# Cisco Disaster Recovery Best Practices White Paper

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

"Business Survival – a Guide to Business Continuity Planning and Disaster Recovery" is for experienced and inexperienced, technical, and non-technical personnel who are interested in the need for Business Continuity Planning within their organizations. These personnel include: Senior and Executive management, the decision-makers who make budgetary decisions Business Continuity Managers and their teams Chief Information Officers, who ensure the implementation of the Disaster Recovery elements of the Business Continuity Plan and play a large role in (and perhaps even manage or oversee) the Business Continuity Process The IT security program manager, who implements the security program IT managers and system owners of system software and/or hardware used to support IT functions. Information owners of data stored, processed, and transmitted by the IT systems Business Unit owners and managers who are responsible for the way in which their own unit fits into the overall Business Continuity Plan, but especially Facilities Managers, who are responsible for the way the buildings are evacuated and secured, providing floor plans and information to Emergency Services, etc. Human Resources Managers who are responsible for the "people" elements of the Business Continuity Plan Communications and PR Managers who are responsible for the communications policies that form part of the Business Continuity Plan Technical support personnel (e.g. network, system, application, and database administrators; computer specialists; data security analysts), who manage and administer security for the IT systems Information system auditors, who audit IT systems IT consultants, who support clients in developing, implementing and testing their Business Continuity Plans

30 up-to-date case studies illuminate every aspect of modern supply chain management • Risk management, analytics, global supply chain issues, and much more • Innovative processes, technologies, strategies, and tactics • An indispensable resource for both students and practitioners This casebook brings together 30 focused cases addressing virtually every aspect of supply chain management, from procurement to warehousing, strategy to risk management, IT to supplier selection and ethics. A global team of contributors presents key challenges in industries ranging from pharmaceuticals to fashion and previews issues ranging from the "limits of lean" to the potential of 3-D printing. Cases vary in length and complexity, offering maximum flexibility to both instructors and readers; a convenient table provides fast access to specific topics. Qualitative cases are supported by relevant discussion questions and sample responses; quantitative cases are supported by completed numerical solutions, and, where applicable, associated spreadsheets.

The definitive work on architecting a reliable ShoreTel Unified Communication system This book provides best practices and detailed information on configuring the fault tolerance, high-availability, resiliency and redundancy features of the ShoreTel Unified Communications system. At 125-pages, this book covers all aspects of the ShoreTel Unified Communication system through ShoreTel version 13. 100% of proceeds are donated to the American Red Cross. Contents include: ShoreTel Components and the ShoreTel Distributed Architecture Design Features, Benefits and Best Practices ShoreGear Voice Appliances: Hardware Features Full Mesh Connectivity and Distributed Intelligence Location Service Protocol (LSP) Selection of Primary and Secondary End Points for Application Services Backup Auto Attendant Peer-to-Peer Audio Path Single Site Redundancy Distributed Call Control Redundant Call Control Analog Phone and SIP Phone Failover Power Fail Transfer Ports Single Site Redundancy: Summary Application Services Explicit Backup Extensions Replicated Services: Auto Attendants and Account Code Collection Distributed Services: Workgroups Distributed Services: Voice Mail Services that Failover: Call Detail Record (CDR) Collection Services that Do Not Failover Multi-site Redundancy Multi-site Configuration Call Control and PSTN Access Application Services Redundant Call Control IP Phone Configuration Switches Database Changes and Server Redundancy "Call Forward Always" Override (*72/*73) Distributed Database Server Redundancy Physical Component Redundancy with Stratus Technologies HQ Server Redundancy with Double-Take Multiple Server Redundancy with VMware Analyzing Failure Scenarios Network Call Routing Outbound Call Routing Call Scenarios Inbound Call Routing Parent as Proxy Call Cost Promotion PSTN Failover Site Tree Hierarchy 4, 5, and 6-Party Conferencing Spare Switch Selection Selection of DRS Servers Working with Schedules The Application of Schedules Accommodating Different Time Zones Schedules Applied to Call Handling Modes Disaster Recovery Planning Accommodating Inaccessible Sites Accommodating Down Sites Preventing Total Loss of Services Extension Reassignment and SoftPhone Considerations Disaster Recovery (DR) Sites Hot-standby Sites Colocation Sites Distributed Routing Service Extension Call Routing with DRS PSTN Call Routing with DRS Selecting DRS servers Extent of DRS involvement in Call Control Maintenance Pages when DRS is Enabled Design Considerations with DRS Enabled Additional Considerations Event Filters and Alarm Notification Enterprise Contact Center SA-100 Appliances Redundant Power Supplies Resources, References and Further Reading Appendix A: HQ, DVS and V-switch Features Appendix B: Voice Mail Prompt Behavior Appendix C: Questions and Answers Rebooting Questions Colocation Site Questions Communicator Questions Hunt Group Questions Appendix D: LSP Tables LSP Commands LSP Examples LSP Status During an Outage

For more than 20 years, Network World has been the premier provider of information, intelligence and insight for network and IT executives responsible for the digital nervous systems of large organizations. Readers are responsible for designing, implementing and managing the voice, data and video systems their companies use to support everything from business critical applications to employee collaboration and electronic commerce.

