

Leadership enterprise server with significantly lower cost of ownership in a highly available and dependable, rack-mount, 1U dual-socket server

IBM



Product Guide

December 2008

IBM System x3550 M2

Product Overview

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Outstanding innovation in only 1U

Supported Uses: All sectors requiring highly available, energy-efficient, rack-optimized solution for physical and virtual internet commercial environments like eBusiness/eCommerce, collaboration, virtualization, databases, and enterprise resource planning applications.

Your challenge is to do more with less—serve more Web pages, handle more secure connections, support more e-mail users. You need to reduce the costs of doing business and improve the service you deliver to your customers while lowering your overall risk. The **dedicated IBM® System x3550 M2** can reduce your costs with its new energy smart design. It can improve service with reduced operational complexity and increased management functionality. It will lower your IT risk with the reliability that comes from no single point of failure. And that of IBM servers, the x3550 M2 offers you the trust that comes from the IBM global reach, service and support.

The x3550 M2 is not simply an upgrade to a previous server... It is one of our new generation of **2-Architecture** servers. It is a game-changing, completely redesigned rack server using significantly less power with unified systems management tools, leadership reliability, availability, serviceability features and tested systems flexibly housed in a compact 1U mechanical package.

The x3550 M2 features Intel® Xeon® 5500 Series Xeon and 2-core processors and either **DDR3** or **DDR** of shared cache, to help provide you with the computing power you need to match your business needs and growth. The new line of Intel processors delivers unprecedented, intelligent performance with features like adaptive performance for applications and environments, turbo boost and hyper-threading technology, and integrated power gates and automated power management.

The x3550 M2 uses up to **16 GBs** with **12GB** of registered **DDR3** memory with **OnChip ECC Error Checking and Correcting** protection—for high performance and reliability. For even higher levels of availability, the x3550 M2 also offers on-chip memory mirroring. Up to **8** integrated high-speed **Gigabit Ethernet** controllers with **1Gb** TCP Offload Engine and **Double Frame** support are available, as are two high-performance adapter ports (**FCoE** and **iSCSI**). The x3550 M2 offers an optional **embedded hypervisor** to manage your virtual workload.

The x3550 M2 offers a choice of up to six high-performance hot-swap hard disk drives with an internal storage capacity of **3.0TB** (six **3.5-inch hot-swap Serial-Attached SCSI (SAS)** or **SATA HDDs**). Optional solid-state drives are also available to keep power low and improve reliability and offer up to **80GB** of storage. The server supports a choice of four **IBM SmartFlash®** storage controllers which provide broad levels of hardware-based **RAID** solutions. The integrated **16** form factor drives businesses to increase their computing power and spread their workload without outgrowing their current data center. Up to **42** of these 1U servers can be installed in a single 42U rack, for a total of up to **84** processors and **336** processor cores, offering tremendous deployment flexibility. Optional Advanced Connectivity Technology (ACT) interconnect cabling reduces cable clutter and cost and increases installation time when interconnecting many rack-mounted servers.

Standard in the x3550 M2 is the Integrated Management Module (IMM) that enables the user to manage and control the server easily—both locally and remotely. In conjunction with the **IBM**, the x3550 M2 comes with an **altitude sensor (altimeter)** that **governs fan rotation** based on altitude, to help lower your energy consumption. The IMM offers a high level of manageability that is designed to keep costs down and the system up—even when network usage increases. IMM's innovative pop-out/stop-down **light path diagnostic panel** enables quick servicing of the system if a problem develops. These advanced features help maximize network availability by increasing uptime, as do our **single-energy solid-state drives**, **hot-swap redundant SAS** or **SATA HDDs**, **redundant ultra-efficient power supplies** and fan modules, **Active Memory**, integrated **RAID**, **temperature-controlled fans** with **Calibrated Fanmost Cooling™**, **PERC 2.0** system, including **highly secure remote power control** and **Serial over LAN**, as well as **test-ready** **redundant LAN**.

