

Ikev2 Isec Virtual Private Networks Pearsoncmg

“Within the set of many identifier-locator separation designs for the Internet, HIP has progressed further than anything else we have so far. It is time to see what HIP can do in larger scale in the real world. In order to make that happen, the world needs a HIP book, and now we have it.” - Jari Arkko, Internet Area Director, IETF One of the challenges facing the current Internet architecture is the incorporation of mobile and multi-homed terminals (hosts), and an overall lack of protection against Denial-of-Service attacks and identity spoofing. The Host Identity Protocol (HIP) is being developed by the Internet Engineering Task Force (IETF) as an integrated solution to these problems. The book presents a well-structured, readable and compact overview of the core protocol with relevant extensions to the Internet architecture and infrastructure. The covered topics include the Bound End-to-End Tunnel Mode for IPsec, Overlay Routable Cryptographic Hash Identifiers, extensions to the Domain Name System, IPv4 and IPv6 interoperability, integration with SIP, and support for legacy applications. Unique features of the book: All-in-one source for HIP specifications Complete coverage of HIP architecture and protocols Base exchange, mobility and multihoming extensions Practical snapshots of protocol operation IP security on lightweight devices Traversal of middleboxes, such as NATs and firewalls Name resolution infrastructure Micromobility, multicast, privacy extensions Chapter on applications, including HIP pilot deployment in a Boeing factory HOWTO for HIP on Linux (HIPL) implementation An important compliment to the official IETF specifications, this book will be a valuable reference for practicing engineers in equipment manufacturing companies and telecom operators, as well as network managers, network engineers, network operators and telecom engineers. Advanced students and academics, IT managers, professionals and operating system specialists will also find this book of interest.

Create and manage highly-secure Isec VPNs with IKEv2 and Cisco FlexVPN The IKEv2 protocol significantly improves VPN security, and Cisco’s FlexVPN offers a unified paradigm and command line interface for taking full advantage of it. Simple and modular, FlexVPN relies extensively on tunnel interfaces while maximizing compatibility with legacy VPNs. Now, two Cisco network security experts offer a complete, easy-to-understand, and practical introduction to IKEv2, modern Isec VPNs, and FlexVPN. The authors explain each key concept, and then guide you through all facets of FlexVPN planning, deployment, migration, configuration, administration, troubleshooting, and optimization. You’ll discover how IKEv2 improves on IKEv1, master key IKEv2 features, and learn how to apply them with Cisco FlexVPN. IKEv2 Isec Virtual Private Networks offers practical design examples for many common scenarios, addressing IPv4 and IPv6, servers, clients, NAT, pre-shared keys, resiliency, overhead, and more. If you’re a network engineer, architect, security specialist, or VPN administrator, you’ll find all the knowledge you need to protect your organization with IKEv2 and FlexVPN. Understand IKEv2 improvements: anti-DDoS cookies, configuration payloads, acknowledged responses, and more Implement modern secure VPNs with Cisco IOS and IOS-XE Plan and deploy IKEv2 in diverse real-world environments Configure IKEv2 proposals, policies, profiles, keyrings, and authorization Use advanced IKEv2 features, including SGT transportation and IKEv2 fragmentation Understand FlexVPN, its tunnel interface types, and IOS AAA infrastructure Implement FlexVPN Server with EAP authentication, pre-shared keys, and digital signatures Deploy, configure, and customize FlexVPN clients Configure, manage, and troubleshoot the FlexVPN Load Balancer Improve FlexVPN resiliency with dynamic tunnel source, backup peers, and backup tunnels Monitor Isec VPNs with AAA, SNMP, and Syslog Troubleshoot connectivity, tunnel creation, authentication, authorization, data encapsulation, data encryption, and overlay routing Calculate Isec overhead and fragmentation Plan your IKEv2 migration: hardware, VPN technologies, routing, restrictions, capacity, PKI, authentication, availability, and more

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. CCNP Security VPN 642-647 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. Master Cisco CCNP Security VPN 642-647 EAM topics Assess your knowledge with chapter-opening quizzes Review key concepts with exam preparation tasks Practice with realistic exam questions on the CD-ROM CCNP Security VPN 642-647 Official Cert Guide, focuses specifically on the objectives for the CCNP Security VPN exam. Cisco Certified Internetwork Expert (CCIE) Howard Hooper 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. The companion CD-ROM contains a powerful Pearson IT Certification Practice Test engine that enables you to focus on individual topic areas or take a complete, timed exam. The assessment engine also tracks your performance and provides feedback on a module-by-module basis, laying out a complete assessment of your knowledge to help you focus your study where it is needed most. 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 CCNP Security VPN exam, including: Configuring policies, inheritance, and attributes AnyConnect Remote Access VPN solution AAA and Dynamic Access Policies (DAP) High availability and performance Clientless VPN solutions SSL VPN with Cisco Secure Desktop Easy VPN solutions Isec VPN clients and site-to-site VPNs CCNP Security VPN 642-647 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 print edition of the CCNP Security VPN 642-647 Official Cert Guide contains a free, complete practice exam. Also available from Cisco Press for Cisco CCNP Security study is the CCNP Security VPN 642-647 Official Cert Guide Premium Edition eBook and Practice Test. This digital-only certification preparation product combines an eBook with enhanced Pearson IT Certification Practice Test. This integrated learning package: Allows you to focus on individual topic areas or take complete, timed exams Includes direct links from each question to detailed tutorials to help you understand the concepts behind the questions Provides unique sets of exam-realistic practice questions Tracks your performance and provides feedback on a module-by-module basis, laying out a complete assessment of your knowledge to help you focus your study where it is needed most

