Developing Drivers With The Microsoft Windows Driver Foundation

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Windows Internals, Part 1 - Pavel Yosifovich 2017-05-05
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 Window 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
Windows System Programming - Johnson M. Hart 2010-02-16
The Definitive Guide to Windows API

Programming, Fully Updated for Windows 7, Windows Server 2008, and Windows Vista Windows System Programming, Fourth Edition, now contains extensive new coverage of 64-bit programming, parallelism, multicore systems, and many other crucial topics. Johnson Hart's robust code examples have been updated and streamlined throughout. They have been debugged and tested in both 32-bit and 64-bit versions, on single and multiprocessor systems, and under Windows 7, Vista, Server 2008, and Windows XP. To clarify program operation, sample programs are now illustrated with dozens of screenshots. Hart systematically covers Windows externals at the API level, presenting practical coverage of all the services Windows programmers need, and emphasizing how Windows functions actually behave and interact in real-world applications. Hart begins with features used in single-process applications and gradually progresses to more sophisticated functions and multithreaded environments.

Topics covered include file systems, memory management, exceptions, processes, threads, synchronization, interprocess communication, Windows services, and security. New coverage in this edition includes Leveraging parallelism and maximizing performance in multicore systems Promoting source code portability and application interoperability across Windows, Linux, and UNIX Using 64-bit address spaces and ensuring 64-bit/32-bit portability Improving performance and scalability using threads, thread pools, and completion ports Techniques to improve program reliability and performance in all systems Windows performance-enhancing API features available starting with Windows Vista, such as slim reader/writer locks and condition variables A companion Web site, jmhartsoftware.com, contains all sample code, Visual Studio projects, additional examples, errata, reader comments, and Windows commentary and discussion.

The Implementation of Functional

Programming Languages - Simon L. Peyton Jones 1987

Advanced Windows Debugging - Mario Hewardt 2007-10-29
The First In-Depth, Real-World, Insider's Guide to Powerful Windows Debugging For Windows developers, few tasks are more challenging than debugging––or more crucial. Reliable and realistic information about Windows debugging has always been scarce. Now, with over 15 years of experience two of Microsoft's system-level developers present a thorough and practical guide to Windows debugging ever written. Mario Hewardt and Daniel Pravat cover debugging throughout the entire application lifecycle and show how to make the most of the tools currently available––including Microsoft's powerful native debuggers and third-party solutions. To help you find real solutions fast, this book is organized around real-world debugging scenarios. Hewardt and Pravat use

detailed code examples to illuminate the complex debugging challenges professional developers actually face. From core Windows operating system concepts to security, Windows® Vista™ and 64-bit debugging, they address emerging topics head-on–and nothing is ever oversimplified or glossed over!

Writing Windows WDM Device Drivers - Chris Cant 1999-01-07
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. ;

Win32 Programming - Brent E. Rector 1997

Mastering the Microsoft Deployment Toolkit - Jeff Stokes 2016-05-31
Take a deep dive into the world of Windows desktop deployment using the Microsoft Deployment Toolkit About This Book Learn Microsoft Deployment Toolkit best practices and how to adopt them into your deployment project Troubleshoot task sequence errors and quickly resolve deployment blockers An easy-to-follow, in-depth guide to image creation, customization, and deployment of Windows Who This Book Is For This book is ideal for those deploying or planning to deploy Windows, in need of a top-to-bottom guide on project deployment. It is also an invaluable resource for consultants who need a top-to-bottom guide (or just a refresher) on project deployment. What You Will Learn Build a production-ready MDT environment Administer the environment for multiple users Customize your reference image with an MDT Task Sequence Create standalone media for offline deployments Customize the default user profile according to the version of Windows Get to grips with some troubleshooting steps and processes to reduce the time for recovery of a failed image Customize and create Windows images for

