Ibm System X3550 M4 Installation Guide

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IBM Spectrum LSF Suite: Installation Best Practices Guide Dino Quintero 2020-04-21 This IBM® Redpaper publication describes IBM Spectrum® LSF® Suite best practices installation topics, application checks for workload management, and high availability configurations by using theoretical knowledge and hands-on exercises. These findings are documented by way of sample scenarios. This publication addresses topics for sellers, IT architects, IT specialists, and anyone who wants to implement and manage a high-performing workload management solution with LSF. Moreover, this guide provides documentation to transfer how-to-skills to the technical teams, and solution guidance to the sales team. This publication compliments documentation that is available at IBM Knowledge Center, and aligns with educational materials that are provided by IBM Systems.
xREF: System x Reference David Watts 2015-05-18 Lenovo System x® and BladeCenter® servers and Lenovo Flex SystemTM compute nodes help to deliver a dynamic infrastructure that provides leadership quality and

service that you can trust. This document (simply known as xREF) is a quick reference guide to the specifications of the currently available models of each System x and BladeCenter server. Each page can be used in a stand-alone format and provides a dense and comprehensive summary of the features of that particular server model. Links to the related Product Guide are also provided for more information. An easy-to-remember link you can use to share this guide: http://lenovopress.com/xref Also available is xREF for Products Withdrawn Prior to 2012, a document that contains xREF sheets of System x, BladeCenter, and xSeries servers, and IntelliStation workstations that were withdrawn from marketing prior to 2012. Changes in the May 18 update: Added the Flex System Carrier-Grade Chassis See the Summary of changes in the document for a complete change history.

IBM Technical Computing Clouds Dino Quintero 2013-10-28 This IBM® Redbooks® publication highlights IBM Technical Computing as a flexible infrastructure for clients looking to reduce capital and operational expenditures, optimize energy usage, or re-use the infrastructure. This book strengthens IBM SmartCloud® solutions, in particular IBM Technical Computing clouds, with a well-defined and documented deployment model within an IBM System x® or an IBM Flex SystemTM. This provides clients with a cost-effective, highly scalable, robust solution with a planned foundation for scaling, capacity, resilience, optimization, automation, and monitoring. This book is targeted toward technical professionals (consultants, technical support staff, IT Architects, and IT Specialists) responsible for providing cloud-computing solutions and support.

Storage and Network Convergence Using FCoE and iSCSI Sangam Racherla 2014-07-18 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. Implementing IBM Real-time Compression on the IBM XIV Storage System Guenter Rebmann 2017-02-22 IBM® Real-time CompressionTM is fully integrated in the IBM XIV® Storage System Gen3 with software version 11.6. Real-time Compression provides the possibility to store 2 - 5 times more data per XIV system, without additional hardware. This technology also expands the storage-replication-related bandwidth, and can significantly decrease the total cost of ownership (TCO). Using compression for replication and for volume migration with IBM Hyper-Scale Mobility is faster, and requires less bandwidth for the interlink connections between the IBM XIV storage systems, because the data that is transferred through these links is already compressed. IBM Real-time Compression uses patented IBM Random Access Compression Engine (RACE) technology, achieving field-proven compression ratios and performance with compressible data. This IBM RedpaperTM publication helps administrators understand and implement IBM Real-time Compression on the IBM XIV Gen3 storage system. IBM Systems Director Management Console: Introduction and Overview Scott Vetter 2011-09-22 This IBM® Redbooks® publication positions the IBM Systems Director Management Console (SDMC) against the IBM Hardware Management Console (HMC). The IBM Systems Director Management Console provides system administrators the ability to manage IBM Power System® servers as well as IBM Power Blade servers. It is based on IBM Systems Director. This publication is designed for system administrators to use as a deskside reference when managing Virtual Servers (formerly partitions) using the SDMC. The major functions that the

SDMC provides are server hardware management and virtualization management.

