

Access Rules Cisco

Cisco NAC Appliance Enforcing Host Security with Clean Access Authenticate, inspect, remediate, and authorize end-point devices using Cisco NAC Appliance Jamey Heary, CCIE® No. 7680 Contributing authors: Jerry Lin, CCIE No. 6469, Chad Sullivan, CCIE No. 6493, and Alok Agrawal With today's security challenges and threats growing more sophisticated, perimeter defense alone is no longer sufficient. Few organizations are closed entities with well-defined security perimeters, which has led to the creation of perimeterless networks with ubiquitous access. Organizations need to have internal security systems that are more comprehensive, pervasive, and tightly integrated than in the past. Cisco® Network Admission Control (NAC) Appliance, formerly known as Cisco Clean Access, provides a powerful host security policy inspection, enforcement, and remediation solution that is designed to meet these new challenges. Cisco NAC Appliance allows you to enforce host security policies on all hosts (managed and unmanaged) as they enter the interior of the network, regardless of their access method, ownership, device type, application set, or operating system. Cisco NAC Appliance provides proactive protection at the network entry point. Cisco NAC Appliance provides you with all the information needed to understand, design, configure, deploy, and troubleshoot the Cisco NAC Appliance solution. You will learn about all aspects of the NAC Appliance solution including configuration and best practices for design, implementation, troubleshooting, and creating a host security policy. Jamey Heary, CCIE® No. 7680, is a security consulting systems engineer at Cisco, where he works with its largest customers in the northwest United States. Jamey joined Cisco in 2000 and currently leads its Western Security Asset team and is a field advisor for its U.S. Security Virtual team. His areas of expertise include network and host security design and implementation, security regulatory compliance, and routing and switching. His other certifications include CISSP, CCSP®, and Microsoft MCSE. He is also a Certified HIPAA Security Professional. He has been working in the IT field for 13 years and in IT security for 9 years. Understand why network attacks and intellectual property losses can originate from internal network hosts Examine different NAC Appliance design options Build host security policies and assign the appropriate network access privileges for various user roles Streamline the enforcement of existing security policies with the concrete measures NAC Appliance can provide Set up and configure the NAC Appliance solution Learn best practices for the deployment of NAC Appliance Monitor, maintain, and troubleshoot the Cisco NAC Appliance solution 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. Category: Cisco Press—Security Covers: End-Point Security

Cisco ASA, PIX, and FWSM Firewall Handbook, Second Edition, is a guide for the most commonly implemented features of the popular Cisco® firewall security solutions. Fully updated to cover the latest firewall releases, this book helps you to quickly and easily configure, integrate, and manage the entire suite of Cisco firewall products, including ASA, PIX®, and the Catalyst® Firewall Services Module (FWSM). Organized by families of features, this book helps you get up to speed quickly and efficiently on topics such as file management, building connectivity, controlling access, firewall management, increasing availability with failover, load balancing, logging, and verifying operation. Sections are marked by shaded tabs for quick reference, and information on each feature is presented in a concise format, with background, configuration, and example components. Whether you are looking for an introduction to the latest ASA, PIX, and FWSM devices or a complete reference for making the most out of your Cisco firewall deployments, Cisco ASA, PIX, and FWSM Firewall Handbook, Second Edition, helps you achieve maximum protection of your network resources. “Many books on network security and firewalls settle for a discussion focused primarily on concepts and theory. This book, however, goes well beyond these topics. It covers in tremendous detail the information every network and security administrator needs to know when configuring and managing market-leading firewall products from Cisco.” —Jason Nolet, Vice President of Engineering, Security Technology Group, Cisco David Hucaby, CCIE® No. 4594, is a lead network engineer for the University of Kentucky, where he works with health-care networks based on the Cisco Catalyst, ASA, FWSM, and VPN product lines. He was one of the beta reviewers of the ASA 8.0 operating system software. Learn about the various firewall models, user interfaces, feature sets, and configuration methods Understand how a Cisco firewall inspects traffic Configure firewall interfaces, routing, IP addressing services, and IP multicast support Maintain security contexts and flash and configuration files, manage users, and monitor firewalls with SNMP Authenticate, authorize, and maintain accounting records for firewall users Control access through the firewall by implementing transparent and routed firewall modes, address translation, and traffic shunning Define security policies that identify and act on various types of traffic with the Modular Policy Framework Increase firewall availability with firewall failover operation Understand how firewall load balancing works Generate firewall activity logs and learn how to analyze the contents of the log Verify firewall operation and connectivity and observe data passing through a firewall Configure Security Services Modules, such as the Content Security Control (CSC) module and the Advanced Inspection Processor (AIP) module 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. Category: Networking: Security Covers: Cisco ASA 8.0, PIX 6.3, and FWSM 3.2 version firewalls

Fully updated: The complete guide to Cisco Identity Services Engine solutions Using Cisco Secure Access Architecture and Cisco Identity Services Engine, you can secure and gain control of access to your networks in a Bring Your Own Device (BYOD) world. This second edition of Cisco ISE for BYOD and Secure Unified Access contains more than eight brand-new chapters as well as extensively updated coverage of all the previous topics in the first edition book to reflect the latest technologies, features, and best practices of the ISE solution. It begins by reviewing today's business case for identity solutions. Next, you walk through ISE foundational topics and ISE design. Then you explore how to

build an access security policy using the building blocks of ISE. Next are the in-depth and advanced ISE configuration sections, followed by the troubleshooting and monitoring chapters. Finally, we go in depth on the new TACACS+ device administration solution that is new to ISE and to this second edition. With this book, you will gain an understanding of ISE configuration, such as identifying users, devices, and security posture; learn about Cisco Secure Access solutions; and master advanced techniques for securing access to networks, from dynamic segmentation to guest access and everything in between. Drawing on their cutting-edge experience supporting Cisco enterprise customers, the authors offer in-depth coverage of the complete lifecycle for all relevant ISE solutions, making this book a cornerstone resource whether you're an architect, engineer, operator, or IT manager.