Ibm X3550 Server Guide

**Sangam Racherla, Delmar
Demarchi, Scott Dybas, Bobby
Stark, Mansoor Syed, IBM Redbooks**

Ibm X3550 Server Guide:

A Guide to the IBM Clustered Network File System Ira Chavis,Dave Coutts,Bob Demkowicz,Jay Huie,Shuzheng Liu,Sheryl Qualters,Daniel Turkenkopf,IBM Redbooks,2012-08-03 The Clustered Network File System CNFS is a capability based on IBM General Parallel File System GPFSTM running on Linux which when combined with System x servers or BladeCenter Servers IBM TotalStorage Disk Systems and Storage Area Networks SAN components provides a scalable file services environment This capability enables customers to run a General Parallel File System GPFS data serving cluster in which some or all of the nodes actively export the file system using NFS This IBM Redpaper™ publication shows how Cluster NFS file services are delivered and supported today through the configurable order process of the IBM Intelligent Cluster The audience for this paper includes executive and consultant decision makers and technical administrators who want to know how to implement this solution SAN Boot Implementation and Best Practices Guide for IBM System Storage Sangam Racherla,Delmar Demarchi,Scott Dybas,Bobby Stark,Mansoor Syed,IBM Redbooks,2012-09-30 Booting servers from a storage area network SAN is being used increasingly in complex data center environments today due to its significant benefits over the traditional method of booting from local disks SAN Boot enables organizations to maximize consolidation of their IT resources minimize their equipment costs and realize the considerable management benefits of centralizing the boot process In SAN Boot you can deploy diskless servers in an environment where the boot disk is located on often RAID capable storage connected to the SAN The server initiator communicates with the storage device target through the SAN using the Fibre Channel host bus adapter HBA The system downtime is greatly minimized in case a critical component such as a processor memory or host bus adapter fails and needs to be replaced The system administrator needs to swap only the hardware and reconfigure the HBA s BIOS switch zoning and host port definitions on the storage server The system image still exists on the logical drive therefore the server is fully operational after the hardware swap and configuration change is completed This IBM Redbooks publication can help you with the SAN Boot implementation We present various SAN Boot scenarios using IBM System Storage products that include DS5000 DS8000 XIV and SVC The operating systems that are covered include Windows 2008 Red Hat Linux SUSE Linux and VMware *IBM Midrange System Storage Hardware Guide* Sangam Racherla,Bruce Allworth,Alessio Bagnaresi,Chris Bogdanowicz,Corne Lottering,Pablo Pedrazas,Frank Schubert,John Sexton,Alexander Watson,IBM Redbooks,2010-03-16 This IBM Redbooks publication consolidates in one document detailed descriptions of the hardware configurations and options offered as part of the IBM Midrange System Storage™ servers which include the IBM System Storage DS4000 and DS5000 families of products This edition covers updates and additional functions available with the IBM System Storage DS Storage Manager Version 10 60 firmware level 7 60 This book presents the concepts and functions used in planning and managing the storage servers such as multipathing and path failover The book offers a step by step guide to using the Storage Manager to create arrays logical drives and other basic as well as

advanced management tasks This publication also contains practical information about diagnostics and troubleshooting and includes practical examples of how to use scripts and the command line interface This publication is intended for customers IBM Business Partners and IBM technical professionals who want to learn more about the capabilities and advanced functions of the DS4000 series of storage servers with Storage Manager Software V10 60 It also targets those who have a DS4000 and DS5000 storage subsystem and need detailed advice about how to configure it

IBM Tivoli Storage Productivity Center V5.1 Technical Guide Mary Lovelace,Mark Blunden,Daniel Frueh,Curtis Neal,Danijel Paulin,Christian Sonder,Markus Standau,IBM Redbooks,2014-04-08 IBM Tivoli Storage Productivity Center V5 1 products offer storage infrastructure management that helps optimize storage management by centralizing simplifying automating and optimizing storage tasks associated with storage systems data disaster recovery storage networks and capacity management IBM Tivoli Storage Productivity Center V5 1 products include IBM Tivoli Storage Productivity Center V5 1 IBM Tivoli Storage Productivity Center Select Edition V5 1 Tivoli Storage Productivity Center V5 1 is designed to provide device management capabilities such as automated system discovery provisioning data replication configuration and performance monitoring for storage systems and storage networks Tivoli Storage Productivity Center Select Edition V5 1 offers the same features as Tivoli Storage Productivity Center V5 1 but at attractive entry level pricing for operations with smaller capacities It is licensed per storage device such as disk controllers and their respective expansion units This IBM Redbooks publication is intended for storage administrators and users who are installing and using the features and functions in IBM Tivoli Storage Productivity Center V5 1 The information in this book can be used to plan for install and customize the components of Tivoli Storage Productivity Center in your storage infrastructure

