

Vplex Implementation Guide

IBM® Spectrum Virtualize Software Version 7.8 provides software-defined storage capabilities across various platforms, including IBM SAN Volume Controller, IBM Storwize® V7000, Storwize V7000 (Unified), Storwize V5000, Storwize V3700, and Storwize V3500. These offerings help clients reduce the complexities and cost of managing their storage in the following ways: Centralizing management of storage volumes to enable administrators to manage storage volumes from a single point Improving utilization of storage capacity with virtual volumes to enable businesses to tap into previously unused disk capacity Avoiding downtime for backups, maintenance, and upgrades Performing data migration without disruption to applications Enabling all storage devices to be organized into storage pools from which virtual volumes, whether standard, compressed, or thin-provisioned, are created with the characteristics that you want Delivering automation of storage management with SmartCloud Virtual Storage Center, IBM Tivoli® Storage Productivity Center (as applicable by platform), and IBM Tivoli Storage FlashCopy® Manager (as applicable by platform) Increasing the performance efficiency of storage pools with IBM Easy Tier® Restoring data access quickly with near and remote copy capabilities across Fibre Channel (FC), Fibre Channel over Ethernet (FCoE), and IP networks In this IBM Redbooks® publication, which is aimed at storage administrators and technical professionals, we describe the IBM HyperSwap® capability in IBM Spectrum™ Virtualize Software V7.8. HyperSwap delivers high availability (HA) and disaster recovery (DR) in one solution and reuses capital investments to achieve a range of recovery and management options that are transparent to host operations. This book describes how you can use HyperSwap with VMware to create an environment that can withstand robust workloads.

This IBM® Redbooks® Product Guide publication describes the IBM FlashSystem® 5200 solution, which is a next-generation IBM FlashSystem control enclosure. It is an NVMe end-to-end platform that is targeted at the entry and midrange market and delivers the full capabilities of IBM FlashCore® technology. It also provides a rich set of software-defined storage (SDS) features that are delivered by IBM Spectrum® Virtualize, including the following features: Data reduction and deduplication Dynamic tiering Thin provisioning Snapshots Cloning Replication Data copy services Transparent Cloud Tiering IBM HyperSwap® including 3-site replication for high availability (HA) Scale-out and scale-up configurations further enhance capacity and throughput for better availability. The IBM FlashSystem 5200 is a high-performance storage solution that is based on a revolutionary 1U form factor. It consists of 12 NVMe Flash Devices in a 1U storage enclosure drawer with full redundant canister components and no single point of failure. It is designed for businesses of all sizes, including small, remote, branch offices and regional clients. It is a smarter, self-optimizing solution that requires less management, which enables organizations to overcome their storage challenges. Flash has come of age and price point reductions mean that lower parts of the storage market are seeing the value of moving over to flash and NVMe--based solutions. The IBM FlashSystem 5200 advances this transition by providing incredibly dense tiers of flash in a more affordable package. With the benefit of IBM FlashCore Module compression and new QLC flash-based technology becoming available, a compelling argument exists to move away from Nearline SAS storage and on to NVMe. With the release of IBM FlashSystem 5200 Software V8.4, extra functions and features are available, including support for new Distributed RAID1 (DRAID1) features, GUI enhancements, Redirect-on-write for Data Reduction Pool (DRP) snapshots, and 3-site replication capabilities. This book is aimed at pre-sales and post-sales technical support and marketing and storage administrators.

Expert solutions for securing network infrastructures and VPNs Build security into the network by defining zones, implementing secure routing protocol designs, and building safe LAN switching environments Understand the inner workings of the Cisco PIX Firewall and analyze in-depth Cisco PIX Firewall and Cisco IOS Firewall features and concepts Understand what VPNs are and how they are implemented with protocols such as GRE, L2TP, and IPSec Gain a packet-level understanding of the IPSec suite of protocols, its associated encryption and hashing functions, and authentication techniques Learn how network attacks can be categorized and how the Cisco IDS is designed and can be set up to protect against them Control network access by learning how AAA fits into the Cisco security model and by implementing RADIUS and TACACS+ protocols Provision service provider security using ACLs, NBAR, and CAR to identify and control attacks Identify and resolve common implementation failures by evaluating real-world troubleshooting scenarios As organizations increase their dependence on networks for core business processes and increase access to remote sites and mobile workers via virtual private networks (VPNs), network security becomes more and more critical. In today's networked era, information is an organization's most valuable resource. Lack of customer, partner, and employee access to e-commerce and data servers can impact both revenue and productivity. Even so, most networks do not have the proper degree of security. Network Security Principles and Practices provides an in-depth understanding of the policies, products, and expertise that brings organization to this extremely complex topic and boosts your confidence in the performance and integrity of your network systems and services. Written by the CCIE engineer who wrote the CCIE Security lab exam and who helped develop the CCIE Security written exam, Network Security Principles and Practices is the first book to help prepare candidates for the CCIE Security exams. Network Security Principles and Practices is a comprehensive guide to network security threats and the policies and tools developed specifically to combat those threats. Taking a practical, applied approach to building security into networks, the book shows you how to build secure network architectures from the ground up. Security aspects of routing protocols, Layer 2 threats, and switch security features are all analyzed. A comprehensive treatment of VPNs and IPSec is presented in extensive packet-by-packet detail. The book takes a behind-the-scenes look at how the Cisco PIX(r) Firewall actually works, presenting many difficult-to-understand and new Cisco PIX Firewall and Cisco IOS(r) Firewall concepts. The book launches into a discussion of intrusion detection systems (IDS) by analyzing and breaking down modern-day network attacks, describing how an IDS deals with those threats in general, and elaborating on the Cisco implementation of IDS. The book also discusses AAA, RADIUS, and TACACS+ and their usage with some of the newer security implementations such as VPNs and proxy authentication. A complete section devoted to service provider techniques for enhancing customer security and providing support in the event of an attack is also included. Finally, the book concludes with a section dedicated to discussing tried-and-tested troubleshooting tools and techniques that are not only invaluable to candidates working toward their CCIE Security lab exam but also to the security network administrator running the operations of a network on a daily basis.