deployment Discover useful tips and tricks to help save time in your deployment projects In Detail The Microsoft Deployment Toolkit (MDT) provides a comprehensive collection of tools, processes, and guidance for automating desktop and server deployments. It considerably reduces deployment time and standardizes desktop and server images. Moreover, MDT offers improved security and ongoing configuration management. Microsoft Deployment Toolkit is the official supported method of creating and customizing Windows images for deployment. Starting from scratch, this book walks you through the MDT setup, task sequence creation, and image deployment steps in detail. Breaking down the various MDT concepts, this book will give you a thorough understanding of the deployment process. Beginning with imaging concepts and theory, you will go on to build a Microsoft Deployment Toolkit environment. You will understand the intricacies of customizing the default user profile in different versions of Windows. Driver handling can be a challenge for larger organizations; we'll cover various driver concepts including mandatory driver profiles.]Other important topics like the User State Migration Tool (USMT), configuration of XML files, and how to troubleshoot the USMT are also discussed in the book. We will cover the verifier and Windows Performance Toolkit for image validation scenarios. Furthermore, you will learn about MDT web frontend implementation as well as how to utilize the database capabilities of MDT for deeper deployment options. We'll wrap it all up with some links to resources for more information, blogs to watch, and useful Twitter handles. Style and approach This is a comprehensive guide written using a step-by-step approach. It begins with the basics and gradually moves on to the advanced topics MDT.
The Windows 2000 Device Driver Book - Art Baker 2001
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 Embedded CE 6.0 Fundamentals - Stanislav Pavlov 2008
Help drive the next wave of smart, connected devices. Guided by two experts on Windows Embedded CE, you'll examine the core architecture, tools, and techniques that streamline the development process—and help get your ideas to market faster. Discover how to: Install the development environment and toolset Apply the device-planning practices that help optimize development time and resources Exploit the unified build system, including batch file and console utilities Use—or create—board support packages for hardware-specific code Dig into driver infrastructure, classes, and development processes Design and configure a custom run-time image Test and verify devices with the Windows Embedded CE Test Kit Create an SDK to extend your application to third-party developers

Windows 10 Inside Out (includes Current Book Service) - Ed Bott 2016-11-22
This is the eBook of the printed book and may not include any media, website access codes, or print supplements that may come packaged with the bound book. Conquer today's Windows 10—from the inside out! Dive into Windows 10—and really put your Windows expertise to work. Focusing on the most powerful and innovative features of Windows 10, this supremely organized reference packs hundreds of timesaving solutions, tips, and workarounds—all fully reflecting the major Windows 10 Anniversary Update. From new Cortana and Microsoft Edge enhancements to the latest security and virtualization features, you'll discover how experts tackle today's essential tasks—and challenge yourself to new levels of mastery. Install, configure, and personalize the newest versions of Windows 10 Understand Microsoft's revamped activation and

upgrade processes Discover major Microsoft Edge enhancements, including new support for extensions Use today's improved Cortana services to perform tasks, set reminders, and retrieve information Make the most of the improved ink, voice, touch, and gesture support in Windows 10 Help secure Windows 10 in business with Windows Hello and Azure AD Deploy, use, and manage new Universal Windows Platform (UWP) apps Take advantage of new entertainment options, including Groove Music Pass subscriptions and connections to your Xbox One console Manage files in the cloud with Microsoft OneDrive and OneDrive for Business Use the improved Windows 10 Mail and Calendar apps and the new Skype app Fine-tune performance and troubleshoot crashes Master high-efficiency tools for managing Windows 10 in the enterprise Leverage advanced Hyper-V features, including Secure Boot, TPMs, nested virtualization, and containers In addition, this book is part of the Current Book Service from Microsoft Press. Books in this program will receive periodic updates to address significant software changes for 12 to 18 months following the original publication date via a free Web Edition. Learn more at https://www.microsoftpressstore.com/cbs.

Adobe PageMaker 7.0 - 2002
Showcases the computer graphics program's updated features while demonstrating fundamental and advanced Pagemaker concepts and displaying professionally designed projects.

Programming the Microsoft Windows Driver Model - Walter Oney 2003
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 problem 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 data, power management, and 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 direct any questions or concerns to booktech@oreilly.com.

Fixing Your Computer Absolute Beginner's Guide - Paul McFedries 2013
A guide to fixing a personal computer covers such topics as troubleshooting, purchasing the right parts, fixing startup problems, performing basic hardware repairs and upgrades, installing a new hard disk, and adding memory.

