# Emc Symmetrix Vmax Administration Guide

When you hear IBM® Tivoli® Storage Manager, the first thing that you typically think of is data backup. Tivoli Storage Manager is the premier storage management solution for mixed platform environments. Businesses face a tidal wave of information and data that seems to increase daily. The ability to successfully and efficiently manage information and data has become imperative. The Tivoli Storage Manager family of products helps businesses successfully gain better control and efficiently manage the information tidal wave through significant enhancements in multiple facets of data protection. Tivoli Storage Manager is a highly scalable and available data protection solution. It takes data protection scalability to the next level with a relational database, which is based on IBM DB2® technology. Greater availability is delivered through enhancements such as online, automated database reorganization. This IBM Redbooks® publication describes the evolving set of data-protection challenges and how capabilities in Tivoli Storage Manager can best be used to address those challenges. This book is more than merely a description of new and changed functions in Tivoli Storage Manager; it is a guide to use for your overall data protection solution.

Combines selected philosophical passages from Thomas' "Summa Theologica" with detailed footnotes and explanations for modern readers. This IBM® Redbook captures some of the best practices based on field experience and details the performance gains that can be achieved by implementing the IBM System StorageTM SAN Volume Controller. This book is intended for very experienced storage, SAN, and SVC administrators and technicians. Readers are expected to have an advanced knowledge of the SVC and SAN environment, and we recommend these books as background reading: IBM System Storage SAN Volume Controller, SG24-6423 Introduction to Storage Area Networks, SG24-5470 Using the SVC for Business Continuity, SG24-7371. Enterprise Network Testing Testing Throughout the Network Lifecycle to Maximize Availability and Performance Andy Sholomon, CCIE® No. 15179 Tom Kunath, CCIE No. 1679 The complete guide to using testing to reduce risk and downtime in advanced enterprise networks Testing has become crucial to meeting enterprise expectations of near-zero network downtime. Enterprise Network Testing is the first comprehensive guide to all facets of enterprise network testing. Cisco enterprise consultants Andy Sholomon and Tom Kunath offer a complete blueprint and best-practice methodologies for testing any new network system, product, solution, or advanced technology. Sholomon and

Kunath begin by explaining why it is important to test and how network professionals can leverage structured system testing to meet specific business goals. Then, drawing on their extensive experience with enterprise clients, they present several detailed case studies. Through real-world examples, you learn how to test architectural "proofs of concept," specific network features, network readiness for use, migration processes, security, and more. Enterprise Network Testing contains easy-to-adapt reference test plans for branches, WANs/MANs, data centers, and campuses. The authors also offer specific guidance on testing many key network technologies, including MPLS/VPN, QoS, VoIP, video, IPsec VPNs, advanced routing (OSPF, EIGRP, BGP), and Data Center Fabrics. § Understand why, when, and how you should test your network § Use testing to discover critical network design flaws § Incorporate structured systems testing into enterprise architecture strategy § Utilize testing to improve decision-making throughout the network lifecycle § Develop an effective testing organization and lab facility § Choose and use test services providers § Scope, plan, and manage network test assignments § nLeverage the best commercial, free, and IOS test tools § Successfully execute test plans, including crucial low-level details § Minimize the equipment required to test large-scale networks § Identify gaps in network readiness § Validate and refine device configurations § Certify new

hardware, operating systems, and software features § Test data center performance and scalability § Leverage test labs for hands-on technology training 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 captures several of the preferred practices and describes the performance gains that can be achieved by implementing the IBM System Storage® SAN Volume Controller and IBM Storwize® V7000 powered by IBM Spectrum VirtualizeTM V8.2.1. 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 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 SAN Volume Controller and Storwize V7000. This book is intended for experienced storage, SAN, and SAN Volume Controller administrators and technicians. Understanding his book requires advanced knowledge of the SAN Volume Controller and

Storwize V7000 and SAN environments. Important: On 11th February 2020 IBM announced the arrival of SAN Volume Controller SA2 and SV2, and IBM FlashSystem® 7200 to the family. This book was written specifically for prior versions of SVC and Storwize V7000; however, most of the general principles will apply. If you are in any doubt as to their applicability then you should work with your local IBM representative. This book will be updated to comprehensively include SAN Volume Controller SA2 and SV2 and FlashSystem 7200 in due course.

