

Serial Storage Architecture

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This paper describes Serial Storage Architecture (SSA), a definition and general specification of a high-performance serial link for the attachment of input/output devices. An overview is given of the architecture itself, followed by a general description of the hardware implementation of a dual-port SSA node on a single chip.

Introduction

Serial Storage Architecture (SSA) defines a high-performance serial link for the attachment of input/output devices. It has been optimized for storage applications such as hard disk drives, host adapter cards, and array controllers. SSA has many advantages over existing parallel interfaces such as the Small Computer Systems Interface (SCSI-2). It uses compact cables and connectors, and it has better performance, connectivity, and reliability. However, to facilitate migration, SSA retains much of the SCSI-2 logical protocol.

Current SSA implementations such as the IBM 7133 Disk Subsystem [1] provide a peak data rate of 20 MB/s in each direction. However, a typical loop configuration with one host adapter can provide a total sustained bandwidth of up to 73 MB/s, and higher speeds are becoming available. The physical medium is usually a copper cable up to 20 meters long, but fiber optics can also be used for longer distances.

This paper describes the link architecture and its implementation in a single CMOS chip.

Why serial?

Serial links offer many advantages over traditional parallel interfaces:

- *Compact cables and connectors*—This is becoming increasingly important with the trend to small-form-factor devices, e.g., 3.5-in. and 2.5-in. hard disk drives.
- *Improved connectivity*—A single host interface can attach many devices. The devices can also be shared among several host computers.
- *Higher performance*—A serial interface can provide full-duplex communications at little extra cost. Frame multiplexing allows the interface to be shared efficiently among several concurrent operations.
- *Higher reliability*—Error detection is improved by using a cyclic redundancy check (CRC) rather than a simple bus parity check. Point-to-point cables allow faults to be isolated more easily than in a multidrop bus. Devices can readily be dual-ported to provide alternate paths and allow continuous operation in the event of a fault. Individual devices can be "hot-swapped" for concurrent maintenance.

Architecture overview

SSA is defined in three layers:

- *SSA-PHY* [2] defines the electrical specifications, cables, and connectors.
- *SSA-TLI* [3] is a general-purpose transport layer. It defines the transmission protocol, configuration, and error recovery.
- *SSA-SIP* [4] is a mapping of the SCSI-2 queuing model, command set, status, and sense bytes.

Transport layer (SSA-TLI)

- *Nodes*

An *SSA node* is an addressable unit such as a host adapter card, a switch, or a hard disk drive. In some cases a

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Serial Storage Architecture Guide

Xiang Xie



Serial Storage Architecture Guide:

The Essential Guide to Computer Data Storage Andrei Khurshudov, 2001 This book covers all data storage systems and latest technologies It s a practical easy to use book on data storage Extensive glossary of computer data storage related terms Aimed at a wide audience from beginner to advanced levels *IBM Storage DS8A00 Architecture and Implementation Guide* Vasfi Gucer, Sherry Brunson, Nino de Carvalho, Jeffery Cook, Michael Frankenberg, Carsten Haag, Peter Kimmel, Radoslav Neshev, Connie Riggins, Mike Stenson, Robert Tondini, IBM Redbooks, 2025-07-29 This IBM Redbooks publication describes the concepts architecture and implementation of the IBM DS8A00 family The book provides reference information to assist readers who need to plan for install and configure the DS8000 G10 systems This edition applies to DS8000 G10 systems with Licensed Machine Code LMC 7 10 0 bundle version 10 0 xxx x referred to as Release 10 0 The DS8000 G10 systems are all flash exclusively and currently two models and classes are offered IBM DS8A50 Agility Class The Agility Class consolidates all your mission critical workloads for IBM Z IBM LinuxONE IBM Power Systems and distributed environments under a single all flash storage solution IBM DS8A10 Flexibility Class The Flexibility Class reduces complexity while addressing various workloads at the lowest DS8000 family entry cost The DS8A00 architecture relies on powerful IBM POWER9 processor based servers that manage the cache to streamline disk input output I O which maximizes performance and throughput These capabilities are further enhanced by High Performance Flash Enclosures HPFE Gen 3 Like its predecessors the DS8A00 models support advanced disaster recovery DR solutions business continuity solutions and thin provisioning In addition to several performance enhancements they offer compression The predecessor DS8900F models are described in IBM Storage DS8900F Architecture and Implementation SG24 8456 and IBM DS8910F Model 993 Rack Mounted Storage System REDP 5566 **IBM TS7700 R5.4 Cloud Storage Tier Guide** Yuki Asakura, Dave Brettell, Ramón A. Minjares Campos, Nielson 'Nino' de Carvalho, Larry Coyne, Andrew Enriquez, Rin Fujiwara, Nobuhiko Furuya, Lourie Goodall, Joe Hew, Kousei Kawamura, Stefan Neff, Takeshi Nohta, Tomoaki Ogino, Shinya Ohri, Aderson Pacini, Daniel Riggins, Trinidad Armando Rangel Ruiz, Michael Scott, Taisei Takai, Nao Takemura, Erina Tatsumi, Takahiro Tsuda, Shinsuke Ueyama, Chen Zhu, IBM Redbooks, 2024-10-29 Building on 25 years of virtual tape experience the IBM TS7700 IBM TS7760 and TS7770 now can store virtual tape volumes in object storage This IBM Redpaper publication helps you set up and configure the cloud object storage support for IBM Cloud Object Storage or Amazon Simple Storage Service Amazon S3 The TS7700 supported offloading to physical tape for over two decades Using a TS7700 to offload to physical tape is a process that is used by hundreds of organizations around the world By using the same hierarchical storage techniques the TS7700 also can offload to object storage Because object storage is cloud based and accessible from different regions the TS7700 Cloud Storage Tier support essentially allows the cloud to be an extension of the grid In this publication we provide a brief overview of cloud technology with an emphasis on Object Storage Object Storage is used by a broad set of technologies