The complete guide to technologies and protocols for delivering seamless mobile Internet experiences In Building the Mobile Internet, three leading mobility architects and implementers from Cisco present complete foundational knowledge about tomorrow’s mobile Internet. The authors cover everything from market trends and user expectations to the latest technical approaches for making the Internet “mobile by design.” Writing for senior technology decision-makers and network design professionals, the authors explain the relatively static nature of the Internet’s original protocols and design, discuss the concept of “mobility,” and identify evolving mobility requirements. Next, they thoroughly explain each of today’s most promising techniques for building mobility into the Internet, from data link layer to application layer. For each layer, the authors cover mechanisms, protocols, relevant Wi-Fi and cellular architectures, and key use cases. Using this book’s guidance, mobile network executives can define more effective strategies, network designers can construct more effective architectures, and network engineers can execute more successful migrations. · Understanding key mobility market trends: device proliferation, accelerating consumption, and radio-specific scalability problems · Reviewing the challenges that mobility presents to conventional Internet architectures · Understanding nomadicity, including authentication

for users moving across networks and operators · Identifying opportunities to address mobility at the data link layer · Comparing and using network layer solutions to deliver seamless mobility and session continuity · Integrating mobility functionality into the transport/session layer · Adding mobility functionality to the application layer—including support for moving media sessions between devices · Redesigning Internet architecture to enable long-term improvements to mobility 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.

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

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

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

This publication seeks to assist organizations in mitigating the risks associated with the transmission of sensitive information across networks by providing practical guidance on implementing security services based on Internet Protocol Security (IPsec).

What is IPsec? What's a VPN? Why do they need each other? Virtual Private Network (VPN) has become one of the most recognized terms in our industry, yet there continuously seems to be different impressions of what VPNs really are and can become. A Technical Guide to IPsec Virtual Private Networks provides a single point of information that represents hundreds of resources and years of experience with IPsec VPN solutions. It cuts through the complexity surrounding IPsec and the idiosyncrasies of design, implementation, operations, and security. Starting with a primer on the IP protocol suite, the book travels layer by layer through the protocols and the technologies that make VPNs possible. It includes security theory, cryptography, RAS, authentication, IKE, IPsec, encapsulation, keys, and policies. After explaining the technologies and their interrelationships, the book provides sections on implementation and product evaluation. A Technical Guide to IPsec Virtual Private Networks arms information security, network, and system engineers and administrators with the knowledge and the methodologies to design and deploy VPNs in the real world for real companies.

Router Security Strategies: Securing IP Network Traffic Planes provides a comprehensive 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.

The essential reference for security pros and CCIE Security candidates: policies, standards, infrastructure/perimeter and content security, and threat protection Integrated Security Technologies and Solutions – Volume I offers one-stop expert-level instruction in security design, deployment, integration, and support methodologies to help security professionals manage complex solutions and prepare for their CCIE exams. It will help security pros succeed in their day-to-day jobs and also get ready for their CCIE Security written and lab exams. 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. Volume 1 focuses on security policies and standards; infrastructure security; perimeter security (Next-Generation Firewall, Next-Generation Intrusion Prevention Systems, and Adaptive Security Appliance [ASA]), and the advanced threat protection and content security sections of the CCIE Security v5 blueprint. With a strong focus on interproduct integration, it also shows how to combine formerly disparate systems into a seamless, coherent next-generation security solution. Review security standards, create security policies, and organize security with Cisco SAFE architecture Understand and mitigate threats to network infrastructure, and protect the three planes of a network device Safeguard wireless networks, and mitigate risk on Cisco WLC and access points Secure the network perimeter with Cisco Adaptive Security Appliance (ASA) Configure Cisco Next-Generation Firewall Firepower Threat Defense (FTD) and operate security via Firepower Management Center (FMC) Detect and prevent intrusions with Cisco Next-Gen IPS, FTD, and FMC Configure and verify Cisco IOS firewall features such as ZBFW and address translation Deploy and configure the Cisco web and email security appliances to protect content and defend against advanced threats Implement Cisco Umbrella Secure Internet Gateway in the cloud as your first line of defense against internet threats Protect against new malware with Cisco Advanced Malware Protection and Cisco ThreatGrid

& Learn the troubleshooting techniques that every IT professional running a Virtual Private Network (VPN) must master & & Experience real-world solutions through practice scenarios in each chapter & & An essential workplace reference guide for every VPN management site

A detailed guide for deploying PPTP, L2TPv2, L2TPv3, MPLS Layer-3, AToM, VPLS and IPSec virtual private networks.