IBM XIV Storage System: IBM Hyper-Scale Mobility Overview and Usage Bertrand Dufrasne 2013-06-24 IBM® Hyper-Scale introduces two major new technologies, both implemented in the IBM XIV® Storage System (Gen3 models): The first is IBM Hyper-Scale Manager, a flexible, consolidated multi-system management application that was originally released in October 2012 as "Multi-System Manager". IBM Hyper-Scale Manager is based on and seamlessly integrated with the XIV GUI and spans multiple XIV systems. The second new technology, IBM Hyper-Scale Mobility, is the topic of this publication. It is a powerful function for moving volumes between storage containers transparently, with no disruption to host applications. IBM Hyper-Scale helps you easily overcome provisioning scenarios that normally challenge traditional systems. IBM Hyper-Scale can accommodate several critical customer scenarios for data mobility, load balancing, over-provisioning, and storage system repurposing. This IBM RedpaperTM publication provides a broad understanding of the IBM Hyper-Scale Mobility feature. The paper describes the IBM Hyper-Scale architecture and includes detailed step by step scenarios that illustrate the online volume migration process, both from the XIV GUI and the XIV Command-Line Interface (XCLI). This publication is intended for XIV customers and users who want a practical understanding of IBM Hyper-Scale Mobility concepts and usage.

Understanding Big Data: Analytics for Enterprise Class Hadoop and Streaming Data Paul Zikopoulos 2011-10-22 Big Data represents a new era in data exploration and utilization, and IBM is uniquely positioned to help clients navigate this transformation. This book reveals how IBM is leveraging open source Big Data technology, infused with IBM technologies, to deliver a robust, secure, highly available, enterprise-class Big Data platform. The three defining characteristics of Big Data--volume, variety, and velocity--are discussed. You'll get a primer on Hadoop and how IBM is hardening it for the enterprise, and learn when to leverage IBM InfoSphere BigInsights (Big Data at rest) and IBM InfoSphere Streams (Big Data in motion) technologies. Industry use cases are also included in this practical guide. Learn how IBM hardens Hadoop for enterprise-class scalability and reliability Gain insight into IBM's unique in-motion and at-rest Big Data analytics platform Learn tips and tricks for Big Data use cases and solutions Get a quick Hadoop primer

Introduction and Implementation of Data Reduction Pools and Deduplication Jon Tate 2019-07-30 Continuing its

commitment to developing and delivering industry-leading storage technologies, IBM® introduces Data Reduction Pools (DRP) and Deduplication powered by IBM SpectrumTM 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.

IBM Power System S824L Technical Overview and Introduction Scott Vetter 2017-07-10 This IBM® RedpaperTM publication is a comprehensive guide that covers the IBM Power System S824L (8247-42L) server that supports the Linux operating systems. The objective of this paper is to introduce the major innovative Power S824L offerings and their relevant functions: The new IBM POWER8TM processor, which is available at frequencies of 3.02 GHz and 3.42 GHz A processor that is designed to accommodate high-wattage adapters, such as NVIDIA graphics processing units (GPUs), that provide acceleration for scientific, engineering, Java, big data analytics, and other technical computing workloads Based on OpenPOWER technologies Two integrated memory controllers with improved latency and bandwidth Improved reliability, serviceability, and availability (RAS) functions IBM EnergyScaleTM technology that provides features, such as power trending, power-saving, power capping, and thermal measurement This publication is for professionals who want to acquire a better understanding of IBM Power SystemsTM products. 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 S824L server. This paper does not replace the latest marketing materials and configuration tools. It is intended as an additional source of information that, together with existing sources, can be used to enhance your knowledge of IBM server solutions.

Implementing the IBM System Storage SAN Volume Controller with IBM Spectrum Virtualize Version 8.4 Corne Lottering 2021-04-07 Continuing its commitment to developing and delivering industry-leading storage technologies, IBM® introduces the IBM FlashSystem® solution that is powered by IBM Spectrum® Virtualize V8.4. This innovative storage offering delivers essential storage efficiency technologies and exceptional ease of use and performance, all integrated into a compact, modular design that is offered at a competitive, midrange