including those technologies that are exclusive to IBM Z The aim of this publication is to provide a basic understanding of cloud object storage and different ways it can be integrated into your environment This publication is intended for system architects and storage administrators with TS7700 experience who want to add the support of a cloud storage tier to their TS7700 solution

IBM TS7760 R4.2 Cloud Storage Tier Guide Sosuke Matsui,Derek Erdmann,Nobuhiko Furuya,Rin Fujiwara,Joe Hew,Tomoaki Ogino,Alberto Barajas Ortiz,Michael Scott,Joe Swingler,Taisei Takai. Larry Coyne,IBM Redbooks,2019-06-14 Building on over 20 years of virtual tape experience the TS7760 now supports the ability to store virtual tape volumes in an object store This IBM Redpaper publication helps you set up and configure the new cloud object storage support for IBM Cloud Object Storage COS or Amazon Web Services AWS The TS7700 supported off loading to physical tape for over two decades Off loading to physical tape behind a TS7700 is used by hundreds of organizations around the world By using the same hierarchical storage techniques the TS7700 can also off load to object storage Because object storage is cloud based and accessible from different regions the TS7760 Cloud Storage Tier support essentially allows the cloud to be an extension of the grid In this IBM Redpaper publication we provide a brief overview of cloud technology with an emphasis on Object Storage Object Storage is used by a broad set of technologies including those technologies that are exclusive to IBM Z The aim of this publication is to provide a basic understanding of cloud Object Storage and different ways it can be integrated into your environment This Redpaper is intended for system architects and storage administrators with TS7700 experience who want to add the support of a Cloud Storage Tier to their TS7700 solution

Complete CompTIA A+ Guide to PCs Cheryl A. Schmidt,2013-02-14 Master PC installation configuration repair maintenance and networking and fully prepare for the CompTIA A 220 801 and 220 802 exams This unique tutorial and study guide teaches the fundamentals of computer desktop and laptop installation configuration maintenance and networking with thorough instruction built on the CompTIA A 220 801 and 220 802 exam objectives Learn all the skills you need to become a certified professional and customer friendly technician using today s tools and technologies Every chapter opens with focused learning objectives and lists the exam objectives covered in that chapter To meet the learning objectives each chapter includes detailed figures helpful Tech Tips explanations of key terms step by step instruction and complete coverage of every topic At the end of every chapter are comprehensive assessment tools including a summary review questions labs activities and exam tips Covers Both 2012 A Exams A 220 801 PC Hardware Networking Laptops Printers Operational Procedures A 220 802 Operating Systems Security Mobile Devices Troubleshooting Learn more quickly and thoroughly with all these study and review tools Learning Objectives provide the goals for each chapter Practical Tech Tips give real world PC repair knowledge Soft Skills information and activities in each chapter cover all the tools and skills you need to become a professional customer friendly technician in every category Review Questions including true false multiple choice matching fill in the blank and open ended questions assess your knowledge of the learning objectives More than 125 Lab Exercises enable you to