With the recent availability of high-speed Internet connections to the home and the continued move of workers out of central office locations (whether for travel, telecommuting, or branch office expansion), Virtual Private Networks (VPNs) have become a critical part of corporate network architectures. VPNs use advanced encryption and tunneling to permit your organization to establish secure, end-to-end, private network connections over third-party networks, such as the Internet. This new networking paradigm not only adds to the efficiency of the corporate workforce, but it also saves money by leveraging third-party networks and allows you to scale your networks with greater ease. Based on the official instructor-led training course of the same name, Cisco Secure Virtual Private Networks is a comprehensive, results-oriented book designed to give you the knowledge you need to plan, deploy, and manage VPNs in your network environment. Beginning with an overview of VPNs and IPSec, the book introduces you to the Cisco VPN family of products. It then delves into the details of configuring and troubleshooting IPSec site-to-site VPNs on Cisco IOS(r) routers and Cisco PIX(r) Firewalls using preshared keys and digital certificates. You learn how to install the VPN 3000 Concentrator and how to configure it for remote access using preshared keys and digital certificates. Monitoring and administration techniques are also presented. The book concludes with a discussion on the scalability solutions available for IPSec VPNs. Each chapter includes an explicit set of learning objectives and concludes with a set of review questions to assess your understanding of the material. Numerous examples are provided throughout, and detailed diagrams help clarify concepts presented in the text. Whether you are preparing for the Cisco Security Specialist 1 certification or simply want to understand and make the most efficient use of VPNs, Cisco Secure Virtual Private Networks provides you with a complete solution for designing, implementing, and managing Cisco VPN networks. Prepare for the Cisco Security Specialist 1 VPN exam with the official CSVPN Coursebook Evaluate the features, functions, and benefits of Cisco VPN products Understand the component technologies that are implemented in Cisco VPN products Learn the procedures, steps, and commands required to configure and test IPSec in Cisco IOS Software and the Cisco PIX Firewall Install and configure the Cisco VPN client to create a secure tunnel to a Cisco VPN Concentrator and Cisco PIX Firewall Configure and verify IPSec in the Cisco VPN Concentrator, Cisco router, and Cisco PIX Firewall Enable interoperability among the Cisco VPN Concentrator, Cisco routers, and Cisco PIX Firewalls Apply scalability and advanced configuration features supported in the Cisco IPSec implementation Andrew G. Mason, CCIE(r) #7144, CSS-1, CCNP(r): Security, and CCDP(r), is the CEO of three UK-based companies: Mason Technologies, CCStudy.com, and Boxing Orange. Andrew has 11 years experience in the networking industry and is currently consulting for the largest ISP in the UK. He is involved daily in the design and implementation of complex secure hosted solutions utilizing products from the Cisco Secure family.

We have telephony to talk to each other, messaging to dispatch mail or instant messages, browsing to read published content and search engines to locate content sites. However, current mobile networks do not provide the possibility for one application rich terminal to communicate with another in a peer-to-peer session beyond voice calls. Mobile telephony with the current technology has been hugely successful and shows that there is immense value in communicating with peers while being mobile, and with increasingly available smarter multimedia terminals the communication experience will be something more than just exchanging voice. Those multimedia terminals need IP multimedia networks. Hence, the Third Generation Partnership Project (3GPP) has developed a standard for SIP based IP multimedia service machinery known as 'The IMS (IP Multimedia Subsystem)' and this informative book explains everything you need to know about it..... Presents the architecture and functionality of logical elements of IMS and their interfaces providing detailed description of how elements are connected, what protocols are used and how they are used Explains how the optimisation and security of the mobile communication environment has been designed in the form of user authentication and authorisation based on mobile identities Illustrates how optimisation at the radio interface is achieved using specific rules at the user to network interface. This includes signalling compression mechanisms as well as security and policy control mechanisms, allowing radio loss and recovery detection Addresses important aspects from an operator's point of view while developing architecture such as charging framework, policy and service control Describes many services on top of IMS in detail, including voice, presence, messaging and conferencing. Written in a manner that allows readers to choose the level of knowledge and understanding they need to gain about the IMS, this volume will have instant appeal to a wide audience ranging from marketing managers, research and development engineers, network engineers, developers, test engineers to university students.

A detailed examination of interior routing protocols -- completely updated in a new edition A complete revision of the best-selling first edition--widely considered a premier text on TCP/IP routing protocols A core textbook for CCIE preparation and a practical reference for network designers, administrators, and engineers Includes configuration and troubleshooting lessons that would cost thousands to learn in a classroom and numerous real-world examples and case studies Praised in its first edition for its approachable style and wealth of information, this new edition provides readers a deep understanding of IP routing protocols, teaches how to implement these protocols using Cisco routers, and brings readers up to date protocol and implementation enhancements. Routing TCP/IP, Volume 1, Second Edition,

includes protocol changes and Cisco features that enhance routing integrity, secure routers from attacks initiated through routing protocols, and provide greater control over the propagation of routing information for all the IP interior routing protocols. Routing TCP/IP, Volume 1, Second Edition, provides a detailed analysis of each of the IP interior gateway protocols (IGPs). Its structure remains the same as the best-selling first edition, though information within each section is enhanced and modified to include the new developments in routing protocols and Cisco implementations. What's New In This Edition? The first edition covers routing protocols as they existed in 1998. The new book updates all covered routing protocols and discusses new features integrated in the latest version of Cisco IOS Software. IPv6, its use with interior routing protocols, and its interoperability and integration with IPv4 are also integrated into this book. Approximately 200 pages of new information are added to the main text, with some old text removed. Additional exercise and solutions are also included.