Compact and portable reference guide for quick answers to VMware vSphere If you're looking to migrate to the newest version of VMware vSphere, this concise guide will get you up to speed and down to business in no time. If you're new to VMware vSphere, this book is for you too! The compact size of this quick reference makes it easy for you to have by your side—whether you're in the field, server room, or at your desk. Helpful elements for finding information such as thumb tabs, tables of contents with page numbers at the beginning of each chapter, and special headers puts what you need at your fingertips, fast. No matter your skill level, this book's focus on essential day-to-day tasks for administering vSphere make it a handy reference for anyone. Covers the highly anticipated release of VMware vSphere Allows you to hit the ground running with

the latest VMware vSphere software Provides you answers on the spot with concise, no-nonsense instruction Designed for busy IT professionals, this instant reference is the perfect go-to resource.

This IBM® Redbooks publication is a comprehensive guide that covers the IBM AIX® operating system (OS) layout capabilities, distinct features, system installation, and maintenance, which includes AIX security, trusted environment, and compliance integration, with the benefits of IBM Power Virtualization Management (PowerVM®) and IBM Power Virtualization Center (IBM PowerVC), which includes cloud capabilities and automation types. The objective of this book is to introduce IBM AIX modernization features and integration with different environments: General AIX enhancements AIX Live Kernel Update individually or using Network Installation Manager (NIM) AIX security features and integration AIX networking enhancements PowerVC integration and features for cloud environments AIX deployment using IBM Terraform and IBM Cloud Automation Manager AIX automation that uses configuration management tools PowerVM enhancements and features Latest disaster recovery (DR) solutions AIX Logical Volume Manager (LVM) and Enhanced Journaled File System (JFS2) AIX installation and maintenance techniques

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. This textbook offers an exhaustive, step-by-step guide through the powerful features of the Oracle Business Intelligence (BI) product suite. One will learn the concepts, methods and techniques for building sophisticated data analytic modules. Analytic results are then organized into interactive dashboards. A solid foundation is laid for one to progress onto the latest and most advanced data analytic capabilities. The following specific topics are included in this guide book: Background discussion of data warehousing, business intelligence (BI) and data analytics presented in a form that business professionals can readily understand; Background concepts regarding logical data models, star schema and snowflake schema warehouse models; How to build analytical models using fact tables, dimensions, dimension hierarchies, cubes, measures and other multidimensional data model objects; Use interactive Dashboards to analyze data, uncover trends and make strategic business decisions; Export BI results to productivity software such as Microsoft Office or other external systems;

Design customized Dashboards to reflect an individual's role, perspective or business interest; Creating data analyses and dynamically interact with results produced from Oracle BI; Format analyses using sorts, filters and prompts; Format column output, subtotaling, customization of column properties and transforming column data using formulas; Create results with compound layouts, including views such as tabular, chart, pivot table, gauge and others; Manage content, permissions and access within the Presentation Catalog. This textbook includes dozens of learning exercises, with detailed point-and-click solutions also provided.

