Cisco 3750 Software Configuration Guide

IPv6 for Enterprise Networks The practical guide to deploying IPv6 in campus, WAN/branch, data center, and virtualized environments Shannon McFarland, CCIE® No. 5245 Muninder Sambi, CCIE No. 13915 Nikhil Sharma, CCIE No. 21273 Sanjay Hooda, CCIE No. 11737 IPv6 for Enterprise Networks brings together all the information you need to successfully deploy IPv6 in any campus, WAN/branch, data center, or virtualized environment. Four leading Cisco IPv6 experts present a practical approach to organizing and executing your large-scale IPv6 implementation. They show how IPv6 affects existing network designs, describe common IPv4/IPv6 coexistence mechanisms, guide you in planning, and present validated configuration examples for building labs, pilots, and production networks. The authors first review some of the drivers behind the acceleration of IPv6 deployment in the enterprise. Next, they introduce powerful new IPv6 services for routing, QoS, multicast, and management, comparing them with familiar IPv4 features and behavior. Finally, they translate IPv6 concepts into usable configurations. Up-to-date and practical, IPv6 for Enterprise Networks is an indispensable resource for every network engineer, architect, manager, and consultant who must evaluate, plan, migrate to, or manage IPv6 networks. Shannon McFarland, CCIE No. 5245, is a Corporate Consulting Engineer for Cisco serving as a technical consultant for enterprise IPv6 deployment and data center design with a focus on application deployment and virtual desktop infrastructure. For more than 16 years, he has worked on large-scale enterprise campus, WAN/branch, and data center network design and optimization. For more than a decade, he has spoken at IPv6 events worldwide, including Cisco Live. Muninder Sambi, CCIE No. 13915, is a Product Line Manager for Cisco Catalyst 4500/4900 series platform, is a core member of the Cisco IPv6 development council, and a key participant in IETF’s IPv6 areas of focus. Nikhil Sharma, CCIE No. 21273, is a Technical Marketing Engineer at Cisco Systems where he is responsible for defining new features for both hardware and software for the Catalyst 4500 product line. Sanjay Hooda, CCIE No. 11737, a Technical Leader at Cisco, works with embedded systems, and helps to define new product architectures. His current areas of focus include high availability and messaging in large-scale distributed switching systems. n Identify how IPv6 affects enterprises n Understand IPv6 services and the IPv6 features that make them possible n Review the most common tranisition mechanisms including dual-stack (IPv4/IPv6) networks, IPv6 over IPv4 tunnels, and IPv6 over MPLS n Create IPv6 network designs that reflect proven principles of modularity, hierarchy, and resiliency n Select the best implementation options for your organization n Build IPv6 lab environments n Configure IPv6 step-by-step in campus, WAN/branch, and data center networks n Integrate production-quality IPv6 services into IPv4 networks n Implement virtualized IPv6 networks n Deploy IPv6 for remote access n Manage IPv6 networks efficiently and cost-effectively 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.

A helpful guide on all things Cisco Do you wish that the complex topics of routers, switches, andnetworking could be presented in a simple, understandablepresentation? With Cisco Networking All-in-One For Dummies,they are! This expansive reference is packed with all theinformation you need to learn to use Cisco routers and switches todevelop and manage secure Cisco networks. Thisstraightforward-by-fun guide offers expansive coverage of Cisco andbreaks down intricate subjects such as networking, virtualization,and database technologies into easily digestible pieces. Drills down complex subjects concerning Cisco networking intoeasy-to-understand, straightforward coverage Shares best practices for utilizing Cisco switches and routersto implement, secure, and optimize Cisco networks Reviews Cisco networking solutions and products, securing Cisconetworks, and optimizing Cisco networks Details how to design and implement Cisco networks Whether you're new to Cisco networking products and services oran experienced professional looking to refresh your knowledge aboutCisco, this For Dummies guide provides you with thecoverage, solutions, and best practices you need.

Contrary to popular belief, Ethernet switches are not inherently secure. Security vulnerabilities in Ethernet switches are multiple: from the switch implementation, to control plane protocols (Spanning Tree Protocol [STP], Cisco® Discovery Protocol [CDP], and so on) and data plane protocols, such as Address Routing Protocol (ARP) or Dynamic Host Configuration Protocol (DHCP). LAN Switch Security explains all the vulnerabilities in a network infrastructure related to Ethernet switches. Further, this book shows you how to configure a switch to prevent or to mitigate attacks based on those vulnerabilities. This book also includes a section on how to use an Ethernet switch to increase the security of a network and prevent future attacks. Divided into four parts, LAN Switch Security provides you with steps you can take to ensure the integrity of both voice and data traffic traveling over Layer 2 devices. Part I covers vulnerabilities in Layer 2 protocols and how to configure switches to prevent attacks against those vulnerabilities. Part II addresses denial-of-service (DoS) attacks on an Ethernet switch and shows how those attacks can be mitigated. Part III shows how a switch can actually augment the security of a network through the utilization of wirespeed access control list (ACL) processing and IEEE 802.1x for user authentication and authorization. Part IV examines future developments from the LinkSec working group at the IEEE. For all parts, most of the content is vendor independent and is useful for all network architects deploying Ethernet switches. After reading this book, you will have an in-depth understanding of LAN security and be prepared to plug the security holes that exist in a great number of campus networks. Use port security to protect against CAM attacks Prevent spanning-tree attacks Isolate VLANs with proper configuration techniques Protect against rogue DHCP servers Block ARP snooping Prevent IPv6 neighbor discovery and router solicitation exploitation Identify Power over Ethernet vulnerabilities Mitigate risks from HSRP and VRPP Stop information leaks with CDP, PaGP, VTP, CGMP and other Cisco ancillary protocols Understand and prevent DoS attacks against switches Enforce simple wirespeed security policies with ACLs Implement user authentication on a port base with IEEE 802.1x Use new IEEE protocols to encrypt all Ethernet frames at wirespeed. This security book is part of the Cisco Press® Networking Technology Series. Security titles from Cisco Press help networking professionals secure critical data and resources, prevent and mitigate network attacks, and build end-to-end self-defending networks.