Learn how to design, plan, implement, and support a secure remote access solution using DirectAccess in Windows Server 2016. Remote Access has been included in the Windows operating system for many years. With each new operating system release, new features and capabilities have been included to allow network engineers and security administrators to provide remote access in a secure and cost-effective manner. DirectAccess in Windows Server 2016 provides seamless and transparent, always on remote network connectivity for managed Windows devices. DirectAccess is built on commonly deployed Windows platform technologies and is designed to streamline and simplify the remote access experience for end users. In addition, DirectAccess connectivity is bidirectional, allowing administrators to more effectively manage and secure their field-based assets. Implementing DirectAccess with Windows Server 2016 provides a high-level overview of how DirectAccess works. The vision and evolution of DirectAccess are outlined and business cases and market drivers are explained. DirectAccess is evaluated against traditional VPN and this book describes the Windows platform technologies that underpin this solution. In addition, this book: Explains how the technology works and the specific IT pain points that it addresses Includes detailed, prescriptive guidance for those tasked with implementing DirectAccess using Windows Server 2016 Addresses real-world deployment scenarios for small and large organizations Contains valuable tips, tricks, and implementation best practices for security and performance“/li> What you'll learn A high-level understanding of the various remote access technologies included in Windows Server 2016. Common uses cases for remote access, and how best to deploy them in a secure, stable, reliable, and highly available manner. Valuable insight in to design best practices and learn how to implement DirectAccess and VPN with Windows Server 2016 according to deployment best practices. Who This Book Is For IT administrators, network, and security administrators and engineers, systems management professionals, compliance auditors, and IT executive management (CIO, CISO) are the target audience for this title.

The definitive design and deployment guide for secure virtual private networks Learn about IPsec protocols and Cisco IOS IPsec packet processing Understand the differences between IPsec tunnel mode and transport mode Evaluate the IPsec features that improve VPN scalability and fault tolerance, such as dead peer detection and control plane keepalives Overcome the challenges of working with NAT and PMTUD Explore IPsec remote-access features, including extended authentication, mode-configuration, and digital certificates Examine the pros and cons of various IPsec connection models such as native IPsec, GRE, and remote access Apply fault tolerance methods to IPsec VPN designs Employ mechanisms to alleviate the configuration complexity of a large- scale IPsec VPN, including Tunnel End-Point Discovery (TED) and Dynamic Multipoint VPNs (DMVPN) Add services to IPsec VPNs, including voice and multicast Understand how network-based VPNs operate and how to integrate IPsec VPNs with MPLS VPNs Among the many functions that networking technologies permit is the ability for organizations to easily and securely communicate with branch offices, mobile users, telecommuters, and business partners. Such connectivity is now vital to maintaining a competitive level of business productivity. Although several technologies exist that can enable interconnectivity among business sites, Internet-based virtual private networks (VPNs) have evolved as the most effective means to link corporate network resources to remote employees, offices, and mobile workers. VPNs provide productivity enhancements, efficient and convenient remote access to network resources, site-to-site connectivity, a high level of security, and tremendous cost savings. IPsec VPN Design is the first book to present a detailed examination of the design aspects of IPsec protocols that enable secure VPN communication. Divided into three parts, the book provides a solid understanding of design and architectural issues of large-scale, secure VPN solutions. Part I includes a comprehensive introduction to the general architecture of IPsec, including its protocols and Cisco IOS IPsec implementation details. Part II examines IPsec VPN design principles covering hub-and-spoke, full-mesh, and fault-tolerant designs. This part of the book also covers dynamic configuration models used to simplify IPsec VPN designs. Part III addresses design issues in adding services to an IPsec VPN such as voice and multicast. This part of the book also shows you how to effectively integrate IPsec VPNs with MPLS VPNs. IPsec VPN Design provides you with the field-tested design and configuration advice to help you deploy an effective and secure VPN solution in any environment. 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.

A complete guide to understanding, designing, and deploying Layer 2 VPN technologies and pseudowire emulation applications Evaluate market drivers for Layer 2 VPNs Understand the architectural frame-work and choices for Layer 2 VPNs, including AToM and L2TPv3 Grasp the essentials of Layer 2 LAN and WAN technologies Examine the theoretical and operational details of MPLS and LDP as they pertain to AToM Understand the theoretical and operational details of Layer 2 protocols over L2TPv3 in IP networks Learn about Layer 2 VPN bridged and routed interworking and Layer 2 local switching Understand the operation and application of Virtual Private LAN Services (VPLS) Learn about foundation and advanced AToM and L2TPv3 topics through an extensive collection of case studies The historical disconnect between legacy Layer 2 and Layer 3 VPN solutions has forced service providers to build, operate, and maintain separate infrastructures to accommodate various VPN access technologies. This costly proposition, however, is no longer necessary. As part of its new Unified VPN Suite, Cisco Systems® now offers next-generation Layer 2 VPN services like Layer 2 Tunneling Protocol version 3 (L2TPv3) and Any Transport over MPLS (AToM) that enable service providers to offer Frame Relay, ATM, Ethernet, and leased-line services over a common IP/MPLS core network. By unifying multiple network layers and providing an integrated set of software services and management tools over this infrastructure, the Cisco® Layer 2 VPN solution enables established carriers, IP-oriented ISP/CLECs, and large enterprise customers (LECs) to reach a broader set of potential VPN customers and offer truly global VPNs. Layer 2 VPN Architectures is a comprehensive guide to consolidating network infrastructures and extending VPN services. The book opens by discussing Layer 2 VPN applications utilizing both AToM and L2TPv3 protocols and comparing Layer 3 versus Layer 2 provider-provisioned VPNs. In addition to describing the concepts

related to Layer 2 VPNs, this book provides an extensive collection of case studies that show you how these technologies and architectures work. The case studies include both AToM and L2TPv3 and reveal real-world service provider and enterprise design problems and solutions with hands-on configuration examples and implementation details. The case studies include all Layer 2 technologies transported using AToM and L2TPv3 pseudowires, including Ethernet, Ethernet VLAN, HDLC, PPP, Frame Relay, ATM AAL5 and ATM cells, and advanced topics relevant to Layer 2 VPN deployment, such as QoS and scalability.

