An Overview Of Microkernel Hypervisor And Microvisor

Virtual Routing with Cisco Cloud Services Router (CSR 1000V)Advances in Future Computer and Control SystemsWindows Server 2008 Hyper-V Resource Kit2010 7th IEEE Consumer Communications and Networking ConferenceProceedings of the Second Symposium on Operating Systems Design and Implementation (OSDI '96)Deploying and Managing a Cloud InfrastructureAdvanced Operating Systems and Kernel Applications: Techniques and TechnologiesReal-Time Embedded SystemsReal World Multicore Embedded SystemsLearning Hyper-VDesign and Use of Virtualization Technology in Cloud ComputingEmbedded Systems SecurityDr. Dobb's JournalElectronic DesignMastering CentOS 7 Linux ServerThe Real MCTS/MCITP Exam 70-646 Prep KitMilitary Embedded SystemsEmbedded Systems SecurityEssentials of Cloud ComputingThe Definitive Guide to the Xen HypervisorBPF Performance ToolsCloud Computing and VirtualizationInformation Security and PrivacyReliable Software Technologies – Ada-Europe 2011Verified Software: Theories, Tools, ExperimentsComputer Safety, Reliability, and SecurityComputer SecurityOpen SourcesAdvanced Industrial Control TechnologyPractical Security Properties on Commodity Computing PlatformsMCSA Windows Server 2012 R2 Complete Study GuideCompTIA Security+ Review GuideMCSA Windows Server 2012 R2 Installation and Configuration Study GuideTrust and Trustworthy ComputingThe Cathedral & the BazaarReal-time Design PatternsMicrosoft Virtualization with Hyper-VReal-Time Embedded SystemsHardware and Software Support for VirtualizationOperating Systems for Supercomputers and High Performance Computing

Virtual Routing with Cisco Cloud Services Router (CSR 1000V)

Advances in Future Computer and Control Systems

This book focuses on the core question of the necessary architectural support provided by hardware to efficiently run virtual machines, and of the corresponding design of the hypervisors that run them. Virtualization is still possible when the instruction set architecture lacks such support, but the hypervisor remains more complex and must rely on additional techniques. Despite the focus on architectural support in current architectures, some historical perspective is necessary to appropriately frame the problem. The first half of the book provides the historical perspective of the theoretical framework developed four decades ago by Popek and Goldberg. It also describes earlier systems that enabled virtualization despite the lack of architectural support in hardware. As is often the case, theory defines a necessary—but not sufficient—set of features, and modern architectures are the result of the combination of the theoretical framework with insights derived from practical systems. The second half of the book describes state-of-the-art support for virtualization in both x86-64 and ARM processors. This book includes an in-depth description of the CPU, memory, and I/O virtualization of these two processor architectures, as well as case studies on the Linux/KVM, VMware, and Xen hypervisors. It concludes with a performance comparison of virtualization on

current-generation x86- and ARM-based systems across multiple hypervisors.

Windows Server 2008 Hyper-V Resource Kit

This book constitutes the refereed proceedings of the 16th Ada-Europe International Conference on Reliable Software Technologies, Ada-Europe 2011, held in Edinburgh, UK, on June 20-24, 2011. The revised 12 papers presented together with several invited contributions were carefully reviewed and selected from 30 submissions. Topics of interest to the conference are methods and techniques for software development and maintenance ; software architectures; enabling technologies; software quality; theory and practice of high-integrity systems; embedded systems; mainstream and emerging applications; experience reports; the future of Ada.

2010 7th IEEE Consumer Communications and Networking Conference

This volume contains the proceedings of the third working conference on Verified Software: Theories, Tools, and Experiments, VSTTE 2010, held in Edinburgh, UK, in August 2010. The 11 papers presented together with 3 invited talks were carefully revised and selected for inclusion in the book. This third conference is part of the Verified Software Initiative (VSI), which is a 15 year international project that focuses on the scientific and technical challenges of producing verified software. The goal of VSTTE 2010 was to advance the state of the art in the science and technology of software verification through the interaction of theory development, tool evolution, and experimental validation. The accepted papers represent work on verification techniques, specification languages, formal calculi, verification tools, solutions to challenge problems, software design methods, reusable components, refinement methodologies, and requirements modeling.

Proceedings of the Second Symposium on Operating Systems Design and Implementation (OSDI '96)

This book focuses on readers starting their journey with Hyper-V, and assumes they have minimal or no knowledge of virtualization.