Old New Thing - Raymond Chen 2006-12-27
"Raymond Chen is the original raconteur of Windows." --Scott Hanselman, ComputerZen.com "Raymond has been at Microsoft for many years and has seen many nuances of Windows that others could only ever hope to get a glimpse of. With this book, Raymond shares his knowledge, experience, and anecdotal stories, allowing all of us to get a better understanding of the operating system that affects millions of people every day. This book has something for everyone, is a casual read, and I highly recommend it!" --Jeffrey Richter, Author/Consultant, Cofounder of Wintellect "Very interesting read. Raymond tells the inside story of why Windows is the way it is." --Eric Gunnerson, Program Manager, Microsoft Corporation "Absolutely essential reading for understanding the history of Windows, its intricacies and quirks, and why they came about." --Matt Pietrek, MSDN Magazine's Under the Hood Columnist "Raymond Chen has become something of a legend in the software industry, and in this book you'll discover why. From his high-level reminiscences on the design of the

Windows Start button to his low-level discussions of GlobalAlloc that only your inner-geek could love, The Old New Thing is a captivating collection of anecdotes that will help you to truly appreciate the difficulty inherent in designing and writing quality software." -- Stephen Toub, Technical Editor, MSDN Magazine Why does Windows work the way it does? Why is Shut Down on the Start menu? (And why is there a Start button, anyway?) How can I tap into the dialog loop? Why does the GetWindowText function behave so strangely? Why are registry files called "hives"? Many of Windows' quirks have perfectly logical explanations, rooted in history. Understand them, and you'll be more productive and a lot less frustrated. Raymond Chen--who's spent more than a decade on Microsoft's Windows development team--reveals the "hidden Windows" you need to know. Chen's engaging style, deep insight, and thoughtful humor have made him one of the world's premier technology bloggers. Here he brings together behind-the-scenes explanations, invaluable technical advice, and illuminating anecdotes that bring Windows to life--and help you make the most of it. A few of the things you'll find inside: What vending machines can teach you about effective user interfaces A deeper understanding of window and dialog management Why performance optimization can be so counterintuitive A peek at the underbelly of COM objects and the Visual C++ compiler Key details about backwards compatibility--what Windows does and why Windows program security holes most developers don't know about How to make your program a better Windows citizen

Windows Internals - David A. Solomon 2009-06-17
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 NT File System Internals - Rajeev Nagar 1997
"Windows NT File System Internals" examines the NT/IO Manager, the Cache Manager, and the Memory Manager from the perspective of a software developer writing a file system driver or implementing a kernel-mode filter driver. The book provides numerous code examples, as well as the source for a complete, usable filter driver.

Developing Drivers with the Windows Driver Foundation - Penny Orwick 2007
Provides guidance and code samples to develop kernel-mode or user-mode drivers with Windows Driver Foundation.

Introducing Windows 10 for IT Professionals - Ed Bott 2016-02-18
Get a head start evaluating Windows 10--with technical insights from award-winning journalist and Windows expert Ed Bott. This guide introduces new features and capabilities, providing a practical, high-level overview for IT professionals ready to begin deployment planning now. This edition was written after the release of Windows 10 version 1511 in

November 2015 and includes all of its enterprise-focused features. The goal of this book is to help you sort out what's new in Windows 10, with a special emphasis on features that are different from the Windows versions you and your organization are using today, starting with an overview of the operating system, describing the many changes to the user experience, and diving deep into deployment and management tools where it's necessary.

Pro Windows Embedded Compact 7 - Abraham Kcholi 2012-02-24
Windows Embedded Compact 7 is the natural choice for developing sophisticated, small-footprint devices for both consumers and the enterprise. For this latest version, a number of significant enhancements have been made, most notably the ability to run multi-core processors and address more than the 512 MB of memory constraint in previous versions. Using familiar developer tools, Pro Windows Embedded Compact 7 will take you on a deep-dive into device driver development. You'll learn how to set up your working environment, the tools that you'll need and how to think about developing for small devices before quickly putting theory into practice and developing your own first driver from the ground up. As you delve deeper into the details of driver development, you'll learn how to master hardware details, deal with I/O and interrupts, work with networks, and test and debug your drivers ready for deployment—all in the company of an author who's been working with Windows CE for more than a decade. Packed with code samples, Pro Windows Embedded Compact 7 contains everything you'll need to start developing for small footprint devices with confidence.