IBM System Storage DS5000 Series Hardware Guide Sangam Racherla,Matus Butora,Antonio Dell'Apa,Mario Ganem,Corne Lottering,Libor Miklas,Hrvoje Stanilovic,Alexander Watson,IBM Redbooks,2013-01-10 This IBM Redbooks publication consolidates in one document detailed descriptions of the hardware configurations and options offered as part of the IBM System Storage DS5000 families of products This edition covers updates and additional functions available with the IBM System Storage DS Storage Manager Version 10 77 firmware level 7 77 This book presents the concepts and functions used in planning and managing the storage servers such as multipathing and path failover The book offers a step by step guide to using the Storage Manager to create arrays logical drives and other basic as well as advanced management tasks This publication also contains practical information about diagnostics and troubleshooting and includes practical examples of how to use scripts and the command line interface This publication is intended for customers IBM Business Partners and IBM technical professionals who want to learn more about the capabilities and advanced functions of the DS5000 series of storage servers with Storage Manager Software V10 77 It also targets those who have a DS5000 storage subsystem and need detailed advice about how to configure it This book is designed specifically to address the hardware features and configuration of the IBM System Storage DS5000 family and can

be used in conjunction with the following IBM Redbooks publications IBM System Storage DS5000 Series Implementation and Best Practices Guide SG24 8024 IBM System Storage DS Storage Manager Copy Services Guide SG24 7822 [IBM System Storage DS5000 Series Implementation and Best Practices Guide](#) Sangam Racherla,Matus Butora,Antonio Dell'Apa,Mario Ganem,Corne Lottering,Libor Miklas,Hrvoje Stanilovic,Alexander Watson,IBM Redbooks,2012-12-21 This IBM Redbooks publication represents a compilation of best practices for deploying and configuring the IBM System Storage DS5000 Series family of products This book is intended for IBM technical professionals Business Partners and customers responsible for the planning deployment and maintenance of the IBM System Storage DS5000 Series family of products We realize that setting up DS5000 Storage Servers can be a complex task There is no single configuration that will be satisfactory for every application or situation First we provide a conceptual framework for understanding the hardware in a Storage Area Network Then we offer our guidelines hints and tips for the physical installation cabling and zoning using the Storage Manager setup tasks Next we provide a quick guide to help you install and configure the DS5000 using best practices After that we turn our attention to the performance and tuning of various components and features including numerous guidelines We look at performance implications for various application products such as IBM DB2 Oracle IBM Tivoli Storage Manager Microsoft SQL server and in particular Microsoft Exchange server Then we review the various tools available to simulate workloads and to measure collect and analyze performance data We also consider the IBM AIX environment including IBM High Availability Cluster Multiprocessing HACMPTM and IBM General Parallel File System GPFSTM This edition of the book also includes guidelines for managing and using the DS5000 with the IBM System Storage SAN Volume Controller SVC and IBM Storwize V7000

IBM Midrange System Storage Implementation and Best Practices Guide Sangam Racherla,Bruce Allworth,Alessio Bagnaresi,Chris Bogdanowicz,Corne Lottering,Pablo Pedrazas,Frank Schubert,John Sexton,Alexander Watson,IBM Redbooks,2010-03-31 This IBM Redbooks publication represents a compilation of best practices for deploying and configuring IBM Midrange System StorageTM servers which include the DS4000 and the DS5000 family of products This book is intended for IBM technical professionals Business Partners and customers responsible for the planning deployment and maintenance of the IBM Midrange System Storage family of products We realize that setting up DS4000 and DS5000 Storage Servers can be a complex task There is no single configuration that will be satisfactory for every application or situation First we provide a conceptual framework for understanding the hardware in a Storage Area Network Then we offer our guidelines hints and tips for the physical installation cabling and zoning using the Storage Manager setup tasks After that we turn our attention to the performance and tuning of various components and features including numerous guidelines We look at performance implications for various application products such as DB2 Oracle Tivoli Storage Manager Microsoft SQL server and in particular Microsoft Exchange with IBM Midrange System Storage servers Then we review the various tools available to simulate workloads and

to measure collect and analyze performance data We also consider the AIX environment including High Availability Cluster Multiprocessing HACMP™ and General Parallel File System GPFS™ Finally we provide a quick guide to the storage server installation and configuration using best practices This edition of the book also includes guidelines for managing and using the DS4000 and DS5000 with the IBM System Storage SAN Volume Controller SVC