Cisco Unified Customer Voice Portal Building Unified Contact Centers Rue Green, CCIE® No. 9269 The definitive guide to deploying Cisco Unified Customer Voice Portal IVRs in any contact center environment Thousands of companies are replacing legacy ACD/TDM-based contact centers with pure IP-based unified contact center solutions. One of these solutions is quickly earning market leadership: Cisco Unified Customer Voice Portal (CVP). Now, one of the leading Cisco CVP experts brings together everything network and telephony professionals need to successfully implement production Interactive Voice Response (IVR) solutions with CVP: architectural guidelines, deployment best practices, detailed insights for design and sizing, and more. CCIE Rue Green guides you through designing unified contact centers with CVP, and deploying proven infrastructures to support your designs. The author first explains CVP's architecture, outlining its key advantages and opportunities for integration and illuminating the design challenges it presents. Next, he guides you through addressing each of these challenges, covering all CVP components and tools and offering detailed insights available in no other book. Using this book's detailed working configurations and examples, you can minimize configuration errors, reduce downtime, strengthen monitoring, and drive maximum value from any CVP-based unified call center solution. Rue Green, CCIE No. 9269 (Routing & Switching and Voice), CISSP, MCSE, MCITP is a Technical Leader for the Customer Collaboration Service Line within Cisco Advanced Services, where he focuses on unified contact center architectures and deployment methodologies. He currently acts in a delivery architect role for Unified CVP, Unified ICM, and Cisco Unified Communications Manager for Unified Contact Center Solutions. He has spent the last 21 years working within different roles related to the architecture, design, and implementation of large voice and data networks, including several years working with complex contact center solutions. · Discover CVP's powerful capabilities and advantages · Understand how CVP's components fit together into a unified architecture · Utilize CVP native components: Call Server, VXML Server, Reporting Server, Operations Console Server, and Cisco Unified Call Studio · Integrate non-native components such as IOS devices, Unified ICM, UCM, content load balancers, and third-party servers · Choose the right deployment model for your organization · Implement detailed call flows for Standalone, Call Director, Comprehensive, and VRU-only deployment models · Design Unified CVP for high availability · Efficiently deliver media via streaming, caching, and other techniques · Address crucial sizing, QoS, network latency, and security considerations · Successfully upgrade from older versions or H.323 platforms · Isolate and troubleshoot faults in native and non-native CVP components · Design virtualized Unified CVP deployments using UCS This IP communications book is part of the Cisco Press® Networking Technology Series. IP communications titles from Cisco Press help networking professionals understand voice and IP telephony technologies, plan and design converged networks, and implement network solutions for increased productivity.

For more than 40 years, Computerworld has been the leading source of technology news and information for IT influencers worldwide. Computerworld's award-winning Web site (Computerworld.com), twice-monthly publication, focused conference series and custom research form the hub of the world's largest global IT media network.

Cisco HyperFlex solutions enhance data center efficiency, agility, and resiliency by tightly integrating core infrastructure (compute, storage, networking, and system management), increasing automation, and simplifying lifecycle management. This authoritative, comprehensive guide brings together knowledge, detailed configuration options, and real-world case studies for successfully deploying Cisco HyperFlex technologies in environments of all types. Three expert authors present easy-to-understand overviews of key Hyperconverged Infrastructure (HCI) concepts, show how HyperFlex technologies apply them, and present detailed reference examples with topologies, configurations, and verifications for each major feature. Drawing on extensive experience helping Cisco customers adopt HyperFlex, they present best practices for optimizing design, streamlining deployment, avoiding pitfalls, and maximizing value. This guide will be indispensable to every IT and network professional, manager, or consultant involved in planning, deploying, or operating Cisco HyperFlex or evaluating any HCI solution. Reflecting current trends in HCI deployment, it will be valuable in both small-scale environments and large-scale data centers. Explore how and why data centers have evolved from traditional to converged and hyperconverged infrastructure Review the essentials of HyperFlex hyperconverged infrastructure connectivity Understand HyperFlex Data Platform architecture, components, topologies, and supported hardware Compare HyperFlex standard, stretch, and edge clusters, and understand their respective roles Install and deploy each type of Cisco HyperFlex cluster, including preparation, prerequisites, and components Manage HyperFlex via HyperFlex Connect: HX storage cluster status, components, encryption, replication, and more Maintain HyperFlex: clustering, virtual machine management, native snapshots, ReadyClones, and more Scale HyperFlex clusters, replace hardware, and upgrade software Configure and manage advanced HyperFlex Data Platform disaster recovery features Integrate supported third-party data protection solutions, including Veeam Availability Suite, Cohesity, and Commvault Utilize the cloud-based Cisco Intersight platform to deploy HyperFlexAnywhere, including edge and standard clusters