The essential guide for understanding Ethernet switched networks Understand various Ethernet technologies from 10BASE-T to Gigabit Ethernet Learn about common switching modes, paths, and architectures Delve into the Cisco Catalyst switch architecture and examine the various Catalyst switch models, including the 6000/6500, 4500, and 3750 Become familiar with VLAN concepts, including types of trunks, VLAN Trunking Protocol (VTP), and private VLANs Understand Multilayer Switching (MLS) and the various hardware components that make MLS

work Learn how to configure Cisco Catalyst switches in both native and hybrid mode Implement QoS on Cisco Catalyst switches Deploy multicast features and protocols, including PIM, IGMP snooping, and CGMP Utilize data link layer features such as BPDU Guard, BPDU Filter, Root Guard, Loop Guard, RSTP, and MST Evaluate design and configuration best practices Learn how to manage LANs and troubleshoot common problems Local-area networks (LANs) are becoming increasingly congested and overburdened because of a dramatic increase in traffic, faster CPUs and operating systems, and more network-intensive applications. Many organizations that use network and computing technology use LAN switching to take advantage of high-speed traffic forwarding and improved performance of traditional Ethernet technologies that don't require costly wiring upgrades or time-consuming host reconfiguration. Cisco LAN Switching Fundamentals provides administrators of campus networks with the most up-to-date introduction to LAN switching within a traditional Ethernet environment. Cisco LAN Switching Fundamentals presents an in-depth look at modern campus network requirements. It provides an easy-to-understand introduction to LAN switching best practices using Cisco Catalyst switches. This book provides you with a wealth of details on the architecture, operation, and configuration of the Cisco Catalyst family of switches. You learn about a wide range of topics, including quality of service (QoS), multicast, Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree (MST), private virtual LANs (VLANs), and configuration using the native and hybrid software interfaces. Design advice and configuration examples are discussed liberally throughout the book to provide you with the best perspective on effective deployment techniques. Finally, the book wraps up with a discussion of steps necessary to troubleshoot common problems and optimize LAN performance. Whether you are looking for an introduction to LAN switching principles and practices or a Cisco Catalyst configuration and troubleshooting reference, this book provides you with the invaluable insight you need to design and manage high-performance campus networks.

Pick up where certification exams leave off. With this practical, in-depth guide to the entire network infrastructure, you'll learn how to deal with real Cisco networks, rather than the hypothetical situations presented on exams like the CCNA. Network Warrior takes you step by step through the world of routers, switches, firewalls, and other technologies based on the author's extensive field experience. You'll find new content for MPLS, IPv6, VoIP, and wireless in this completely revised second edition, along with examples of Cisco Nexus 5000 and 7000 switches throughout. Topics include: An in-depth view of routers and routing Switching, using Cisco Catalyst and Nexus switches as examples SOHO VoIP and SOHO wireless access point design and configuration Introduction to IPv6 with configuration examples Telecom technologies in the data-networking world, including T1, DS3, frame relay, and MPLS Security, firewall theory, and configuration, as well as ACL and authentication Quality of Service (QoS), with an emphasis on low-latency queuing (LLQ) IP address allocation, Network Time Protocol (NTP), and device failures

End-to-End QoS Network Design Quality of Service for Rich-Media & Cloud Networks Second Edition New best practices, technical strategies, and proven designs for maximizing QoS in complex networks This authoritative guide to deploying, managing, and optimizing QoS with Cisco technologies has been thoroughly revamped to reflect the newest applications, best practices, hardware, software, and tools for modern networks. This new edition focuses on complex traffic mixes with increased usage of mobile devices, wireless network access, advanced communications, and video. It reflects the growing heterogeneity of video traffic, including passive streaming video, interactive video, and immersive videoconferences. It also addresses shifting bandwidth constraints and congestion points; improved hardware, software, and tools; and emerging QoS applications in network security. The authors first introduce QoS technologies in high-to-mid-level technical detail, including protocols, tools, and relevant standards. They examine new QoS demands and requirements, identify reasons to reevaluate current QoS designs, and present new strategic design recommendations. Next, drawing on extensive experience, they offer deep technical detail on campus wired and wireless QoS design; next-generation wiring closets; QoS design for data centers, Internet edge, WAN edge, and branches; QoS for IPsec VPNs, and more. Tim Szigeti, CCIE No. 9794 is a Senior Technical Leader in the Cisco System Design Unit. He has specialized in QoS for the past 15 years and authored Cisco TelePresence Fundamentals. Robert Barton, CCIE No. 6660 (R&S and Security), CCDE No. 2013::6 is a Senior Systems Engineer in the Cisco Canada Public Sector Operation. A registered Professional Engineer (P. Eng), he has 15 years of IT experience and is primarily focused on wireless and security architectures. Christina Hattingh spent 13 years as Senior Member of Technical Staff in Unified Communications (UC) in Cisco's Services Routing Technology Group (SRTG). There, she spoke at Cisco conferences, trained sales staff and partners, authored books, and advised customers. Kenneth Briley, Jr., CCIE No. 9754, is a Technical Lead in the Cisco Network Operating Systems Technology Group. With more than a decade of QoS design/implementation experience, he is currently focused on converging wired and wireless QoS. n Master a proven, step-by-step best-practice approach to successful QoS deployment n Implement Cisco-validated designs related to new and emerging applications n Apply best practices for classification, marking, policing, shaping, markdown, and congestion management/avoidance n Leverage the new Cisco Application Visibility and Control feature-set to perform deep-packet inspection to recognize more than 1000 different applications n Use Medianet architecture elements specific to QoS configuration, monitoring, and control n Optimize QoS in rich-media campus networks using the Cisco Catalyst 3750, Catalyst 4500, and Catalyst 6500 n Design wireless networks to support voice and video using a Cisco centralized or converged access WLAN n Achieve zero packet loss in GE/10GE/40GE/100GE data center networks n Implement QoS virtual access data center designs with the Cisco Nexus 1000V n Optimize QoS at the enterprise customer edge n Achieve extraordinary levels of QoS in service provider edge networks n Utilize new industry standards and QoS technologies, including IETF RFC 4594, IEEE 802.1Q-2005, HQF, and NBAR2 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.