Inside Citrix - The FlexCast Management Architecture focuses on the FMA, mainly from an architectural point of view. It will discuss, in detail all of its main components and services, their primary roles and responsibilities, including some of the most common optional components, features and/or closely related technologies. From the basics to deep (er) dives where applicable, I will make sure to include something for everybody. Do note that this book is not meant as an installation and/or how-to manual, instead it will dive deeper into the FMA, the true foundation of Citrix XenDesktop and XenApp. Topics include but are not limited to: A deep dive into the FMA's main services, its evolution, a detailed overview on the user authentication, application enumeration and launch processes, Citrix printing, the ICA / HDX protocol, application delivery, MCS, PVS, troubleshooting, some history, fun facts and figures and (much) more. I have concluded each chapter with multiple key takeaways (a few hundred in total) and also included over 100 so-called FMA facts throughout the various chapters.

Master your virtual environment with the ultimate vSphere guide Mastering VMware vSphere 6 is the fully updated edition of the bestselling guide to VMware's virtualization solution. With comprehensive coverage of this industry-leading toolset, this book acts as an informative guide and valuable reference. Step-by-step instruction walks you through installation, configuration, operation, security processes, and much more as you conquer the management and automation of your virtual environment. Written by certified VMware vExperts, this indispensable guide provides hands-on instruction and detailed conceptual explanations, anchored by practical applications and real-world examples. This book is the ultimate guide to vSphere, helping administrators master their virtual environment. Learn to: Install, configure, and manage the vCenter

Server components Leverage the Support Tools to provide maintenance and updates Create and configure virtual networks, storage devices, and virtual machines Implement the latest features to ensure compatibility and flexibility Manage resource allocation and utilization to meet application needs Monitor infrastructure performance and availability Automate and orchestrate routine administrative tasks Mastering VMware vSphere 6 is what you need to stay up-to-date on VMware's industry-leading software for the virtualized datacenter.

Prepare to succeed at your VCDX panel defense and gain world-class knowledge for designing complex VMware environments VMware Certified Design Expert (VCDX) is the highest level of VMware certification, achieved by dedicated professionals who have demonstrated exceptional skill in VMware enterprise deployments. To earn a VCDX, professionals must create a complete enterprise VMware design and undergo an arduous defense at the hands of some of the world's most sophisticated VMware experts. Now, for the first time, there's a comprehensive guide to VCDX defense: VCDX Boot Camp. Based on the legendary standing-room-only boot camps led by VCDX co-creator John Arrasjid, this guide captures the unsurpassed personal experience of three pioneering VCDX certification holders, program developers, and defense panelists. John Arrasjid, Ben Lin, and Mostafa Khalil cover everything you need to know to prepare for certification. They demystify the entire VCDX defense process, clearly explain its format and prerequisites, and offer indispensable tips for maximizing your likelihood of success. Detailed chapters on both design and troubleshooting offer four complete scenarios explaining exactly what VCDX panelists will expect from your defense. Learn how to think like a VCDX, discovering powerful insights and best practices for designing your own world-class virtualized environment. Coverage includes • Authoritative preparation guidance (including expert insights into scheduling your preparation and defense) • Tips for conducting mock defenses, boot camps, and study sessions with your colleagues • How to select, create, and document a superior, defensible design • How to make design choices and incorporate design patterns that support the VCDX blueprint • How to confidently defend your skills in architecture, designing new solutions, and troubleshooting design or implementation flaws • Proven tips for responding to tough questions from panelists • Detailed example defenses of designs incorporating VCDX-DCV, VCDX-Cloud, and VCDX-DT vmwarepress.com vmware.com/go/vcdx

In today's hyper-connected society, understanding the mechanisms of trust is crucial. Issues of trust are critical to solving problems as diverse as corporate responsibility, global warming, and the political system. In this insightful and entertaining book, Schneier weaves together ideas from across the social and biological sciences to explain how society induces trust. He shows the unique role of trust in facilitating and stabilizing human society. He discusses why and how trust has evolved, why it works the way it does, and the ways the information society is changing everything.

This IBM® Redbooks® publication describes the IBM Storage Area Network and IBM SAN Volume Controller Stretched Cluster solution when combined with VMware. We describe guidelines, settings, and implementation steps necessary to achieve a satisfactory implementation. Business continuity and continuous application availability are among the top requirements for many organizations today. Advances in virtualization, storage, and networking have made enhanced business continuity possible. Information technology solutions can now be designed to manage both planned and unplanned outages, and the flexibility and cost efficiencies available from cloud computing models. IBM has designed a solution that offers significant functionality for maintaining business continuity in a VMware environment. This functionality provides the capability to dynamically move applications across data centers without interruption to those applications. The live application mobility across data centers relies on these products and technology: The industry-proven VMware Metro vMotion IBM System Storage® SAN Volume Controller Stretched Cluster solution A Layer 2 IP Network and storage networking infrastructure for high performance traffic management DC interconnect