Foundation learning for CIPT1 exam 642-446 Dennis Hartmann, CCIE® No. 15651 Implementing Cisco Unified Communications Manager, Part 1 (CIPT1), is a Cisco®-authorized, self-paced learning tool for CCVP® foundation learning. This book provides the knowledge necessary to install, configure, and deploy a Cisco Unified Communications solution based on Cisco Unified Communications Manager, the call routing and signaling component of the Cisco Unified Communications solution. By reading this book, you will gain an understanding of deploying a Cisco Unified Communications Manager to support single site, centralized, distributed, and hybrid call processing models. This book focuses on Cisco Unified Communications Manager Release 6.x. You will learn how to install and configure Cisco Unified Communications Manager, power over Ethernet switches, and gateways using MGCP. You will also learn how to build a scalable dial plan for on-net and off-net calls. The dial plan chapters of the book cover call routing, call coverage, digit manipulation, class of service, and call coverage components. This book will teach you how to implement media resources, LDAP directory integration, and various endpoints including Skinny Client Control Protocol (SCCP) and Session Initiation Protocol (SIP). Cisco Unified Video Advantag endpoint configuration is covered, in addition to, Cisco Unity® voice mail integration and basic voice mail box creation. Various user features are discussed including Presence. Whether you are preparing for CCVP certification or simply want to gain a better understanding of Cisco Unified Communications Manager fundamentals, you will benefit from the foundation information presented in this book. Implementing Cisco Unified Communications Manager, Part 1 (CIPT1), 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. Dennis J. Hartmann, CCIE® No. 15651 is a lead Unified Communications instructor at Global Knowledge. Dennis has been working with CallManager since CallManager 2.0. Dennis has various technical certifications: CCIE No. 15651, CCVP, CCSI, CCNP®, CCIP®, and MCSE. Dennis has worked with various Fortune 500 companies including AT&T, Sprint, Merrill Lynch, KPMG, and Cabletron Systems. Understand Cisco Unified Communications Manager architecture and components Evaluate Cisco Unified Communications Manager deployment models Install,

upgrade, and administer Cisco Unified Communications Manager Apply network configuration, NTP, and DHCP configuration options Configure and manage user accounts Deploy various Cisco Unified IP Phones Configure Catalyst® switches for power over Ethernet and voice VLAN requirements Harden IP Phones to mitigate security risks Configure Media Gateway Control Protocol (MGCP) gateways Configure dial plans, call routing, and digit manipulation Deploy various media resources and user features Integrate Cisco Unity Voicemail with Cisco Unified Communications Manager Configure video-enabled IP Phones This volume is in the Certification Self-Study Series offered by Cisco Press®. Books in this series provide officially developed self-study solutions to help networking professionals understand technology implementations and prepare for the Cisco Career Certifications examinations. Category: Cisco Unified Communications Manager 6 Covers: CIPT1 exam 642-446 $65.00 USA / $72.00 CAN

IBM® FileNet® Content Manager Version 5.2 provides full content lifecycle and extensive document management capabilities for digital content. IBM FileNet Content Manager is tightly integrated with the family of IBM FileNet products based on the IBM FileNet P8 technical platform. IBM FileNet Content Manager serves as the core content management, security management, and storage management engine for the products. This IBM Redbooks® publication covers the implementation best practices and recommendations for solutions that use IBM FileNet Content Manager. It introduces the functions and features of IBM FileNet Content Manager, common use cases of the product, and a design methodology that provides implementation guidance from requirements analysis through production use of the solution. We address administrative topics of an IBM FileNet Content Manager solution, including deployment, system administration and maintenance, and troubleshooting. Implementation topics include system architecture design with various options for scaling an IBM FileNet Content Manager system, capacity planning, and design of repository design logical structure, security practices, and application design. An important implementation topic is business continuity. We define business continuity, high availability, and disaster recovery concepts and describe options for those when implementing IBM FileNet Content Manager solutions. Many solutions are essentially a combination of information input (ingestion), storage, information processing, and presentation and delivery. We discuss some solution building blocks that designers can combine to build an IBM FileNet Content Manager solution. This book is intended to be used in conjunction with product manuals and online help to provide guidance to architects and designers about implementing IBM FileNet Content Manager solutions. Many of the features and practices described in the book also apply to previous versions of IBM FileNet Content Manager.

Based on related courses and research on the cyber environment in Europe, the United States, and Asia, Cyberspace and Cybersecurity supplies complete coverage of cyberspace and cybersecurity. It not only emphasizes technologies but also pays close attention to human factors and organizational perspectives. Detailing guidelines for quantifying and measuring vulnerabilities, the book also explains how to avoid these vulnerabilities through secure coding. It covers organizational-related vulnerabilities, including access authorization, user authentication, and human factors in information security. Providing readers with the understanding required to build a secure enterprise, block intrusions, and handle delicate legal and ethical issues, the text: Examines the risks inherent in information system components, namely hardware, software, and people Explains why asset identification should be the cornerstone of any information security strategy Identifies the traits a CIO must have to address cybersecurity challenges Describes how to ensure business continuity in the event of adverse incidents, including acts of nature Considers intrusion detection and prevention systems (IDPS), focusing on configurations, capabilities, selection, management, and deployment Explaining how to secure a computer against malware and cyber attacks, the text's wide-ranging coverage includes security analyzers, firewalls, antivirus software, file shredding, file encryption, and anti-loggers. It reviews international and U.S. federal laws and legal initiatives aimed at providing a legal infrastructure for what transpires over the Internet. The book concludes by examining the role of the U.S. Department of Homeland Security in our country's cyber preparedness. Exercises with solutions, updated references, electronic presentations, evaluation criteria for projects, guidelines to project preparations, and teaching suggestions are available upon qualified course adoption.