Deploying and Managing a Cloud Infrastructure

This SpringerBrief discusses the uber eXtensible Micro-hypervisor Framework (uberXMHF), a novel micro-hypervisor system security architecture and framework that can isolate security-sensitive applications from other untrustworthy applications on commodity platforms, enabling their safe co-existence. uberXMHF, in addition, facilitates runtime monitoring of the untrustworthy components, which is illustrated in this SpringerBrief. uberXMHF focuses on three goals which are keys to achieving practical security on commodity platforms: (a) commodity compatibility (e.g., runs unmodified Linux and Windows) and unfettered access to platform hardware; (b) low trusted computing base and complexity; and (c) efficient implementation. uberXMHF strives to be a comprehensible, practical and flexible platform for performing micro-hypervisor research and development.

uberXMHF encapsulates common hypervisor core functionality in a framework that allows developers and users to build custom micro-hypervisor based (security-sensitive) applications (called "uberapps"). The authors describe several uberapps that employ uberXMHF and showcase the framework efficacy and versatility. These uberapps span a wide spectrum of security applications including application compartmentalization and sandboxing, attestation, approved code execution, key management, tracing, verifiable resource accounting, trusted-path and on-demand I/O isolation. The authors are encouraged by the end result - a clean, barebones, low trusted computing base micro-hypervisor framework for commodity platforms with desirable performance characteristics and an architecture amenable to manual audits and/or formal reasoning. Active, open-source development of uberXMHF continues. The primary audience for this SpringerBrief is system (security) researchers and developers of commodity system software. Practitioners working in system security deployment mechanisms within industry and defense, as well as advanced-level students studying computer science with an interest in security will also want to read this SpringerBrief.

Advanced Operating Systems and Kernel Applications: Techniques and Technologies

FCCS2012 is an integrated conference concentrating its focus on Future Computer and Control Systems. "Advances in Future Computer and Control Systems" presents the proceedings of the 2012 International Conference on Future Computer and Control Systems(FCCS2012) held April 21-22,2012, in Changsha, China including recent research results on Future Computer and Control Systems of researchers from all around the world.

Real-Time Embedded Systems

This Expert Guide gives you the techniques and technologies in embedded multicore to optimally design and implement your embedded system. Written by experts with a solutions focus, this encyclopedic reference gives you an indispensable aid to tackling the day-to-day problems when building and managing multicore embedded systems. Following an embedded system design path from start to finish, our team of experts takes you from architecture, through hardware implementation to software programming and debug. With this book you will learn: • What motivates multicore • The architectural options and tradeoffs; when to use what • How to deal with the unique hardware challenges that multicore presents • How to manage the software infrastructure in a multicore environment • How to write effective multicore programs • How to port legacy code into a multicore system and partition legacy software • How to optimize both the system and software • The particular challenges of debugging multicore hardware and software Examples demonstrating timeless implementation details Proven and practical techniques reflecting the authors' expertise built from years of experience and key advice on tackling critical issues

Real World Multicore Embedded Systems

The purpose of this book is first to study cloud computing concepts, security

concern in clouds and data centers, live migration and its importance for cloud computing, the role of firewalls in domains with particular focus on virtual machine (VM) migration and its security concerns. The book then tackles design, implementation of the frameworks and prepares test-beds for testing and evaluating VM migration procedures as well as firewall rule migration. The book demonstrates how cloud computing can produce an effective way of network management, especially from a security perspective.

Learning Hyper-V

Learn in-demand cloud computing skills from industry experts Deploying and Managing a Cloud Infrastructure is an excellent resource for IT professionals seeking to tap into the demand for cloud administrators. This book helps prepare candidates for the CompTIA Cloud+ Certification (CV0-001) cloud computing certification exam. Designed for IT professionals with 2-3 years of networking experience, this certification provides validation of your cloud infrastructure knowledge. With over 30 years of combined experience in cloud computing, the author team provides the latest expert perspectives on enterprise-level mobile computing, and covers the most essential topics for building and maintaining cloud-based systems, including: Understanding basic cloud-related computing concepts, terminology, and characteristics Identifying cloud delivery solutions and deploying new infrastructure Managing cloud technologies, services, and networks Monitoring hardware and software performance Featuring real-world examples and interactive exercises, Deploying and Managing Cloud Infrastructure delivers practical knowledge you can apply immediately. And, in addition, you also get access to a full set of electronic study tools including: Interactive Test Environment Electronic Flashcards Glossary of Key Terms Now is the time to learn the cloud computing skills you need to take that next step in your IT career.