The spiraling growth of digital information makes the ISM book a "must have" addition to your IT reference library. This exponential growth has driven information management technology to new levels of sophistication and complexity, exposing a skills gap that challenge IT managers and professionals alike. The ISM book, written by storage professionals from EMC Corporation, takes an 'open' approach to teaching information storage and management, focusing on concepts and principles – rather than product specifics – that can be applied in all IT environments The book enables existing and aspiring IT professionals, students, faculty, and those simply wishing to gain deeper insight to this emerging pillar of IT infrastructure to achieve a comprehensive understanding of all segments of information storage technology. Sixteen chapters are organized into four sections. Advanced topics build upon the topics learned in previous chapters. Section 1, "Information Storage and Management for Today's World": Four chapters cover information growth and challenges, define a storage system and its environment, review the evolution of storage technology, and introduce intelligent storage systems. Section 2, "Storage Options and Protocols": Six chapters cover the SCSI and Fibre channel architecture, direct-attached storage (DAS), storage area networks (SANs), network-attached storage (NAS), Internet Protocol SAN (IP-SAN), content-addressed storage (CAS), and storage virtualization. Section 3, "Business Continuity and Replication": Four chapters introduce business continuity, backup and recovery, local data replication, and remote data replication. Section 4, "Security and Administration": Two chapters cover storage security and storage infrastructure monitoring and management. The book's supplementary web site provides up-to-date information on additional learning aids and storage certification opportunities.

Understand and implement VMware Virtual SAN: the heart of tomorrow's Software-Defined Datacenter (SDDC) VMware's breakthrough Software-Defined Datacenter (SDDC) initiative can help you virtualize your entire datacenter: compute, storage, networks, and associated services. Central to SDDC is VMware Virtual SAN (VSAN): a fully distributed storage architecture seamlessly integrated into the hypervisor and capable of scaling to meet any enterprise storage requirement. Now, the leaders of VMware's wildly popular Virtual SAN previews have written the first authoritative guide to this pivotal technology. You'll learn what Virtual SAN is, exactly what it offers, how to implement it, and how to maximize its value. Writing for administrators, consultants, and architects, Cormac Hogan and Duncan Epping show how Virtual SAN implements both object-based storage and a policy platform that simplifies VM storage placement. You'll learn how Virtual SAN and vSphere work together to dramatically improve resiliency, scale-out storage functionality, and control over QoS. Both an up-to-the-minute reference and hands-on tutorial, Essential Virtual SAN uses realistic examples to demonstrate Virtual SAN's most powerful capabilities. You'll learn how to plan, architect, and deploy Virtual SAN successfully, avoid gotchas, and troubleshoot problems once you're up and running. Coverage includes Understanding the key goals and concepts of Software-Defined Storage and Virtual SAN technology Meeting physical and virtual requirements for safe Virtual SAN implementation Installing and configuring Virtual SAN for your unique environment Using Storage Policy Based Management to control availability, performance, and reliability Simplifying deployment with VM Storage Policies Discovering key Virtual SAN architectural details: caching I/O, VASA, witnesses, pass-through RAID, and more Ensuring efficient day-to-day Virtual SAN management and maintenance Interoperating with other VMware features and products Designing and sizing Virtual SAN clusters Troubleshooting, monitoring, and performance optimization

Implement flexible, efficient LISP-based overlays for cloud, data center, and enterprise The LISP overlay network helps organizations provide seamless connectivity to devices and workloads wherever they move, enabling open and highly scalable

networks with unprecedented flexibility and agility. LISP Network Deployment and Troubleshooting is the definitive resource for all network engineers who want to understand, configure, and troubleshoot LISP on Cisco IOS-XE, IOS-XR and NX-OS platforms. It brings together comprehensive coverage of how LISP works, how it integrates with leading Cisco platforms, how to configure it for maximum efficiency, and how to address key issues such as scalability and convergence. Focusing on design and deployment in real production environments, three leading Cisco LISP engineers present authoritative coverage of deploying LISP, verifying its operation, and optimizing its performance in widely diverse environments. Drawing on their unsurpassed experience supporting LISP deployments, they share detailed configuration examples, templates, and best practices designed to help you succeed with LISP no matter how you intend to use it. This book is the Cisco authoritative guide to LISP protocol and is intended for network architects, engineers, and consultants responsible for implementing and troubleshooting LISP network infrastructures. It includes extensive configuration examples with troubleshooting tips for network engineers who want to improve optimization, performance, reliability, and scalability. This book covers all applications of LISP across various environments including DC, Enterprise, and SP. Review the problems LISP solves, its current use cases, and powerful emerging applications Gain in-depth knowledge of LISP's core architecture and components, including xTRs, PxTRs, MR/MS, ALT, and control plane message exchange Understand LISP software architecture on Cisco platforms Master LISP IPv4 unicast routing, LISP IPv6 routing, and the fundamentals of LISP multicast routing Implement LISP mobility in traditional data center fabrics, and LISP IP mobility in modern data center fabrics Plan for and deliver LISP network virtualization and support multitenancy Explore LISP in the Enterprise multihome Internet/WAN edge solutions Systematically secure LISP environments Troubleshoot LISP performance, reliability, and scalability

Is this finally the year of the Virtual Desktop Infrastructure (VDI)? There doesn't seem to be a straight answer to that question. A VDI can be designed to work perfectly in your environment, but could also be a big pain in the butt. This guide will help you design a VMware Horizon VDI, based on the VMware Certified Design Expert (VCDX) methodology. It will help you understand what steps need to be taken to bring a project to a successful result. It contains examples of real-world design projects, requirements & constraints which will help you make the right decision in a great variety of scenarios. As sizing does matter, you will also be guided through the complete sizing process. Other topics that will be covered: Windows 10, multi-site architectures, NSX, vSAN, profile strategies, application delivery strategies, assessments, monitoring, security, GPUs, and remote protocols.