The real-world guide to securing Cisco-based IP telephony applications, devices, and networks Cisco IP telephony leverages converged networks to dramatically reduce TCO and improve ROI. However, its critical importance to business communications and deep integration with enterprise IP networks make it susceptible to attacks that legacy telecom systems did not face. Now, there's a comprehensive guide to securing the IP telephony components that ride atop data network infrastructures–and thereby providing IP telephony services that are safer, more resilient, more stable, and more scalable. Securing Cisco IP Telephony Networks provides comprehensive, up-to-date details for securing Cisco IP telephony equipment, underlying infrastructure, and telephony applications. Drawing on ten years of experience, senior network consultant Akhil Behl offers a complete security framework for use in any Cisco IP telephony environment. You'll find best practices and detailed configuration examples for securing Cisco Unified Communications Manager (CUCM), Cisco Unity/Unity Connection, Cisco Unified Presence, Cisco Voice Gateways, Cisco IP Telephony Endpoints, and many other Cisco IP Telephony applications. The book showcases easy-to-follow Cisco IP Telephony applications and network security-centric examples in every chapter. This guide is invaluable to every technical professional and IT decision-maker concerned with securing Cisco IP telephony networks, including network engineers, administrators, architects, managers, security analysts, IT directors, and consultants. Recognize vulnerabilities caused by IP network integration, as well as VoIP's unique security requirements Discover how hackers target IP telephony networks and proactively protect against each facet of their attacks Implement a flexible, proven methodology for end-to-end Cisco IP Telephony security Use a layered (defense-in-depth) approach that builds on underlying network security design Secure CUCM, Cisco Unity/Unity Connection, CUPS, CUCM Express, and Cisco Unity Express platforms against internal and external threats Establish physical security, Layer 2 and Layer 3 security, and Cisco ASA-based perimeter security Complete coverage of

Cisco IP Telephony encryption and authentication fundamentals Configure Cisco IOS Voice Gateways to help prevent toll fraud and deter attacks Secure Cisco Voice Gatekeepers and Cisco Unified Border Element (CUBE) against rogue endpoints and other attack vectors Secure Cisco IP telephony endpoints–Cisco Unified IP Phones (wired, wireless, and soft phone) from malicious insiders and external threats This IP communications book is part of the Cisco Press® Networking Technology Series. IP communications titles from Cisco Press help networking professionals understand voice and IP telephony technologies, plan and design converged networks, and implement network solutions for increased productivity.

As organizations drive to transform and virtualize their IT infrastructures to reduce costs, and manage risk, networking is pivotal to success. Optimizing network performance, availability, adaptability, security, and cost is essential to achieving the maximum benefit from your infrastructure. In this IBM® Redbooks® publication, we address these requirements: Expertise to plan and design networks with holistic consideration of servers, storage, application performance, and manageability Networking solutions that enable investment protection with performance and cost options that match your environment Technology and expertise to design and implement and manage network security and resiliency Robust network management software for integrated, simplified management that lowers operating costs of complex networks IBM and Brocade have entered into an agreement to provide expanded network technology choices with the new IBM b-type Ethernet Switches and Routers, to provide an integrated end-to-end resiliency and security framework. Combined with the IBM vast data center design experience and the Brocade networking expertise, this portfolio represents the ideal convergence of strength and intelligence. For organizations striving to transform and virtualize their IT infrastructure, such a combination can help you reduce costs, manage risks, and prepare for the future. This book is meant to be used along with "IBM b-type Data Center Networking: Product Introduction and Initial Setup," SG24-7785.

"This book covers a wide spectrum of topics relevant to implementing and managing a modern data center. The chapters are comprehensive and the flow of concepts is easy to understand." -Cisco reviewer Gain a practical knowledge of data center concepts To create a well-designed data center (including storage and network architecture, VoIP implementation, and server consolidation) you must understand a variety of key concepts and technologies. This book explains those factors in a way that smoothes the path to implementation and management. Whether you need an introduction to the technologies, a refresher course for IT managers and data center personnel, or an additional resource for advanced study, you'll find these guidelines and solutions provide a solid foundation for building reliable designs and secure data center policies. * Understand the common causes and high costs of service outages * Learn how to measure high availability and achieve maximum levels * Design a data center using optimum physical, environmental, and technological elements * Explore a modular design for cabling, Points of Distribution, and WAN connections from ISPs * See what must be considered when consolidating data center resources * Expand your knowledge of best practices and security * Create a data center environment that is user- and manager-friendly * Learn how high availability, clustering, and disaster recovery solutions can be deployed to protect critical information * Find out how to use a single network infrastructure for IP data, voice, and storage