Rootkit Arsenal - Bill Blunden 2013
While forensic analysis has proven to be a valuable investigative tool in the field of computer security, utilizing anti-forensic technology makes it possible to maintain a covert operational foothold for extended periods,

even in a high-security environment. Adopting an approach that favors full disclosure, the updated Second Edition of The Rootkit Arsenal presents the most accessible, timely, and complete coverage of forensic countermeasures. This book covers more topics, in greater depth, than any other currently available. In doing so the author forges through the murky back alleys of the Internet, shedding light on material that has traditionally been poorly documented, partially documented, or intentionally undocumented. The range of topics presented includes how to: -Evade post-mortem analysis -Frustrate attempts to reverse engineer your command & control modules -Defeat live incident response -Undermine the process of memory analysis -Modify subsystem internals to feed misinformation to the outside -Entrench your code in fortified regions of execution -Design and implement covert channels -Unearth new avenues of attack

Windows Internals, Part 2 - Mark Russinovich

2020-07-06

Drill down into Windows architecture and internals, discover how core Windows components work behind the scenes, and master information you can continually apply to improve architecture, development, system administration, and support. Led by three renowned Windows internals experts, this classic guide is now fully updated for Windows 10 and 8.x. As always, it combines unparalleled insider perspectives on how Windows behaves "under the hood" with hands-on experiments that let you experience these hidden behaviors firsthand. Part 2 examines these and other key Windows 10 OS components and capabilities: Startup and shutdown The Windows Registry Windows management mechanisms WMI System mechanisms ALPC ETW Cache Manager Windows file systems The hypervisor and virtualization UWP Activation Revised throughout, this edition also contains three entirely new chapters: Virtualization

technologies Management diagnostics and tracing Caching and file system support
Windows via C/C++ - Christophe Nasarre 2007-11-28
Master the intricacies of application development with unmanaged C++ code—straight from the experts. Jeffrey Richter's classic book is now fully revised for Windows XP, Windows Vista, and Windows Server 2008. You get in-depth, comprehensive guidance, advanced techniques, and extensive code samples to help you program Windows–based applications. Discover how to: Architect and implement your applications for both 32-bit and 64-bit Windows Create and manipulate processes and jobs Schedule, manage, synchronize and destroy threads Perform asynchronous and synchronous device I/O operations with the I/O completion port Allocate memory using various techniques including virtual memory, memory-mapped files, and heaps Manipulate the default committed physical storage of thread stacks Build DLLs for delay-loading, API hooking, and process injection Using structured exception handling, Windows Error Recovery, and Application Restart services
Integrated Formal Methods - Eerke Boiten 2004-03-24
This book constitutes the refereed proceedings of the 4th International Conference on Integrated Formal Methods, IFM 2004, held in Canterbury, UK, in April 2004. The 24 revised full papers presented together with 3 invited papers and one invited tutorial chapter were carefully reviewed and selected from 65 submissions. The papers are devoted to automating program analysis, state/event-based verification, formalizing graphical notions, refinement, object-orientation, hybrid and timed automata, integration frameworks, verifying interactive systems, and testing and assertions.
Windows NT Device Driver Development - Peter G. Viscarola 1999
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).

Windows 7 Device Driver - Ron Reeves 2011 The first authoritative guide to programming Windows 7 device drivers: save time, save money, and write more reliable drivers • •Shows experienced programmers how to make the most of Microsoft's latest and most powerful models and tools for Windows 7 driver development, including C# and Visual Studio 2010. •Thoroughly covers Microsoft's Windows Driver Foundation (WDF) Architecture. •There are no other books, and little information anywhere, about Windows 7 device drivers. This is the only comprehensive, state-of-the-art guide to writing Windows 7 device drivers. Written by Ronald Reeves, one of the field's leading experts, Windows 7 Device Driver Book helps experienced developers make the most of the powerful new tools and models Microsoft has made available for driver development. Reeves provides an extensive collection of sample code on CDROM, as well as best-practice guidance for maximizing reliability and performance. Reeves shows how C# and Visual Studio 2010 can be used to develop device drivers more rapidly, and debug them more effectively. He covers a broad array of topics, including both kernel- and user-mode driver development; Windows Driver Foundation (WDF) architecture, and much more. From start to finish, this book is designed to significantly reduce the time it takes for device driver programmers to find the information they need -- and then apply that information in reliable, production code.

Programming the Microsoft Windows Driver Model - Walter Oney 1999 A complete reference on using and programming the Win32 Driver Model describes how it communicates with PC peripherals, as well as its efficiency benefits in device support and development, and features a CD-ROM with

sample code and portions of the WDM Device Driver Kit. Original. (Advanced).