The IBM® FlashSystem 5015, 5035, and 5200 help you meet the challenges of rapid data growth while staying within limited IT budgets. These systems allow you to quickly consolidate, simplify, and optimize your IT infrastructure with an efficient, highly flexible, yet easy-to-use storage system with powerful virtualization features. This IBM Redpaper™ publication is intended for mid-market clients.

Annotation Thousands of organizations are virtualizing large-scale Oracle database systems. But, until now, reliable best practices have been hard to find, and database and virtualization professionals have often brought differing and incompatible perspectives to the challenge. Now, there's a comprehensive best practice guide reflecting deep understanding of both Oracle and vSphere, and supported by extensive in-the-field experience with the full spectrum of applications and environments.

This is the fundamental truth about data protection: backup is dead. Or rather, backup and recovery, as a standalone topic, no longer has relevance in IT. As a standalone topic, it's been killed off by seemingly exponential growth in storage and data, by the cloud, and by virtualization. So what is data protection? This book takes a holistic, business-based approach to data protection. It explains how data protection is a mix of proactive and reactive planning, technology and activities that allow for data continuity. It shows how truly effective data protection comes from a holistic approach considering the entire data lifecycle and all required SLAs. Data protection is neither RAID nor is it continuous availability, replication, snapshots or backups—it is all of them, combined in a considered and measured approach to suit the criticality of the data and meet all the requirements of the business. The book also discusses how businesses seeking to creatively leverage their IT investments and to drive through cost optimization are increasingly looking at data protection as a mechanism to achieve those goals. In addition to being a type of insurance policy, data protection is becoming an enabler for new processes around data movement and data processing. This book arms readers with information critical for making decisions on how data can be protected against loss in the cloud, on-premises, or in a mix of the two. It explains the changing face of recovery in a highly virtualized data center and techniques for dealing with big data.

Moreover, it presents a model for where data recovery processes can be integrated with IT governance and management in order to achieve the right focus on recoverability across the business.

Featuring the most current exploration of cyberlaw, CYBERLAW helps students understand the legal and policy issues associated with the Internet. Tackling a full range of legal topics, it includes discussion of jurisdiction, intellectual property, contracts, taxation, torts, computer crimes, online speech, defamation and privacy. Chapters include recent, relevant cases, discussion questions and exercises at the end of each chapter. Using a consistent voice and clear explanations, the author covers the latest developments in cyberlaw—from cases to legislation to regulations.

This IBM® Redbooks® publication addresses topics to help answer customers' complex high availability requirements to help maximize systems availability and resources, and provide documentation to transfer the how-to-skills to the worldwide sales and support teams. This publication helps strengthen the position of the IBM PowerHA® SystemMirror® solution with a well-defined and documented deployment models within an IBM Power Systems™ virtualized environment, providing customers a planned foundation for business resilient infrastructure solutions. This book describes documentation, and other resources available to help the technical teams provide business resilience solutions and support with the IBM PowerHA SystemMirror Standard and Enterprise Editions on IBM Power Systems. This publication targets technical professionals (consultants, technical support staff, IT Architects, and IT Specialists) responsible for providing high availability solutions and support with IBM PowerHA SystemMirror Standard and Enterprise Editions on IBM Power Systems.

The new edition of a bestseller, now revised and update throughout! This new edition of the unparalleled bestseller serves as a full training course all in one and as the world's largest data storage company, EMC is the ideal author for such a critical resource. They cover the components of a storage system and the different storage system models while also offering essential new material that explores the advances in existing technologies and the emergence of the "Cloud" as well as updates and vital information on new technologies. Features a separate section on emerging area of cloud computing Covers new technologies such as: data de-duplication, unified storage, continuous data protection technology, virtual provisioning, FCoE, flash drives, storage tiering, big data, and more Details storage models such as Network Attached Storage (NAS), Storage Area Network (SAN), Object Based Storage along with virtualization at various infrastructure components Explores Business Continuity and Security in physical and virtualized environment Includes an enhanced Appendix for additional information This authoritative guide is essential for getting up to speed on the newest advances in information storage and management. From small start-ups to major corporations, companies of all sizes have embraced cloud computing for the scalability, reliability, and cost

benefits it can provide. It has even been said that cloud computing may have a greater effect on our lives than the PC and dot-com revolutions combined. Filled with comparative charts and decision trees, Impleme

This book introduces Content-Centric Networking (CCN), a networking paradigm that provides a simple and effective solution to the challenging demands of future wired and wireless communications. It provides an overview of the recent developments in the area of future internet technologies, bringing together the advancements that have been made in Information-Centric Networking (ICN) in general, with a focus on CCN. It begins with an introduction to the basics of CCN is followed by an overview of the current internet paradigm and its challenges. Next, an application perspective has been included, where the authors encompass the selected applications for CCN with recent refereed research and developments. These applications include Internet of Things (IoT), Smart Grid, Vehicular Ad hoc Networks (VANETs), and Wireless Sensor Networks (WSNs). The book is a useful reference source for practising researchers, and can be used as supporting material for undergraduate and graduate level courses in computer science and electrical engineering.