This IBM® Redbooks® publication describes several of the preferred practices and describes the performance gains that can be achieved by implementing the IBM SAN Volume Controller powered by IBM Spectrum® Virtualize V8.4. These practices are based on field experience. This book highlights configuration guidelines and preferred practices for the storage area network (SAN) topology, clustered system, back-end storage, storage pools, and managed disks, volumes, Remote Copy services, and hosts. Then, it provides performance guidelines for IBM SAN Volume Controller, back-end storage, and applications. It explains how you can optimize disk performance with the IBM System Storage Easy Tier® function. It also provides preferred practices for monitoring, maintaining, and troubleshooting IBM SAN Volume Controller. This book is intended for experienced storage, SAN, and IBM SAN Volume Controller administrators and technicians. Understanding this book requires advanced knowledge of the IBM SAN Volume Controller, IBM FlashSystem, and SAN environments.

An updated guide to planning, configuring, managing, and troubleshooting NX-OS includes information on new technologies and best practices for high availability, virtualization, security, and network support.

This IBM Redbooks publication supersedes both: IBM TotalStorage: Introduction to SAN Routing, SG24-7119-00 Implementing the IBM TotalStorage Multiprotocol Routers, SG24-7246-00 The rapid spread and adoption of production storage area networks (SANs) has fuelled the need for multiprotocol routers. The routers provide improved scalability, security, and manageability by enabling devices in separate SAN fabrics to communicate without merging fabrics into a single, large SAN fabric. This capability enables clients to initially deploy separate SAN solutions at the departmental and data center levels. Then, clients can consolidate these separate solutions into large enterprise SAN solutions as their experience and requirements grow and change. Alternatively, multiprotocol routers can help to connect existing enterprise SANs for a variety of reasons. For instance, the introduction of Small Computer System Interface over IP (iSCSI) provides for the connection of low-end, low-cost hosts to enterprise SANs. The use of an Internet Protocol (IP) in the Fibre Channel (FC) environment provides for resource consolidation and disaster recovery planning over long distances. And the use of FC-FC routing services provides connectivity between two or more fabrics without having to merge them into a single SAN. This book targets storage network administrators, system designers, architects, and IT professionals who sell, design, or administer SANs. It introduces you to the products, concepts, and technology in the IBM System Storage SAN Routing portfolio. This book shows the features of each product and examples of how you can deploy and use them.

Cisco CallManager Best PracticesA Cisco AVVID SolutionCisco Press

The two-volume set LNCS 8111 and LNCS 8112 constitute the papers presented at the 14th International Conference on Computer Aided Systems Theory, EUROCAST 2013, held in February 2013 in Las Palmas de Gran Canaria, Spain. The total of 131 papers presented were carefully reviewed and selected for inclusion in the books. The contributions are organized in

topical sections on modelling biological systems; systems theory and applications; intelligent information processing; theory and applications of metaheuristic algorithms; model-based system design, verification and simulation; process modeling simulation and system optimization; mobile and autonomous transportation systems; computer vision, sensing, image processing and medical applications; computer-based methods and virtual reality for clinical and academic medicine; digital signal processing methods and applications; mechatronic systems, robotics and marine robots; mobile computing platforms and technologies; systems applications.

A complete IP Telephony migration planning guide Includes Steps to Success Poster It's everyone's "must have." This is a reference book for the entire project team who works on the deployment of an IP Telephony solution. Take advantage of best practices. Includes more than 200 best practices, lessons learned, and tips for getting you through your IP Telephony deployment successfully. Minimize risk and learn from the mistakes of others. Read the list of the top 10 things that can go wrong during an IP Telephony deployment. Ask the right questions. Get the project team thinking and collaborating together with Stephanie's "Checklist of Questions to Ask the Project Team." Use proven planning tools. Work from sample checklists, templates, project plans, and workflow documents to guide your planning process. Keep the Steps to Success on the minds of your project team. Use the enclosed poster, which illustrates every major step associated with an IP Telephony deployment. There is no better path to the successful implementation of a new technology than to follow in the experienced footsteps of an organization that has already been there. The Road to IP Telephony tells you how Cisco Systems successfully moved its own organization to a converged, enterprise-wide network. You will learn the implementation and operational processes, what worked, what didn't work, and how to develop your own successful methodology. After presenting this topic to hundreds of Cisco customers, including Fortune 500 companies, Stephanie Carhee consistently encountered the same question, "If I decide to move to IP Telephony, where do I begin and what can I do to ensure that I do it right the first time?" Although the needs of every enterprise are different, some things are universal; planning, communication, teamwork, and understanding your user's requirements are as important as technical expertise. The Road to IP Telephony shares with you everything you need to know about managing your deployment. It starts with where to begin, including what needs to be addressed before you even begin the planning process, to building your project team. Key best practices are also offered to help you set the project's pace and schedule, get your users on board, identify a migration strategy, develop a services and support strategy, and work toward the final PBX decommission. "Cisco IT wants to share its implementation experience with Cisco customers and partners to aide in the deployment practices of new Cisco technologies. While conducting our own company-wide cutover, we learned a great deal about what to do and what not to do. This book shares our experiences." -Brad Boston, Senior Vice President and Chief Information Officer, Cisco Systems, Inc. This volume is in the Network Business Series offered by Cisco Press. Books in this series provide IT executives, decision makers, and networking professionals with pertinent information on today's most important technologies and business strategies.