price. The solution incorporates some of the top IBM technologies that are typically found only in enterprise-class storage systems, which raises the standard for storage efficiency in midrange disk systems. This cutting-edge storage system extends 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 V8.4 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.
Discovering management The Open University
Memory Systems Bruce Jacob 2010-07-28 Is your memory hierarchy stopping your microprocessor from performing at the high level it should be? Memory Systems: Cache, DRAM, Disk shows you how to resolve this problem. The book tells you everything you need to know about the logical design and operation, physical design and operation, performance characteristics and resulting design trade-offs, and the energy consumption of modern memory hierarchies. You learn how to to tackle the challenging optimization problems that result from the side-effects that can appear at any point in the entire hierarchy. As a result you will be able to design and emulate the entire memory hierarchy. Understand all levels of the system hierarchy -Xcache, DRAM, and disk. Evaluate the system-level effects of all design choices. Model performance and energy consumption for each component in the memory hierarchy.
IBM Power Systems SR-IOV: Technical Overview and Introduction Scott Vetter 2017-01-12 This IBM® RedpaperTM publication describes the adapter-based virtualization capabilities that are being deployed in high-end IBM POWER7+TM processor-based servers. Peripheral Component Interconnect Express (PCIe) single root I/O virtualization (SR-IOV) is a virtualization technology on IBM Power Systems servers. SR-IOV allows multiple logical partitions (LPARs) to share a PCIe adapter with little or no run time involvement of a hypervisor or other virtualization intermediary. SR-IOV does not replace the existing virtualization capabilities that are offered as part of the IBM PowerVM® offerings. Rather, SR-IOV compliments them with additional capabilities. This paper describes many aspects of the SR-IOV technology, including: A comparison of SR-IOV with standard virtualization technology Overall benefits of SR-IOV Architectural overview of SR-IOV Planning requirements SR-

IOV deployment models that use standard I/O virtualization Configuring the adapter for dedicated or shared modes Tips for maintaining and troubleshooting your system Scenarios for configuring your system This paper is directed to clients, IBM Business Partners, and system administrators who are involved with planning, deploying, configuring, and maintaining key virtualization technologies.

IBM Reference Configuration for VMware on System x with SmartCloud Entry Srihari Angaluri 2012-07-21 IBM® SmartCloudTM Entry provides a fully integrated software stack for transforming a virtualized environment to a cloud environment. The intuitive self-service portal allows users to get up and running quickly. Built-in workload metering and additional tools enable tight controls and planning. The IBM Reference Configuration for VMware on IBM System x® with SmartCloud Entry provides an affordable, easy to deploy, private cloud architecture with configurations based on leading-edge technology from IBM, VMware, and Juniper Networks. The reference configuration is for midsized companies that need simpler and affordable IT solutions, without compromising on functionality. IBM and VMware, world leaders in enterprise-class IT solutions, are now bringing IT solutions tailored to the midmarket. This IBM RedpaperTM publication provides setup, configuration, and deployment details for the reference configuration and is intended for IT professionals who are familiar with software and hardware setup and configuration.

IBM System Storage DS3500 Introduction and Implementation Guide IBM Redbooks 2011-05-20

IBM PurePower Technical Overview and Introduction Patrick Lindsey 2015-12-18 This IBM® RedpaperTM publication introduces and provides a technical overview of the IBM PurePower System that helps support management of big data, social media, mobile, analytics, and the flow of critical information. A PurePower System can be configured in an affordable entry-level configuration in a single rack, and it is agile enough to be expanded for scalable cloud deployments. It has built-in redundancy for highly reliable and resilient operation to support demanding applications and cloud services, as required by many enterprises. A PurePower System also provides the scalability, flexibility, and versatility that you demand for business-critical workloads. The following enhancements were announced in October 2015: IBM i operating system on top of a Virtual I/O Server (VIOS) now supported on the IBM Power System S822 server Improvements to PurePower Integrated Manager Integration of HMC code (virtual HMC) into the PurePower Integrated Manager Ability to order translated

PurePower documentation that is geography-specific Configuration support for IBM Power System S822 and S822L server in a single rack PowerVC 1.2.3 Standard Edition Power compute node firmware SV840
IBM z13s Technical Guide Octavian Lascu 2016-11-10 Digital business has been driving the transformation of underlying information technology (IT) infrastructure to be more efficient, secure, adaptive, and integrated. IT must be able to handle the explosive growth of mobile clients and employees. It also must be able to process enormous amounts of data to provide deep and real-time insights to help achieve the greatest business impact. This IBM® Redbooks® publication addresses the new IBM z SystemsTM single frame, the IBM z13s server. IBM z Systems servers are the trusted enterprise platform for integrating data, transactions, and insight. A data-centric infrastructure must always be available with a 99.999% or better availability, have flawless data integrity, and be secured from misuse. It needs to be an integrated infrastructure that can support new applications. It also needs to have integrated capabilities that can provide new mobile capabilities with real-time analytics delivered by a secure cloud infrastructure. IBM z13s servers are designed with improved scalability, performance, security, resiliency, availability, and virtualization. The superscalar design allows z13s servers to deliver a record level of capacity over the prior single frame z Systems server. In its maximum configuration, the z13s server is powered by up to 20 client characterizable microprocessors (cores) running at 4.3 GHz. This configuration can run more than 18,000 millions of instructions per second (MIPS) and up to 4 TB of client memory. The IBM z13s Model N20 is estimated to provide up to 100% more total system capacity than the IBM zEnterprise® BC12 Model H13. This book provides information about the IBM z13s server and its functions, features, and associated software support. Greater detail is offered in areas relevant to technical planning. It is intended for systems engineers, consultants, planners, and anyone who wants to understand the IBM z SystemsTM functions and plan for their usage. It is not intended as an introduction to mainframes. Readers are expected to be generally familiar with existing IBM z Systems technology and terminology.
IBM System Storage N series Reference Architecture for Virtualized Environments Roland Tretau 2014-06-13 This IBM® Redbooks® publication provides deployment guidelines, workload estimates, and preferred practices for clients who want a proven IBM technology stack for virtualized VMware and Microsoft environments. The result is a Reference Architecture for Virtualized Environments (RAVE) that uses VMware vSphere or Microsoft