Best practices, guidance, and tips for virtualizing Microsoft® business critical applications on the VMware vSphere® platform By virtualizing Microsoft's enterprise applications on vSphere, you can drive down costs while migrating toward flexible, low-cost private cloud architectures. This unique guidebook bridges the gap between the Microsoft and VMware worlds, bringing together the deep knowledge, cutting-edge best practices, and practical techniques you need to succeed. Leading experts Matt Liebowitz and Alex Fontana present end-to-end coverage of virtualizing Windows Server 2012 AD domain controllers and failover clusters, Exchange Server 2013, SQL Server 2012, and SharePoint Server 2013. They offer indispensable advice on sizing, architecture, performance, availability, monitoring, and metrics. Throughout, the authors share valuable tips, tricks, and insights from their own experiences. For each Microsoft application, they provide "proof of concept" sample configurations and clearly explain how new features impact virtualization. You'll also find authoritative, up-to-date guidance on licensing and other issues related to ensuring full support from both Microsoft and VMware. Coverage includes • Evaluating the benefits, risks, and challenges of virtualizing Microsoft business critical applications • Identifying strategies for success associated with people, processes, and technology • Reviewing VMware vSphere features most important to virtualizing business-critical applications • Taking advantage of new virtualization-aware features built in to Windows Server 2012 domain controllers • Designing and configuring vSphere High Availability (vSphere HA) clusters to run Windows enterprise applications • Reflecting Exchange Server 2013's new architecture to maximize its performance in virtualized environments • Leveraging new SQL Server 2012 features to simplify the delivery of high availability on virtual servers • Reducing SQL Server 2012 licensing costs through virtualization • Planning, designing, and deploying virtualized SharePoint Server 2013 environments

IBM® FlashSystem 9100 combines the performance of flash and Non-Volatile Memory Express (NVMe) with the reliability and innovation of IBM FlashCore® technology and the rich features of IBM Spectrum™ Virtualize — all in a powerful 2U storage system. Providing intensive data driven multi-cloud storage capacity, FlashSystem 9100 is deeply integrated with the software-defined capabilities of IBM Spectrum Storage™, which allows you to easily add the multi-cloud solutions that best support your business. In this IBM Redbooks® publication, we discuss the product's features and planning steps, architecture, installation, configuration, and hints and tips.

This IBM® Redbooks® Product Guide publication describes the IBM FlashSystem® 9200 solution, which is a comprehensive, all-flash, and NVMe-enabled enterprise storage solution that delivers the full capabilities of IBM FlashCore® technology. In addition, it provides a rich set of software-defined storage (SDS) features, including data reduction and de-duplication, dynamic tiering, thin-provisioning, snapshots, cloning, replication, data copy services, and IBM HyperSwap® for high availability (HA). Scale-out and scale-up configurations further enhance capacity and throughput for better availability.

Trust the best selling Official Cert Guide series from Cisco Press to help you learn, prepare, and practice for exam success. They are built with the objective of providing assessment, review, and practice to help ensure you are fully prepared for your certification exam. Master Cisco CCNA Cloud CLDFND 210-451 exam topics Assess your knowledge with chapter-opening quizzes Review key concepts with exam preparation tasks This is the eBook edition of the CCNA Cloud CLDFND 210-451 Official Cert Guide. This eBook does not include the practice exams that comes with the print edition. CCNA Cloud CLDFND 210-451 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. CCNA Cloud CLDFND 210-451 Official Cert Guide focuses specifically on the objectives for the Cisco CCNA CLDFND 210-451 exam. Leading data center network architect Gustavo A.A. Santana shares preparation hints and test-taking tips, helping you identify areas of weakness and improve both your conceptual knowledge and hands-on skills. Material is presented in a concise manner, focusing on increasing your understanding and retention of exam topics. Well-regarded for its level of detail, assessment features, comprehensive design scenarios, and challenging review questions and exercises, this official study guide helps you master the concepts and techniques that will enable you to succeed on the exam the first time. The official study guide helps you master all the topics on the CCNA CLDFND exam, including: Cloud characteristics Cloud service models (IaaS, SaaS, PaaS) Cloud deployment (public, private, community, hybrid) Cisco Intercloud Solution Cloud Compute (Cisco UCS) Cloud Networking (DC network architectures, infrastructure virtualization) Cloud Storage basics (provisioning, access, concepts, devices, infrastructures) CCNA Cloud CLDFND 210-451 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 <http://www.cisco.com/web/learning/index.html>

Edward L. Haletky's Complete, Solutions-Focused Guide to Running ESX Server 3.5, vSphere, and VMware 4.x Extensively updated and revised, this is the definitive real-world guide to planning, deploying, and managing VMware ESX Server 3.5, VMware vSphere Hypervisor (ESXi), or VMware vSphere 4.x cloud computing in mission-critical environments. Drawing on his extensive experience consulting on enterprise VMware implementations, renowned expert Edward L. Haletky offers a "soup-to-nuts" collection of field-tested best practices and solutions. He illuminates the real benefits, issues, tradeoffs, and pitfalls associated with VMware's newest platforms, using real-world examples that draw upon both VMware and third-party products. This edition features detailed coverage of new vSphere features such as Storage IO Control, Network IO Control, Load-Based Teaming, Distributed Virtual Switches, ESXi, hardware and processors, and a significantly expanded discussion of auditing and monitoring. Haletky offers new or enhanced coverage of VM Hardware, virtual networking, VMsafe, and more. All new coverage is thoroughly integrated into Haletky's insightful discussion of the entire lifecycle: planning, installation, templates, monitoring, tuning, clustering, security, disaster recovery, and more. Haletky consistently presents the most efficient procedures, whether they use graphical tools or the command line. You'll learn how to: • Assess VMware datacenter and infrastructure hardware requirements • Understand technical, licensing, and management differences between ESX/ESXi 3.5 and 4.x • Plan installation for your environment and identify potential "gotchas" • Select, configure, utilize, and support storage cost-effectively • Manage key operational issues associated with virtual infrastructure • Adapt existing network and security