Troubleshooting and Maintaining Cisco IP Networks (TSHOOT) Foundation Learning Guide Troubleshooting and Maintaining Cisco IP Networks (TSHOOT) Foundation Learning Guide is your Cisco authorized learning tool for CCNP TSHOOT 300-135 exam preparation. Part of the Cisco Press Foundation Learning Guide series, it teaches you how to maintain and monitor even the most complex enterprise networks. You'll compare and master today's leading approaches to troubleshooting, including an efficient structured process for maximizing network uptime in the context of your own organization's policies and procedures. Coverage includes gathering information, capturing traffic, using event notifications, working with maintenance and trouble-shooting tools, and more. Throughout, each chapter opens with a list of topics that clearly identify its focus. Each chapter ends with a summary of key concepts for quick study, as well as review questions to assess and reinforce your understanding. To deepen your hands-on expertise and strengthen your exam readiness, this guide also presents five full chapters of real-world troubleshooting case studies. This guide is ideal for all certification candidates who want to master all the topics covered on the TSHOOT 300-135 exam. --The official textbook for the Cisco Networking Academy CCNP TSHOOT 300-135 course --Thoroughly introduces proven troubleshooting principles and common troubleshooting approaches --Defines structured troubleshooting and reviews its subprocesses --Shows how to integrate troubleshooting into day-to-day network maintenance processes --Covers information gathering on Layer 2 switching and Layer 3 routing with IOS show and debug commands, ping, and telnet --Introduces specialized tools for capturing traffic, gathering information (SNMP and NetFlow), and receiving network event notifications (EEM) --Uses extensive troubleshooting examples and diagrams to support explanations and strengthen your understanding --Presents self-assessment review questions, chapter objectives, and summaries to facilitate effective studying

A guide to successful deployment of the Cisco IP Telephony solution Real-world case studies from the Cisco design consulting engineers who developed the PDIOO process provide practical advice on all stages of successful IPT deployment Concise understanding of the PDIOO phases enables architects and engineers to successfully deploy the Cisco IPT solution Division of the process into PDIOO phases provides a logical and defined guide for network engineers and architects as they proceed through each of the phases in deploying the Cisco IPT solution Includes detailed questionnaires for each phase of deployment in the PDIOO cycle—a great aid in understanding customer networks and requirements Network infrastructure design, call processing infrastructure design and applications, and voice-mail system design are covered in depth Cisco® IP Telephony (IPT) solutions are being deployed at an accelerated rate, and network architects and engineers need to understand the various phases involved in successful deployment: planning, design, implementation, operation, and optimization (PDIOO). On the road to that understanding, those involved need to collect information for each phase of deployment, and then follow through with the best architecture, deployment model, and implementation based on the data collected. Cisco IP Telephony: Planning, Design, Implementation, Operation, and Optimization is a guide for network architects and engineers as they deploy the Cisco IPT solution. With this book, you will master the PDIOO phases of the IPT solution, beginning with the requirements necessary for effective planning of a large-scale IPT network. From there, you'll follow a step-by-step approach to choose the right architecture and deployment model. Real-world examples and explanations with technical details, design tips, network illustrations, and sample configurations illustrate each step in the process of planning, designing, implementing, operating, and optimizing a chosen architecture based on information you have collected. In-depth instruction on each PDIOO phase provides specific details about the tasks involved and best practices for successful implementation of the IPT solution. This book also contains predesigned questionnaires and PDIOO assistance tools that help you determine the requirements of each phase of the PDIOO cycle. Authors Ramesh Kaza and Salman Asadullah have

been involved with Cisco IPT solutions from the beginning and have planned, designed, and implemented major IPT networks using the guidelines found here. Cisco IP Telephony: Planning, Design, Implementation, Operation, and Optimization provides the step-by-step explanations, details, and best practices acquired by the authors while working with the top Cisco IPT customers. 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.