The IBM® DB2® pureScale® feature offers clustering technology that helps deliver high availability and exceptional scalability transparent to applications. The DB2 pureScale feature helps you to meet your business needs around availability and scalability, and is also easy to configure and administer. This IBM Redbooks® publication addresses the DB2 pureScale feature that is available in IBM DB2 10.1 for Linux, UNIX, and Windows operating systems. It can help you build skills and deploy the DB2 pureScale feature. This book bundles all the information necessary for a in-depth analysis into the functions of the DB2 pureScale feature, including the actual hardware requirements. It includes validated step-by-step hardware and software installation instructions. In addition, this book provides detailed examples about how to work effectively with a DB2 pureScale cluster and how to plan and run an upgrade for all DB2 related components to DB2 10.1. This book is intended for database

administrators (DBAs) who use IBM DB2 10.1 for Linux, UNIX, and Windows operating systems who want to explore and get started with the DB2 pureScale feature.

This IBM® Redbooks® publication describes the IBM storage area network (SAN) and IBM SpectrumTM Virtualize, and SAN Volume Controller Enhanced Stretched Cluster configuration when combined with VMware. It describe guidelines, settings, and implementation steps necessary to achieve a satisfactory implementation. Business continuity and continuous availability of applications are among the top requirements for many organizations today. Advances in virtualization, storage, and networking make enhanced business continuity possible. Information technology solutions can now be designed to manage both planned and unplanned outages, and to take advantage of the flexibility, efficient use of resources, and cost savings that cloud computing offers. The IBM Enhanced Stretched Cluster design offers significant functions for maintaining business continuity in a VMware environment. You can dynamically move applications across data centers without interruption to those applications. The live application mobility across data centers relies on these products and technologies: IBM Spectrum Virtualize and SAN Volume Controller Enhanced Stretched Cluster Solution VMware Metro vMotion for live migration of virtual machines A Layer 2 IP Network and storage networking infrastructure for high-performance traffic management Data center interconnection

This IBM Redbooks® Product Guide gives an overview of the features and functions

that are available with the IBM DS8880 models running microcode Release 8.51 (DS8000 License Machine Code 8.8.51.xx.xx). The IBM DS8880 architecture relies on powerful IBM POWER8® processor-based servers that manage the cache to streamline disk input/output (I/O), maximizing performance and throughput. These capabilities are further enhanced with the availability of the second generation of high-performance flash enclosures (HPFE Gen-2). The IBM DS8888, DS8886, and DS8884 models excel at supporting the IBM Z Enterprise server and IBM Power server environments, offering many synergy features.

A basic guide to learn Design and Programming of operating system in depth DESCRIPTION An operating system is an essential component of computers, laptops, smartphones and any other devices that manages the computer hardware. This book is a complete textbook that includes theory, implementation, case studies, a lot of review questions, questions from GATE and some smart tips. Many examples and diagrams are given in the book to explain the concepts. It will help increase the readability and understand the concepts. The book is divided into 11 chapters. It describe the basics of an operating system, how it manages the computer hardware, Application Programming interface, compiling, linking, and loading. It talks about how communication takes place between two processes, the different methods of communication, the synchronization between two processes, and modern tools of synchronization. It covers deadlock and various methods to handle deadlock. It also

describes the memory and virtual memory organization and management, file system organization and implementation, secondary storage structure, protection and security. KEY FEATURES Easy to read and understand Covers the topic in-depth Good explanation of concepts with relevant diagrams and examples Contains a lot of review questions to understand the concepts Clarification of concepts using case studies The book will help to achieve a high confidence level and thus ensure high performance of the reader WHAT WILL YOU LEARN The proposed book will be very simple to read, understand and provide sound knowledge of basic concepts. It is going to be a complete book that includes theo implementation, case studies, a lot of review questions, questions from GATE and some smart tips. WHO THIS BOOK IS FOR BCA, BSc (IT/CS), MTech (IT/CSE), BTech (CSE/IT), MBA (IT), MCA, BBA (CAM), DOEACC, MSc (IT/CS/SE), MPhil, PGDIT, PGDBM. Table of Contents 1. Introduction and Structure of an Operating System 2. Operating System Services 3. Process Management 4. Inter Process Communication and Process Synchronization 5. Deadlock 6. Memory Organization and Management 7. Virtual Memory Organization 8. File System Organization and Implementation 9. Secondary Storage Structure 10. Protection and Security 11. Case Study