Here are all the CCNA-level Routing and Switching commands you need in one condensed, portable resource. The CCNA Routing and Switching Portable Command Guide, Third Edition, is filled with valuable, easy-to-access information and is portable enough for use whether you're in the server room or the equipment closet. The guide summarizes all CCNA certification-level Cisco IOS® Software commands, keywords, command arguments, and associated prompts, providing you with tips and examples of how to apply the commands to real-world scenarios. Configuration examples throughout the book provide you with a better understanding of how these commands are used in simple network designs. This book has been completely updated to cover topics in the ICND1 100-101, ICND2 200-101, and CCNA 200-120 exams. Use this quick reference resource to help you memorize commands and concepts as you work to pass the

CCNA Routing and Switching certification exam. The book is organized into these parts: • Part I TCP/IP v4 • Part II Introduction to Cisco Devices • Part III Configuring a Router • Part IV Routing • Part V Switching • Part VI Layer 3 Redundancy • Part VII IPv6 • Part VIII Network Administration and Troubleshooting • Part IX Managing IP Services • Part X WANs • Part XI Network Security Quick, offline access to all CCNA Routing and Switching commands for research and solutions Logical how-to topic groupings for a one-stop resource Great for review before CCNA Routing and Switching certification exams Compact size makes it easy to carry with you, wherever you go “Create Your Own Journal” section with blank, lined pages allows you to personalize the book for your needs “What Do You Want to Do?” chart inside back cover helps you to quickly reference specific tasks

These courses cover the expertise needed to design Cisco Enterprise networks. They cover the fundamentals for advanced routing and addressing solutions, advanced enterprise campus networks, Cisco WAN, security services, network services, and SDA. By the end of this path, you’ll be confident in your abilities to design network architecture for Cisco Enterprise networks. In addition, these courses line up with the objectives in the Designing Cisco Enterprise Networks ENSLD (300-420) exam and will help you prepare for the certification. Preparing for the Designing Cisco Enterprise Networks ENSLD (300-420) exam to become a CISCO ENSLD Certified? Here we have brought Best Exam Questions for you so that you can prepare well CISCO ENSLD (300-420) exam. Unlike other online simulation practice tests, you get an eBook version that is easy to read & remember these questions. You can simply rely on these questions for successfully certifying this exam.

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. The Firewall Services Module (FWSM) is a high-performance stateful-inspection firewall that integrates into the Cisco® 6500 switch and 7600 router chassis. The FWSM monitors traffic flows using application inspection engines to provide a strong level of network security. The FWSM defines the security parameter and enables the enforcement of security policies through authentication, access control lists, and protocol inspection. The FWSM is a key component to anyone deploying network security. Cisco Secure Firewall Services Module (FWSM) covers all aspects of the FWSM. The book provides a detailed look at how the FWSM processes information, as well as installation advice, configuration details, recommendations for network integration, and reviews of operation and management. This book provides you with a single source that comprehensively answers how and why the FWSM functions as it does. This information enables you to successfully deploy the FWSM and gain the greatest functional benefit from your deployment. Practical examples throughout show you how other customers have successfully deployed the FWSM. By reading this book, you will learn how the FWSM functions, the differences between the FWSM and the ASA Security Appliance, how to implement and maintain the FWSM, the latest features of the FWSM, and how to configure common installations. This security book is part of the Cisco Press® Networking Technology series. Security titles from Cisco Press help networking professionals secure critical data and resources, prevent and mitigate network attacks, and build end-to-end self-defending networks.

Overviews what it takes to deploy ADSL, for decision makers and implementers in both service provider and enterprise information technology organizations. First looks at business drivers and financial models associated with ADSL implementation, then introduces the ADSL service architecture, outlining an end-to-end service model from the physical layer to the network layer and addressing crucial issues such as security and IP multicasting. Offers seven detailed implementation scenarios with bandw diagrams and configuration listings based on actual deployments in areas including residential and corporate Internet access, telecommuting, and media distribution. Ginsburg is director of consulting engineering for Shasta Networks. Annotation copyrighted by Book News, Inc., Portland, OR