link theory to practical experience Key Terms identify exam words and phrases associated with each topic Detailed Glossary clearly defines every key term Critical Thinking Activities in every chapter take you beyond the facts to complete comprehension of topics Chapter Summary provides a recap of key concepts See Special Offer in Back of Book to save 70% on the CompTIA A+ Cert Guide Deluxe Edition Premium Edition eBook and Practice Test [Performance and Best Practices Guide for IBM Spectrum Virtualize 8.5](#) Vasfi Gucer,Andy Haerchen,Ashutosh Pathak,Barry Whyte,Cassio Alexandre de Aguiar,Fabio Trevizan de Oliveira,Hartmut Lonzer,Luis Eduardo Silva Viera,Mahendra S Brahmada,Mangesh M Shirke,Nezih Boyacioglu,Sergey Kubin,Stephen Solewin,Thales Ferreira,Tiago Moreira Candelaria Bastos,Uwe Schreiber,Youssef Largou,IBM Redbooks,2023-10-03 This IBM Redbooks publication captures several best practices and describes the performance gains that can be achieved by implementing the IBM FlashSystem and IBM SAN Volume Controller SVC products running IBM Spectrum Virtualize 8.5 These practices are based on field experience This book highlights configuration guidelines and best practices for the storage area network SAN topology clustered system back end storage storage pools and managed disks MDisks volumes Remote Copy services and hosts This book explains how you can optimize disk performance with the IBM Easy Tier function It also provides best practices for monitoring maintaining and troubleshooting This book is intended for experienced storage SAN IBM FlashSystem and SVC administrators and technicians Understanding this book requires advanced knowledge of these environments This book is focused on IBM FlashSystem and SVC systems that run IBM Spectrum Virtualize 8.5 Most configuration principles and best practices that are described in the book are still applicable for systems that cannot be upgraded to version 8.5 but some features are not available **IBM FlashSystem Best Practices and Performance Guidelines** Anil K Nayak,Antonio Rainero,Barry Whyte,Chris Hoffmann,Danilo Morelli Miyasiro,David Green,Duane Bolland,Jackson Shea,Jon Herd,Jordan Fincher,Marcelo Avalos,Sergey Kubin,Sidney Varoni Junior,Thales Noivo Ferreira,Vasfi Gucer,IBM Redbooks,2021-10-13 This IBM Redbooks publication captures several of the preferred practices and describes the performance gains that can be achieved by implementing the IBM FlashSystem products These practices are based on field experience This book highlights configuration guidelines and preferred practices for the storage area network SAN topology clustered system back end storage storage pools and managed disks volumes Remote Copy services and hosts It explains how you can optimize disk performance with the IBM System Storage Easy Tier function It also provides preferred practices for monitoring maintaining and troubleshooting This book is intended for experienced storage SAN IBM FlashSystem SAN Volume Controller and IBM Storwize administrators and technicians Understanding this book requires advanced knowledge of these environments **CCNA Data Center DCICN 200-150 Official Cert Guide** Chad Hintz,Cesar Obediente,Ozden Karakok,2017-01-18 This is the eBook of the printed book and may not include any media website access codes or print supplements that may come packaged with the bound book CCNA Data Center DCICN 200 150 Official Cert Guide from Cisco Press allows you to succeed

on the exam the first time and is the only self study resource approved by Cisco Cisco Data Center experts Chad Hintz Cesar Obediente and Ozden Karakok share preparation hints and test taking tips helping you identify areas of weakness and improve both your conceptual knowledge and hands on skills This complete study package includes A test preparation routine proven to help you pass the exam Do I Know This Already quizzes which allows you to decide how much time you need to spend on each section Chapter 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 final preparation chapter which guides you through tools and resources to help you craft your review and test taking strategies Study plan suggestions and templates to help you organize and optimize your study time Well regarded for its level of detail study plans assessment features 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 DCICN 200 150 exam including the following Nexus data center infrastructure and architecture Networking models Ethernet LANs and IPv4 IPv6 addressing routing Data center Nexus switching and routing fundamentals Nexus switch installation and operation VLANs trunking STP and Ethernet switching IPv4 and IPv6 subnetting IPv4 routing concepts protocols configuration and access control Data center storage networking technologies and configurations