infrastructure to virtualization • Configure ESX from host connections • Configure ESX Server from Virtual Centers or hosts • Create, modify, and manage VMs (with detailed Windows, Linux, and NetWare examples) • Troubleshoot VM issues with eDirectory, private labs, firewalls, and clusters • Utilize vSphere 4.1's improved Dynamic Resource Load Balancing (DRLB) • Implement disaster recovery, business continuity, and backup • Plan for vApps and the future of virtualization VMware ESX and ESXi in the Enterprise has long been the definitive single-source guide to VMware planning, deployment, and management. For today's VMware architects, administrators, and managers, this edition will be even more valuable.

Continuing its commitment to developing and delivering industry-leading storage technologies, IBM® introduces Data Reduction Pools (DRP) and Deduplication powered by IBM Spectrum™ Virtualize, which are innovative storage features that deliver essential storage efficiency technologies and exceptional ease of use and performance, all integrated into a proven design. This book discusses Data Reduction Pools (DRP) and Deduplication and is intended for experienced storage administrators who are fully familiar with IBM Spectrum Virtualize, SAN Volume Controller, and the Storwize family of products.

From the author of the vSphere Clustering Deep Dive series - The VMware vSphere 6.5 Host Resources Deep Dive is a guide to building consistent high-performing ESXi hosts. A book that people can't put down. Written for administrators, architects, consultants, aspiring VCDX-es and people eager to learn more about the elements that control the behavior of CPU, memory, storage and network resources. This book shows that we can fundamentally and materially improve the systems we're building. We can make the currently running ones consistently faster by deeply understanding and optimizing our systems. The reality is that specifics of the infrastructure matter. Details matter. Especially for distributed platforms which abstract resource layers, such as NSX and vSAN. Knowing your systems inside and out is the only way to be sure you've properly handled those details. It's about having a passion for these details. It's about loving the systems we build. It's about understanding them end-to-end. This book explains the concepts and mechanisms behind the physical resource components and the VMkernel resource schedulers, which enables you to: Optimize your workload for current and future Non-Uniform Memory Access (NUMA) systems. Discover how vSphere Balanced Power Management takes advantage of the CPU Turbo Boost functionality, and why High Performance does not. How the 3-DIMMs per Channel configuration results in a 10-20% performance drop. How TLB works and why it is bad to disable large pages in virtualized environments. Why 3D XPoint is perfect for the vSAN caching tier. What queues are and where they live inside the end-to-end storage data paths. Tune VMkernel components to optimize performance for VXLAN network traffic and NFV environments. Why Intel's Data Plane Development Kit significantly boosts packet processing performance.

Stanbury Hill, remote but two hours' walk from a region blasted with mine and factory and furnace, shelters with its western slope a fair green valley, a land of meadows and orchard, untouched by poisonous breath. At its foot lies the village of Wanley. The opposite side of the hollow is clad with native wood, skirting for more than a mile the bank of a shallow stream, a tributary of the Severn. Wanley consists in the main of one long street; the houses are stone-built, with mullioned windows, here and there showing a picturesque gable or a quaint old chimney. The oldest buildings are four cottages which stand at the end of the street; once upon a time they formed the country residence of the abbots of Belwick. The abbey of that name still claims for its ruined self a portion of earth's surface; but, as it had the misfortune to be erected above the thickest coal-seam in England, its walls are blackened with the fume of collieries and shaken by the strain of mighty engines. Climb Stanbury Hill at nightfall, and, looking eastward, you behold far off a dusky ruddiness in the sky, like the last of an angry sunset; with a glass you can catch glimpses of little tongues of flame, leaping and quivering on the horizon. That is Belwick. The good abbots, who were wont to come out in the summer time to Wanley, would be at a loss to recognise their consecrated home in those sooty relics. Belwick, with its hundred and fifty fire-vomiting blast-furnaces, would to their eyes more nearly resemble a certain igneous realm of which they thought much in their sojourn upon earth, and which, we may assure ourselves, they dream not of in the quietness of their last long sleep. A large house, which stands aloof from the village and a little above it, is Wanley Manor. The county history tells us that Wanley was given in the fifteenth century to that same religious foundation, and that at the dissolution of monasteries the Manor passed into the hands of Queen Catherine. The house is half-timbered; from the height above it looks old and peaceful amid its immemorial trees. Towards the end of the eighteenth century it became the home of a family named Eldon, the estate including the greater part of the valley below. But an Eldon who came into possession when William IV. was King brought the fortunes of his house to a low ebb, and his son, seeking to improve matters by abandoning his prejudices and entering upon commercial speculation, in the end left a widow and two boys with little more to live upon than the income which arose from Mrs. Eldon's settlements. The Manor was shortly after this purchased by a Mr. Mutimer, a Belwick ironmaster; but Mrs. Eldon and her boys still inhabited the house, in consequence of certain events which will shortly be narrated. Wanley would have mourned their departure; they were the aristocracy of the neighbourhood, and to have them ousted by a name which no one knew, a name connected only with blast-furnaces, would have made a distinct fall in the tone of Wanley society. Fortunately no changes were made in the structure by its new owner. Not far from it you see the church and the vicarage, these also unmolested in their quiet age. Wanley, it is to be feared, lags far behind the times-painfully so, when one knows for a certainty that the valley upon which it looks conceals treasures of coal, of ironstone-blackband, to be technical-and of fireclay. Some ten years ago it seemed as if better things were in store; there was a chance that the vale might for ever cast off its foolish greenery, and begin vomiting smoke and flames in humble imitation of its metropolis beyond the hills. There are men in Belwick who have an angry feeling whenever Wanley is mentioned to them.