This IBM® Redbooks® publication introduces the products, concepts, and technology in the IBM System StorageTM SAN Routing portfolio, which is based on Cisco products and technology. It also discusses the features of each product, and offers examples of how you can deploy and use them. The book targets storage network administrators, system designers, architects, and IT professionals who sell, design, or administer SANs. The rapid spread and adoption of production storage area networks (SANs) has fueled the need for multiprotocol routers. The routers provide improved scalability, security, and manageability by enabling devices in separate SAN fabrics to communicate without merging fabrics into a single, large SAN fabric. This capability enables clients to initially deploy separate SAN solutions at the departmental and data center levels. Then, clients can consolidate these separate solutions into large enterprise SAN solutions as their experience and requirements grow and change. Alternatively, multiprotocol routers can help to connect existing enterprise SANs for a variety of reasons. For example, the introduction of Small Computer System Interface over IP (iSCSI) provides for the connection of low-end, low-cost hosts to enterprise SANs. The use of an Internet Protocol (IP) in the Fibre Channel (FC) environment provides for resource consolidation and disaster recovery planning over long distances. And the use of FC-FC routing services provides connectivity between two or more fabrics without having to merge them into a single SAN. To derive the maximum benefit from this book, you should already be familiar with SANs. Otherwise, we recommend that you first read the following IBM Redbooks publications: IBM TotalStorage: SAN Product, Design, and Optimization Guide, SG24-6384 Introduction to Storage Area Networks, SG24-5470 Implementing an IBM/Cisco SAN, SG24-7545

This book constitutes the thoroughly refereed proceedings of the 17th International Conference on Transport Systems Telematics, TST 2017, held in Katowice-Ustrón, Poland, in April 2017. The 40 full papers presented in this volume were carefully reviewed and selected from 128 submissions. They present and organize the knowledge from within the field of intelligent transportation systems, the specific solutions applied in it and their influence on improving efficiency of transport systems.

Public Service Information Technology explains how all areas of IT management work together. Building a computer-based information system is like constructing a house; different disciplines are employed and need to be coordinated. In addition to the technical aspects like computer networking and systems administration, the functional, business, management, and strategic aspects all are equally important. IT is not as simple as expecting to use a software program in three months. Information Technology is a complex field that has multiple working parts that require proper management. This book demystifies how IT operates in an organization, giving the public manager the necessary details to manage Information Technology and to use all of its resources for proper effect. This book is for technical IT managers and non-technical (non-IT) managers and senior executive leaders. Not only will the Chief Information Officer, the IT Director, and the IT Manager find this book invaluable to running an effective IT unit, the Chief Financial Officer, the HR Director, and functional managers will understand their roles in conjunction with the technical team. Every manager at all levels of the organization has a small yet consequential role to play in developing and managing an IT system. With practical guidelines and worksheets provided in the book, both the functional team and the technical team will be able to engage collaboratively to produce a high-quality computer-based information system that everyone involved can be proud to use for many years and that can deliver an effective and timely public program to citizens. This book includes: Multiple layers of security controls your organization can develop and maintain, providing greater protection against cyber threats. Job-related worksheets you can use to strengthen your skills and achieve desired program results. Practices you can apply to maximize the value of your contracts and your relationships with for-profit companies and other contractors. New method for deciding when contracting or outsourcing is appropriate when internal resources are not available. Improved method for estimating intangible benefits (non-financial gains) attributable to a proposed project. An approach to deciding what parts of a business process should or should not be automated, paying critical attention to decision points and document reviews.

Improve business efficiency, eliminate day-to-day mishaps, and prepare for the worst-with effective disaster contingency planning Working in lower Manhattan on September 11th, 2001, Donna Childs became keenly aware of the need for small businesses to develop disaster contingency plans and grateful that her own business had implemented such plans and would remain financially sound. Now, with the assistance of IT consultant Stefan Dietrich, she draws upon her unique experience to present proven guidelines for small and midsize businesses to effectively prepare for catastrophes in Contingency Planning and Disaster Recovery: A Small Business Guide. Childs and Dietrich take small business owners through every stage of disaster planning, from preparation to response to recovery. Specific issues addressed include: * What to do if the main office location is not accessible * Getting the business up and running again * Contacting third parties * Handling insurance claims * Adequate insurance for property, business interruption losses, and workers' compensation * Rebuilding an IT infrastructure Successful planning not only can limit the damage of an unforeseen disaster but also can minimize daily mishaps-such as the mistaken deletion of files-and increase a business's overall efficiency. Contingency Planning and Disaster Recovery is the only contingency guide that small business owners need to ensure their company's continued success.

This IBM® Redbooks® publication captures several of the preferred practices and describes the performance gains that can be achieved by implementing the IBM FlashSystem products. These practices are based on field experience. This book highlights configuration guidelines and preferred practices for the storage area network (SAN) topology, clustered system, back-end storage, storage pools and managed disks, volumes, remote copy services, and hosts. It explains how you can optimize disk performance with the IBM System Storage® Easy Tier® function. It also provides preferred practices for monitoring, maintaining, and troubleshooting. This book is intended for experienced storage, SAN, IBM FlashSystem, SAN Volume Controller (SVC), and IBM Storwize® administrators and technicians. Understanding this book requires advanced knowledge of these environments.

As IBM® Scale Out Network Attached Storage (SONAS) is adopted, it is important to provide information about planning, installation, and daily administration. This IBM Redbooks® publication also describes leading tuning practices information gained by those who implement and support SONAS. These preferred practices are based on hands-on experience from the field.

Monitoring of the SONAS system is included. This IBM Redbooks publication provides information about IBM SONAS features and function at the 1.5.1 level. This book is the companion to the IBM SONAS Implementation Guide, SG24-7962 IBM Redbooks publication. It is intended for readers who have implemented SONAS and are responsible for daily administration and monitoring.