The InfoSec Handbook offers the reader an organized layout of information that is easily read and understood. Allowing beginners to enter the field and understand the key concepts and ideas, while still keeping the experienced readers updated on topics and concepts. It is intended mainly for beginners to the field of information security, written in a way that makes it easy for them to understand the detailed content of the book. The book offers a practical and simple view of the security practices while still offering somewhat technical and detailed information relating to security. It helps the reader build a strong foundation of information, allowing them to move forward from the book with a larger knowledge base. Security is a constantly growing concern that everyone must deal with. Whether it's an average computer user or a highly skilled computer user, they are always confronted with different security risks. These risks range in danger and should always be dealt with accordingly. Unfortunately, not everyone is aware of the dangers or how to prevent them and this is where most of the issues arise in information technology (IT). When computer users do not take security into account many issues can arise from that like system compromises or loss of data and information. This is an obvious issue that is present with all computer users. This book is intended to educate the average and experienced user of what kinds of different security practices and standards exist. It will also cover how to manage security software and updates in order to be as protected as possible from all of the threats that they face.

This is Cisco's official, comprehensive self-study resource for Cisco's SVPN 300-730 exam (Implementing Secure Solutions with Virtual Private Networks), one of the most popular concentration exams required for the Cisco Certified Network Professional (CCNP) Security certification. It will thoroughly prepare network professionals to deliver secure solutions based on Cisco VPN technologies. Designed for all CCNP Security candidates, CCNP Security Virtual Private Networks SVPN 300-730 Official Cert Guide covers every SVPN #300-730 objective concisely and logically, with extensive teaching features designed to promote retention and understanding. You'll find: Pre-chapter quizzes to assess knowledge upfront and focus your study more efficiently Foundation topics sections that explain concepts and configurations, and link theory to practice Key topics sections calling attention to every figure, table, and list you must know Exam Preparation sections with additional chapter review features Final preparation chapter providing tools and a complete final study plan A customizable practice test library CCNP Security Virtual Private Networks SVPN 300-730 Official Cert Guide offers comprehensive, up-to-date coverage of all SVPN #300-730 topics related to: Secure communications Architectures Troubleshooting

The only comprehensive assessment, review, and practice guide for Cisco's new Deploying Cisco ASA VPN Solutions exam - direct from Cisco! * *Covers every updated Cisco CCNP Deploying Cisco ASA VPN Solutions exam topic: architecture, policies, inheritance, clientless VPNs/portals/SSL, AnyConnect Remote Access VPNs, Cisco Secure Desktop, Easy VPN, IPsec site-to-site VPNs, and more *New IPv6 coverage, plus new CLI examples throughout. *CD contains realistic practice tests. *Proven features promote efficient study. This is Cisco's official, comprehensive self-study resource for the new Deploying Cisco ASA VPN Solutions (VPN v1.0) exam, required for CCNP Security certification. Designed for beginning-to-intermediate level readers, it covers every objective concisely and logically, with extensive teaching features that promote retention and understanding. Readers will find: * *Pre-chapter quizzes to assess knowledge upfront and focus study more efficiently. *Foundation topics sections that explain concepts and configurations, and link theory to actual configuration commands. *Key topics sections calling attention to every figure, table, and list that candidates must know. *Exam Preparation sections with additional chapter review features. *Final preparation chapter providing tools and a complete final study plan. *Customizable practice test library on CD-ROM This edition has been fully updated for the latest exam objectives, including new IPv6 coverage and integrated CLI configuration examples alongside ASDM configurations throughout.

Document from the year 2018 in the subject Computer Science - IT-Security, grade: A, language: English, abstract: This book encompasses virtual private network technologies theoretical as well as practical. In this project, it demonstrates how to VPNs actually work and their practical implementation with different lab scenarios step by step. The objective of this book is to teach the students and professionals in an easy way. The reader does not learn the theoretical knowledge of VPNs, but he also learns the practical implementation of several types of VPN in his home and office. There are several types of VPN with different scenarios. After the study of this book, the reader will be familiar with almost all types of VPN and can perform with different scenarios in his office and home.

A firewall is as good as its policies and the security of its VPN connections. The latest generation of firewalls offers a dizzying array of powerful options; they key to success is to write concise policies that provide the appropriate level of access while maximizing security. This book covers the leading firewall products: Cisco PIX, Check Point NGX, Microsoft ISA Server, Juniper's NetScreen Firewall, and SonicWall. It describes in plain English what features can be controlled by a policy, and walks the reader through the steps for writing the policy to fit the objective. Because of their vulnerability and their complexity, VPN policies are covered in more depth with numerous tips for troubleshooting remote connections. · The only book that focuses on creating policies that apply to multiple products. · Included is a bonus chapter on using Ethereal, the most popular protocol analyzer, to monitor and analyze network traffic. · Shows what features can be controlled by a policy, and walks you through the steps for writing the policy to fit the objective at hand

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

This book constitutes the refereed proceedings of the 24th Nordic Conference on Secure IT Systems, NordSec 2019, held in Aalborg, Denmark, in November 2019. The 17 full papers presented in this volume were carefully reviewed and selected from 32 submissions. They are organized in topical sections named: privacy; network security; platform security and malware; and system and software security.