- Review evolving security challenges associated with borderless networks, ubiquitous mobility, and consumerized IT
- Understand Cisco Secure Access, the Identity Services Engine (ISE), and the building blocks of complete solutions
- Design an ISE-enabled network, plan/distribute ISE functions, and prepare for rollout
- Build context-aware security policies for network access, devices, accounting, and audit
- Configure device profiles, visibility, endpoint posture assessments, and guest services
- Implement secure guest lifecycle management, from WebAuth to sponsored guest access
- Configure ISE, network access devices, and supplicants, step by step
- Apply best practices to avoid the pitfalls of BYOD secure access
- Set up efficient distributed ISE deployments
- Provide remote access VPNs with ASA and Cisco ISE
- Simplify administration with self-service onboarding and registration
- Deploy security group access with Cisco TrustSec
- Prepare for high availability and disaster scenarios
- Implement passive identities via ISE-PIC and EZ Connect
- Implement TACACS+ using ISE
- Monitor, maintain, and troubleshoot ISE and your entire Secure Access system
- Administer device AAA with Cisco IOS, WLC, and Nexus

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.

Umer Khan's first book, *Cisco Security Specialist's Guide to PIX Firewalls*, ISBN: 1931836639, has consistently maintained its spot as the #1 best-selling PIX book on amazon.com by providing readers with a clear, comprehensive, and independent introduction to PIX Firewall configuration. With the market for PIX Firewalls maintaining double digit growth and several major enhancements to both the PIX Firewall and VPN Client product lines, this book will have enormous appeal with the audience already familiar with his first book. The Cisco Pix firewall is the #1 market leading firewall, owning 43% market share. Cisco is poised to release the newest, completely re-designed version 7 of the Pix operating system in the first quarter of 2004 "Cisco Pix Firewalls: configure | manage | troubleshoot" Covers all objectives on the new Cisco Pix certification exam, making this book the perfect study guide in addition to professional reference Umer Khan's first book "Cisco Security Specialist's Guide to PIX Firewall" has been the #1 market leading Cisco Pix book since it was published in 2002

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 CCNA Wireless 640-722 exam topics Assess your knowledge with chapter-opening quizzes Review key concepts with exam preparation tasks This is the eBook edition of the CCNA Wireless 640-722 Official Certification Guide. This eBook does not include the companion CD-ROM with practice exam that comes with the print edition. CCNA Wireless 640-722 Official Certification Guide presents you with an organized test preparation routine through the use of proven series elements and techniques. "Do I Know This Already?" quizzes open each chapter and enable you to decide how much time you need to spend on each section. Exam topic lists make referencing easy. Chapter-ending Exam Preparation Tasks help you drill on key concepts you must know thoroughly. CCNA Wireless 640-722 Official Certification Guide focuses specifically on the objectives for the Cisco CCNA Wireless 640-722 exam. Expert network architect David Hucaby (CCIE No. 4594) shares preparation hints and test-taking tips, helping you identify areas of weakness and improve both your conceptual knowledge and hands-on skills. Material is presented in a concise manner, focusing on increasing your understanding and retention of exam topics. Well regarded for its level of detail, assessment features, comprehensive design scenarios, and challenging review questions and exercises, this official study guide helps you master the concepts and techniques that will enable you to succeed on the exam the first time. The official study guide helps you master all the topics on the CCNA Wireless 640-722 exam, including the following: RF signals, modulation, and standards Antennas WLAN topologies, configuration, and troubleshooting Wireless APs CUWN architecture Controller configuration, discovery, and maintenance Roaming Client configuration RRM Wireless security Guest networks WCS network management Interference CCNA Wireless 640-722 Official Certification 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/go/authorizedtraining.

Cisco's complete, authoritative guide to Authentication, Authorization, and Accounting (AAA) solutions with CiscoSecure ACS AAA solutions are very frequently used by customers to provide secure access to devices and networks AAA solutions are difficult and confusing to implement even though they are almost mandatory Helps IT Pros choose the best identity management protocols and designs for their environments Covers AAA on Cisco routers, switches, access points, and firewalls This is the first complete, authoritative, single-source guide to implementing, configuring, and managing Authentication, Authorization and Accounting (AAA) identity management with CiscoSecure Access Control Server (ACS) 4 and 5. Written by three of Cisco's most experienced CiscoSecure product support experts, it covers all AAA solutions (except NAC) on Cisco routers,

switches, access points, firewalls, and concentrators. It also thoroughly addresses both ACS configuration and troubleshooting, including the use of external databases supported by ACS. Each of this book's six sections focuses on specific Cisco devices and their AAA configuration with ACS. Each chapter covers configuration syntax and examples, debug outputs with explanations, and ACS screenshots. Drawing on the authors' experience with several thousand support cases in organizations of all kinds, AAA Identity Management Security presents pitfalls, warnings, and tips throughout. Each major topic concludes with a practical, hands-on lab scenario corresponding to a real-life solution that has been widely implemented by Cisco customers. This book brings together crucial information that was previously scattered across multiple sources. It will be indispensable to every professional running CiscoSecure ACS 4 or 5, as well as all candidates for CCSP and CCIE (Security or R and S) certification.