Design and Use of Virtualization Technology in Cloud Computing

In-depth and comprehensive, this official RESOURCE KIT delivers the information you need to plan, implement, and manage a virtualized enterprise infrastructure. Covers R2 features. You get authoritative technical guidance from those who know the technology best—leading industry experts and the Windows Virtualization Team—along with sample scripts, job aids, and other essential resources. Get expert advice on how to: Manage the project visioning phase—scope, risks, budget Design Hyper-V server infrastructure and components Apply the steps and tools that streamline installation Configure single or multiple Hyper-V servers Plan a server workload consolidation strategy Use console-based tools to manage central and remote operations Minimize downtime when migrating from Microsoft Virtual Server to Hyper-V Apply security best practices Implement business continuity and recovery plans Monitor health and tune performance CD features: Library of Windows PowerShell scripts for automating Hyper-V management tasks Understanding Microsoft Virtualization Solutions From Desktop to Datacenter eBook Job aids and links to useful virtualization-related resources and tools Fully searchable eBook of this guide A Note Regarding the CD or DVD For customers who purchase an ebook version of this title, instructions for downloading the CD

files can be found in the ebook.

Embedded Systems Security

A completely up-to-date resource on computer security Assuming no previous experience in the field of computer security, this must-have book walks you through the many essential aspects of this vast topic, from the newest advances in software and technology to the most recent information on Web applications security. This new edition includes sections on Windows NT, CORBA, and Java and discusses cross-site scripting and JavaScript hacking as well as SQL injection. Serving as a helpful introduction, this self-study guide is a wonderful starting point for examining the variety of competing security systems and what makes them different from one another. Unravels the complex topic of computer security and breaks it down in such a way as to serve as an ideal introduction for beginners in the field of computer security Examines the foundations of computer security and its basic principles Addresses username and password, password protection, single sign-on, and more Discusses operating system integrity, hardware security features, and memory Covers Unix security, Windows security, database security, network security, web security, and software security Packed with in-depth coverage, this resource spares no details when it comes to the critical topic of computer security.

Dr. Dobb's Journal

Electronic Design

This book is a printed edition of the Special Issue "Real-Time Embedded Systems" that was published in Electronics

Mastering CentOS 7 Linux Server

Computer-based systems have become omnipresent commodities within our -vironment. While for a large variety of these systems such as transportation systems, nuclear or chemical plants, or medical systems their relation to safety is obvious, we often do not re?ect that others are as directly related to risks concerning harm done to persons or matter as, for example, elevator control or mobile phones. At least we are not aware of the risk in our daily use of them. Safecomp as a community and a conference series has accompanied this -velopment for 30 years up to Safecomp 2009, which was the 28th of the series. During this time the topics and methods as well as the community have und- gone changes. These changes re?ect the requirements of the above-mentioned ubiquitious presence of safety-related systems. Safecomp has always encouraged and will further encourage academia and industry to share and exchange their ideas and experiences. After 30 years, we as the organizers of Safecomp 2009, found it imperative to take stock: which methods found their way into the application areas; which new approaches need to be checked for their practical applicability. As di?erent application domains developed their own approaches over the previous decades, we tried to attract people with di?erent backgrounds for this

conference. - though the years 2008 and 2009 were not easy with regard to the overall global economic situation, we succeeded with this goal.

The Real MCTS/MCITP Exam 70-646 Prep Kit

Implement a Hyper-V virtualization solution Microsoft Virtualization with Hyper-V shows you how to deploy Microsoft's next-generation hypervisor-based server virtualization technology in a corporate environment. You'll get step-by-step guidelines for getting Hyper-V up and running, followed by best practices for building a larger, fault-tolerant solution using System Center Virtual Machine Manager 2008. This hands-on guide explains how to migrate physical systems to the virtual environment; use System Center Operations Manager; and secure, back up, and restore your Hyper-V solution. Plan and implement a Hyper-V installation Configure Hyper-V components Install and configure System Center Virtual Machine Manager 2008 Create and manage virtual machines Back up and restore virtual machines Monitor, back up, and restore the virtual solution Secure your Hyper-V environment Understand the virtual desktop infrastructure Use third-party virtualization tools for Hyper-V