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

Email Security with Cisco IronPort thoroughly illuminates the security and performance challenges associated with today's messaging environments and shows you how to systematically anticipate and respond to them using Cisco's IronPort Email Security Appliance (ESA). Going far beyond any IronPort user guide, leading Cisco expert Chris Porter shows you how to use IronPort to construct a robust, secure, high-performance email architecture that can resist future attacks. Email Security with Cisco IronPort presents specific, proven architecture recommendations for deploying IronPort ESAs in diverse environments to optimize reliability and automatically handle failure. The author offers specific recipes for solving a wide range of messaging security problems, and he demonstrates how to use both basic and advanced features—including several hidden and undocumented commands. The author addresses issues ranging from directory integration to performance monitoring and optimization, and he offers powerful insights into often-ignored email security issues, such as preventing "bounce blowback." Throughout, he illustrates his solutions with detailed examples demonstrating how to control ESA configuration through each available interface. Chris Porter, Technical Solutions Architect at Cisco, focuses on the technical aspects of Cisco IronPort customer engagements. He has more than 12 years of experience in applications, computing, and security in finance, government, Fortune® 1000, entertainment, and higher education markets.

- Understand how the Cisco IronPort ESA addresses the key challenges of email security
- Select the best network deployment model for your environment, and walk through successful installation and configuration
- Configure and optimize Cisco IronPort ESA's powerful security, message, and content filtering
- Understand the email pipeline so you can take full advantage of it—and troubleshoot problems if they occur
- Efficiently control Cisco IronPort ESA through its Web User Interface (WUI) and command-line interface (CLI)
- Implement reporting, monitoring, logging, and file management
- Integrate Cisco IronPort ESA and your mail policies with LDAP directories such as Microsoft Active Directory
- Automate and simplify email security administration
- Deploy multiple Cisco IronPort ESAs and advanced network configurations
- Prepare for emerging shifts in enterprise email usage and new security challenges

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 book constitutes the refereed proceedings of the 6th IFIP WG 2.14 European Conference on Service-Oriented and Cloud Computing, ESOC 2017, held in Oslo, Norway, in September 2017. The 6 short and 10 full papers presented in this volume were carefully reviewed and selected from 37 submissions. The volume also contains one invited talk in full paper length. The contributions were organized in topical sections named: microservices and containers; security; cloud resources; services; internet of things and data streams; and industrial applications of service and cloud computing.

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

An introduction to designing and configuring Cisco IPsec VPNs Understand the basics of the IPsec protocol and learn implementation best practices Study up-to-date IPsec design, incorporating current Cisco innovations in the security and VPN marketplace Learn how to avoid common pitfalls related to IPsec deployment Reinforce theory with case studies, configuration examples showing how IPsec maps to real-world solutions IPsec Virtual Private Network Fundamentals provides a basic working knowledge of IPsec on various Cisco routing and switching platforms. It provides the foundation necessary to understand the different components of Cisco IPsec implementation and how it can be successfully implemented in a variety of network topologies and markets (service provider, enterprise, financial, government). This book views IPsec as an emerging requirement in most major vertical markets, explaining the need for increased information authentication, confidentiality, and non-repudiation for secure transmission of confidential data. The book is written using a layered approach, starting with basic explanations of why IPsec was developed and the types of organizations relying on IPsec to secure data transmissions. It then outlines the basic IPsec/ISAKMP fundamentals that were developed to meet demand for secure data transmission. The book covers the design and implementation of IPsec VPN architectures using an array of Cisco products, starting with basic concepts and proceeding to more advanced topics including high availability solutions and public key infrastructure (PKI). Sample topology diagrams and configuration examples are provided in each chapter to reinforce the fundamentals expressed in text and to assist readers in translating concepts into practical deployment scenarios. Additionally, comprehensive case studies are incorporated throughout to map topics to real-world solutions.

Ikev2 Ipvsec Virtual Private Networks Understanding and Deploying Ikev2, Ipvsec Vpns, and Flexvpn in Cisco Ios Cisco Press

Virtual private networks (VPNs) based on the Internet instead of the traditional leased lines offer organizations of all sizes the promise of a low-cost, secure electronic network. However, using the Internet to carry sensitive information can present serious privacy and security problems. By explaining how VPNs actually work, networking expert Jon Snader shows software engineers and network administrators how to use tunneling, authentication, and encryption to create safe, effective VPNs for any environment. Using an example-driven approach, VPNs Illustrated explores how tunnels and VPNs function by observing their behavior "on the wire." By learning to read and interpret various network traces, such as those produced by tcpdump, readers will be able to better understand and troubleshoot VPN and network behavior. Specific topics covered include: Block and stream symmetric ciphers, such as AES and RC4; and asymmetric ciphers, such as RSA and ElGamal Message authentication codes, including HMACs Tunneling technologies based on gtnet SSL protocol for building network-to-network VPNs SSH protocols as drop-in replacements for telnet, ftp, and the BSD r-commands Lightweight VPNs, including VTun, CIPE, tinc, and OpenVPN IPsec, including its Authentication Header (AH) protocol, Encapsulating Security Payload (ESP), and IKE (the key management protocol) Packed with details, the text can be used as a handbook describing the functions of the protocols and the message formats that they use. Source code is available for download, and an appendix covers publicly available software that can be used to build tunnels and analyze traffic flow. VPNs Illustrated gives you the knowledge of tunneling and VPN technology you need to understand existing VPN implementations and successfully create your own.