Network threats are emerging and changing faster than ever before. Cisco Next-Generation Network Security technologies give you all the visibility and control you need to anticipate and meet tomorrow's threats, wherever they appear. Now, three Cisco network security experts introduce these products and solutions, and offer expert guidance for planning, deploying, and operating them. The authors present authoritative coverage of Cisco ASA with FirePOWER Services; Cisco Firepower Threat Defense (FTD); Cisco Next-Generation IPS appliances; the Cisco Web Security Appliance (WSA) with integrated Advanced Malware Protection (AMP); Cisco Email Security Appliance (ESA) with integrated Advanced Malware Protection (AMP); Cisco AMP ThreatGrid Malware Analysis and Threat Intelligence, and the Cisco Firepower Management Center (FMC). You'll find everything you need to succeed: easy-to-follow configurations, application case studies, practical triage and troubleshooting methodologies, and much more. Effectively respond to changing threat landscapes and attack continuums Design Cisco ASA with FirePOWER Services and Cisco Firepower Threat Defense (FTD) solutions Set up, configure, and troubleshoot the Cisco ASA FirePOWER Services module and Cisco Firepower Threat Defense Walk through installing AMP Private Clouds Deploy Cisco AMP for Networks, and configure malware and file policies Implement AMP for Content Security, and configure File Reputation and File Analysis Services Master Cisco AMP for Endpoints, including custom detection, application control, and policy management Make the most of the AMP ThreatGrid dynamic malware analysis engine Manage Next-Generation Security Devices with the Firepower Management Center (FMC) Plan, implement, and configure Cisco Next-Generation IPS—including performance and redundancy Create Cisco Next-Generation IPS custom reports and analyses Quickly identify the root causes of security problems

Master network security skills with more than five hours of personal video instruction on ASA and FWSM firewall configuration tasks.

Learn how to manage and deploy the latest IP services in Cisco-centric networks. Understand VPN security concepts: confidentiality, integrity, origin authentication, non-repudiation, anti-replay, perfect forward secrecy Deploy quality of service technologies to protect your mission-critical applications Find out how IPsec technology works and how to configure it in IOS Learn how to set up a router as a firewall and intrusion detection system Gain efficient use of your IP address space with NAT, VLSM, IP unnumbered Solve real-world routing problems with redistribution, route filtering, summarization, policy routing Enable authentication, authorization, and accounting (AAA) security services with RADIUS and TACACS+ servers Enhanced IP Services for Cisco Networks is a guide to the new enabling and advanced IOS services that build more scalable, intelligent, and secure networks. You will learn the technical details necessary to deploy quality of service and VPN technologies, as well as improved security and advanced routing features. These services will allow you to securely extend the network to new frontiers, protect your network from attacks, and enhance network transport with application-level prioritization. This book offers a practical guide to implementing IPsec, the IOS Firewall, and IOS Intrusion Detection System. Also included are advanced routing principles and quality of service features that focus on improving the capability of your network. A good briefing on cryptography fully explains the science that makes VPNs possible. Rather than being another routing book, this is a guide to improving your network's capabilities by understanding and using the sophisticated features available to you in Cisco's IOS software

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.

This is the eBook version of the printed book. If the print book includes a CD-ROM, this content is not included within the eBook version. For organizations of all sizes, the Cisco ASA product family offers powerful new tools for maximizing network security. Cisco ASA: All-in-One Firewall, IPS, Anti-X and VPN Adaptive Security Appliance, Second Edition,

is Cisco's authoritative practitioner's guide to planning, deploying, managing, and troubleshooting security with Cisco ASA. Written by two leading Cisco security experts, this book presents each Cisco ASA solution in depth, offering comprehensive sample configurations, proven troubleshooting methodologies, and debugging examples. Readers will learn about the Cisco ASA Firewall solution and capabilities; secure configuration and troubleshooting of site-to-site and remote access VPNs; Intrusion Prevention System features built into Cisco ASA's Advanced Inspection and Prevention Security Services Module (AIP-SSM); and Anti-X features in the ASA Content Security and Control Security Services Module (CSC-SSM). This new edition has been updated with detailed information on the latest ASA models and features. Everything network professionals need to know to identify, mitigate, and respond to network attacks with Cisco ASA Includes detailed configuration examples, with screenshots and command line references Covers the ASA 8.2 release Presents complete troubleshooting methodologies and architectural references