This book presents the most interesting talks given at ISSE 2011 – the forum for the inter-disciplinary discussion of how to adequately secure electronic business processes. The topics include: - Cloud Computing & Enterprise Security Services -

Awareness, Education, Privacy & Trustworthiness - Smart Grids, Mobile & Wireless Security - Security Management, Identity & Access Management - eID & eGovernment - Device & Network Security Adequate information security is one of the basic requirements of all electronic business processes. It is crucial for effective solutions that the possibilities offered by security technology can be integrated with the commercial requirements of the applications. The reader may expect state-of-the-art: best papers of the Conference ISSE 2011.

How would you assemble a machine that can be creative, what would its cogs be? Starting from how humans do creative problem solving, the author has developed a framework to explore whether a diverse set of creative problem-solving tasks can be solved computationally using a unified set of principles. In this book she describes the implementation of related prototype AI systems, and the computational and empirical experiments conducted. The book will be of interest to researchers, graduate students, and laypeople engaged with ideas in artificial intelligence, cognitive science, and creativity.

5 Day Selection Process or SSB Interview held by Services Selection Board helps to assess complete personality of the candidates and recommends deserving ones for commission to Indian Armed Forces. Get Success in SSB Interviews in its revised edition for 2018 gives insight into the procedure adapted at Services Selection Board (SSB) to examine all Officers' Like Qualities (OLQs) in candidates. Taking small steps

to preparation the book presents required information through content, diagrams and illustrations in a streamlined day wise procedure for candidates appearing in SSB interviews. The book gives a special coverage on Lecturette & Group Discussion taking a step further to help aspirants in honing their soft skills for success in SSB.

ITIL® 4 Direct, Plan and Improve (DPI) is a study guide designed to help students pass the ITIL® 4 Direct, Plan and Improve module. It provides students with the information they need to pass the exam, and help them become a successful practitioner, with additional guidance throughout which they can lean on once their training and exam are over.

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.

This IBM® Redbooks® publication provides advice and technical information about optimizing and tuning application code to run on systems that are based on the IBM POWER7® and POWER7+TM processors. This advice is drawn from application optimization efforts across many different types of code that runs under the IBM AIX® and Linux operating systems, focusing on the more pervasive performance opportunities that are identified, and how to capitalize on them. The technical information was developed by a set of domain experts at IBM. The focus of this book is to gather the right technical information, and lay out simple guidance for optimizing code performance on the IBM POWER7 and POWER7+ systems that run the AIX or Linux operating systems. This book contains a large amount of straightforward performance optimization that can be performed with minimal effort and without previous experience or in-depth knowledge. This optimization work can: Improve the performance of the application that is being optimized for the POWER7 system Carry over improvements to systems that are based on related processor chips Improve performance on other platforms The audience of this book is those personnel who are responsible for performing migration and implementation activities on IBM POWER7-based servers, which includes system administrators, system architects, network administrators, information architects, and database administrators (DBAs).

This IBM® RedpaperTM publication is a comprehensive guide that covers the IBM Power SystemsTM LC921 and LC922 (9006-12P and 9006-22P)) servers that use the current IBM POWER9TM processor-based technology and supports Linux operating systems (OSes). The objective of this paper is to introduce the offerings and their capacities and available features.