Military Embedded Systems

The Cisco expert guide to planning, deploying, and operating virtual routing with the CSR 1000V Cloud Services Router Virtual routing and the Cisco Cloud Services Router (CSR 1000V) are key enablers of today's revolutionary shift to elastic cloud applications and low-cost virtualized networking. Now, there's an authoritative, complete guide to building real solutions with the Cisco CSR 1000V platform. Three leading experts cover every essential building block, present key use cases and configuration examples, illuminate design and deployment scenarios, and show how the CSR 1000V platform and APIs can enable state-of-the-art software-defined networks (SDN). Drawing on extensive early adopter experience, they illuminate crucial OS and hypervisor details, help you overcome migration challenges, and offer practical guidance for monitoring and operations. This guide is an essential resource for all technical professionals planning or deploying data center and enterprise cloud services, and for all cloud network operators utilizing the Cisco CSR 1000V or future Cisco virtual routing platforms. · Review the fundamentals of cloud virtualization, multitenant data-center design, and software-defined networking · Understand the Cisco CSR 1000V's role, features, and infrastructure requirements · Compare server hypervisor technologies for managing VM hardware with CSR 1000V deployments · Understand CSR 1000V software architecture, control and data-plane design, licensing requirements, and packet flow · Walk through common virtual router scenarios and configurations, including multiple cloud and data center examples · Integrate CSR 1000V into the OpenStack SDN framework, and use its APIs to solve specific problems · Master a best-practice workflow for deploying the CSR 1000V · Use the Cisco management tools to automate, orchestrate, and troubleshoot virtualized routing Category: Networking/Cloud Computing Covers: Cloud Services Router This book is part of the Networking Technology Series from Cisco Press, which offers networking professionals valuable information for constructing efficient networks, understanding new technologies, and building successful careers

Embedded Systems Security

Configure, manage, and secure a CentOS 7 Linux server to serve a variety of services provided in a sustainable computer's infrastructure. About This Book Learn how to efficiently set up and manage a Linux server using one of the best suited technologies for this purpose, CentOS 7 Personalize your Linux server and familiarize yourself with the latest tools and utilities setup provided by the new CentOS distribution Follow a step-by-step tutorial through the configuration of the requested services with the capacity to personalize them as per your needs Who This Book Is For If you are a Linux system administrator with an intermediate administration level, this is your opportunity to master the brand new distribution of CentOS. If you wish to possess a fully sustainable Linux server, with all its new tools and tweaks, that serves a variety of services to your users and customers, this book is ideal for you. It is your ticket to easily adapt to all the changes made in the latest shift. What You Will Learn Manage CentOS 7 users, groups, and root access privileges Enhance the server's security through its firewall and prevent the most common attacks from penetrating or disabling the server Explore and implement the common, useful services that a CentOS 7 server can provide Monitor your server infrastructure for system or hardware issues Create and configure a virtual machine using virtualization technologies Implement a cloud computing solution on a single node system Get an introduction to the configuration management tools and their usage Discover the importance of the tools that provide remote connection, server service security, and system and process monitoring tools In Detail Most server infrastructures are equipped with at least one Linux server that provides many essential services, both for a user's demands and for the infrastructure itself. Setting up a sustainable Linux server is one of the most demanding tasks for a system administrator to perform. However, learning multiple, new technologies to meet all of their needs is time-consuming. CentOS 7 is the brand new version of the CentOS Linux system under the RPM (Red Hat) family. It is one of the most widely-used operating systems, being the choice of many organizations across the world. With the help of this book, you will explore the best practices and administration tools of CentOS 7 Linux server along with implementing some of the most common Linux services. We start by explaining the initial steps you need to carry out after installing CentOS 7 by briefly explaining the concepts related to users, groups, and right management, along with some basic system security measures. Next, you will be introduced to the most commonly used services and shown in detail how to implement and deploy them so they can be used by internal or external users. Soon enough, you will be shown how to monitor the server. We will then move on to master the virtualization and cloud computing techniques. Finally, the book wraps up by explaining configuration management and some security tweaks. All these topics and more are covered in this comprehensive guide, which briefly demonstrates the latest changes to all of the services and tools with the recent shift from CentOS 6 to CentOS 7. Style and approach This is a detailed and in-depth guide to help you administrate CentOS 7 for the usage of your server's infrastructure and also for personal network security. Each section shows a list of tools and utilities that are useful to perform the required task, in an easy to understand manner.