Motion graphics are no longer just for movie and television screens. You now see motion graphics anywhere there's a

moving image, including your desktop web browser, your smartphone, and on digital signage when you shop or travel. Creating motion graphics with Adobe After Effects can enhance your value as a creative professional. Learn Adobe After Effects CC by building cool creative projects that teach you how to: Apply and customize effects and layer styles, and use animation presets to apply pre-built animations and effect combinations Achieve advanced effects quickly using techniques such as green screen background removal, masking, speed changes, motion tracking, and animation in 3D space Animate individual layers of still graphics imported from Adobe Photoshop and Adobe Illustrator Animate text, including changing type size, letter spacing, rotation, and color over time, and flowing text along a path Create a set of visually consistent intro videos for a social media platform, while practicing efficient production techniques Export a motion graphics composition once and render multiple versions for different delivery media (such as television, web sites, and smartphones) This study guide uses over 7 hours of video integrated with text to help you gain real-world skills that will get you started in your career in motion graphics. It lays the foundation for taking the Adobe Certified Associate (ACA) certification exam and helps prepare you for an entry-level position in a competitive job market.

Offers information on cloud theory and strategies and includes information on how to build and deliver a private cloud using VMware vCloud Director 5.1.

In *Super Snipers*, the editors of *Soldier of Fortune* show readers the ways of the expert sniper in forty stories from those who have mastered the craft. Becoming an elite sniper involves more than learning how to shoot. Snipers need to know how to judge terrain, wind, and sometimes even the curve of the Earth. They train their eyes to spot enemy movement in the distance and to never hesitate. A sniper is more than a finger behind a trigger; he is a scout, a scientist, a strategist, and the support group for a platoon. *Super Snipers* brings you into the world of some of the most accomplished snipers. From Finland to Iraq, Korea to Somalia, *Soldier of Fortune* magazine provides forty stories directly from the eyes and minds of the snipers who made the kills. These trained marksmen describe their method of calculating, aiming, and taking the perfect shot, all the way down to the type of chewing tobacco they prefer. Some of the super snipers in this collection include: Chris Kyle (American Sniper) Major Charles Greene Sergeant Dan Mills Gunnery Sergeant Jack Coughlin Robert K. Brown And many more! Every sniper—just like every situation that calls for a sniper—is unique, and *Super Snipers* will show you every step of the way, as you find the target, narrow the scope, and take the shot.

The IBM HyperSwap® high availability (HA) function allows business continuity in a hardware failure, power failure, connectivity failure, or disasters, such as fire or flooding. It is available on the IBM SAN Volume Controller and IBM FlashSystem products. This IBM Redbooks publication covers the preferred practices for implementing Cisco VersaStack with IBM HyperSwap. The following are some of the topics covered in this book: Cisco Application Centric Infrastructure to showcase Cisco's ACI with Nexus 9Ks Cisco Fabric Interconnects and Unified Computing System (UCS) management capabilities Cisco Multilayer Director Switch (MDS) to showcase fabric channel connectivity Overall IBM HyperSwap solution architecture Differences between HyperSwap and Metro Mirroring, Volume Mirroring, and Stretch Cluster Multisite IBM SAN Volume Controller (SVC) deployment to showcase HyperSwap configuration and capabilities This book is intended for pre-sales and post-sales technical support professionals and storage administrators who are tasked with deploying a VersaStack solution with IBM HyperSwap.

Today's global organizations depend on being able to unlock business insights from massive volumes of data. Now, with IBM® FlashSystem 900, powered by IBM FlashCore™ technology, they can make faster decisions based on real-time insights and unleash the power of the most demanding applications, including online transaction processing (OLTP) and analytics databases, virtual desktop infrastructures (VDIs), technical computing applications, and cloud environments. This IBM Redbooks® publication introduces clients to the IBM FlashSystem® 900. It provides in-depth knowledge of the product architecture, software and hardware, implementation, and hints and tips. Also illustrated are use cases that show real-world solutions for tiering, flash-only, and preferred-read, and also examples of the benefits gained by integrating the FlashSystem storage into business environments. This book is intended for pre-sales and post-sales technical support professionals and storage administrators, and for anyone who wants to understand how to implement this new and exciting technology. This book describes the following offerings of the IBM Spectrum™ Storage family: IBM Spectrum Storage™ IBM Spectrum Control™ IBM Spectrum Virtualize™ IBM Spectrum Scale™ IBM Spectrum Accelerate™

The Fibre Channel Association is a group of companies involved in developing devices and technologies used with Fibre Channel, a very high-speed bus technology capable of bi-directional data transfer at rates in excess of one gigabit per second. Describes how to use Fibre Channel technology to connect between storage devices and network servers for maximum data transfer Authoring association is a group of companies involved in developing devices and technologies used with Fibre Channel Discusses cutting edge technology capable of bi-directional data transfer at rates in excess of one gigabit per second