Hypervisor, IBM System x® or IBM BladeCenter® server, IBM System Networking, and IBM System Storage® N series with Clustered Data ONTAP as a storage foundation. The reference architecture can be used as a foundation to create dynamic cloud solutions and make full use of underlying storage features and functions. This book provides a blueprint that illustrates how clients can create a virtualized infrastructure and storage cloud to help address current and future data storage business requirements. It explores the solutions that IBM offers to create a storage cloud solution addressing client needs. This book also shows how the Reference Architecture for Virtualized Environments and the extensive experience of IBM in cloud computing, services, proven technologies, and products support a Smart Storage Cloud solution that is designed for your storage optimization efforts. This book is for anyone who wants to learn how to successfully deploy a virtualized environment. It is also written for anyone who wants to understand how IBM addresses data storage and compute challenges with IBM System Storage N series solutions with IBM servers and networking solutions. This book is suitable for IT architects, business partners, IBM clients, storage solution integrators, and IBM sales representatives.
IBM Power System S822 Technical Overview and Introduction Scott Vetter 2020-10-29 This IBM® RedpaperTM publication is a comprehensive guide covering the IBM Power System S822 (8284-22A) server that supports the IBM AIX® and Linux operating systems (OSes) running on bare metal, and the IBM i OS running under the VIOS. The objective of this paper is to introduce the major innovative Power S822 offerings and their relevant functions: The new IBM POWER8TM processor, which is available at frequencies of 3.42 GHz, and 3.89 GHz Significantly strengthened cores and larger caches Two integrated memory controllers with improved latency and bandwidth Integrated I/O subsystem and hot-pluggable PCIe Gen3 I/O slots Improved reliability, serviceability, and availability (RAS) functions IBM EnergyScaleTM technology that provides features such as power trending, power-saving, capping of power, and thermal measurement This publication is for professionals who want to acquire a better understanding of IBM Power SystemsTM products. 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 S822 system. This paper does not replace the latest marketing materials and configuration tools. It is intended as an additional source of information that, together with existing sources, can be used to enhance your

knowledge of IBM server solutions.
IBM zEnterprise EC12 Configuration Setup Karan Singh 2013-05-28 This IBM® Redbooks® publication helps you install, configure, and maintain the IBM zEnterprise EC12 server. The zEC12 offers new functions that require a comprehensive understanding of the available configuration options. This book presents configuration setup scenarios, and describes implementation examples in detail. This book is intended for systems engineers, hardware planners, and anyone who needs to understand IBM System z® configuration and implementation. Readers should be generally familiar with current IBM System z technology and terminology. For details about the zEC12 server, see IBM zEnterprise EC12 Technical Introduction, SG24-8050, and IBM zEnterprise EC12 Technical Guide, SG24-8049.
Implementing IBM InfoSphere BigInsights on IBM System x Mike Ebbers 2013-06-12 As world activities become more integrated, the rate of data growth has been increasing exponentially. And as a result of this data explosion, current data management methods can become inadequate. People are using the term big data (sometimes referred to as Big Data) to describe this latest industry trend. IBM® is preparing the next generation of technology to meet these data management challenges. To provide the capability of incorporating big data sources and analytics of these sources, IBM developed a stream-computing product that is based on the open source computing framework Apache Hadoop. Each product in the framework provides unique capabilities to the data management environment, and further enhances the value of your data warehouse investment. In this IBM Redbooks® publication, we describe the need for big data in an organization. We then introduce IBM InfoSphere® BigInsightsTM and explain how it differs from standard Hadoop. BigInsights provides a packaged Hadoop distribution, a greatly simplified installation of Hadoop and corresponding open source tools for application development, data movement, and cluster management. BigInsights also brings more options for data security, and as a component of the IBM big data platform, it provides potential integration points with the other components of the platform. A new chapter has been added to this edition. Chapter 11 describes IBM Platform Symphony®, which is a new scheduling product that works with IBM Insights, bringing low-latency scheduling and multi-tenancy to IBM InfoSphere BigInsights. The book is designed for clients, consultants, and

other technical professionals.