Programming Windows - Charles Petzold 1998-11-11

"Look it up in Petzold" remains the decisive last word in answering questions about Windows development. And in PROGRAMMING WINDOWS, FIFTH EDITION, the esteemed Windows Pioneer Award winner revises his classic text with authoritative coverage of the latest versions of the Windows operating system—once again drilling down to the essential API heart of Win32 programming. Topics include: The basics—input, output, dialog boxes An introduction to Unicode Graphics—drawing, text and fonts, bitmaps and metafiles The kernel and the printer Sound and music Dynamic-link libraries Multitasking and multithreading The Multiple-Document Interface Programming for the Internet and intranets Packed as always with definitive examples, this newest Petzold delivers the ultimate sourcebook and tutorial for Windows programmers at all levels working with Microsoft Windows 95, Windows 98, or Microsoft Windows NT. No aspiring or experienced developer can afford to be without it. An electronic version of this book is available on the companion CD. For customers who purchase an ebook version of this title, instructions for downloading the CD files can be found in the ebook.

Windows Kernel Programming - Pavel Yosifovich 2019-06-07

There is nothing like the power of the kernel in Windows - but how do you write kernel drivers to take advantage of that power? This book will show you how.The book describes software kernel drivers programming for Windows. These drivers don't deal with hardware, but rather with the system itself: processes, threads, modules, registry and more. Kernel code can be used for monitoring important events, preventing some from occurring if needed. Various filters can be written that can intercept calls that a driver may

be interested in.

Windows 7 Device Driver - Ronald D. Reeves Ph.D. 2010-11-16
"The chapter on programming a KMDF hardware driver provides a great example for readers to see a driver being made." –Patrick Regan, network administrator, Pacific Coast Companies The First Authoritative Guide to Writing Robust, High-Performance Windows 7 Device Drivers Windows 7 Device Driver brings together all the information experienced programmers need to build exceptionally reliable, high-performance Windows 7 drivers. Internationally renowned driver development expert Ronald D. Reeves shows how to make the most of Microsoft's powerful new tools and models; save time and money; and efficiently deliver stable, robust drivers. Drawing on his unsurpassed experience as both a driver developer and instructor, Reeves demystifies Kernel and User Mode Driver development, Windows Driver Foundation (WDF) architecture, driver debugging, and many other key topics. Throughout, he provides best practices for all facets of the driver development process, illuminating his insights with proven sample code. Learn how to Use WDF to reduce development time, improve system stability, and enhance serviceability Take full advantage of both the User Mode Driver Framework (UMDF) and the Kernel Mode Driver Framework (KMDF) Implement best practices for designing, developing, and debugging both User Mode and Kernel Mode Drivers Manage I/O requests and queues, self-managed I/O, synchronization, locks, plug-and-play, power management, device enumeration, and more Develop UMDF drivers with COM Secure Kernel Mode Drivers with safe defaults, parameter validation, counted UNICODE strings, and safe device naming techniques Program and troubleshoot WMI support in Kernel Mode Drivers Utilize advanced multiple I/O queuing techniques Whether you're creating Windows 7 drivers for laboratory

equipment, communications hardware, or any other device or technology, this book will help you build production code more quickly and get to market sooner!

Developing Windows NT Device Drivers - Edward N. Dekker 2007-10
Developing Windows NT Device Drivers: A Programmer's Handbookoffers 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.

Inside Windows Debugging - Tarik Soulami 2012-05-15

Use Windows debuggers throughout the development cycle—and build better software Rethink your use of Windows debugging and tracing tools—and learn how to make them a key part of test-driven software development. Led by a member of the Windows Fundamentals Team at Microsoft, you'll apply expert debugging and tracing techniques—and sharpen your C++ and C# code analysis skills—through practical examples and common scenarios. Learn why experienced developers use debuggers in every step of the development process, and not just when bugs appear. Discover how to: Go behind the scenes to examine how powerful Windows debuggers work Catch bugs early in the development cycle with static and runtime analysis tools Gain practical strategies to tackle the most common code defects Apply expert tricks to handle user-mode and kernel-mode debugging tasks Implement postmortem techniques such as JIT and dump debugging Debug the concurrency and security aspects of your software Use debuggers to analyze interactions between your code and the operating system Analyze software behavior with Xperf and the Event Tracing for Windows (ETW) framework

Windows 7 Resource Kit - Mitch Tulloch 2009-10-07

In-depth and comprehensive, this official RESOURCE KIT delivers the information you need to administer Windows 7 in the enterprise. You get authoritative technical guidance from those who know the technology best—Microsoft Most Valuable Professionals (MVPs) and the