Essentials of Cloud Computing

The ultimate resource for making embedded systems reliable, safe, and secure Embedded Systems Security provides: A broad understanding of security principles, concerns, and technologies Proven techniques for the efficient development of safe and secure embedded software A study of the system architectures, operating systems and hypervisors, networking, storage, and cryptographic issues that must be considered when designing secure embedded systems Nuggets of practical advice and numerous case studies throughout Written by leading authorities in the field with 65 years of embedded security experience: one of the original developers of the world's only Common Criteria EAL 6+ security certified software product and a lead designer of NSA certified cryptographic systems. This book is indispensable for embedded systems and security professionals, new and experienced. An important contribution to the understanding of the security of embedded systems. The Kleidermachers are experts in their field. As the Internet of things becomes reality, this book helps business and technology management as well as engineers understand the importance of "security from scratch." This book, with its examples and key points, can help bring more secure, robust systems to the market. Dr. Joerg Borchert, Vice President, Chip Card & Security, Infineon Technologies North America Corp.; President and Chairman, Trusted Computing Group Embedded Systems Security provides real-world examples of risk and exploitation; most importantly the book offers clear insight into methods used to counter vulnerabilities to build true, native security into technology. Adriel Desautels, President and CTO, Netragard, LLC. Security of embedded systems is more important than ever. The growth in networking is just one reason. However, many embedded systems developers have insufficient knowledge of how to achieve security in their systems. David Kleidermacher, a world-renowned expert in this field, shares in this book his knowledge and long experience with other engineers. A very important book at the right time. Prof. Dr.-Ing. Matthias Sturm, Leipzig University of Applied Sciences; Chairman, Embedded World Conference steering board Gain an understanding of the operating systems, microprocessors, and network security critical issues that must be considered when designing secure embedded systems Contains nuggets of practical and simple advice on critical issues highlighted throughout the text Short and to –the- point real case studies included to demonstrate embedded systems security in practice

The Definitive Guide to the Xen Hypervisor

BPF Performance Tools

Cloud Computing and Virtualization

This book constitutes the refereed proceedings of the 8th International Conference on Trust and Trustworthy Computing, TRUST 2015, held in Heraklion, Crete, Greece, in August 2015. The 15 full papers and 3 short papers presented in this volume were carefully reviewed and selected from 42 submissions. They were organized in topical sections named: hardware-enhanced trusted execution; trust and users; trusted systems and services; trust and privacy; and building blocks for

trust. There are 7 two-page abstracts of poster papers included in the back matter of the volume.

Information Security and Privacy

This book integrates new ideas and topics from real time systems, embedded systems, and software engineering to give a complete picture of the whole process of developing software for real-time embedded applications. You will not only gain a thorough understanding of concepts related to microprocessors, interrupts, and system boot process, appreciating the importance of real-time modeling and scheduling, but you will also learn software engineering practices such as model documentation, model analysis, design patterns, and standard conformance. This book is split into four parts to help you learn the key concept of embedded systems; Part one introduces the development process, and includes two chapters on microprocessors and interrupts---fundamental topics for software engineers; Part two is dedicated to modeling techniques for real-time systems; Part three looks at the design of software architectures and Part four covers software implementations, with a focus on POSIX-compliant operating systems. With this book you will learn: The pros and cons of different architectures for embedded systems POSIX real-time extensions, and how to develop POSIX-compliant real time applications How to use real-time UML to document system designs with timing constraints The challenges and concepts related to cross-development Multitasking design and inter-task communication techniques (shared memory objects, message queues, pipes, signals) How to use kernel objects (e.g. Semaphores, Mutex, Condition variables) to address resource sharing issues in RTOS applications The philosophy underpinning the notion of "resource manager" and how to implement a virtual file system using a resource manager The key principles of real-time scheduling and several key algorithms Coverage of the latest UML standard (UML 2.4) Over 20 design patterns which represent the best practices for reuse in a wide range of real-time embedded systems Example codes which have been tested in QNX---a real-time operating system widely adopted in industry

Reliable Software Technologies – Ada-Europe 2011

Front Cover; Dedication; Embedded Systems Security: Practical Methods for Safe and Secure Softwareand Systems Development; Copyright; Contents; Foreword; Preface; About this Book; Audience; Organization; Approach; Acknowledgements; Chapter 1 -- Introduction to Embedded Systems Security; 1.1What is Security?; 1.2What is an Embedded System?; 1.3Embedded Security Trends; 1.4Security Policies; 1.5Security Threats; 1.6Wrap-up; 1.7Key Points; 1.8 Bibliography and Notes; Chapter 2 -- Systems Software Considerations; 2.1The Role of the Operating System; 2.2Multiple Independent Levels of Security.

Verified Software: Theories, Tools, Experiments

Prepare for the MCSA Windows Server 2012 R2 Exams Microsoft's new version of the MCSA certification for Windows Server 2012 R2 requires passing three exams (or one Upgrade exam if you have your MCSA or MCITP in Windows Server 2008).