IBM Power 710 and 730 Technical Overview and Introduction Scott Vetter 2014-02-03 This IBM® RedpaperTM publication is a comprehensive guide covering the IBM Power 710 (8231-E1D) and Power 730 (8231-E2D) servers that support IBM AIX®, IBM i, and Linux operating systems. This paper also describes the IBM PowerLinuxTM 7R1 (8246-L1D and 8246-L1T) and the PowerLinux 7R2 (8246-L2D and 8246-L2T) servers that support the Linux operating system. The goal of this paper is to introduce the innovative Power 710, Power 730, PowerLinux 7R1, and PowerLinux offerings and their major functions: IBM POWER7+TM processor is available at frequencies of 3.6 GHz, 4.2 GHz, and 4.3 GHz. Larger IBM POWER7+ Level 3 cache provides greater bandwidth, capacity, and reliability. Integrated SAS/SATA controller for HDD, SSD, tape, and DVD supports built-in hardware RAID 0, 1, and 10. New IBM PowerVM® V2.2.2 features, such as 20 LPARs per core. Improved IBM Active MemoryTM Expansion technology provides more usable memory than is physically installed in the system. Professionals who want to acquire a better understanding of IBM Power SystemsTM products can benefit from reading this paper. 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 710 and Power 730 systems. This paper does not replace the latest marketing materials and configuration tools. It is intended as an additional source of information that, together with existing sources, can be used to enhance your knowledge of IBM server solutions.

IBM High Performance Computing Cluster Health Check Dino Quintero 2014-04-03 This IBM® Redbooks® publication provides information about aspects of performing infrastructure health checks, such as checking the configuration and verifying the functionality of the common subsystems (nodes or servers, switch fabric, parallel file system, job management, problem areas, and so on). This IBM Redbooks publication documents how to monitor the overall health check of the cluster infrastructure, to deliver technical computing clients cost-effective, highly scalable, and robust solutions. This IBM Redbooks publication is targeted toward technical professionals (consultants, technical support staff, IT Architects, and IT Specialists) responsible for delivering cost-effective Technical Computing and IBM High Performance Computing (HPC) solutions to optimize business results,

product development, and scientific discoveries. This book provides a broad understanding of a new architecture. IBM z13 Configuration Setup Paolo Bruni 2016-11-10 This IBM® Redbooks® publication helps you install, configure, and maintain the IBM z13TM. The z13 offers new functions that require a comprehensive understanding of the available configuration options. This book presents configuration setup scenarios, and describes implementation examples in detail. This publication is intended for systems engineers, hardware planners, and anyone who needs to understand IBM z SystemsTM configuration and implementation. Readers should be generally familiar with current IBM z Systems technology and terminology. For details about the functions of the z13, see IBM z13 Technical Introduction, SG24-8250 and IBM z13 Technical Guide, SG24-8251. IBM Power System E850 Technical Overview and Introduction Scott Vetter 2017-04-25 This IBM® RedpaperTM publication is a comprehensive guide covering the IBM Power System E850 (8408-E8E) server that supports IBM AIX®, and Linux operating systems. The objective of this paper is to introduce the major innovative Power E850 offerings and their relevant functions: The new IBM POWER8TM processor, available at frequencies of 3.02 GHz, 3.35 GHz, and 3.72 GHz Significantly strengthened cores and larger caches Two integrated memory controllers with improved latency and bandwidth Integrated I/O subsystem and hot-pluggable PCIe Gen3 I/O slots I/O drawer expansion options offer greater flexibility Improved reliability, serviceability, and availability (RAS) functions IBM EnergyScaleTM technology that provides features such as power trending, power-saving, capping of power, and thermal measurement This publication is for professionals who want to acquire a better understanding of IBM Power SystemsTM products. The intended audience includes the following roles: Clients Sales and marketing professionals Technical support professionals IBM Business Partners Independent software vendors 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 E850 system. This paper does not replace the latest marketing materials and configuration tools. It is intended as an additional source of information that, together with existing sources, can be used to enhance your knowledge of IBM server solutions. IBM Power 750 and 760 Technical Overview and Introduction Scott Vetter 2013-06-24 This IBM® RedpaperTM publication is a comprehensive guide covering the IBM Power 750 and Power 760 servers supporting IBM AIX®, IBM i, and Linux operating systems. The goal of this paper is to introduce the major innovative Power 750 and