Windows 7 Team—along with hundreds of scripts and other essential resources on CD. Get expert guidance on how to: Apply best practices for using Microsoft Deployment Toolk Plan user-state migration; test application compatibility; manage update Manage Group Policy Objects using Windows PowerShell Administer Windows Firewall and Windows BitLocker Implement Ipsec, IPv6, wireless, and VPN connectivity Install and configure printers, devices, and services Manage disks, file systems, storage, and data security Administer search and indexing with Group Policy Diagnose and resolve startup, hardware, and networking issue CD FEATURES: Nearly 200 Windows PowerShell scripts created specifically for this book—customize to administer your environment Windows 7 Resource Kit PowerShell Pack—700 cmdlets and functions to extend Windows in-box functionality Links to author Web sites Sample chapters from Microsoft Press books Fully searchable eBook For customers who purchase an ebook version of this title, instructions for downloading the CD files can be found in the ebook.

Building Powerful Platforms with Windows CE - James Y. Wilson 2001
"Building Powerful Platforms with Windows CE" is a comprehensive, practical guide on the use of the Microsoft Windows CE Platform Builder. Drawing on the authors' extensive industry experience, this book provides proven methods and real-world advice for the complete system integration of Windows CE on various platforms. It also examines how to adapt Windows CE to support a platform's unique features. This book describes the Windows CE architecture in depth, explaining the rationale behind its design. It shows how to use the Platform Builder to quickly create a custom build of the Windows CE kernel and explores the complex and powerful Windows CE build process. Extensive information is provided on designing, implementing, and debugging Windows CE device drivers. A utility called the Driver Mapper is presented as an

example device driver that doubles as a valuable tool for debugging device drivers on standard CE devices (e.g., H/PC, H/PC Pro, and Palm-sized PC devices. Other valuable features include the following: A project leader and manager's guide to the steps involved in completing a CE custom platform project Creating and debugging a CE boot loader Modifying the Platform Builder's OEM Adaptation Layer (OAL) sample source to work with a newly developed platform. An introduction to writing CE display drivers. Automated testing with the Windows CE Device Driver Test Toolkit (DDTK) A simplified, automated build process for creating ROM images If you want to get Windows CE running on your platform, you will find this hands-on guide an indispensable resource for accelerating your progress and saving you much frustration! 020161636XB04062001

Writing MS-DOS Device Drivers - Robert S. Lai 1992

This superb introduction to device drivers describes what device drivers do, how they interface with DOS, and provides examples and techniques for building a collection of device drivers that can be customized for individual use.

Systems Programming for Windows 95 - Walter Oney 1996

Explaining how and why developers can combine various low-level system calls to accomplish high-end results, this book emphasizes low-level solutions using C and C++. The CD contains sample code so programmers can work with it online.

Linux Device Drivers - Jonathan Corbet 2005-02-07

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

The Security Development Lifecycle - Michael Howard 2006

Describes how to put software security into practice, covering such topics as risk analysis, coding policies, Agile Methods, cryptographic standards, and threat tree patterns.

Developing Drivers with the Windows Driver Foundation - Penny Orwick 2007-04-25 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 PLUS—Get driver code samples on the Web

Graph Algorithms - Mark Needham 2019-05-16 Discover how graph algorithms can help you leverage the relationships within your data to develop more intelligent solutions and enhance your machine learning models. You'll learn how graph analytics are uniquely suited to unfold complex structures and reveal difficult-to-find patterns lurking in your data. Whether you are trying to build dynamic network models or forecast real-world behavior, this book illustrates how graph algorithms deliver value—from finding vulnerabilities and bottlenecks to detecting communities and

improving machine learning predictions. This practical book walks you through hands-on examples of how to use graph algorithms in Apache Spark and Neo4j—two of the most common choices for graph analytics. Also included: sample code and tips for over 20 practical graph algorithms that cover optimal pathfinding, importance through centrality, and community detection. Learn how graph analytics vary from conventional statistical analysis Understand how classic graph algorithms work, and how they are applied Get guidance on which algorithms to use for different types of questions Explore algorithm examples with working code and sample datasets from Spark and Neo4j See how connected feature extraction can increase machine learning accuracy and precision Walk through creating an ML workflow for link prediction combining Neo4j and Spark

Writing Windows VxDs and Device Drivers - Karen Hazzah 1996-01-12
Software developer and author Karen Hazzah expands her original treatise on device drivers in the second edition of Writing Windows VxDs and Device Drivers. The book and companion disk include the author's library of wrapper functions that allow the progr Find out why MSDN has called this book 'the only really systematic and thorough introduction to VxD writing.' For this second edition, Karen Hazzah has included expanded coverage of Windows 95.