These new Linux scale-out systems provide differentiated performance, scalability, and low acquisition cost, and include the following features: Superior throughput and performance for high-value Linux workloads. Low acquisition cost through system optimization (industry-standard memory and industry-standard three-year warranty). Rich I/O options in the system unit. There are 12 large form factor (LFF)/small form factor (SFF) bays for 12 SAS/SATA hard disk drives (HDDs) or solid-state drives (SSDs), and four bays that are available for Non-Volatile Memory Express (NVMe) Gen3 adapters. Includes Trusted Platform Module (TPM) 2.0 Nuvoton NPCT650ABAWX through I2C (for secure boot and trusted boot). Integrated MicroSemi PM8069 SAS/SATA 16-port Internal Storage Controller Peripheral Component Interconnect Express (PCIe) 3.0 x8 with RAID 0, 1, 5, and 10 support (no write cache). Integrated Intel XL710 Quad Port 10 GBase-T PCIe 3.0 x8 UIO built-in local area network (LAN) (one shared management port). Dedicated 1 Gb Intelligent Platform Management Interface (IPMI) port. This publication is for professionals who want to acquire a better understanding of IBM Power Systems products. The intended audience includes: Clients Sales and marketing professionals Technical support professionals IBM Business Partners Independent software vendors (ISVs)

The inside guide to the next generation of data storage technology VMware Software-Defined Storage, A Guide to the Policy Driven, Software-Defined Storage Era presents the most in-depth look at VMware's next-generation storage technology to help solutions architects and operational teams maximize quality storage design. Written by a double VMware Certified Design Expert, this book delves into the design factors and capabilities of Virtual SAN and Virtual Volumes to provide a uniquely detailed examination of the software-defined storage

model. Storage-as-a-Service (STaaS) is discussed in terms of deployment through VMware technology, with insight into the provisioning of storage resources and operational management, while legacy storage and storage protocol concepts provide context and demonstrate how Virtual SAN and Virtual Volumes are meeting traditional challenges. The discussion on architecture emphasizes the economies of storage alongside specific design factors for next-generation VMware based storage solutions, and is followed by an example in which a solution is created based on the preferred option identified from a selection of cross-site design options. Storage hardware lifecycle management is an ongoing challenge for IT organizations and service providers. VMware is addressing these challenges through the software-defined storage model and Virtual SAN and Virtual Volumes technologies; this book provides unprecedented detail and expert guidance on the future of storage. Understand the architectural design factors of VMware-based storage Learn best practices for Virtual SAN stretched architecture implementation Deploy STaaS through vRealize Automation and vRealize Orchestrator Meet traditional storage challenges with next-generation storage technology Virtual SAN and Virtual Volumes are leading the way in efficiency, automation, and simplification, while maintaining enterprise-class features and performance. As organizations around the world are looking to cut costs without sacrificing performance, availability, or scalability, VMware-based next-generation storage solutions are the ideal platform for tomorrow's virtual infrastructure. VMware Software-Defined Storage provides detailed, practical guidance on the model that is set to transform all aspects of vSphere data center storage. Learn how to virtualize your network and discover the full potential of a Software Defined Data Center. A smarter way to use network resources begins here About This Book Experience the

dynamism and flexibility of a virtualized software defined data center with NSX Find out how to design your network infrastructure based on what your organization needs From security to automation, discover how NSX's impressive range of features can unlock a more effective and intelligent approach to system administration Who This Book Is For If you're a network administrator and want a simple but powerful solution to your network virtualization headaches, look no further than this fast-paced, practical guide. What You Will Learn Deep dive into NSX-v Manager, Controller deployment, and design decisions Get to know the strategies needed to make decisions on each mode of VXLAN that is based on physical network design Deploy Edge Gateway and leverage all the gateway features and design decisions Get to grips with NSX-v Security features and automate security Leverage Cross VC, identify the benefits, and work through a few deployment scenarios Troubleshoot an NSX-v to isolate problems and identify solutions through a step-by-step process In Detail VMware NSX is at the forefront of the software-defined networking revolution. It makes it even easier for organizations to unlock the full benefits of a software-defined data center – scalability, flexibility – while adding in vital security and automation features to keep any sysadmin happy. Software alone won't power your business – with NSX you can use it more effectively than ever before, optimizing your resources and reducing costs. Getting started should be easy – this guide makes sure it is. It takes you through the core components of NSX, demonstrating how to set it up, customize it within your current network architecture. You'll learn the principles of effective design, as well as some things you may need to take into consideration when you're creating your virtual networks. We'll also show you how to construct and maintain virtual networks, and how to deal with any tricky situations and failures. By the end, you'll be confident you can deliver, scale and