Power 760 offerings and their prominent functions: The IBM POWER7+TM processor is available at frequencies of 3.1 GHz, 3.4 GHz, 3.5 GHz, and 4.0 GHz. The larger IBM POWER7+ Level 3 cache provides greater bandwidth, capacity, and reliability. The newly introduced POWER7+ dual chip module (DCM). New 10GBase-T options for the Integrated Multifunction Card that provides two USB ports, one serial port, and four Ethernet connectors for a processor enclosure and does not require a PCI slot. New IBM PowerVM® V2.2.2 features, such as 20 LPARs per core. The improved IBM Active MemoryTM Expansion technology provides more usable memory than is physically installed in the system. Professionals who want to acquire a better understanding of IBM Power SystemsTM products should read this paper. This Redpaper expands the current set of IBM Power Systems documentation by providing a desktop reference that offers a detailed technical description of the 750 and 760 systems. This paper does not replace the latest marketing materials and configuration tools. It is intended as an additional source of information that, together with existing sources, may be used to enhance your knowledge of IBM server solutions. For additional reading: A Technote is availalble that explains the performance architecture of this server. It is of interest to those migrating workloads from existing Power 750 servers. It can be found at: Architecture of the IBM POWER7+ Tecnology-Based IBM Power 750 and IBM Power 760 Technote

IBM Platform Computing Solutions Dino Quintero 2012-12-07 This IBM® Platform Computing Solutions Redbooks® publication is the first book to describe each of the available offerings that are part of the IBM portfolio of Cloud, analytics, and High Performance Computing (HPC) solutions for our clients. This IBM Redbooks publication delivers descriptions of the available offerings from IBM Platform Computing that address challenges for our clients in each industry. We include a few implementation and testing scenarios with selected solutions. This publication helps strengthen the position of IBM Platform Computing solutions with a well-defined and documented deployment model within an IBM System x® environment. This deployment model offers clients a planned foundation for dynamic cloud infrastructure, provisioning, large-scale parallel HPC application development, cluster management, and grid applications. This IBM publication is targeted to IT specialists, IT architects, support personnel, and clients. This book is intended for anyone who wants information about how

IBM Platform Computing solutions use IBM to provide a wide array of client solutions.
Implementing the IBM System Storage SAN Volume Controller with IBM Spectrum Virtualize V8.2.1 Jon Tate 2019-07-04 This IBM® Redbooks® publication is a detailed technical guide to the IBM System Storage® SAN Volume Controller (SVC), which is powered by IBM SpectrumTM Virtualize V8.2.1. IBM SAN Volume Controller is a virtualization appliance solution that maps virtualized volumes that are visible to hosts and applications to physical volumes on storage devices. Each server within the storage area network (SAN) has its own set of virtual storage addresses that are mapped to physical addresses. If the physical addresses change, the server continues running by using the same virtual addresses that it had before. Therefore, volumes or storage can be added or moved while the server is still running. The IBM virtualization technology improves the management of information at the block level in a network, which enables applications and servers to share storage devices on a network.
IBM PowerVM Virtualization Introduction and Configuration Scott Vetter 2015-11-24 This IBM® Redbooks® publication provides an introduction to PowerVMTM virtualization technologies on Power System servers. PowerVM is a combination of hardware, firmware, and software that provides CPU, network, and disk virtualization. These are the main virtualization technologies: POWER7, POWER6, and POWER5 hardware POWER Hypervisor Virtual I/O Server Though the PowerVM brand includes partitioning, management software, and other offerings, this publication focuses on the virtualization technologies that are part of the PowerVM Standard and Enterprise Editions. This publication is also designed to be an introduction guide for system administrators, providing instructions for these tasks: Configuration and creation of partitions and resources on the HMC Installation and configuration of the Virtual I/O Server Creation and installation of virtualized partitions Examples using AIX, IBM i, and Linux This edition has been updated with the latest updates available and an improved content organization.
POWER7 and POWER7+ Optimization and Tuning Guide Brian Hall 2013-03-04 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).