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

A helpful guide on all things Cisco Do you wish that the complex topics of routers, switches, and networking could be presented in a simple, understandable presentation? With Cisco Networking All-in-One For Dummies, they are! This expansive reference is packed with all the information you need to learn to use Cisco routers and switches to develop and manage secure Cisco networks. This straightforward-by-fun guide offers expansive coverage of Cisco and breaks down intricate subjects such as networking, virtualization, and database technologies into easily digestible pieces. Drills down complex subjects concerning Cisco networking into easy-to-understand, straightforward coverage Shares best practices for utilizing Cisco switches and routers to implement, secure, and optimize Cisco networks Reviews Cisco networking solutions and products, securing Cisco networks, and optimizing Cisco networks Details how to design and implement Cisco networks Whether you're new to Cisco networking products and services or an experienced professional looking to refresh your knowledge about Cisco, this For Dummies guide provides you with the coverage, solutions, and best practices you need. The perimeter defenses guarding your network perhaps are not as secure as you think. Hosts behind the firewall have no defenses of their own, so when a host in the "trusted" zone is breached, access to your data center is not far behind. That's an all-too-familiar scenario today. With this practical book, you'll learn the principles behind zero trust architecture, along with details necessary to implement it. The Zero Trust Model treats all hosts as if they're internet-facing, and considers the entire network to be compromised and hostile. By taking this approach, you'll focus on building strong authentication, authorization, and encryption throughout, while providing compartmentalized access and better operational agility. Understand how perimeter-based defenses have evolved to become the broken model we use today Explore two case studies of zero trust in production networks on the client side (Google) and on the server side (PagerDuty) Get example configuration for open source tools that you can use to build a zero trust network Learn how to migrate from a perimeter-based network to a zero trust network in production

The authoritative visual guide to Cisco Firepower Threat Defense (FTD) This is the definitive guide to best practices and advanced troubleshooting techniques for the Cisco flagship Firepower Threat Defense (FTD) system running on Cisco ASA platforms, Cisco Firepower security appliances, Firepower eXtensible Operating System (FXOS), and VMware virtual appliances. Senior Cisco engineer Nazmul Rajib draws on unsurpassed experience supporting and training Cisco Firepower engineers worldwide, and presenting detailed knowledge of Cisco Firepower deployment, tuning, and troubleshooting. Writing for cybersecurity consultants, service providers, channel partners, and enterprise or government security professionals, he shows how to deploy the Cisco Firepower next-generation security technologies to protect your network from potential cyber threats, and how to use Firepower's robust command-line tools to investigate a wide variety of technical issues. Each consistently organized chapter contains definitions of keywords, operational flowcharts, architectural diagrams, best practices, configuration steps (with detailed screenshots), verification tools, troubleshooting techniques, and FAQs drawn directly from issues raised by Cisco customers at the Global Technical Assistance Center (TAC). Covering key Firepower materials on the CCNA Security, CCNP Security, and CCIE Security exams, this guide also includes end-of-chapter quizzes to help candidates prepare. · Understand the operational architecture of the Cisco Firepower NGFW, NGIPS, and AMP technologies · Deploy FTD on ASA platform and Firepower appliance running FXOS · Configure and troubleshoot Firepower Management Center (FMC) · Plan and deploy FMC and FTD on VMware virtual appliance · Design and implement the Firepower management network on FMC and FTD · Understand and apply Firepower licenses, and register FTD with FMC · Deploy FTD in Routed, Transparent, Inline, Inline Tap, and Passive Modes · Manage traffic flow with detect-only, block, trust, and bypass operations · Implement rate limiting and analyze quality of service (QoS) · Blacklist suspicious IP addresses via Security Intelligence · Block DNS queries to the malicious domains · Filter URLs based on category, risk, and reputation · Discover a network and implement application visibility and control (AVC) · Control file transfers and block malicious files using advanced malware protection (AMP) · Halt cyber attacks using Snort-based intrusion rule · Masquerade an internal host's original IP address using Network Address Translation (NAT) · Capture traffic and obtain troubleshooting files for advanced analysis · Use command-line tools to identify status, trace packet flows, analyze logs, and debug messages

The Second Edition of the Best Damn Firewall Book Period is completely revised and updated to include all of the most recent releases from Microsoft, Cisco, Juniper Network, and Check Point. Compiled from the best of the Syngress firewall library and authored by product experts such as Dr. Tom Shinder on ISA Server, this volume is an indispensable addition to a serious networking professionals toolkit. Coverage includes migrating to ISA Server 2006, integrating Windows Firewall and Vista security into your enterprise, successfully integrating Voice over IP applications around firewalls, and analyzing security log files. Sections are organized by major vendor, and include hardware, software and VPN configurations for each product line. New to this Edition: Microsoft firewall protection, from Windows

Firewall to ISA Server 2006 Cisco PIX Version 7, including VPN configuration and IDS Analyzing Firewall Logs and Reports VoIP and Firewall Bypassing

This complete field guide, authorized by Juniper Networks, is the perfect hands-on reference for deploying, configuring, and operating Juniper's SRX Series networking device. Authors Brad Woodberg and Rob Cameron provide field-tested best practices for getting the most out of SRX deployments, based on their extensive field experience. While their earlier book, Junos Security, covered the SRX platform, this book focuses on the SRX Series devices themselves. You'll learn how to use SRX gateways to address an array of network requirements—including IP routing, intrusion detection, attack mitigation, unified threat management, and WAN acceleration. Along with case studies and troubleshooting tips, each chapter provides study questions and lots of useful illustrations. Explore SRX components, platforms, and various deployment scenarios Learn best practices for configuring SRX's core networking features Leverage SRX system services to attain the best operational state Deploy SRX in transparent mode to act as a Layer 2 bridge Configure, troubleshoot, and deploy SRX in a highly available manner Design and configure an effective security policy in your network Implement and configure network address translation (NAT) types Provide security against deep threats with AppSecure, intrusion protection services, and unified threat management tools