secure an exemplary virtualized network with NSX. Style and approach This book provides you with an introduction to software-defined networking with VMware NSX. Focusing on the most essential elements, so you can put your knowledge into practice quickly, it's a guide dedicated to anyone who understands that sometimes real-world problems require virtualized solutions. Presents information on more than 1,400 computer companies, an overview of the computer industry, lists of the largest and fastest-growing companies, and in-depth profiles on 250 of the largest high-tech firms

This IBM® Redbooks® publication positions the IBM PowerHA® SystemMirror® V6.1 for AIX® Enterprise Edition as the cluster management solution for high availability. This solution enables near-continuous application service and minimizes the impact of planned and unplanned outages. The primary goal of this high-availability solution is to recover operations at a remote location after a system or data center failure, establish or strengthen a business recovery plan, and provide separate recovery location. The IBM PowerHA SystemMirror Enterprise Edition is targeted at multisite high-availability disaster recovery. The objective of this book is to help new and existing PowerHA customers to understand how to plan to accomplish a successful installation and configuration of the PowerHA SystemMirror for AIX Enterprise Edition. This book emphasizes the IBM Power SystemsTM strategy to deliver more advanced functional capabilities for business resiliency and to enhance product usability and robustness through deep integration with AIX, affiliated software stack, and storage technologies. PowerHA SystemMirror is designed, developed, integrated, tested, and supported by IBM from top to bottom.

This IBM® Redbooks® publication provides a technical overview of the features, functions,

and enhancements that are available in IBM i 7.2, including all the available Technology Refresh (TR) levels, from TR1 to TR3. This publication provides a summary and brief explanation of the many capabilities and functions in the operating system. It also describes many of the licensed programs and application development tools that are associated with IBM i. The information that is provided in this book is useful for clients, IBM Business Partners, and IBM service professionals that are involved with planning, supporting, upgrading, and implementing IBM i 7.2 solutions.

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 In this IBM® Redbooks® publication, we describe recommendations based on an IBM b-type

storage area network (SAN) environment that is utilizing VMware vSphere ESXi. We describe the hardware and software and the unique features that they bring to the marketplace. We then highlight those features and how they apply to the SAN environment, and the best practices for ensuring that you get the best out of your SAN. For background reading, we recommend the following Redbooks publications: - Introduction to Storage Area Networks and System Networking, SG24-5470 - IBM System Storage SAN Volume Controller Best Practices and Performance Guidelines, SG24-7521 - IBM System Storage SAN Volume Controller and Storwize V7000 Replication Family Services, SG24-7574 - Implementing the IBM System Storage SAN Volume Controller V6.3, SG24-7933 - IBM SAN Volume Controller Stretched Cluster with PowerVM and PowerHA, SG24-8142 - Implementing the IBM SAN Volume Controller and FlashSystem 820, SG24-8172 - IBM System Storage DS8000 Copy Services for Open Systems, SG24-6788 - IBM System Storage DS8000: Host Attachment and Interoperability, SG24-8887 This book is aimed at pre- and post-sales support, system administrators, and storage administrators.