IBM Platform Computing Solutions Reference Architectures and Best Practices Dino Quintero 2014-09-30 This IBM® Redbooks® publication demonstrates and documents that the combination of IBM System x®, IBM GPFSTM, IBM GPFS-FPO, IBM Platform Symphony®, IBM Platform HPC, IBM Platform LSF®, IBM Platform Cluster Manager Standard Edition, and IBM Platform Cluster Manager Advanced Edition deliver significant value to clients in need of cost-effective, highly scalable, and robust solutions. IBM depth of solutions can help the clients plan a foundation to face challenges in how to manage, maintain, enhance, and provision computing environments to, for example, analyze the growing volumes of data within their organizations. This IBM Redbooks publication addresses topics to educate, reiterate, confirm, and strengthen the widely held opinion of IBM Platform Computing as the systems software platform of choice within an IBM System x environment for deploying and managing environments that help clients solve challenging technical and business problems. This IBM Redbooks publication addresses topics to that help answer customer's complex challenge requirements to manage, maintain, and analyze the growing volumes of data within their organizations and provide expert-level documentation to transfer the how-to-skills to the worldwide support teams. This IBM Redbooks publication is targeted toward technical professionals (consultants, technical support staff, IT Architects, and IT Specialists) who are responsible for delivering cost-effective computing solutions that help optimize business results, product

development, and scientific discoveries.

IBM Power 770 and 780 Technical Overview and Introduction Scott Vetter 2013-06-06 This IBM® RedpaperTM publication is a comprehensive guide covering the IBM Power 770 (9117-MMD) and Power 780 (9179-MHD) servers that support IBM AIX®, IBM i, and Linux operating systems. The goal of this paper is to introduce the major innovative Power 770 and 780 offerings and their prominent functions: The IBM POWER7+TM processor, available at frequencies of 3.8 GHz and 4.2 GHz for the Power 770 and 3.7 GHz and 4.4 GHz for the Power 780 The specialized IBM POWER7+ Level 3 cache that provides greater bandwidth, capacity, and reliability The 1 Gb or 10 Gb Integrated Multifunction Card that provides two USB ports, one serial port, and four Ethernet connectors for a processor enclosure and does not require a PCI slot The Active MemoryTM Mirroring (AMM) for Hypervisor feature that mirrors the main memory used by the firmware IBM PowerVM® virtualization, including PowerVM Live Partition Mobility and PowerVM Active Memory Sharing Active Memory Expansion that provides more usable memory than what is physically installed on the system IBM EnergyScaleTM technology that provides features such as power trending, power-saving, capping of power, and thermal measurement Enterprise-ready reliability, serviceability, and availability Dynamic Platform Optimizer High-performance SSD drawer Professionals who want to acquire a better understanding of IBM Power SystemsTM products can benefit from reading this paper.

IBM Spectrum Virtualize and SAN Volume Controller Enhanced Stretched Cluster with VMware Jon Tate 2016-12-19 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
Implementing Citrix Xendesktop on IBM Flex System Ibm Redbooks 2014-01-28 The IBM SmartCloud Desktop Infrastructure offers robust, cost-effective, and manageable virtual desktop solutions for a wide range of clients, user types, and industry segments. These solutions help to increase business flexibility and staff productivity, reduce IT complexity, and simplify security and compliance. Based on a reference architecture approach, this infrastructure supports various hardware, software, and hypervisor platforms. The SmartCloud Desktop Infrastructure solution with Citrix XenDesktop running on IBM Flex System offers tailored solutions for every business, from the affordable all-in-one Citrix VDI-in-a-Box for simple IT organizations to the enterprise-wide Citrix XenDesktop. XenDesktop is a comprehensive desktop virtualization solution with multiple delivery models that is optimized for flexibility and cost-efficiency. This IBM Redbooks publication provides an overview of the SmartCloud Desktop Infrastructure solution, which is based on Citrix XenDesktop running on IBM Flex System. It also provides planning and deployment considerations, and step-by-step instructions about how to perform specific tasks. This book is intended for IT professionals who are involved in the planning, design, deployment, and management of the IBM SmartCloud? Desktop Infrastructure built on IBM Flex System running Citrix XenDesktop. --
IBM Power 720 and 740 Technical Overview and Introduction Scott Vetter 2013-05-16 This IBM® RedpaperTM publication is a comprehensive guide covering the IBM Power 720 and Power 740 servers that support IBM AIX®, IBM i, and Linux operating systems. The goal of this paper is to introduce the innovative Power 720 and Power 740 offerings and their major functions: The IBM POWER7+TM processor is available at frequencies of 3.6 GHz, and 4.2 GHz. The larger IBM POWER7+ Level 3 cache provides greater bandwidth, capacity, and reliability. The 4-port 10/100/1000 Base-TX Ethernet PCI Express adapter is included in base configuration and installed in a PCIe Gen2 x4 slot. The integrated SAS/SATA controller for HDD, SSD, tape, and DVD supports built-in hardware RAID 0, 1, and 10. New IBM PowerVM® V2.2.2 features, such as 20 LPARs per core. The