In this book you'll learn how to: Build a secure network using security controls Secure network perimeters Implement secure management and harden routers Implement network security policies using Cisco IOS firewalls Understand cryptographic services Deploy IPsec virtual private networks (VPNs) Secure networks with Cisco IOS® IPS Protect switch infrastructures Secure endpoint devices, storage area networks (SANs), and voice networks WRITTEN BY A LEADING EXPERT: Eric Stewart is a self-employed network security contractor who finds his home in Ottawa, Canada. Eric has more than 20 years of experience in the information technology field, the last 12 years focusing primarily on Cisco® routers, switches, VPN concentrators, and security appliances. The majority of Eric's consulting work has been in the implementation of major security infrastructure initiatives and architectural reviews with the Canadian Federal Government. Eric is a certified Cisco instructor teaching Cisco CCNA, CCNP®, and CCSP® curriculum to students throughout North America and the world. informit.com/examcram ISBN-13: 978-0-7897-3800-4 ISBN-10: 0-7897-3800-7

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

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

Master the design and deployment of small and medium-sized business networks.

Learn how to build a business continuity plan to protect your organisation when things go wrong.

Implementing Cisco IOS Network Security (IINS) is a Cisco-authorized, self-paced learning tool for CCNA® Security foundation learning. This book provides you with the knowledge needed to secure Cisco® routers and switches and their associated networks. By reading this book, you will gain a thorough understanding of how to troubleshoot and monitor network devices to maintain integrity, confidentiality, and availability of data and devices, as well as the technologies that Cisco uses in its security infrastructure. This book focuses on the necessity of a comprehensive security policy and how it affects the posture of the network. You will learn how to perform basic tasks to secure a small branch type office network using Cisco IOS® security features available through the Cisco Router and Security Device Manager (SDM) web-based graphical user interface (GUI) and through the command-line interface (CLI) on Cisco routers and switches. The author also provides, when appropriate, parallels with Cisco ASA appliances. 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) 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 Configure routers on the network perimeter with Cisco IOS Software security features Configure firewall features including ACLs and Cisco IOS zone-based policy firewalls to perform basic security operations on a network Configure site-to-site VPNs using Cisco IOS features Configure IPS on Cisco network routers Configure LAN devices to control access, resist attacks, shield other network devices and systems, and protect the integrity and confidentiality of network traffic This volume is in the Certification Self-Study Series offered by Cisco Press®. Books in this series provide officially developed self-study solutions to help networking professionals understand technology implementations and prepare for the Cisco Career Certifications examinations.

IT Compliance and Controls offers a structured architectural approach, a 'blueprint in effect,' for new and seasoned executives and business professionals alike to understand the world of compliance?from the perspective of what the problems are, where they come from, and how to position your company to deal with them today and into the future.

Delivers the proven solutions that make a difference in your Cisco IP Telephony deployment Learn dial plan best practices that help you configure features such as intercom, group speed dials, music on hold, extension mobility, and more Understand how to manage and monitor your system proactively for maximum uptime Use dial plan components to reduce your exposure to toll fraud Take advantage of call detail records for call tracing and accounting, as well as troubleshooting Utilize the many Cisco IP Telephony features to enable branch site deployments Discover the best ways to install, upgrade, patch, and back up CallManager Learn how backing up to remote media provides both configuration recovery and failure survivability IP telephony represents the future of telecommunications: a converged data and voice infrastructure boasting greater flexibility and more cost-effective scalability than traditional telephony. Having access to proven best practices, developed in the field by Cisco® IP Telephony experts, helps you ensure a solid, successful deployment. Cisco CallManager Best Practices offers best practice solutions for CallManager and related IP telephony components such as IP phones, gateways, and applications. Written in short, to-the-point sections, this book lets you explore the tips, tricks, and lessons learned that will help you plan, install, configure, back up, restore, upgrade, patch, and secure Cisco CallManager, the core call processing component in a Cisco IP Telephony deployment. You'll also discover the best ways to use services and parameters, directory integration, call detail records, management and monitoring applications, and more. Customers inspired this book by asking the same questions time after time: How do I configure intercom? What's the best way to use partitions and calling search spaces? How do I deploy CallManager regionally on my WAN? What do all those services really do? How do I know how many calls are active? How do I integrate CallManager with Active Directory? Years of expert experiences condensed for you in this book enable you to run a top-notch system while enhancing the performance and functionality of your IP telephony deployment.

VMware vCloud Air is a cloud offering by VMware that provides you with the flexibility and agility to create and manage your virtualized workloads with ease on a VMware-backed cloud platform. This book starts off by providing you with a few key features and benefits of cloud computing, along with some interesting real-world use cases. You'll walk through how to integrate your vCloud Air with either an on-premise VMware-based private cloud or a different public cloud provider. Next, you'll explore the performance and workloads of your vCloud Air instance using VMware vRealize Operations Manager. Finally, you'll also learn how to leverage vCloud Air's Disaster Recovery as a Service (DRaaS) offering.

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