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

Design, configure, and manage MPLS TE to optimize network performance Almost every busy network backbone has some congested links while others remain underutilized. That's because shortest-path routing protocols send traffic down the path that is shortest without considering other network parameters, such as utilization and traffic demands. Using Traffic Engineering (TE), network operators can redistribute packet flows to attain more uniform distribution across all links. Forcing traffic onto specific pathways allows you to get the most out of your existing network capacity while making it easier to deliver consistent service levels to customers at the same time. Cisco(r) Multiprotocol Label Switching (MPLS) lends efficiency to very large networks, and is the most effective way to implement TE. MPLS TE routes traffic flows across the network by aligning resources required by a given flow with actual backbone capacity and topology. This constraint-based routing approach feeds the network route traffic down one or more pathways, preventing unexpected congestion and enabling recovery from link or node failures. Traffic Engineering with MPLS provides you with information on how to use MPLS TE and associated features to maximize network bandwidth. This book focuses on real-world applications, from design scenarios to feature configurations to tools that can be used in managing and troubleshooting MPLS TE. Assuming some familiarity with basic label operations, this guide focuses mainly on the operational aspects of MPLS TE-how the various pieces work and how to configure and troubleshoot them. Additionally, this book addresses design and scalability issues along with extensive deployment tips to help you roll out MPLS TE on your own network. Understand the background of TE and MPLS, and brush up on MPLS forwarding basics Learn about router information distribution and how to bring up MPLS TE tunnels in a network Understand MPLS TE's Constrained Shortest Path First (CSPF) and mechanisms you can use to influence CSPF's path calculation Use the Resource Reservation Protocol (RSVP) to implement Label-Switched Path setup Use various mechanisms to forward traffic down a tunnel Integrate MPLS into the IP quality of service (QoS) spectrum of services Utilize Fast Reroute (FRR) to mitigate packet loss associated with link and node failures Understand Simple Network Management Protocol (SNMP)-based measurement and accounting services that are available for MPLS Evaluate design scenarios for scalable MPLS TE deployments Manage MPLS TE networks by examining common configuration mistakes and utilizing tools for troubleshooting MPLS TE problems "Eric and Ajay work in the development group at Cisco that built Traffic Engineering. They are among those with the greatest hands-on experience with this application. This book is the product of their experience." -George Swallow, Cisco Systems, Architect for Traffic Engineering Co-Chair, IETF MPLS Working Group Eric Osborne, CCIE(r) #4122, has been doing Internet engineering of one sort or another since 1995. He joined Cisco in 1998 to work in the Cisco Technical Assistance Center (TAC), moved from there to the ISP Expert team and then to the MPLS Deployment team. He has been involved in MPLS since the Cisco IOS(r) Software Release 11.1CT days. Ajay Simha, CCIE #2970, joined the Cisco TAC in 1996. He then went on to support tier 1 and 2 ISPs as part of Cisco's ISP Expert team. Ajay has been working as an MPLS deployment engineer since October 1999, and he has first-hand experience in

Your one-step guide to understanding industrial cyber security, its control systems, and its operations. About This Book Learn about endpoint protection such as anti-malware implementation, updating, monitoring, and sanitizing user workloads and mobile devices Filled with practical examples to help you secure critical infrastructure systems efficiently A step-by-step guide that will teach you the techniques and methodologies of building robust infrastructure systems Who This Book Is For If you are a security professional and want to ensure a robust environment for critical infrastructure systems, this book is for you. IT professionals interested in getting into the cyber security domain or who are looking at gaining industrial cyber security certifications will also find this book useful. What You Will Learn Understand industrial cybersecurity, its control systems and operations Design security-oriented architectures, network segmentation, and security support services Configure event monitoring systems, anti-malware applications, and endpoint security Gain knowledge of ICS risks, threat detection, and access management Learn about patch management and life cycle management Secure your industrial control systems from design through retirement In Detail With industries expanding, cyber attacks have increased significantly. Understanding your control system's vulnerabilities and learning techniques to defend critical infrastructure systems from cyber threats is increasingly important. With the help of real-world use cases, this book will teach you the methodologies and security measures necessary to protect critical infrastructure systems and will get you up to speed with identifying unique challenges.Industrial cybersecurity begins by introducing Industrial Control System (ICS) technology, including ICS architectures, communication media, and protocols. This is followed by a presentation on ICS (in) security. After presenting an ICS-related attack scenario, securing of the ICS is discussed, including topics such as network segmentation, defense-in-depth strategies, and protective solutions. Along with practical examples for protecting industrial control systems, this book details security assessments, risk management, and security program development. It also covers essential cybersecurity aspects, such as threat detection and access management. Topics related to endpoint hardening such as monitoring, updating, and anti-malware implementations are also discussed. Style and approach A step-by-step guide to implement Industrial Cyber Security effectively.

The only guide to the CISCO Secure Access Control Server, this resource examines the concepts and configuration of the Cisco Secure ACS. Users will learn how to configure a network access server to authenticate, authorize, and account for individual network users that telecommute from an unsecured site into the secure corporate network.