improved IBM Active MemoryTM Expansion technology provides more usable memory than is physically installed in the system. High-performance SSD drawer. Professionals who want to acquire a better understanding of IBM Power SystemsTM products can benefit from reading this paper. 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 720 and Power 740 systems. This paper does not replace the latest marketing materials and configuration tools. It is intended as an additional source of information that, together with existing sources, can be used to enhance your knowledge of IBM server solutions.

IBM Power System IC922 Technical Overview and Introduction Scott Vetter 2021-05-11 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.

IBM FlashSystem A9000R Product Guide (Version 12.3.1) Bert Dufrasne 2019-02-06 This IBM® Redbooks® Product Guide is an overview of the main characteristics, features, and technology that are used in IBM FlashSystem® A9000R Model 415 and Model 425, with IBM FlashSystem A9000R Software V12.3.1. IBM

FlashSystem A9000R is a grid-scale, all-flash storage platform designed for industry leaders with rapidly growing cloud storage and mixed workload environments to help drive your business into the cognitive era. FlashSystem A9000R provides consistent, extreme performance for dynamic data at scale, integrating the microsecond latency and high availability of IBM FlashCore® technology. The rack-based offering comes integrated with the world class software features that are built with IBM SpectrumTM Accelerate. For example, comprehensive data reduction, including inline pattern removal, data deduplication, and compression, helps lower total cost of ownership (TCO) while the grid architecture and IBM Hyper-Scale framework simplify and automate storage administration. The A9000R features always on data reduction and now offers intelligent capacity management for deduplication. Ready for the cloud and well-suited for large deployments, FlashSystem A9000R delivers predictable high performance and ultra-low latency, even under heavy workloads with full data reduction enabled. As a result, the grid-scale architecture maintains this performance by automatically self-optimizing workloads across all storage resources without manual intervention.

IBM z13 Technical Guide Octavian Lascu 2016-11-11 Digital business has been driving the transformation of underlying IT infrastructure to be more efficient, secure, adaptive, and integrated. Information Technology (IT) must be able to handle the explosive growth of mobile clients and employees. IT also must be able to use enormous amounts of data to provide deep and real-time insights to help achieve the greatest business impact. This IBM® Redbooks® publication addresses the IBM Mainframe, the IBM z13TM. The IBM z13 is the trusted enterprise platform for integrating data, transactions, and insight. A data-centric infrastructure must always be available with a 99.999% or better availability, have flawless data integrity, and be secured from misuse. It needs to be an integrated infrastructure that can support new applications. It needs to have integrated capabilities that can provide new mobile capabilities with real-time analytics delivered by a secure cloud infrastructure. IBM z13 is designed with improved scalability, performance, security, resiliency, availability, and virtualization. The superscalar design allows the z13 to deliver a record level of capacity over the prior IBM z SystemsTM. In its maximum configuration, z13 is powered by up to 141 client characterizable microprocessors (cores) running at 5 GHz. This configuration can run more than 110,000 millions of instructions per second (MIPS) and up to 10 TB of client memory. The IBM z13 Model NE1 is estimated to provide up to 40% more total system capacity than the

IBM zEnterprise® EC12 (zEC1) Model HA1. This book provides information about the IBM z13 and its functions, features, and associated software support. Greater detail is offered in areas relevant to technical planning. It is intended for systems engineers, consultants, planners, and anyone who wants to understand the IBM z Systems functions and plan for their usage. It is not intended as an introduction to mainframes. Readers are expected to be generally familiar with existing IBM z Systems technology and terminology.
IBM SAN Volume Controller Best Practices and Performance Guidelines Anil K Nayak 2021-05-14 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.