IBM TS7700 R5.4 Guide Larry Coyne,Yuki Asakura,Dave Brettell,Ramon A. Minjares Campos,Nielson Nino de Carvalho,Andrew Enriquez,Rin Fujiwara,Nobuhiko Furuya,Lourie Goodall,Joe Hew,Kousei Kawamura,Stefan Neff,Takeshi Nohta,Tomoaki Ogino,Shinya Ohri,Aderson Pacini,Daniel Riggins,Trinidad Armando Rangel Ruiz,Michael Scott. Taisei Takai,Nao Takemura,Erina Tatsumi,Takahiro Tsuda,Shinsuke Ueyama,Chen Zhu,IBM Redbooks,2025-01-23 This IBM Redbooks publication covers IBM TS7700 R5 4 and R5 4 PGA1 The IBM TS7700 is part of a family of IBM Enterprise tape products This book is intended for system architects and storage administrators who want to integrate their storage systems for optimal operation Building on over 25 years of experience the R5 4 release includes many features that enable improved performance usability and security Highlights include the IBM TS7700 Advanced Object Store an all flash TS7770 grid resiliency enhancements and Logical WORM retention By using the same hierarchical storage techniques the TS7700 TS7770 and TS7760 can also off load to object storage Because object storage is cloud based and accessible from different regions the TS7700 Cloud Storage Tier support essentially allows the cloud to be an extension of the grid As of this writing the TS7700C supports the ability to off load to IBM Cloud Object Storage and Amazon S3 This publication explains features and concepts that are specific to the IBM TS7700 as of release R5 3 The R5 3 microcode level provides IBM TS7700 Cloud Storage Tier enhancements IBM DS8000 Object Storage enhancements Management Interface dual control security and other smaller enhancements The R5 3 microcode level can be installed on the IBM TS7770 and IBM TS7760 models only

Implementation Guide for IBM Spectrum Virtualize Version 8.5 Barry Whyte,Denis

Ol'shanskiy,Dharmesh Kamdar,Guillaume Legmar,Hartmut Lonzer,John Nycz,Jon Herd,Konrad Trojok,Mandy A Stevens,Paresh Chudasma,Reginald D'Souza,Ron Verbeek,Sabine Gronert,Stephen Solewin,Uwe Schreiber,Vasfi Gucer,IBM Redbooks,2023-01-24 IBM FlashSystem and IBM SAN Volume Controller solutions incorporate some of the top IBM technologies that are typically found only in enterprise class storage systems which raise the standard for storage efficiency in midrange disk systems These cutting edge storage systems extend the comprehensive storage portfolio from IBM and can help change the way organizations address the ongoing information explosion This IBM Redbooks publication introduces the features and functions of an IBM Spectrum Virtualize V8.5 storage system through several examples This book is aimed at pre sales and post sales technical support and marketing and storage administrators It helps you understand the architecture how to implement it and how to take advantage of its industry leading functions and features Consider the following points This book is focused on IBM FlashSystem and IBM SAN Volume Controller systems that run IBM Spectrum Virtualize Version 8.5 Most configuration principles and best practices that are described in the book are still applicable for systems that cannot be upgraded to Version 8.5 however some features might not be available In this book we provide links to IBM Documentation and a description of the relevant section that provides more information In most cases our starting point is the page and the reader might need to select the product that applies to their environment *IBM SAN Volume Controller Best Practices and Performance Guidelines* Anil K Nayak,Antonio Rainero,Barry Whyte,Chris Hoffmann,Danilo Morelli Miyasiro,David Green,Duane Bolland,Jackson Shea,Jon Herd,Jordan Fincher,Marcelo Avalos,Sergey Kubin,Sidney Varoni Junior,Thales Noivo Ferreira,Vasfi Gucer,IBM Redbooks,2021-10-13 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 System Storage Business Continuity: Part 2 Solutions Guide** Charlotte Brooks,Clem Leung,Aslam Mirza,Curtis Neal,Yin Lei Qiu,John Sing,Francis TH Wong,Ian R Wright,IBM Redbooks,2009-06-09 This IBM Redbooks publication is a companion to IBM System Storage Business Continuity Part 1 Planning Guide SG24 6547 We assume that the reader of this book has understood the concepts of Business Continuity planning described in that book In this book we explore IBM System Storage solutions for Business Continuity within the

three segments of Continuous Availability Rapid Recovery and Backup and Restore We position these solutions within the Business Continuity tiers We describe in general the solutions available in each segment then present some more detail on many of the products In each case the reader is pointed to sources of more information