As a final exam preparation tool, the CCNP Security VPN 642-648 Quick Reference provides a concise review of all objectives on the new CCNP Security VPN exam (642-648). This eBook provides you 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 deploying Cisco ASA-based VPN solutions. This fact-filled Quick Reference allows you to get all-important information at a glance, helping you to focus your study on areas of weakness and to enhance memory retention of essential exam concepts.

In a complex world, products that are easy to use win favor with consumers. This is the first book on the topic of simplicity aimed specifically at interaction designers. It shows how to drill down and simplify user experiences when designing digital tools and applications. It begins by explaining why simplicity is attractive, explores the laws of simplicity, and presents proven strategies for achieving simplicity. Remove, hide, organize and displace become guidelines for designers, who learn simplicity by seeing before and after examples and case studies where the results speak for themselves.

Create and manage highly-secure Ipvsec VPNs with IKEv2 and Cisco FlexVPN The IKEv2 protocol significantly improves VPN security, and Cisco's FlexVPN offers a unified paradigm and command line interface for taking full advantage of it. Simple and modular, FlexVPN relies extensively on tunnel interfaces while maximizing compatibility with legacy VPNs. Now, two Cisco network security experts offer a complete, easy-to-understand, and practical introduction to IKEv2, modern IPsec VPNs, and FlexVPN. The authors explain each key concept, and then guide you through all facets of FlexVPN planning, deployment, migration, configuration, administration, troubleshooting, and optimization. You'll discover how IKEv2 improves on IKEv1, master key IKEv2 features, and learn how to apply them with Cisco FlexVPN. "IKEv2 IPsec Virtual Private Networks" offers practical design examples for many common scenarios, addressing IPv4 and IPv6, servers, clients, NAT, pre-shared keys, resiliency, overhead, and more. If you're a network engineer, architect, security specialist, or VPN administrator, you'll find all the knowledge you need to protect your organization with IKEv2 and FlexVPN. Understand IKEv2 improvements: anti-DDoS cookies, configuration payloads, acknowledged responses, and more Implement modern secure VPNs with Cisco IOS and IOS-XE Plan and deploy IKEv2 in diverse real-world environments Configure IKEv2 proposals, policies, profiles, keyrings, and authorization Use advanced IKEv2 features, including SGT transportation and IKEv2 fragmentation Understand FlexVPN, its tunnel interface types, and IOS AAA infrastructure Implement FlexVPN Server with EAP authentication, pre-shared keys, and digital signatures Deploy, configure, and customize FlexVPN clients Configure, manage, and troubleshoot the FlexVPN Load Balancer Improve FlexVPN resiliency with dynamic tunnel source, backup peers, and backup tunnels Monitor IPsec VPNs with AAA, SNMP, and Syslog Troubleshoot connectivity, tunnel creation, authentication, authorization, data encapsulation, data encryption, and overlay routing Calculate IPsec overhead and fragmentation Plan your IKEv2 migration: hardware, VPN technologies, routing,

restrictions, capacity, PKI, authentication, availability, and more "

The only complete guide to designing, implementing, and supporting state-of-the-art certificate-based identity solutions with PKI Layered approach is designed to help readers with widely diverse backgrounds quickly learn what they need to know Covers the entire PKI project lifecycle, making complex PKI architectures simple to understand and deploy Brings together theory and practice, including on-the-ground implementers' knowledge, insights, best practices, design choices, and troubleshooting details PKI Uncovered brings together all the techniques IT and security professionals need to apply PKI in any environment, no matter how complex or sophisticated. At the same time, it will help them gain a deep understanding of the foundations of certificate-based identity management. Its layered and modular approach helps readers quickly get the information they need to efficiently plan, design, deploy, manage, or troubleshoot any PKI environment. The authors begin by presenting the foundations of PKI, giving readers the theoretical background they need to understand its mechanisms. Next, they move to high-level design considerations, guiding readers in making the choices most suitable for their own environments. The authors share best practices and experiences drawn from production customer deployments of all types. They organize a series of design "modules" into hierarchical models which are then applied to comprehensive solutions. Readers will be introduced to the use of PKI in multiple environments, including Cisco router-based DMVPN, ASA, and 802.1X. The authors also cover recent innovations such as Cisco GET VPN. Throughout, troubleshooting sections help ensure smooth deployments and give readers an even deeper "under-the-hood" understanding of their implementations.