This value-priced study guide includes more than 1,000 pages of quality exam-prep content, covering 100% of the objective domains of all three exams (as well as the Upgrade exam, 70-417). In addition, you get access to an interactive practice test environment with more than 500 questions, electronic flashcards, and videos showing how to perform the more difficult tasks. Both first-time MCSA candidates and those wishing to upgrade from Server 2008 certification will benefit from this complete test-prep guide. Completely updated to cover the Windows Server 2012 R2 Exams Provides a comprehensive study guide for all three MCSA Windows Server 2012 R2 exams: 70-410, 70-411, and 70-412, as well as the Upgrade exam: 70-417 Covers installing and configuring Windows Server 2012; deploying and configuring DNS service; administering Active Directory; creating and managing Group Policy Objects; and configuring server roles and features, Hyper-V, and core networking services Explains basic networking concepts, DHCP, deploying and maintaining servers, configuring a network policy server infrastructure and high availability in Windows Server 2012, and much more Features real-world scenarios, hands-on exercises, practice exam questions, electronic flashcards, and over an hour of video demonstrations Covers all exam objectives MCSA Windows Server 2012 R2 Complete Study Guide arms you with all the information you must master to achieve MCSA certification on Windows Server 2012 R2.

Computer Safety, Reliability, and Security

Consolidate your knowledge base with critical Security+ review CompTIA Security+ Review Guide, Fourth Edition, is the smart candidate's secret weapon for passing Exam SY0-501 with flying colors. You've worked through your study guide, but are you sure you're prepared? This book provides tight, concise reviews of all essential topics throughout each of the exam's six domains to help you reinforce what you know. Take the pre-assessment test to identify your weak areas while there is still time to review, and use your remaining prep time to turn weaknesses into strengths. The Sybex online learning environment gives you access to portable study aids, including electronic flashcards and a glossary of key terms, so you can review on the go. Hundreds of practice questions allow you to gauge your readiness, and give you a preview of the big day. Avoid exam-day surprises by reviewing with the makers of the test—this review guide is fully approved and endorsed by CompTIA, so you can be sure that it accurately reflects the latest version of the exam. The perfect companion to the CompTIA Security+ Study Guide, Seventh Edition, this review guide can be used with any study guide to help you: Review the critical points of each exam topic area Ensure your understanding of how concepts translate into tasks Brush up on essential terminology, processes, and skills Test your readiness with hundreds of practice questions You've put in the time, gained hands-on experience, and now it's time to prove what you know. The CompTIA Security+ certification tells employers that you're the person they need to keep their data secure; with threats becoming more and more sophisticated, the demand for your skills will only continue to grow. Don't leave anything to chance on exam day—be absolutely sure you're prepared with the CompTIA Security+ Review Guide, Fourth Edition.

Computer Security

"This book discusses non-distributed operating systems that benefit researchers, academicians, and practitioners"--Provided by publisher.

Open Sources

This book constitutes the refereed conference proceedings of the 19th Australasian Conference on Information Security and Privacy, ACISP 2014, held in Wollongong, NSW, Australia, in July 2014. The 26 revised full papers and 6 short papers presented in this volume were carefully selected from 91 submissions. The papers are organized in topical sections on cryptanalysis; cryptographic protocols; fine-grain cryptographic protocols; key exchange, fundamentals, lattices and homomorphic encryption, and applications.

Advanced Industrial Control Technology

Cloud computing-accessing computing resources over the Internet-is rapidly changing the landscape of information technology. Its primary benefits compared to on-premise computing models are reduced costs and increased agility and scalability. Hence, cloud computing is receiving considerable interest among several stakeholders-businesses, the IT ind

Practical Security Properties on Commodity Computing Platforms

Control engineering seeks to understand physical systems, using mathematical modeling, in terms of inputs, outputs and various components with different behaviors. It has an essential role in a wide range of control systems, from household appliances to space flight. This book provides an in-depth view of the technologies that are implemented in most varieties of modern industrial control engineering. A solid grounding is provided in traditional control techniques, followed by detailed examination of modern control techniques such as real-time, distributed, robotic, embedded, computer and wireless control technologies. For each technology, the book discusses its full profile, from the field layer and the control layer to the operator layer. It also includes all the interfaces in industrial control systems: between controllers and systems; between different layers; and between operators and systems. It not only describes the details of both real-time operating systems and distributed operating systems, but also provides coverage of the microprocessor boot code, which other books lack. In addition to working principles and operation mechanisms, this book emphasizes the practical issues of components, devices and hardware circuits, giving the specification parameters, install procedures, calibration and configuration methodologies needed for engineers to put the theory into practice. Documents all the key technologies of a wide range of industrial control systems Emphasizes practical application and methods alongside theory and principles An ideal reference for practicing engineers needing to further their understanding of the latest industrial control concepts and techniques

MCSA Windows Server 2012 R2 Complete Study Guide

Cloud computing is rapidly expanding in its applications and capabilities through various parts of society. Utilizing different types of virtualization technologies can push this branch of computing to even greater heights. Design and Use of Virtualization Technology in Cloud Computing is a crucial resource that provides in-depth discussions on the background of virtualization, and the ways it can help shape the future of cloud computing technologies. Highlighting relevant topics including grid computing, mobile computing, open source virtualization, and virtualization in education, this scholarly reference source is ideal for computer engineers, academicians, students, and researchers that are interested in learning more about how to infuse current cloud computing technologies with virtualization advancements.