IBM SAN Survival Guide Jon Tate,Brian Cartwright,John Cronin,Christian Dapprich,IBM Redbooks,2015-08-05 As we all know large ocean going ships never collide with icebergs However occasionally life deals out some unexpected pleasures for us to cope with Surviving any disaster in life is usually a lot easier if you have prepared adequately by taking into account the likely problems solutions and their implementation In this IBM Redbooks publication we limit ourselves to those situations in which it is likely that a SAN will be deployed We present the IBM SAN portfolio of products going a little under the surface to show the fault tolerant features that they utilize and then describe solutions with all these features taken into account Each of these solutions was built on practical experience in some cases with cost in mind in some cases with no cost in mind Any well thought out SAN design will have taken every single one of these concerns into account and either formulated a solution for it or ignored it but nonetheless understanding the potential exposure With these points in mind in this book we have two objectives to position the IBM SAN products that are currently in our portfolio and to show how those products can be configured together to build a SAN that not only allows you to survive most forms of disaster but also provides performance benefits So make sure that you know what to do if you hit an iceberg

IBM Flex System p260 and p460 Planning and Implementation Guide David Watts,Jose Martin Abeleira,Kerry Anders,Alberto Damigella,Bill Miller,Will Powell,IBM Redbooks,2012-06-15 To meet today s complex and ever changing business demands you need a solid foundation of compute storage networking and software resources that is simple to deploy and can quickly and automatically adapt to changing conditions You also need to be able to take advantage of broad expertise and proven preferred practices in systems management applications hardware maintenance and more The IBM Flex System™ p260 and p460 Compute Nodes are IBM Power Systems™ servers optimized for virtualization performance and efficiency The nodes support IBM AIX IBM i or Linux operating environments and are designed to run various workloads in IBM PureFlex™ System This IBM Redbooks publication is a comprehensive guide to IBM PureFlex System and the Power Systems compute nodes We introduce the offerings and describe the compute nodes in detail We then describe planning and implementation steps and go through some of the key the management features of the IBM Flex System Manager management node This book is for customers IBM Business Partners and IBM technical specialists that want to understand the new offerings and to plan and implement an IBM Flex System installation that involves the Power Systems compute nodes

IBM TS7700 Release 4.2 Guide Larry Coyne,Derek Erdmann,Joe Hew,Sosuke Matsui,Alberto Barajas Ortiz,Aderson Pacini,Michael Scott,Chen Zhu,IBM Redbooks,2019-04-19 This IBM Redbooks publication covers IBM TS7700 R4 2 The IBM TS7700 is part of a family of IBM Enterprise tape products This book is intended for system architects and storage administrators who want to integrate their storage systems for optimal

operation Building on over 20 years of virtual tape experience the TS7760 now supports the ability to store virtual tape volumes in an object store The TS7700 has supported off loading to physical tape for over two decades Off loading to physical tape behind a TS7700 is utilized by hundreds of organizations around the world Using the same hierarchical storage techniques the TS7700 can also off load to object storage Given object storage is cloud based and accessible from different regions the TS7760 Cloud Storage Tier support essentially allows the cloud to be an extension of the grid As of the release of this document the TS7760C supports the ability to off load to IBM Cloud Object Storage as well as Amazon S3 To learn about the TS7760 cloud storage tier function planning implementation best practices and support see IBM Redpaper IBM TS7760 R4 2 Cloud Storage Tier Guide redp 5514 at <http://www.redbooks.ibm.com/abstracts/redp5514.html> The IBM TS7700 offers a modular scalable and high performance architecture for mainframe tape virtualization for the IBM Z environment It is a fully integrated tiered storage hierarchy of disk and tape This storage hierarchy is managed by robust storage management microcode with extensive self management capability It includes the following advanced functions Improved reliability and resiliency Reduction in the time that is needed for the backup and restore process Reduction of services downtime that is caused by physical tape drive and library outages Reduction in cost time and complexity by moving primary workloads to virtual tape More efficient procedures for managing daily backup and restore processing Infrastructure simplification through reduction of the number of physical tape libraries drives and media TS7700 delivers the following new capabilities TS7760C supports the ability to off load to IBM Cloud Object Storage as well as Amazon S3 8 way Grid Cloud consisting of any generation of TS7700 Synchronous and asynchronous replication Tight integration with IBM Z and DFSMS policy management Optional Transparent Cloud Tiering Optional integration with physical tape Cumulative 16Gb FICON throughput up to 4 8GB/s 8 IBM Z hosts view up to 496 8 equivalent devices Grid access to all data independent of where it exists The TS7760T writes data by policy to physical tape through attachment to high capacity high performance IBM TS1150 and IBM TS1140 tape drives installed in an IBM TS4500 or TS3500 tape library The TS7760 models are based on high performance and redundant IBM POWER8 technology They provide improved performance for most IBM Z tape workloads when compared to the previous generations of IBM TS7700