Become an expert in Cisco VPN technologies with this practical and comprehensive configuration guide. Learn how to configure IPSEC VPNs (site-to-site, hub-and-spoke, remote access), SSL VPN, DMVPN, GRE, VTI etc. This book is packed with step-by-step configuration tutorials and real world scenarios to implement VPNs on Cisco ASA Firewalls (v8.4 and above and v9.x) and on Cisco Routers. It is filled with raw practical concepts, around 40 network diagrams to explain the scenarios, troubleshooting instructions, 20 complete configurations on actual devices and much more. Both beginners and experts will find some golden nuggets inside this practical guide. Every Cisco Networking Professional in this planet will have to configure some kind of VPN sooner or later in his/her professional career. This VPN Guide, therefore, will be a great reference for years to come. Some of the topics covered include the following: Policy-Based (IPSEC) and Route-Based VPNs (Comparison and Applications). Practical Applications of each VPN Technology. Configuration of Site-to-Site, Hub-and-Spoke and Remote Access IPSEC VPNs on Cisco Routers. Configuration of Route-Based VPNs using GRE, Static VTI, Dynamic VTI. Configuration of Dynamic Multipoint VPN (DMVPN) on Cisco Routers. Configuration of PPTP VPNs on Cisco Routers. Configuration of Site-to-Site and Hub-and-Spoke IPSEC VPNs (including IKEv2 IPSEC) on Cisco ASA Firewalls. Configuration of Remote Access IPSEC VPN and Anyconnect SSL VPN on Cisco ASA Firewalls. VPN Authentication using Active Directory, RSA Server and external AAA Server. PLUS MUCH MORE In addition to the most popular VPN topologies and scenarios, the book contains also some special cases for which you will not find information easily anywhere else. Some special cases and scenarios included in the book: VPNs with sites having dynamic public IP address. Implementations of hub-and-spoke together with remote access VPNs on the same device. Using Dynamic Routing Protocols (EIGRP) to make VPNs on Routers more scalable. Spoke to Spoke communication via the Hub Site (using VPN Hairpinning on ASA). Remote Access users to communicate with Spoke sites via the Hub (using VPN Hairpinning on ASA). Site-to-Site IPSEC VPN with duplicate subnets on the two sites. IPSEC VPN Failover with backup ISP.

Cisco® ASA All-in-One Next-Generation Firewall, IPS, and VPN Services, Third Edition Identify, mitigate, and respond to today's highly-sophisticated network attacks. Today, network attackers are far more sophisticated, relentless, and dangerous. In response, Cisco ASA: All-in-One Next-Generation Firewall, IPS, and VPN Services has been fully updated to cover the newest techniques and Cisco technologies for maximizing end-to-end security in your environment. Three leading Cisco security experts guide you through every step of creating a complete security plan with Cisco ASA, and then deploying, configuring, operating, and troubleshooting your solution. Fully updated for today's newest ASA releases, this edition adds new coverage of ASA 5500-X, ASA 5585-X, ASA Services Module, ASA next-generation firewall services, EtherChannel, Global ACLs, clustering, IPv6 improvements, IKEv2, AnyConnect Secure Mobility VPN clients, and more. The authors explain significant recent licensing changes; introduce enhancements to ASA IPS; and walk you through configuring IPsec, SSL VPN, and NAT/PAT. You'll learn how to apply Cisco ASA adaptive identification and mitigation services to systematically strengthen security in network environments of all sizes and types. The authors present up-to-date sample configurations, proven design scenarios, and actual debugs- all designed to help you make the most of Cisco ASA in your rapidly evolving network. Jazib Frahim, CCIE® No. 5459 (Routing and Switching; Security), Principal Engineer in the Global Security Solutions team, guides top-tier Cisco customers in security-focused network design and implementation. He architects, develops, and launches new security services concepts. His books include Cisco SSL VPN Solutions and Cisco Network Admission Control, Volume II: NAC Deployment and Troubleshooting. Omar Santos, CISSP No. 463598, Cisco Product Security Incident Response Team (PSIRT) technical leader, leads and mentors engineers and incident managers in investigating and resolving vulnerabilities in Cisco products and protecting Cisco customers. Through 18 years in IT and cybersecurity, he has designed, implemented, and supported numerous secure networks for Fortune® 500 companies and the U.S. government. He is also the author of several other books and numerous whitepapers and articles. Andrew Ossipov, CCIE® No. 18483 and CISSP No. 344324, is a Cisco Technical Marketing Engineer focused on firewalls, intrusion prevention, and data center security. Drawing on more than 16 years in networking, he works to solve complex customer technical problems, architect new features and products, and define future directions for Cisco's product portfolio. He holds several pending patents. Understand, install, configure, license, maintain, and troubleshoot the newest ASA devices Efficiently implement Authentication, Authorization, and

Accounting (AAA) services Control and provision network access with packet filtering, context-aware Cisco ASA next-generation firewall services, and new NAT/PAT concepts Configure IP routing, application inspection, and QoS Create firewall contexts with unique configurations, interfaces, policies, routing tables, and administration Enable integrated protection against many types of malware and advanced persistent threats (APTs) via Cisco Cloud Web Security and Cisco Security Intelligence Operations (SIO) Implement high availability with failover and elastic scalability with clustering Deploy, troubleshoot, monitor, tune, and manage Intrusion Prevention System (IPS) features Implement site-to-site IPsec VPNs and all forms of remote-access VPNs (IPsec, clientless SSL, and client-based SSL) Configure and troubleshoot Public Key Infrastructure (PKI) Use IKEv2 to more effectively resist attacks against VPNs Leverage IPv6 support for IPS, packet inspection, transparent firewalls, and site-to-site IPsec VPNs

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

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