Along with servers and networking infrastructure, networked storage is one of the fundamental components of a modern data center. Because storage networking has evolved over the past two decades, the industry has settled on the basic storage networking technologies. These technologies are Fibre Channel (FC) storage area networks (SANs), Internet Small Computer System Interface (iSCSI)-based Ethernet attachment, and Ethernet-based network-attached storage (NAS). Today, lossless, low-latency, high-speed FC SANs are viewed as the high-performance option for networked storage. iSCSI and NAS are viewed as lower cost, lower performance technologies. The advent of the 100 Gbps Ethernet and Data Center Bridging

(DCB) standards for lossless Ethernet give Ethernet technology many of the desirable characteristics that make FC the preferred storage networking technology. These characteristics include comparable speed, low latency, and lossless behavior. Coupled with an ongoing industry drive toward better asset utilization and lower total cost of ownership, these advances open the door for organizations to consider consolidating and converging their networked storage infrastructures with their Ethernet data networks. Fibre Channel over Ethernet (FCoE) is one approach to this convergence, but 10-Gbps-enabled iSCSI also offers compelling options for many organizations with the hope that their performance can now rival that of FC. This IBM® Redbooks® publication is written for experienced systems, storage, and network administrators who want to integrate the IBM System Networking and Storage technology successfully into new and existing networks. This book provides an overview of today's options for storage networking convergence. It reviews the technology background for each of these options and then examines detailed scenarios for them by using IBM and IBM Business Partner convergence products.

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.

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. 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 SpectrumTM 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.

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 Discuses cutting edge technology capable of bi-directional data transfer at rates in excess of one gigabit per second

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

Learn how to virtualize your network and discover the full potential of a Software Defined Data Center. A smarter way to use network resources begins hereAbout This Book- Experience the dynamism and flexibility of a virtualized software defined data center with NSX- Find out how to design your network infrastructure based on what your organization needs- From security to automation, discover how NSX's impressive range of features can unlock a more effective and intelligent approach to system administrationWho This Book Is ForIf you're a network administrator and want a simple but powerful solution to your network virtualization headaches, look no further than this fast-paced, practical guide.What You Will Learn - Deep dive into NSX-v Manager, Controller deployment, and design decisions- Get to know the strategies needed to make decisions on each mode of VXLAN that is based on physical network design- Deploy Edge Gateway and leverage all the gateway features and design decisions- Get to grips with NSX-v Security features and automate security- Leverage Cross VC, identify the benefits, and work through a few deployment scenarios- Troubleshoot an NSX-v to isolate problems and identify solutions through a step-by-step processIn DetailVMware NSX is at the forefront of the

software-defined networking revolution. It makes it even easier for organizations to unlock the full benefits of a software-defined data center - scalability, flexibility - while adding in vital security and automation features to keep any sysadmin happy. Software alone won't power your business - with NSX you can use it more effectively than ever before, optimizing your resources and reducing costs.Getting started should be easy - this guide makes sure it is. It takes you through the core components of NSX, demonstrating how to set it up, customize it within your current network architecture. You'll learn the principles of effective design, as well as some things you may need to take into consideration when you're creating your virtual networks. We'll also show you how to construct and maintain virtual networks, and how to deal with any tricky situations and failures.By the end, you'll be confident you can deliver, scale and secure an exemplary virtualized network with NSX.Style and approach This book provides you with an introduction to software-defined networking with VMware NSX. Focusing on the most essential elements, so you can put your knowledge into practice quickly, it's a guide dedicated to anyone who understands that sometimes real-world problems require virtualized solutions.
This IBM® Redpaper publication is a comprehensive guide that covers the IBM Power System IC922 (9183-22X) server that uses IBM POWER9TM processor-

based technology and supports Linux operating systems (OSs). The objective of this paper is to introduce the system offerings and their capacities and available features. The Power IC922 server is built to deliver powerful computing, scaling efficiency, and storage capacity in a cost-optimized design to meet the evolving data challenges of the artificial intelligence (AI) era. It includes the following features: High throughput and performance for high-value Linux workloads, such as inferencing data or storage-rich workloads, or cloud. Potentially low acquisition cost through system optimization, such as using industry standard memory and warranty. Two IBM POWER9 processor-based single-chip module (SCM) devices that provide high performance with 24, 32, or 40 fully activated cores and a maximum 2 TB of memory. Up to six NVIDIA T4 graphics processing unit (GPU) accelerators. Up to twenty-four 2.5-inch SAS/SATA drives. One dedicated and one shared 1 Gb Intelligent Platform Management Interface (IPMI) port.. This publication is for professionals who want to acquire a better understanding of IBM Power Systems products. The intended audience includes: Clients Sales and marketing professionals Technical support professionals IBM Business Partners Independent software vendors (ISVs) This paper expands the current set of IBM Power Systems documentation by providing a desktop reference that offers a detailed technical description of the Power IC922 server.