Router Security Strategies: Securing IP Network Traffic Planes provides a compre-hensive approach to understand and implement IP traffic plane separation and protection on IP routers. This book details the distinct traffic planes of IP networks and the advanced techniques necessary to operationally secure them. This includes the data, control, management, and services planes that provide the infrastructure for IP networking. The first section provides a brief overview of the essential components of the Internet Protocol and IP networking. At the end of this section, you will understand the fundamental principles of defense in depth and breadth security as applied to IP traffic planes. Techniques to secure the IP data plane, IP control plane, IP management plane, and IP services plane are covered in detail in the second section. The final section provides case studies from both the enterprise network and the service provider network perspectives. In this way, the individual IP traffic plane security techniques reviewed in the second section of the book are brought together to help you create an integrated, comprehensive defense in depth and breadth security architecture. “Understanding and securing IP traffic planes are critical to the overall security posture of the IP infrastructure. The techniques detailed in this book provide protection and instrumentation enabling operators to understand and defend against attacks. As the vulnerability economy continues to mature, it is critical for both vendors and network providers to collaboratively deliver these protections to the IP infrastructure.” –Russell Smoak, Director, Technical Services, Security Intelligence Engineering, Cisco Gregg Schudel, CCIE® No. 9591, joined Cisco in 2000 as a consulting system engineer supporting the U.S. service provider organization. Gregg focuses on IP core network security architectures and technology for interexchange carriers and web services providers. David J. Smith, CCIE No. 1986, joined Cisco in 1995 and is a consulting system engineer supporting the service provider organization. David focuses on IP core and edge architectures including IP routing, MPLS technologies, QoS, infrastructure security, and network telemetry. Understand the operation of IP networks and routers Learn about the many threat models facing IP networks, Layer 2 Ethernet switching environments, and IPsec and MPLS VPN services Learn how to segment and protect each IP traffic plane by applying defense in depth and breadth principles Use security techniques such as ACLs, rate limiting, IP Options filtering, uRPF, QoS, RTBH, QPPB, and many others to protect the data plane of IP and switched Ethernet networks Secure the IP control plane with rACL, CoPP, GTSM, MD5, BGP and ICMP techniques and Layer 2 switched Ethernet-specific techniques Protect the IP management plane with password management, SNMP, SSH, NTP, AAA, as well as other VPN management, out-of-band management, and remote access management techniques Secure the IP services plane using recoloring, IP fragmentation control, MPLS label control, and other traffic classification and process control techniques This security book is part of the Cisco Press® Networking Technology Series. Security titles from Cisco Press help networking professionals secure critical data and resources, prevent and mitigate network attacks, and build end-to-end self-defending networks.

Covers the most important and common configuration scenarios and features which will put you on track to start implementing ASA firewalls right away.

Switched Networks Companion Guide is the official supplemental textbook for the Switched Networks course in the Cisco® Networking Academy® CCNA® Routing and Switching curriculum. This course describes the architecture, components, and operations of a converged switched network. You will learn about the hierarchical network design model and how to configure a switch for basic and advanced functionality. By the end of this course, you will be able to troubleshoot and resolve common issues with Virtual LANs and inter-VLAN routing in a converged network. You will also develop the knowledge and skills needed to implement a WLAN in a small-to-medium network. The Companion Guide is designed as a portable desk reference to use anytime, anywhere to reinforce the material from the course and organize your time. The book’s features help you focus on important concepts to succeed in this course: Chapter objectives–Review core concepts by answering the focus questions listed at the beginning of each chapter. Key terms–Refer to the lists of networking vocabulary introduced and highlighted in context in each chapter. Glossary–Consult the comprehensive Glossary more than 300 terms. Summary of Activities and Labs–Maximize your study time with this complete list of all associated practice exercises at the end of each chapter. Check Your Understanding–Evaluate your readiness with the end-of-

chapter questions that match the style of questions you see in the online course quizzes. The answer key explains each answer. Related Title: Switched Networks Lab Manual ISBN-10: 1-58713-327-X ISBN-13: 978-1-58713-327-5 How To–Look for this icon to study the steps you need to learn to perform certain tasks. Interactive Activities–Reinforce your understanding of topics with all the different exercises from the online course identified throughout the book with this icon. Videos–Watch the videos embedded within the online course. Packet Tracer Activities–Explore and visualize networking concepts using Packet Tracer exercises interspersed throughout the chapters. Hands-on Labs–Work through all the course labs and Class Activities that are included in the course and published in the separate Lab Manual.

This IBM® Redbooks® publication is an IBM and Cisco collaboration that articulates how IBM and Cisco can bring the benefits of their respective companies to the modern data center. It documents the architectures, solutions, and benefits that can be achieved by implementing a data center based on IBM server, storage, and integrated systems, with the broader Cisco network. We describe how to design a state-of-the art data center and networking infrastructure combining Cisco and IBM solutions. The objective is to provide a reference guide for customers looking to build an infrastructure that is optimized for virtualization, is highly available, is interoperable, and is efficient in terms of power and space consumption. It will explain the technologies used to build the infrastructure, provide use cases, and give guidance on deployments.

The two volume set LNCS 3767 and LNCS 3768 constitutes the refereed proceedings of the 6th Pacific Rim Conference on Multimedia, PCM 2005, held in Jeju Island, Korea in November 2005. The 181 revised papers presented were carefully reviewed and selected from a total of 570 submissions. The papers cover a wide range of topics, including all aspects of multimedia, both technical and artistic perspectives and both theoretical and practical issues. Besides papers that focus on traditional topics, such as multimedia communications, audio-visual compressions, multimedia security, image and signal processing techniques, and multimedia data processing, there are also artistic papers which need not to be strictly technical.

As a network administrator, auditor or architect, you know the importance of securing your network and finding security solutions you can implement quickly. This succinct book departs from other security literature by focusing exclusively on ways to secure Cisco routers, rather than the entire network. The rational is simple: If the router protecting a network is exposed to hackers, then so is the network behind it. Hardening Cisco Routers is a reference for protecting the protectors. Included are the following topics: The importance of router security and where routers fit into an overall security plan Different router configurations for various versions of Cisco?s IOS Standard ways to access a Cisco router and the security implications of each Password and privilege levels in Cisco routers Authentication, Authorization, and Accounting (AAA) control Router warning banner use (as recommended by the FBI) Unnecessary protocols and services commonly run on Cisco routers SNMP security Anti-spoofing Protocol security for RIP, OSPF, EIGRP, NTP, and BGP Logging violations Incident response Physical security Written by Thomas Akin, an experienced Certified Information Systems Security Professional (CISSP) and Certified Cisco Academic Instructor (CCAI), the book is well organized, emphasizing practicality and a hands-on approach. At the end of each chapter, Akin includes a Checklist that summarizes the hardening techniques discussed in the chapter. The Checklists help you double-check the configurations you have been instructed to make, and serve as quick references for future security procedures.Concise and to the point, Hardening Cisco Routers supplies you with all the tools necessary to turn a potential vulnerability into a strength. In an area that is otherwise poorly documented, this is the one book that will help you make your Cisco routers rock solid.