Implementing Cisco IOS Network Security (IINS) Foundation Learning Guide Second Edition Foundation learning for the CCNA Security IINS 640-554 exam Implementing Cisco IOS Network Security (IINS)

Foundation Learning Guide, Second Edition, is a Cisco-authorized, self-paced learning tool for CCNA® Security 640-554 foundation learning. This book provides you with the knowledge needed to secure Cisco® networks. By reading this book, you will gain a thorough understanding of how to develop a security infrastructure, recognize threats and vulnerabilities to networks, and mitigate security threats. This book focuses on using Cisco IOS routers to protect the network by capitalizing on their advanced features as a perimeter router, firewall, intrusion prevention system, and site-to-site VPN device. The book also covers the use of Cisco Catalyst switches for basic network security, the Cisco Secure Access Control System (ACS), and the Cisco Adaptive Security Appliance (ASA). You learn how to perform basic tasks to secure a small branch office network using Cisco IOS security features available through web-based GUIs (Cisco Configuration Professional) and the CLI on Cisco routers, switches, and ASAs. Whether you are preparing for CCNA Security certification or simply want to gain a better understanding of Cisco IOS security fundamentals, you will benefit from the information provided in this book. Implementing Cisco IOS Network Security (IINS) Foundation Learning Guide, Second Edition, 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/go/authorizedtraining. -- Develop a comprehensive network security policy to counter threats against information security -- Secure borderless networks -- Learn how to use Cisco IOS Network Foundation Protection (NFP) and Cisco Configuration Professional (CCP) -- Securely implement the management and reporting features of Cisco IOS devices -- Deploy Cisco Catalyst Switch security features -- Understand IPv6 security features -- Plan threat control strategies -- Filter traffic with access control lists -- Configure ASA and Cisco IOS zone-based firewalls -- Implement intrusion prevention systems (IPS) and network address translation (NAT) -- Secure connectivity with site-to-site IPsec VPNs and remote access VPNs This volume is in the Foundation Learning Guide Series offered by Cisco Press®. These guides are developed together with Cisco as the only authorized, self-paced learning tools that help networking professionals build their understanding of networking concepts and prepare for Cisco certification exams. Category: Cisco Certification Covers: CCNA Security IINS exam 640-554

Cisco has announced big changes to its certification program. As of February 24, 2020, all current certifications will be retired, and Cisco will begin offering new certification programs. The good news is if you're working toward any current CCNA certification, keep going. You have until February 24, 2020 to complete your current CCNA. If you already have CCENT/ICND1 certification and would like to earn CCNA, you have until February 23, 2020 to complete your CCNA certification in the current program. Likewise, if you're thinking of completing the current CCENT/ICND1, ICND2, or CCNA Routing and Switching certification, you can still complete them between now and February 23, 2020. Up the ante on your FirePOWER with Advanced FireSIGHT Administration exam prep Securing Cisco Networks with Sourcefire IPS Study Guide, Exam 500-285, provides 100% coverage of the FirePOWER with Advanced FireSIGHT Administration exam objectives. With clear and concise information regarding crucial next-generation network security topics, this comprehensive guide includes practical examples and insights drawn from real-world experience, exam highlights, and end of chapter reviews. Learn key exam topics and powerful features of the Cisco FirePOWER Services, including FireSIGHT Management Center, in-depth event analysis, IPS tuning and configuration, and snort rules language. Gain access to Sybex's superior online learning environment that includes practice questions, flashcards, and interactive glossary of terms. Use and configure next-generation Cisco FirePOWER services, including application control, firewall, and routing and switching capabilities Understand how to accurately tune your systems to improve performance and network intelligence while leveraging powerful tools for more efficient event analysis Complete hands-on labs to reinforce key concepts and prepare you for the practical applications portion of the examination Access Sybex's online interactive learning environment and test bank, which includes an assessment test, chapter tests, bonus practice exam questions, electronic flashcards, and a searchable glossary Securing Cisco Networks with Sourcefire IPS Study Guide, Exam 500-285 provides you with the information you need to prepare for the FirePOWER with Advanced FireSIGHT Administration examination.

Cisco routers are everywhere that networks are. They come in all sizes, from inexpensive units for homes and small offices to equipment costing well over \$100,000 and capable of routing at gigabit speeds. A fixture in today's networks, Cisco claims roughly 70% of the router market, producing high-end switches, hubs, and other network hardware. One unifying thread runs through the product line: virtually all of Cisco's products run the Internetwork Operating System, or IOS. If you work with Cisco routers, it's likely that you deal with Cisco's IOS software--an extremely powerful and complex operating system, with an equally complex configuration language. With a cryptic command-line interface and thousands of commands--some of which mean different things in different situations--it doesn't have a reputation for being user-friendly. Fortunately, there's help. This second edition of Cisco IOS in a Nutshell consolidates the most important commands and features of IOS into a single, well-organized volume that you'll find refreshingly user-friendly. This handy, two-part reference covers IOS configuration for the TCP/IP protocol family. The first section includes chapters on the user interface, configuring lines and interfaces, access lists, routing protocols, and dial-on-demand routing and security. A brief, example-filled tutorial shows you how to accomplish common tasks. The second part is a classic O'Reilly quick reference to all the commands for working with TCP/IP and the lower-level protocols on which it relies. Brief descriptions and lists of options help you zero in on the commands you for the task at hand. Updated to cover Cisco IOS Software Major Release 12.3, this second edition includes lots of examples of the most common configuration steps for the routers themselves. It's a timely guide that any network administrator will come to rely on.

This guide focuses on access lists that are critical to network and Internet security. Access lists are a main part of the Cisco IOS that are used to control access, route traffic and specify packet filtering for firewalls.