DevNet Associate DEVASC 200-901 Official Certification Guide is Cisco's official, comprehensive self-study resource for Cisco's DEVASC 200-901 exam: your pathway to the DevNet Associate Certification demonstrating your knowledge of application development and automation on Cisco platforms. Written by Cisco experts based on Cisco's own internal training, it clearly explains the value of each technique, presents realistic use cases, introduces solution components, illuminates their inner workings, and shows how to execute on what you've learned in practice. Designed for all Cisco DevNet Associate candidates, it covers every DEVASC 200-901 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 This guide offers comprehensive, up-to-date coverage of all DEVASC 200-901 topics related to: Software development and design Understanding and using APIs Cisco platforms and development Application deployment and security Infrastructure and automation Network fundamentals

This IBM® Redpaper® publication provides a broad understanding of a new architecture of the IBM Power® E1080 (also known as the Power E1080) server that supports IBM AIX®, IBM i, and selected distributions of Linux operating systems. The objective of

this paper is to introduce the Power E1080, the most powerful and scalable server of the IBM Power portfolio, and its offerings and relevant functions: Designed to support up to four system nodes and up to 240 IBM Power10™ processor cores The Power E1080 can be initially ordered with a single system node or two system nodes configuration, which provides up to 60 Power10 processor cores with a single node configuration or up to 120 Power10 processor cores with a two system nodes configuration. More support for a three or four system nodes configuration is to be added on December 10, 2021, which provides support for up to 240 Power10 processor cores with a full combined four system nodes server. Designed to supports up to 64 TB memory The Power E1080 can be initially ordered with the total memory RAM capacity up to 8 TB. More support is to be added on December 10, 2021 to support up to 64 TB in a full combined four system nodes server. Designed to support up to 32 Peripheral Component Interconnect® (PCIe) Gen 5 slots in a full combined four system nodes server and up to 192 PCIe Gen 3 slots with expansion I/O drawers The Power E1080 supports initially a maximum of two system nodes; therefore, up to 16 PCIe Gen 5 slots, and up to 96 PCIe Gen 3 slots with expansion I/O drawer. More support is to be added on December 10, 2021, to support up to 192 PCIe Gen 3 slots with expansion I/O drawers. Up to over 4,000 directly attached serial-attached SCSI (SAS) disks or solid-state drives (SSDs) Up to 1,000 virtual machines (VMs) with logical partitions (LPARs) per system System control unit, providing redundant system master Flexible Service Processor (FSP) Supports IBM Power System Private Cloud Solution with Dynamic Capacity This publication is for professionals who want to acquire a better understanding of Power servers. The intended audience includes the following roles: Customers Sales and marketing professionals Technical support professionals IBM Business Partners Independent software vendors (ISVs) This paper does not replace the current marketing materials and configuration tools. It is intended as an extra source of information that, together with existing sources, can be used to enhance your knowledge of IBM server solutions.

Wield the power of OpenStack Neutron networking to bring network infrastructure and capabilities to your cloud About This Book This completely up-to-date edition will show you how to deploy a cloud on OpenStack using community-driven processes. It includes rich examples that will help you understand complex networking topics with ease Understand every aspect of designing, creating, customizing, and maintaining the core network foundation of an OpenStack cloud using OpenStack Neutron all in one book Written by best-selling author James Denton, who has more than 15 years of experience in system administration and networking. James has experience of deploying, operating, and maintaining OpenStack clouds and has worked with top enterprises and organizations Who This Book Is For If you are an OpenStack-based cloud operator and administrator who is new to Neutron networking and wants to build your very own OpenStack cloud, then this book is for you. Prior networking experience and a physical server and network infrastructure is recommended to follow along with concepts demonstrated in the book. What You Will Learn Architect and install the latest release of OpenStack on Ubuntu Linux 14.04 LTS Review the components of OpenStack networking, including plugins, agents, and services, and learn how they work together to coordinate network operations Build a virtual switching infrastructure using reference architectures based on ML2 + Open vSwitch or ML2 + LinuxBridge Create networks, subnets, and routers that connect virtual machine instances to the network Deploy highly available routers using DVR or VRRP-based methods Scale your application with haproxy and Load Balancing as-a-Service Implement port and router-level security using Security Groups and Firewall as-a-Service Provide connectivity to tenant networks with Virtual Private Networking as-a-Service (VPNaaS) Find out how to manage OpenStack networking resources using CLI and GUI-driven methods In Detail OpenStack Neutron is an OpenStack component that provides networking as a service for other OpenStack services to architect networks and create virtual machines through its API. This API lets you define network connectivity in order to leverage network capabilities to cloud deployments. Through this practical book, you will build a strong foundational knowledge of Neutron, and will architect and build an OpenStack cloud using advanced networking features. We start with an introduction to OpenStack Neutron and its various components, including virtual switching, routing, FWaaS, VPNaaS, and LBaaS. You'll also get hands-on by installing OpenStack and Neutron and its components, and use agents and plugins to orchestrate network connectivity and build a virtual switching infrastructure. Moving on, you'll get to grips with the HA routing capabilities utilizing VRRP and distributed virtual routers in Neutron. You'll also discover load balancing fundamentals, including the difference between nodes, pools, pool members, and virtual IPs. You'll discover the purpose of security groups and learn how to apply the security concept to your cloud/tenant/instance. Finally, you'll configure virtual private networks that will allow you to avoid the use of SNAT and floating IPs when connecting to remote networks. Style and approach This easy-to-follow guide on networking in OpenStack follows a step-by-step process to installing OpenStack and configuring the base networking components. Each major networking component has a dedicated chapter that will build on your experience gained from prior chapters.

This handy pocket reference offers a concise, constant-use guide to addressing the most common reasons for compliance failure. For working engineers or technicians, it's an essential guide to thwarting electromagnetic interference.

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