This is the only book to clearly demonstrate how to get big dollar security for your network using freely available tools. This is a must have book for any company or person with a limited budget. Network security is in a constant struggle for budget to get things done. Upper management wants thing to be secure but doesn’t want to pay for it. With this book as a guide, everyone can get what they want. The examples and information will be of immense value to every small business. It will explain security principles and then demonstrate how to achieve them using only freely available software. Teachers you how to implement best of breed security using tools for free Ideal for anyone recomending and implementing new technologies within the company

Learn Cacti and design a robust Network Operations Center.

Intended for organisations needing to build an efficient and reliable enterprise network linked to the Internet, this second edition explains the current Internet architecture and shows how to evaluate service providers dealing with connection issues.

CCNP Security SISAS 300-208 Official Cert Guide from Cisco Press enables you to succeed on the exam the first time and is the only self-study resource approved by Cisco. Cisco security experts Aaron Woland and Kevin Redmon share preparation hints and test-taking tips, helping you identify areas of weakness and improve both your conceptual knowledge and hands-on skills. This complete study package includes A test-preparation routine proven to help you pass the exam “Do I Know This Already?” quizzes, which enable you to decide how much time you need to spend on each section The powerful Pearson IT Certification Practice Testsoftware, complete with hundreds of well-reviewed, exam-realistic questions, customization options, and detailed performance reports A final preparation chapter, which guides you through tools and resources to help you craft your review and test-taking strategies Study plan suggestions and templates to help you organize and optimize your study time Well regarded for its level of detail, study plans, assessment features, challenging review questions and exercises, video instruction, and hands-on labs, this official study guide helps you master the concepts and techniques that ensure your exam success. The official study guide helps you master topics on the CCNP Security SISAS 300-208 exam, including the following: Identity management/secure access Threat defense Troubleshooting, monitoring and reporting tools Threat defense architectures Identity management architectures

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. CCNA Data Center DCICN 200-150 Official Cert Guide from Cisco Press allows you to succeed on the exam the first time and is the only self-study resource approved by Cisco. Cisco Data Center experts Chad Hintz, Cesar Obediente, and Ozden Karakok share preparation hints and test-taking tips, helping you identify areas of weakness and improve both your conceptual knowledge and hands-on skills. This complete study package includes A test-preparation routine proven to help you pass the exam Do I Know This Already? quizzes, which allows you to decide how much time you need to spend on each section Chapter-ending exercises, which help you drill on key concepts you must know thoroughly The

powerful Pearson IT Certification Practice Test software complete with hundreds of well-reviewed, exam-realistic questions customization options, and detailed performance reports final preparation chapter, which guides you through tools and resources to help you craft your review and test-taking strategies Study plan suggestions and templates to help you organize and optimize your study time Well-regarded for its level of detail, study plans, assessment features, challenging review questions and exercises, this official study guide helps you master the concepts and techniques that ensure your exam success. The official study guide helps you master topics on the CCNA Data Center DCICN 200-150 exam, including the following: Nexus data center infrastructure and architecture Networking models, Ethernet LANs, and IPv4/IPv6 addressing/routing Data center Nexus switching and routing fundamentals Nexus switch installation and operation VLANs, trunking, STP, and Ethernet switching IPv4 and IPv6 subnetting IPv4 routing concepts, protocols, configuration, and access control Data center storage networking technologies and configurations

Best-practice QoS designs for protecting voice, video, and critical data while mitigating network denial-of-service attacks Understand the service-level requirements of voice, video, and data applications Examine strategic QoS best practices, including Scavenger-class QoS tactics for DoS/worm mitigation Learn about QoS tools and the various interdependencies and caveats of these tools that can impact design considerations Learn how to protect voice, video, and data traffic using various QoS mechanisms Evaluate design recommendations for protecting voice, video, and multiple classes of data while mitigating DoS/worm attacks for the following network infrastructure architectures: campus LAN, private WAN, MPLS VPN, and IPSec VPN Quality of Service (QoS) has already proven itself as the enabling technology for the convergence of voice, video, and data networks. As business needs evolve, so do the demands for QoS. The need to protect critical applications via QoS mechanisms in business networks has escalated over the past few years, primarily due to the increased frequency and sophistication of denial-of-service (DoS) and worm attacks. End-to-End QoS Network Design is a detailed handbook for planning and deploying QoS solutions to address current business needs. This book goes beyond discussing available QoS technologies and considers detailed design examples that illustrate where, when, and how to deploy various QoS features to provide validated and tested solutions for voice, video, and critical data over the LAN, WAN, and VPN. The book starts with a brief background of network infrastructure evolution and the subsequent need for QoS. It then goes on to cover the various QoS features and tools currently available and comments on their evolution and direction. The QoS requirements of voice, interactive and streaming video, and multiple classes of data applications are presented, along with an overview of the nature and effects of various types of DoS and worm attacks. QoS best-practice design principles are introduced to show how QoS mechanisms can be strategically deployed end-to-end to address application requirements while mitigating network attacks. The next section focuses on how these strategic design principles are applied to campus LAN QoS design. Considerations and detailed design recommendations specific to the access, distribution, and core layers of an enterprise campus network are presented. Private WAN QoS design is discussed in the following section, where WAN-specific considerations and detailed QoS designs are presented for leased-lines, Frame Relay, ATM, ATM-to-FR Service Interworking, and ISDN networks. Branch-specific designs include Cisco® SAFE recommendations for using Network-Based Application Recognition (NBAR) for known-worm identification and policing. The final section covers Layer 3 VPN QoS design-for both MPLS and IPSec VPNs. As businesses are migrating to VPNs to meet their wide-area networking needs at lower costs, considerations specific to these topologies are required to be reflected in their customer-edge QoS designs. MPLS VPN QoS design is examined from both the enterprise and service provider's perspectives. Additionally, IPSec VPN QoS designs cover site-to-site and teleworker contexts. Whether you are looking for an introduction to QoS principles and practices or a QoS planning and deployment guide, this book provides you with the expert advice you need to design and implement comprehensive QoS solutions.

