yourself for exam day CD Features Practice Exams! Ready to test your skills? Want to find out if you’re ready for test day? Use the practice tests supplied on this CD to help prepare you for the big day. Test yourself, and then check your answers. Coupled with the in-depth material in the book, this is the ultimate one-two A+ study preparation package! Charles J. Brooks is currently co-owner and vice president of Educational Technologies Group Inc., as well as co-owner of eITPrep LLP, an online training company. He is in charge of research and product development at both organizations. A former electronics instructor and technical writer with the National Education Corporation, Charles taught and wrote on post-secondary EET curriculum, including introductory electronics, transistor theory, linear integrated circuits, basic digital theory, industrial electronics, microprocessors, and computer peripherals. Charles has authored several books, including the first five editions of A+ Certification Training Guide, The Complete Introductory Computer Course, and IBM PC Peripheral Troubleshooting and Repair. He also writes about networking, residential technology integration, and convergence.

Configuring Windows 2000 without Active Directory Showcases Windows 2000's business and laptop suitability, covering
day-to-day administrative tasks and migrating from Windows NT to Windows 2000.

Undocumented Windows 2000 Secrets Covers installation, configuration, Registry manipulation, network management, Active Directory, and security


MCSA/MCSE: Windows 2000 Professional Study Guide The Windows 2000 Registry is the repository for all hardware, software, and application configuration settings, and this is the system administrator's guide to maintaining, monitoring, and updating the Registry database.

Tuning and Sizing Windows 2000 for Maximum Performance PC Hardware in a Nutshell is the practical guide to buying, building, upgrading, and repairing Intel-based PCs. A longtime favorite among PC users, the third edition of the book now contains useful information for people running either Windows or Linux operating systems. Written for novices and seasoned professionals alike, the book is packed with useful and unbiased information, including how-to advice for specific components, ample reference material, and a comprehensive case study on building a PC. In addition to coverage of the fundamentals and general tips about working on PCs, the book includes chapters focusing on motherboard, processors, memory, floppy, hard drives, optical drives, tape devices, video devices, input devices, audio components, communications, power supplies, and maintenance. Special emphasis is given to upgrading and troubleshooting existing equipment so you can get the most from your existing investments. This new edition is expanded to include: Detailed information about the latest motherboards and chipsets from AMD, Intel, SiS, and VIA. Extensive coverage of the Pentium 4 and the latest AMD processors, including the Athlon XP/MP. Full details about new hard drive standards, including the latest SCSI standards, ATA/133, Serial ATA, and the new 48-bit "Big Drive" ATA interface. Extended coverage of DVD drives, including DVD-RAM, DVD-R/RW, and DVD+R/RW. Details about Flat Panel Displays, including how to choose one (and why you might not want to). New chapters on serial communications, parallel communications, and USB communications (including USB 2.0). Enhanced troubleshooting coverage. PC Hardware in a Nutshell, 3rd Edition provides independent, useful, and practical information in a no-nonsense manner with specific recommendations on components.

Based on real-world testing over time, it will help you make intelligent, informed decisions about buying, building, upgrading, and repairing PCs in a cost-effective manner that will help you maximize new or existing computer hardware systems. It's loaded with real-world advice presented in a concise style that clearly delivers just the information you want, without having your hunt for it.


Windows Graphics Programming An authoritative guide to Windows NT driver development, now completely revised and updated. The CD-ROM includes all source code, plus Microsoft hardware standards documents, demo software, and more.

Windows 2000 TCP/IP For developers who must know and understand the fundamentals to be able to apply the more advanced aspects that will emerge with NT 5, here is an in-depth book to the rescue, covering the core techniques of programming NT device drivers.

Windows NT/2000 Native API Reference Offers test-taking strategies and tips, provides multiple installation methods for Windows 2000 Professional, and explains how to perform tasks such as remote printing and Internet connection sharing.

Writing Windows Wdm Device Drivers Eliminate the hassles of Active Directory - install Windows 2000 without it! Windows 2000 is undoubtedly a great product. In one year after its release, Microsoft have sold have sold 10 million licenses. System administrators are praising its impressive abilities to coordinate Internet, intranet, extranets, and management applications creating a complete technical infrastructure. However, there has been a noticeable amount of organizations that are avoiding one of the most talked about features of Windows 2000 - Active Directory. The industry buzz is that Active Directory (although a great product) is a burden to implement and install and is not compatible with non Windows products like Solaris, NetWare and Linux. Configuring Windows 2000 WITHOUT Active Directory is a complete guide to installation and configuration of Windows 2000 (without Active Directory) for system administrators and network consultants. This book details not only the new features and functions of Windows 2000 but also how to integrate several features with existing Windows NT4 domains. The book does not cover the Active Directory function of Windows 2000. There is nothing like this book available, yet every Windows 2000 mail list, magazine and online forum shouts for his sort of coverage!