Industrial Cybersecurity Efficiently secure critical infrastructure systems Packt Publishing Ltd

What an amazing world we live in! Almost anything you can imagine can be researched, compared, admired, studied, and in many cases, bought, with the click of a mouse. The Internet has changed our lives, putting a world of opportunity before us. Unfortunately, it has also put a world of opportunity into the hands of those whose motives are less than honorable. A firewall, a piece of software or hardware that erects a barrier between your computer and those who might like to invade it, is one solution. If you've been using the Internet for any length of time, you've probably received some unsavory and unsolicited e-mail. If you run a business, you may be worried about the security of your data and your customers' privacy. At home, you want to protect your personal information from identity thieves and other shady characters. Firewalls For Dummies® will give you the lowdown on firewalls, then guide you through choosing, installing, and configuring one for your personal or business network. Firewalls For Dummies® helps you understand what firewalls are, how they operate on different types of networks, what they can and can't do, and how to pick a good one (it's easier than identifying that perfect melon in the supermarket.) You'll find out about Developing security policies Establishing rules for simple protocols Detecting and responding to system intrusions Setting up firewalls for SOHO or personal use Creating demilitarized zones Using Windows or Linux as a firewall Configuring ZoneAlarm, BlackICE, and Norton personal firewalls Installing and using ISA server and FireWall-1 With the handy tips and hints this book provides, you'll find that firewalls are nothing to fear –

that is, unless you're a cyber-crook! You'll soon be able to keep your data safer, protect your family's privacy, and probably sleep better, too.

Enterprise Networking, Security, and Automation (CCNA v7) Companion Guide is designed as a portable desk reference to use anytime, anywhere to reinforce the material from the Enterprise Networking, Security, and Automation 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 with more than 250 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. 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 dozens of exercises from the online course identified throughout the book with this icon. Packet Tracer Activities - Explore and visualize networking concepts using Packet Tracer exercises interspersed throughout the chapters and provided in the accompanying Labs & Study Guide book. Videos - Watch the videos embedded within the online course. Hands-on Labs - Work through all the course labs and additional Class Activities that are included in the course and published in the separate Labs & Study Guide. Part of the Cisco Networking Academy Series from Cisco Press, books in this series support and complement the Cisco Networking Academy curriculum.

"Richard Deal's gift of making difficult technology concepts understandable has remained constant. Whether it is presenting to a room of information technology professionals or writing books, Richard's communication skills are unsurpassed. As information technology professionals we are faced with overcoming challenges every day...Cisco ASA Configuration is a great reference and tool for answering our challenges." --From the Foreword by Steve Marcinek (CCIE 7225), Systems Engineer, Cisco Systems A hands-on guide to implementing Cisco ASA Configure and maintain a Cisco ASA platform to meet the requirements of your security policy. Cisco ASA Configuration shows you how to control traffic in the corporate network and protect it from internal and external threats. This comprehensive resource covers the latest features available in Cisco ASA version 8.0, and includes detailed examples of complex configurations and troubleshooting. Implement and manage Cisco's powerful, multifunction network adaptive security appliance with help from this definitive guide. Configure Cisco ASA using the command-line interface (CLI) and Adaptive Security Device Manager (ASDM) Control traffic through the appliance with access control lists (ACLs) and object groups Filter Java, ActiveX, and web content Authenticate and authorize connections using Cut-through Proxy (CTP) Use Modular Policy Framework (MPF) to configure security appliance features Perform protocol and application inspection Enable IPsec site-to-site and remote access connections Configure WebVPN components for SSL VPN access Implement advanced features, including the transparent firewall, security contexts, and failover Detect and prevent network attacks Prepare and manage the AIP-SSM and CSC-SSM cards

Outlines an approach to high-performance problem-solving and decision-making that draws on insights from survival guides, pop culture and other sources. Co-written by the award-winning author of *The Upside of Turbulence*. 75,000 first printing.

An in-depth knowledge of how to configure Cisco IP network security is a MUST for anyone working in today's internetworked world "There's no question that attacks on enterprise networks are increasing in frequency and sophistication..."-Mike Fuhrman, Cisco Systems Manager, Security Consulting Managing Cisco Network Security, Second Edition offers updated and revised information covering many of Cisco's security products that provide protection from threats, detection of network security incidents, measurement of vulnerability and policy compliance and management of security policy across an extended organization. These are the tools that network administrators have to mount defenses against threats. Chapters also cover the improved functionality and ease of the Cisco Secure Policy Manager software used by thousands of small-to-mid-sized businesses and a special section on the Cisco Aironet Wireless Security Solutions. Security from a real-world perspective Key coverage of the new technologies offered by the Cisco including: 500 series of Cisco PIX Firewall, Cisco Intrusion Detection System, and the Cisco Secure Scanner Revised edition of a text popular with CCIP (Cisco Certified Internetwork Professional) students Expanded to include separate chapters on each of the security products offered by Cisco Systems