Port-based authentication is a "network access control" concept in which a particular device is evaluated before being permitted to communicate with other devices located on the network. 802.1X Port-Based Authentication examines how this concept can be applied and the effects of its application to the majority of computer networks in existence today. 802.1X is a standard that extends the Extensible Authentication Protocol (EAP) over a Local Area Network (LAN) through a process called Extensible Authentication Protocol Over LANs (EAPOL). The text presents an introductory overview of port-based authentication including a description of 802.1X port-based authentication, a history of the standard and the technical documents published, and details of the connections among the three network components. It focuses on the technical aspect of 802.1X and the related protocols and components involved in implementing it in a network. The book provides an in-depth discussion of technology, design, and implementation with a specific focus on Cisco devices. Including examples derived from the 802.1X implementation, it also addresses troubleshooting issues in a Cisco environment. Each chapter contains a subject overview. Incorporating theoretical and practical approaches, 802.1X Port-Based Authentication seeks to define this complex concept in accessible terms. It explores various applications to today's computer networks using this particular network protocol.

These courses envelop the foundational networking knowledge that you’ll need to get your career in networking jumpstarted. These courses envelop network fundamentals, network access, IP connectivity, IP services, network security fundamentals, and laying the foundation for network automation and programmability. Preparing for the supporting Cisco datacenter networking devices 200-301 exam to become a CISCO CCNA Certified? Here we have brought Best Exam Questions for you so that you can prepare well CISCO CCNA (200-301) exam. Unlike other online simulation practice tests, you get an eBook version that is easy to read & remember these questions. You can simply rely on these questions for successfully certifying this exam.

The essential reference for security pros and CCIE Security candidates: identity, context sharing, encryption, secure connectivity and virtualization Integrated Security Technologies and Solutions – Volume II

brings together more expert-level instruction in security design, deployment, integration, and support. It will help experienced security and network professionals manage complex solutions, succeed in their day-to-day jobs, and prepare for their CCIE Security written and lab exams. Volume II focuses on the Cisco Identity Services Engine, Context Sharing, TrustSec, Application Programming Interfaces (APIs), Secure Connectivity with VPNs, and the virtualization and automation sections of the CCIE v5 blueprint. Like Volume I, its strong focus on interproduct integration will help you combine formerly disparate systems into seamless, coherent, next-generation security solutions. Part of the Cisco CCIE Professional Development Series from Cisco Press, it is authored by a team of CCIEs who are world-class experts in their Cisco security disciplines, including co-creators of the CCIE Security v5 blueprint. Each chapter starts with relevant theory, presents configuration examples and applications, and concludes with practical troubleshooting. Review the essentials of Authentication, Authorization, and Accounting (AAA) Explore the RADIUS and TACACS+ AAA protocols, and administer devices with them Enforce basic network access control with the Cisco Identity Services Engine (ISE) Implement sophisticated ISE profiling, EzConnect, and Passive Identity features Extend network access with BYOD support, MDM integration, Posture Validation, and Guest Services Safely share context with ISE, and implement pxGrid and Rapid Threat Containment Integrate ISE with Cisco FMC, WSA, and other devices Leverage Cisco Security APIs to increase control and flexibility Review Virtual Private Network (VPN) concepts and types Understand and deploy Infrastructure VPNs and Remote Access VPNs Virtualize leading Cisco Security products Make the most of Virtual Security Gateway (VSG), Network Function Virtualization (NFV), and microsegmentation

All the CCNA-Level commands in one compact, portable resource.

As a final exam preparation tool, the CCIE Wireless (350-050) Quick Reference provides a concise review of all objectives on the new written exam. The short eBook provides readers with detailed, graphical-based information, highlighting only the key topics in cram-style format. With this document as your guide, you will review topics on concepts and commands that apply to this exam. This fact-filled Quick Reference allows you to get all-important information at a glance, helping you focus your study on areas of weakness and enhancing your memory retention of essential exam concepts. The Cisco CCIE Wireless certification assesses and validates broad theoretical knowledge of wireless networking and a solid understanding of wireless LAN technologies from Cisco. The written exam is a two-hour, multiple choice test with 90-110 questions that will validate that professionals have the expertise to plan, design, implement, operate and troubleshoot Enterprise WLAN networks.

Trust the best-selling Official Cert Guide series from Cisco Press to help you learn, prepare, and practice for exam success. They are built with the objective of providing assessment, review, and practice to help ensure you are fully prepared for your certification exam. Master Cisco CCNP SWITCH 300-115 exam topics Assess your knowledge with chapter-opening quizzes Review key concepts with exam preparation tasks This is the eBook edition of the CCNP Routing and Switching SWITCH 300-115 Official Cert Guide. This eBook does not include the companion CD-ROM with practice exam that comes with the print edition. CCNP Routing and Switching SWITCH 300-115 Official Cert Guide from Cisco Press enables you to succeed on the exam the first time and is the only self-study resource approved by Cisco. Expert engineer David Hucaby shares preparation hints and test-taking tips, helping you identify areas of weakness and improve both your conceptual knowledge and hands-on skills. This complete, official study package includes A test-preparation routine proven to help you pass the exam Do I Know This Already? quizzes, which enable you to decide how much time you need to spend on each section Chapter-ending exercises, which help you drill on key concepts you must know thoroughly The powerful Pearson IT Certification Practice Test software, complete with hundreds of well-reviewed, exam-realistic questions, customization options, and detailed performance reports More than 60 minutes of personal video mentoring from the author on important exam topics A final preparation chapter, which guides you through tools and resources to help you craft your review and test-taking strategies Study plan suggestions and templates to help you organize and optimize your study time Well regarded for its level of detail, study plans, assessment features, challenging review questions and exercises, this official study guide helps you master the concepts and techniques that ensure your exam success. CCNP Routing and Switching SWITCH 300-115 Official Cert Guide is part of a recommended learning path from Cisco that includes simulation and hands-on training from authorized Cisco Learning Partners and self-study products from Cisco Press. To find out more about instructor-led training, e-learning, and hands-on instruction offered by authorized Cisco Learning Partners worldwide, please visit www.cisco.com. The official study guide helps you master topics on the CCNP R&S SWITCH 300-115 exam, including: Enterprise campus design Switch operation Switch port configuration VLANs, Trunks, and VLAN Trunking Protocol (VTP) Spanning Tree Protocol (STP), RSTP, and MSTP Protecting the STP topology Aggregating switch links Multilayer switching Configuring DHCP Logging switch activity and managing switches with SNMP Monitoring performance and traffic High availability Securing switched networks