CompTIA Security+ Review Guide

BPF and related observability tools give software professionals unprecedented visibility into software, helping them analyze operating system and application performance, troubleshoot code, and strengthen security. BPF Performance Tools: Linux System and Application Observability is the industry's most comprehensive guide to using these tools for observability. Brendan Gregg, author of the industry's definitive guide to system performance, introduces powerful new methods and tools for doing analysis that leads to more robust, reliable, and safer code. This authoritative guide: Explores a wide spectrum of software and hardware targets Thoroughly covers open source BPF tools from the Linux Foundation iovisor project's bcc and bpftrace repositories Summarizes performance engineering and kernel internals you need to understand Provides and discusses 150+ bpftrace tools, including 80 written specifically for this book: tools you can run as-is, without programming — or customize and develop further, using diverse interfaces and the bpftrace front-end You'll learn how to use BPF (eBPF) tracing tools to analyze CPUs, memory, disks, file systems, networking, languages, applications, containers, hypervisors, security, and the Linux kernel. You'll move from basic to advanced tools and techniques, producing new metrics, stack traces, custom latency histograms, and more. It's like having a superpower: with Gregg's guidance and tools, you can analyze virtually everything that impacts system performance, so you can improve virtually any Linux operating system or application.

MCSA Windows Server 2012 R2 Installation and Configuration Study Guide

Freely available source code, with contributions from thousands of programmers around the world: this is the spirit of the software revolution known as Open Source. Open Source has grabbed the computer industry's attention. Netscape has opened the source code to Mozilla; IBM supports Apache; major database vendors haved ported their products to Linux. As enterprises realize the power of the open-source development model, Open Source is becoming a viable mainstream alternative to commercial software.Now in Open Sources, leaders of Open Source come together for the first time to discuss the new vision of the software industry they have created. The essays in this volume offer insight into how the Open Source movement works, why it succeeds, and where it is going.For programmers who have labored on open-source projects, Open Sources is the new gospel: a

powerful vision from the movement's spiritual leaders. For businesses integrating open-source software into their enterprise, Open Sources reveals the mysteries of how open development builds better software, and how businesses can leverage freely available software for a competitive business advantage.The contributors here have been the leaders in the open-source arena: Brian Behlendorf (Apache) Kirk McKusick (Berkeley Unix) Tim O'Reilly (Publisher, O'Reilly & Associates) Bruce Perens (Debian Project, Open Source Initiative) Tom Paquin and Jim Hamerly (mozilla.org, Netscape) Eric Raymond (Open Source Initiative) Richard Stallman (GNU, Free Software Foundation, Emacs) Michael Tiemann (Cygnus Solutions) Linus Torvalds (Linux) Paul Vixie (Bind) Larry Wall (Perl) This book explains why the majority of the Internet's servers use open- source technologies for everything from the operating system to Web serving and email. Key technology products developed with open-source software have overtaken and surpassed the commercial efforts of billion dollar companies like Microsoft and IBM to dominate software markets. Learn the inside story of what led Netscape to decide to release its source code using the open-source mode. Learn how Cygnus Solutions builds the world's best compilers by sharing the source code. Learn why venture capitalists are eagerly watching Red Hat Software, a company that gives its key product -- Linux -- away.For the first time in print, this book presents the story of the open- source phenomenon told by the people who created this movement.Open Sources will bring you into the world of free software and show you the revolution.