The 2013 edition of the bestselling vSphere book on the market Virtualization remains the hottest trend in the IT world, and VMware vSphere is the industry's most widely deployed virtualization solution. The demand for IT professionals skilled in virtualization and cloud-related technologies is great and expected to keep growing. This comprehensive Sybex guide covers all the features and capabilities of VMware vSphere, showing administrators step by step how to install, configure, operate, manage, and secure it. This perfect blend of hands-on instruction, conceptual explanation, and practical application is reinforced with real-world examples. Led by Scott Lowe and Nick Marshall, both VMware vExperts, the author team provides expertise that will prepare IT professionals to excel in using this virtualization technology. Virtualization is seen as a "best practice" for high availability and disaster recovery solutions, as well as for applications such as Exchange Server and SharePoint IDC estimates that there are as many as 7 million jobs available worldwide in virtualization and cloud technology Provides hands-on instruction in all the latest features and capabilities of VMware vSphere, with both conceptual explanations and practical applications Author team is lead by Scott Lowe and Nick Marshall, well-known VMware experts and popular bloggers Mastering VMware vSphere provides what every virtualization professional needs to know.

CCNA Data Center DCICT 640-916 Official Cert Guide CCNA Data Center DCICT 640-916 Official Cert Guide from Cisco Press enables you to succeed on the exam the first time and is the only self-study resource approved by Cisco. A team of leading Cisco data center experts shares preparation hints and test-taking tips, helping you identify areas of weakness and improve both your conceptual knowledge and hands-on skills. This complete, official study package includes --A test-preparation routine proven to help you pass the exam --"Do I Know This Already?" quizzes, which enable you to decide how much time you need to spend on each section --Part-ending exercises, which help you drill on key concepts you must know thoroughly --The powerful Pearson IT Certification Practice Test software, complete with hundreds of well-reviewed, exam-realistic questions, customization options, and detailed performance reports --Study plan suggestions and templates to help you organize and optimize your study time --A final preparation chapter that guides you through tools and resources to help you craft your review and test-taking strategies Well regarded for its level of detail, study plans, assessment features, and challenging review questions and exercises, this official study guide helps you master the concepts and techniques that ensure your exam success. The official study guide helps you master topics on the CCNA Data Center DCICT 640-916 exam, including --Cisco data center

concepts: architectures, devices, layers, modular design, vPC, FabricPath, Cisco Nexus switches, and more --Data center unified fabric: FCoE, multihop, VIFs, FEX, and setup --Storage networking: concepts, targets, verification, connectivity, zoning, setup, and configuration --Data center virtualization: servers, devices, and Nexus 1000V, including setup and operations --Cisco Unified Computing: concepts, discovery, connectivity, setup, and UCSM --Data center network services: ACE load balancing, virtual context, HA, management, global/local solutions, and WAAS The CD-ROM contains more than 450 practice questions for the exam, memory table exercises and answer keys, and a study planner tool. Includes Exclusive Offer for 70% Off Premium Edition eBook and Practice Test Pearson IT Certification Practice Test minimum system requirements: Windows XP (SP3), Windows Vista (SP2), Windows 7, or Windows 8; Microsoft .NET Framework 4.0 Client; Pentium class 1GHz processor (or equivalent); 512 MB RAM; 650 MB disk space plus 50 MB for each downloaded practice exam; access to the Internet to register and download exam databases

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