The CCNA® Voice certification expands your CCNA-level skill set to prepare for a career in voice networking. This lab manual helps to prepare you for the Introducing Cisco Voice and Unified Communications Administration (ICOMM v8.0) certification exam (640-461). CCNA Voice Lab Manual gives you extensive hands-on practice for developing an in-depth understanding of voice networking principles, tools, skills, configurations, integration challenges, and troubleshooting techniques. Using this manual, you can practice a wide spectrum of tasks involving Cisco Unified Communications Manager, Unity Connection, Unified Communications Manager Express, and Unified Presence. CCNA Voice Lab Manual addresses all exam topics and offers additional guidance for successfully implementing IP voice solutions in small-to-medium-sized businesses. CCNA Voice 640-461 Official Exam Certification Guide, Second Edition ISBN-13: 978-1-58720-417-3 ISBN-10: 1-58720-417-7 CCNA Voice Portable Command Guide ISBN-13: 978-1-58720-442-5 ISBN-10: 1-58720-442-8 Configuring Cisco Unified Communications Manager and Unity Connection: A Step-by-Step Guide, Second Edition ISBN-13: 978-1-58714-226-0 ISBN-10: 1-58714-226-0 CCNA Voice Quick Reference ISBN-13: 978-1-58705-767-0 ISBN-10: 1-58705-767-0

Cisco IOS 12.0 Switching Services is a comprehensive guide detailing available Cisco IOS switching alternatives. Cisco switching services range from fast switching and Netflow switching to LAN Emulation. This book describes how to configure routing between virtual LANs (VLANs) and teach how to effectively configure and implement VLANs on switches.

The Implementing and Operating Cisco Enterprise Network Core Technologies ENCOR (350-401) course gives you the knowledge and skills needed to configure, troubleshoot, and manage enterprise wired and wireless networks.It is especially useful for those leading or participating in projects. This exam tests your knowledge and skills related to implementing core enterprise network technologies, including: Dual stack (IPv4 and IPv6) architecture Virtualization Infrastructure Network assurance Security Automation Preparing for Implementing and Operating Cisco Enterprise Network Core Technologies ENCOR (350-401)? Here we have brought Best Exam Questions for you so that you can prepare well for this Exam of Implementing and Operating Cisco Enterprise Network Core Technologies ENCOR (350-401). Unlike other online simulation practice tests, you get a ebook version that is easy to read & remember these questions. You can simply rely on these questions for successfully certifying this exam.

Go beyond layer 2 broadcast domains with this in-depth tour of advanced link and internetwork layer protocols, and learn how they enable you to expand to larger topologies. An ideal follow-up to Packet Guide to Core Network Protocols, this concise guide dissects several of these protocols to explain their structure and operation. This isn't a book on packet theory. Author Bruce Hartpence built topologies in a lab as he wrote this guide, and each chapter includes several packet captures. You'll learn about protocol classification, static vs. dynamic topologies, and reasons for installing a particular route. This guide covers: Host routing—Process a routing table and learn how traffic starts out across a network Static routing—Build router routing tables and understand how forwarding decisions are made and processed Spanning Tree Protocol—Learn how this protocol is an integral part of every network containing switches Virtual Local Area Networks—Use VLANs to address the limitations of layer 2 networks Trunking—Get

an indepth look at VLAN tagging and the 802.1Q protocol Routing Information Protocol—Understand how this distance vector protocol works in small, modern communication networks Open Shortest Path First—Discover why convergence times of OSPF and other link state protocols are improved over distance vectors

Modern cars are more computerized than ever. Infotainment and navigation systems, Wi-Fi, automatic software updates, and other innovations aim to make driving more convenient. But vehicle technologies haven’t kept pace with today’s more hostile security environment, leaving millions vulnerable to attack. The Car Hacker’s Handbook will give you a deeper understanding of the computer systems and embedded software in modern vehicles. It begins by examining vulnerabilities and providing detailed explanations of communications over the CAN bus and between devices and systems. Then, once you have an understanding of a vehicle’s communication network, you’ll learn how to intercept data and perform specific hacks to track vehicles, unlock doors, glitch engines, flood communication, and more. With a focus on low-cost, open source hacking tools such as Metasploit, Wireshark, Kayak, can-utils, and ChipWhisperer, The Car Hacker’s Handbook will show you how to: –Build an accurate threat model for your vehicle –Reverse engineer the CAN bus to fake engine signals –Exploit vulnerabilities in diagnostic and data-logging systems –Hack the ECU and other firmware and embedded systems –Feed exploits through infotainment and vehicle-to-vehicle communication systems –Override factory settings with performance-tuning techniques –Build physical and virtual test benches to try out exploits safely If you’re curious about automotive security and have the urge to hack a two-ton computer, make The Car Hacker’s Handbook your first stop.