Developing Windows NT Device Drivers Master the new Windows Driver Model (WDM) common to Windows 98 and Windows 2000. You get theory, instruction and practice in driver development, installation and debugging. Addresses hardware and software interface issues, driver types, and a description of the new 'layer' model of WDM.
Windows 2000 Kernel Debugging

Windows NT/2000 Native API Reference is absolutely unique. Currently, documentation on Windows NT's native APIs can only be found through access to the source code or occasionally Web sites where people have chosen to share bits of insight gained through reverse engineering. This book provides the first complete reference to the API functions native to Windows NT and covers the set of services that are offered by Windows NT to both kernel- and user-mode programs. Ideal for the intermediate and advanced level user- and kernel-mode developers of Windows systems, this book is devoted to the NT native API and consists of documentation of the 210 routines included in the API. Also included are all the functions added in Windows 2000.

Windows 2000 Professional

Provides information on writing a driver in Linux, covering such topics as character devices, network interfaces, driver debugging, concurrency, and interrupts.

MCSE/MCSA Training Guide (70-215)

The definitive guide—fully updated for Windows 10 and Windows Server 2016 Delve inside Windows architecture and internals, and see how core components work behind the scenes. Led by a team of internals experts, this classic guide has been fully updated for Windows 10 and Windows Server 2016. Whether you are a developer or an IT professional, you'll get critical, insider perspectives on how Windows operates. And through hands-on experiments, you'll experience its internal behavior firsthand—knowledge you can apply to improve application design, debugging, system performance, and support. This book will help you: · Understand the Windows system architecture and its most important entities, such as processes and threads · Examine how processes manage resources and threads scheduled for execution inside processes · Observe how Windows manages virtual and physical memory · Dig into the Windows I/O system and see how device drivers work and integrate with the rest of the system · Go inside the Windows security model to see how it manages access, auditing, and authorization, and learn about the new mechanisms in Windows 10 and Server 2016

MCSE Windows 2000 Server Master the new Windows Driver Model (WDM) common to Windows 98 and Windows 2000. You get theory, instruction and practice in driver development, installation and debugging. Addresses hardware and software interface issues, driver types, and a description of the new ‘layer’ model of WDM.

Windows Internals, Part 1 Developing Windows NT Device Drivers: A Programmer's Handbook offers programmers a comprehensive and in-depth guide to building device drivers for Windows NT. Written by two experienced driver developers, Edward N. Dekker and Joseph M. Newcomer, this book provides detailed coverage of techniques, tools, methods, and pitfalls to help make the often complex and byzantine "black art" of driver development straightforward and accessible. This book is designed for anyone involved in the development of Windows NT Device Drivers, particularly those working on drivers for nonstandard devices that Microsoft has not specifically supported. Because Windows NT does not permit an application program to directly manipulate hardware, a customized kernel mode device driver must be created for these nonstandard devices. And since experience has clearly shown that superficial knowledge can be hazardous when developing device drivers, the authors have taken care to explore each relevant topic in depth. This book's coverage focuses on drivers for polled, programmed I/O, interrupt-driven, and DMA devices. The authors discuss the components of a kernel mode device driver for Windows NT, including background on the two primary bus interfaces used in today's computers: the ISA and PCI buses. Developers will learn the mechanics of compilation and linking, how the drivers register themselves with the system, experience-based techniques for debugging, and how to build robust, portable, multithread- and multiprocessor-safe device drivers that work as intended and won't crash the system. The authors also show how to call the Windows NT kernel for the many services required to support a device driver and demonstrate some specialized techniques, such as mapping device memory or kernel memory into user space. Thus developers will not only learn the specific mechanics of high-quality device driver development for Windows NT, but will gain a deeper understanding of the foundations of device driver design.


Linux Device Drivers

This informative and complex reference book is written by Dr. Karanjit Siyan, successful author and creator of some of the original TCP/IP applications. The tutorial/reference hybrid offers a complete, focused solution to Windows internetworking concepts and solutions and meets the needs of the serious system administrator by cutting through the complexities of TCP/IP advances.

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