Trust and Trustworthy Computing

The Cathedral & the Bazaar

This exam is designed to validate skills as a Windows Server 2008 Server Administrator. This exam will fulfill the Windows Server 2008 IT Professional requirements of Exam 70-646. The Microsoft Certified IT Professional(MCITP) on Windows Server 2008 credential is intended for information technology (IT) professionals who work in the complex computing environment of medium to large companies. The MCITP candidate should have at least one year of experience implementing and administering a network operating system in an environment that has the following characteristics: 250 to 5,000 or more users; three or more physical locations; and three or more domain controllers. A MCITP Server Administrator is responsible for the operations and day-to-day management of an infrastructure of servers for an enterprise organization. Server administrators manage the infrastructure, web, and IT application servers, and use scripts to accomplish tasks on a regular basis. They conduct most server management tasks remotely by using Terminal Server or administration tools installed on their local workstation. MCITP Server Administrators also support engineering projects, and are responsible for server builds and configuration. * Targeted at MCSE/MCSA upgraders, AND new MCITP certification seekers. * Interactive FastTrack e-learning modules help simplify difficult exam topics * Two full-function ExamDay practice exams guarantee double coverage of all exam objectives * Free download of audio FastTracks for use with iPods or other MP3 players * Comprehensive study guide guarantees 100% coverage of all Microsoft's exam objectives

Real-time Design Patterns

Open source provides the competitive advantage in the Internet Age. According to the August Forrester Report, 56 percent of IT managers interviewed at Global 2,500 companies are already using some type of open source software in their infrastructure and another 6 percent will install it in the next two years. This revolutionary model for collaborative software development is being embraced and studied by many of the biggest players in the high-tech industry, from Sun Microsystems to IBM to Intel.The Cathedral & the Bazaar is a must for anyone who cares about the future of the computer industry or the dynamics of the information economy. Already, billions of dollars have been made and lost based on the ideas in this book. Its conclusions will be studied, debated, and implemented for years to come. According to Bob Young, "This is Eric Raymond's great contribution to the success of the open source revolution, to the adoption of Linux-based operating systems, and to the success of open source users and the companies that supply them."The interest in open source software development has grown enormously in the past year. This revised and expanded paperback edition includes new material on open source developments in 1999 and 2000. Raymond's clear and effective writing style accurately describing the benefits of open source software has been key to its success. With major vendors creating acceptance for open source within companies, independent vendors will become the open source story in 2001.

Microsoft Virtualization with Hyper-V

Few works are as timely and critical to the advancement of high performance computing than is this new up-to-date treatise on leading-edge directions of operating systems. It is a first-hand product of many of the leaders in this rapidly evolving field and possibly the most comprehensive. This new and important book masterfully presents the major alternative concepts driving the future of operating system design for high performance computing. In particular, it describes the major advances of monolithic operating systems such as Linux and Unix that dominate the TOP500 list. It also presents the state of the art in lightweight kernels that exhibit high efficiency and scalability at the loss of generality. Finally, this work looks forward to possibly the most promising strategy of a hybrid structure combining full service functionality with lightweight kernel operation. With this, it is likely that this new work will find its way on the shelves of almost everyone who is in any way engaged in the multi-discipline of high performance computing. (From the foreword by Thomas Sterling)

Real-Time Embedded Systems

This revised and enlarged edition of a classic in Old Testament scholarship reflects the most up-to-date research on the prophetic books and offers substantially expanded discussions of important new insight on Isaiah and the other prophets.

Hardware and Software Support for Virtualization

Get under the hood of Xen, the high performance virtualization software.

Operating Systems for Supercomputers and High Performance Computing

Master Windows Server installation and configuration withhands-on practice and interactive study aids for the MCSA: WindowsServer 2012 R2 exam 70-410 MCSA: Windows Server 2012 R2 Installation and ConfigurationStudy Guide: Exam 70-410 provides complete preparationfor exam 70-410: Installing and Configuring Windows Server 2012 R2.With comprehensive coverage of all exam topics and plenty ofhands-on practice, this self-paced guide is the ideal resource forthose preparing for the MCSA on Windows Server 2012 R2. Real-worldscenarios demonstrate how the lessons are applied in everydaysettings. Readers also get access to the interactive practicetests, electronic flashcards, and video demonstration of the moredifficult tasks, which help readers fully understand the scope ofprinciples at work. Exam 70-410 is one of three exams MCSA candidates must take toobtain their MCSA: Windows Server 2012 R2. The test is aligned withthe 2012 update to the Windows server operating system, and so isthe book. This study guide contains everything users need to knowfor the exam, including the 2012 update's changes to Hyper-V andActive Directory. Avoid surprises on exam day, and master thematerial while learning to: Install and configure Windows Server 2012 R2 Configure Hyper-V and server roles and features Install and administer Active Directory Manage Group Policy Exam prep is about more than passing the test—it helps yougain hands-on experience performing more complex operations, givingyou the confidence you need to successfully apply what you'velearned in a work environment. If you're looking to triumph overthe MCSA exam 70-410, MCSA: Windows Server 2012 R2 Installationand Configuration Study Guide: Exam 70-410 provides theinformation and practice you need.

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