Trust the best-selling Official Cert Guide series from Cisco Press to help you learn, prepare, and practice for exam success. They are built with the objective of providing assessment, review, and practice to help ensure you are fully prepared for your certification exam. Master Cisco CCNP TSHOOT 300-135 exam topics Assess your knowledge with chapter-opening quizzes Review key concepts with exam preparation tasks This is the eBook edition of the CCNP Routing and Switching TSHOOT 300-135 Official Cert Guide. This eBook does not include the companion CD-ROM with practice exam that comes with the print edition. CCNP Routing and Switching TSHOOT 300-115 Official Cert Guide from Cisco Press enables you to succeed on the exam the first time and is the only self-study resource approved by Cisco. Expert instructor Raymond Lacoste shares preparation hints and test-taking tips, helping you identify areas of weakness and improve both your conceptual knowledge and hands-on skills. This complete, official study package includes A test-preparation routine proven to help you pass the exam Do I Know This Already? quizzes, which enable you to decide how much time you need to spend on each section Chapter-ending exercises, which help you drill on key concepts you must know thoroughly A trouble ticket chapter that explores 10 additional network failures and the approaches you can take to resolve the issues presented A final preparation chapter, which guides you through tools and resources to help you craft your review and test-taking strategies Study plan suggestions and templates to help you organize and optimize your study time Well regarded for its level of detail, study plans, assessment features, challenging review questions and exercises, this official study guide helps you master the concepts and techniques that ensure your exam success. CCNP Routing and Switching TSHOOT 300-115 Official Cert Guide is part of a recommended learning path from Cisco that includes simulation and hands-on training from authorized Cisco Learning Partners and self-study products from Cisco Press. To find out more about instructor-led training, e-learning, and hands-on instruction offered by authorized Cisco Learning Partners worldwide, please visit www.cisco.com. The official study guide helps you master topics on the CCNP R&S TSHOOT 300-135 exam, including how to troubleshoot: Device performance VLANs, Trunks, and VTP STP and Layer 2 Etherchannel Inter-VLAN routing and Layer 3 Etherchannel Switch security HSRP, VRRP, GLBP IPv4 and IPv6 addressing IPv4/IPv6 routing and GRE tunnels RIPv2, RIPng, EIGRP, and OSPF Route maps, policy-based routing, and route redistribution BGP Management protocols, tools, and access

The IBM® TS4500 (TS4500) tape library is a next-generation tape solution that offers higher storage density and better integrated management than previous solutions. This IBM Redbooks® publication gives you a close-up view of the new IBM TS4500 tape library. In the TS4500, IBM delivers the density that today's and tomorrow's data growth requires. It has the cost-effectiveness and the manageability to grow with business data needs, while you preserve investments in IBM tape library products. Now, you can achieve a low cost per terabyte (TB) and a high TB density per square foot because the TS4500 can store up to 11 petabytes (PB) of uncompressed data in a single frame library or scale up to 2 PB per square foot to over 350 PB. The TS4500 offers the following benefits: High availability: Dual active accessors with integrated service bays reduce inactive service space by 40%. The Elastic Capacity option can be used to eliminate inactive service space. Flexibility to grow: The TS4500 library can grow from the right side and the left side of the first L frame because models can be placed in any active position. Increased capacity: The TS4500 can grow from a single L frame up to another 17 expansion frames with a capacity of over 23,000 cartridges. High-density (HD) generation 1 frames from the TS3500 library can be redeployed in a TS4500. Capacity on demand (CoD): CoD is supported through entry-level, intermediate, and base-capacity configurations. Advanced Library Management System (ALMS): ALMS supports dynamic storage management, which enables users to create and change logical libraries and configure any drive for any logical library. Support for IBM TS1160 while also supporting TS1155, TS1150, and TS1140 tape drive: The TS1160 gives organizations an easy way to deliver fast access to data, improve security, and provide long-term retention, all at a lower cost than disk solutions. The TS1160 offers high-performance, flexible data storage with support for data encryption. Also, this enhanced fifth-generation drive can help protect investments in tape automation by offering compatibility with existing automation. The TS1160 Tape Drive Model 60E delivers a dual 10 Gb or 25 Gb Ethernet host attachment interface that is optimized for cloud-based and hyperscale environments. The TS1160 Tape Drive Model 60F delivers a native data rate of 400 MBps, the same load/ready, locate speeds, and

access times as the TS1155, and includes dual-port 16 Gb Fibre Channel support. Support of the IBM Linear Tape-Open (LTO) Ultrium 8 tape drive: The LTO Ultrium 8 offering represents significant improvements in capacity, performance, and reliability over the previous generation, LTO Ultrium 7, while still protecting your investment in the previous technology. Support of LTO 8 Type M cartridge (m8): The LTO Program introduced a new capability with LTO-8 drives. The ability of the LTO-8 drive to write 9 TB on a brand new LTO-7 cartridge instead of 6 TB as specified by the LTO-7 format. Such a cartridge is called an LTO-7 initialized LTO-8 Type M cartridge. Integrated TS7700 back-end Fibre Channel (FC) switches are available. Up to four library-managed encryption (LME) key paths per logical library are available. This book describes the TS4500 components, feature codes, specifications, supported tape drives, encryption, new integrated management console (IMC), command-line interface (CLI), and REST over SCSI (RoS) to obtain status information about library components. October 2020 - Added support for the 3592 model 60S tape drive that provides a dual-port 12 Gb SAS (Serial Attached SCSI) interface for host attachment.

Cisco IOS Switching ServicesCisco Press

Thoroughly revised and expanded, this second edition adds sections on MPLS, Security, IPv6, and IP Mobility and presents solutions to the most common configuration problems.

"Shows readers how to create and manage virtual networks on a PC using the popular open-source platform GNS3, with tutorial-based explanations"--