CCNA Data Center DCICT 640-916 Official Cert Guide Navaid Shamsee,David Klebanov,Hesham Fayed,Ahmed Afrose,Ozden Karakok,2015-02-12 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

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Version 6.1 Differences Guide Scott Vetter, Roman Aleksic, Ismael "Numi" Castillo, Rosa Fernandez, Armin Röhl, Nobuhiko Watanabe, IBM Redbooks, 2008-03-10 This IBM Redbooks publication focuses on the differences introduced in IBM AIX Version 6.1 when compared to AIX 5L Version 5.3 It is intended to help system administrators developers and users understand these enhancements and evaluate potential benefits in their own environments AIX Version 6.1 introduces many new features including workload partitions advanced security continuous availability and managing and monitoring enhancements There are many other new features available with AIX Version 6.1 and you can explore them all in this publication For clients who are not familiar with the enhancements of AIX through Version 5.3 a companion publication AIX 5L Differences Guide Version 5.3 Edition SG24 7463 is available along with an addendum AIX 5L Differences Guide Version 5.3 Addendum SG24 7414 which includes between release enhancements that are available through applying service updates

Administering Data Centers Kailash Jayaswal, 2005-10-28 This book covers a wide spectrum of topics relevant to implementing and managing a modern data center The chapters are comprehensive and the flow of concepts is easy to understand Cisco reviewer Gain a practical knowledge of data center concepts To create a well designed data center including storage and network architecture VoIP implementation and server consolidation you must understand a variety of key concepts and technologies This book explains those factors in a way that smoothes the path to implementation and management Whether you need an introduction to the technologies a refresher course for IT managers and data center

personnel or an additional resource for advanced study you ll find these guidelines and solutions provide a solid foundation for building reliable designs and secure data center policies Understand the common causes and high costs of service outages Learn how to measure high availability and achieve maximum levels Design a data center using optimum physical environmental and technological elements Explore a modular design for cabling Points of Distribution and WAN connections from ISPs See what must be considered when consolidating data center resources Expand your knowledge of best practices and security Create a data center environment that is user and manager friendly Learn how high availability clustering and disaster recovery solutions can be deployed to protect critical information Find out how to use a single network

infrastructure for IP data voice and storage **IBM AIX Version 7.1 Differences Guide** Scott Vetter,Richard Bassemir,Thierry Fauck,Chris Gibson,Brad Gough,Murali Neralla,Armin Röhl,Murali Vaddagiri,IBM Redbooks,2011-02-25 This IBM Redbooks publication focuses on the enhancements to IBM AIX Version 7 1 Standard Edition It is intended to help system administrators developers and users understand these enhancements and evaluate potential benefits in their own environments AIX Version 7 1 introduces many new features including Domain Role Based Access Control Workload Partition enhancements Topas performance tool enhancements Terabyte segment support Cluster Aware AIX functionality AIX Version 7 1 offers many other new enhancements and you can explore them all in this publication For clients who are not familiar with the enhancements of AIX through Version 5 3 a companion publication AIX Version 6 1 Differences Guide SG24 7559 is available **IBM eServer Certification Study Guide eServer p5 and pSeries Enterprise Technical Support AIX 5L V5.3** Scott Vetter,Tierry Huche,David Kgabo,Hansjoerg Schneider,IBM Redbooks,2005-12-15 This IBM Redbooks publication is designed as a study guide for professionals wanting to prepare for the certification exam to achieve IBM Certified Systems Expert eServer p5 and pSeries Enterprise Technical Support AIX 5L V5 3 This technical support certification validates a broad scope of configuration installation and planning skills In addition it covers administrative and diagnostic activities needed to support logical partitions and virtual resources This publication helps IBM eServer p5 and pSeries professionals seeking a comprehensive and task oriented guide for developing the knowledge and skills required for the certification It is designed to provide a combination of theory and practical experience needed for a general understanding of the subject matter This publication does not replace the practical experience you should have but is an effective tool that when combined with education activities and experience should prove to be a very useful preparation guide for the exam Due to the close association with the certification content this publication might reflect older software and firmware levels of the IBM eServer p5 systems and available features If you are planning to take the eServer p5 and pSeries Enterprise Technical Support AIX 5L V5 3 certification exam this book is for you

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