IBM Power System E850 Technical Overview and Introduction Scott Vetter, Volker Haug, Andrew Laidlaw, Seulgi Yoppy Sung, IBM Redbooks, 2017-04-25 This IBM Redpaper™ 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 POWER8™ 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 EnergyScale™ 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 Systems™ 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

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PC Magazine, 2008 IBM BladeCenter Js12 and Js22 Implementation Guide Ibm Redbooks, 2008 Exploring IBM EServer XSeries Jim Hoskins, Bill Wilson, Ray Winkel, 2003 Annotation Introducing the brands of Intel based IBM computers this guide shows how to integrate these systems into business for greater efficiency productivity and overall business management Written for nontechnical users the

most current xSeries information is included Differences and uses for the assorted computers are detailed as are the latest peripherals software options and networking issues Guidelines for choosing operating systems to fit business needs are also discussed IBM EServer XSeries 450 Planning and Installation Guide David Watts,Gerry McGettigan,Michael Nelson,Lubos Nikolini,Jose Ruibal,2003 The IBM eServer xSeries 450 is IBM s new 64 bit Itanium Processor Family IPF Architecture server and is the first implementation of the 64 bit IBM XA 64 chipset as part of the Enterprise X Architecture strategy This IBM Redbooks publication is a comprehensive resource on the technical aspects of the server and is divided into five key subject areas Chapter 1 Technical description introduces the server and its subsystems and describes the key features and how they work This includes the new Extensible Firmware Interface which provides a powerful replacement to the BIOS facility found on the IA 32 platform Chapter 2 Positioning examines the types of applications that would be used on a server such as the x450 Chapter 3 Planning describes the considerations when planning to purchase and planning to install the x450 It covers such topics as configuration operating system specifics scalability and physical site planning Chapter 4 Installation covers the process of installing Windows Server 2003 Enterprise Edition and SuSE Linux Enterprise Server on the x450 Chapter 5 Management describes how to use the Remote Supervisor Adapter to send alerts to an IBM Director management environment **IBM E-server XSeries 445 Planning and Installation Guide** David Watts,2003-01-01

IBM E-server XSeries 440 Planning and Installation Guide IBM Redbooks,David Watts,2002 **Server Time Protocol Planning Guide** Octavian Lascu,Hans-Peter Eckam,George Kozakos,Paulo Vitor Pereira,IBM Redbooks,2016-04-12 Server Time Protocol STP is a server wide facility that is implemented in the Licensed Internal Code LIC of the IBM zEnterprise Servers zEC12 z196 and z114 System z10TM Enterprise Class z10 EC System z10 Business Class z10 BC IBM System z9 Enterprise Class z9 EC System z9 Business Class z9 BC and zSeries z990 and z890 servers It provides improved time synchronization in a sysplex or non sysplex configuration This IBM Redbooks publication is intended for infrastructure architects and system programmers who need to understand the IBM STP functions Readers are expected to be generally familiar with System z technology and terminology This book provides planning information for Server Time Protocol functions and associated software support For more detailed installation operation and recovery information refer to the companion books Server Time Protocol Implementation Guide SG24 7281 and Server Time Protocol Recovery Guide SG24 7380 **Server Time Protocol Recovery Guide** IBM Redbooks,2010 **IBM Eserver XSeries 455 Planning and Installation Guide** David Watts,Aubrey Applewhaite,Yonni Meza,2004 **Server Time Protocol Recovery Guide** Octavian Lascu,Hans-Peter Eckam,George Kozakos,Paulo Vitor Pereira,IBM Redbooks,2014-05-20 Server Time Protocol STP is a server wide facility that is implemented in the Licensed Internal Code LIC of the IBM zEnterprise EC12 zEC12 IBM zEnterprise 196 z196 IBM zEnterprise 114 z114 IBM System z10TM Enterprise Class z10 EC System z10 Business Class z10 BC IBM System z9 Enterprise Class z9 EC and System z9 Business Class z9 BC It provides improved time synchronization in

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