The volume contains the papers presented at the fifth working conference on Communications and Multimedia Security (CMS 2001), held on May 21-22, 2001 at (and organized by) the GMD -German National Research Center for Information Technology GMD - Integrated Publication and Information Systems Institute IPSI, in Darmstadt, Germany. The conference is arranged jointly by the Technical Committees 11 and 6 of the International Federation of Information Processing (IFIP) The name "Communications and Multimedia Security" was first used in 1995, Reinhard Posch organized the first in this series of conferences in Graz, Austria, following up on the previously national (Austrian) "IT Sicherheit" conferences held in Klagenfurt (1993) and Vienna (1994). In 1996, the CMS took place in Essen, Germany; in 1997 the conference moved to Athens, Greece. The CMS 1999 was held in Leuven, Belgium. This conference provides a forum for presentations and discussions on issues which combine innovative research work with a highly promising application potential in the area of security for communication and multimedia security. State-of-the-art issues as well as practical experiences and new trends in the areas were topics of interest again, as it has already been the case at previous conferences. This year, the organizers wanted to focus the attention on watermarking and copyright protection for e commerce applications and multimedia data. We also encompass excellent work on recent advances in cryptography and their applications. In recent years, digital media data have enormously gained in importance.

A guide to wireless LAN technology and security, covering such topics as protocols, deployment patterns, WEP, EAP, switching, and management.

This is the only book available on building network DMZs, which are the cornerstone of any good enterprise security configuration. It covers market-leading products from Microsoft, Cisco, and Check Point. One of the most complicated areas of network technology is designing, planning, implementing, and constantly maintaining a demilitarized zone (DMZ) segment. This book is divided into four logical parts. First the reader will learn the concepts and major design principles of all DMZs. Next the reader will learn how to

configure the actual hardware that makes up DMZs for both newly constructed and existing networks. Next, the reader will learn how to securely populate the DMZs with systems and services. The last part of the book deals with troubleshooting, maintaining, testing, and implementing security on the DMZ. The only book published on Network DMZs on the components of securing enterprise networks This is the only book available on building network DMZs, which are the cornerstone of any good enterprise security configuration. It covers market-leading products from Microsoft, Cisco, and Check Point Provides detailed examples for building Enterprise DMZs from the ground up and retro-fitting existing infrastructures

With a CCNA Security certification, you can demonstrate the skills required to develop a security infrastructure, recognize threats to networks, and mitigate security threats. Geared towards Cisco Security, the practical aspects of this book will help you clear the CCNA Security Exam (210-260) by increasing your knowledge of Network Security. The definitive insider's guide to planning, installing, configuring, and maintaining the new Cisco Adaptive Security Appliance.

This complete new guide to auditing network security is an indispensable resource for security, network, and IT professionals, and for the consultants and technology partners who serve them. Cisco network security expert Chris Jackson begins with a thorough overview of the auditing process, including coverage of the latest regulations, compliance issues, and industry best practices. The author then demonstrates how to segment security architectures into domains and measure security effectiveness through a comprehensive systems approach. Network Security Auditing thoroughly covers the use of both commercial and open source tools to assist in auditing and validating security policy assumptions. The book also introduces leading IT governance frameworks such as COBIT, ITIL, and ISO 17799/27001, explaining their values, usages, and effective integrations with Cisco security products.

Here's the book you need to prepare for Cisco's CCNA exam, 640-801. This Study Guide was developed to meet the exacting requirements of today's Cisco certification candidates. In addition to the engaging and accessible instructional approach that has earned author Todd Lammle the "Best Study Guide Author" award in CertCities Readers' Choice Awards for two consecutive years, this updated fifth edition provides: In-depth coverage of every CCNA exam objective Expanded IP addressing and subnetting coverage More detailed information on EIGRP and OSPF Leading-edge exam preparation software Authoritative coverage of all exam objectives, including: Network planning & designing Implementation & operation LAN and WAN troubleshooting Communications technology

This is the eBook version of the printed book. The eBook does not contain the practice test software that accompanies the print book. CCNP Security FIREWALL 642-617 Official Cert Guide is a best of breed Cisco exam study guide that focuses specifically on the objectives for the CCNP Security FIREWALL exam. Senior security consultants and instructors David Hucaby, Dave Garneau, and Anthony Sequeira share preparation hints and test-taking tips, helping you identify areas of weakness and improve both your conceptual knowledge and hands-on skills. Material is presented in a concise manner, focusing on increasing your understanding and retention of exam topics. Learn, prepare, and practice for exam success Master CCNP Security FIREWALL 642-617 exam topics Assess your knowledge with chapter-opening quizzes Review key concepts with exam preparation tasks CCNP Security FIREWALL 642-617 Official Cert Guide presents you with an organized test-preparation routine through the use of proven series elements and techniques. "Do I Know This Already?" quizzes open each chapter and enable you to decide how much time you need to spend on each section. Exam topic lists make referencing easy. Chapter-ending Exam Preparation Tasks help you drill on key concepts you must know thoroughly. Well-regarded for its level of detail, assessment features, and challenging review questions and exercises, this official study guide helps you master the concepts and techniques that will enable you to succeed on the exam the first time. CCNP Security FIREWALL 642-617 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/go/authorizedtraining. The official study guide helps you master all the topics on the CCNP Security FIREWALL exam, including ASA interfaces IP connectivity ASA management Recording ASA activity Address translation Access control Proxy services Traffic inspection and handling Transparent firewall mode Virtual firewalls High availability ASA service modules This volume is part of the Official Cert Guide Series from Cisco Press. Books in this series provide officially developed exam preparation materials that offer assessment, review, and practice to help Cisco Career Certification candidates identify weaknesses, concentrate their study efforts, and enhance their confidence as exam day nears.

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