



## Installing and configuring IBM Datacenter solution software for xSeries 445

A complete IBM® Datacenter solution for your IBM @server™ xSeries® 445 server consists of supported software and hardware components that are interconnected and designed to provide scalability, reliability, and availability for applications and data access.

This documentation contains important information about how to initially configure your IBM Datacenter solution, how to use the recovery CDs that come with the software package, and how to obtain help and support. Except where otherwise stated in this document, use the documentation that comes with your server and optional devices to install, cable, and configure your hardware.

**Important:** Some IBM Datacenter solutions come with additional cabling instructions. Use those instructions in addition to the instructions in the documentation that comes with your server or optional devices.

The following items come with this software package:

- Either Microsoft® Windows® 2000 Datacenter Server publications package **OR** Microsoft Windows Server 2003 Datacenter Edition publications package
- One recovery CD
- This documentation

**Important:** If you did not purchase this software package at the same time as your server, one or more Microsoft Certificate of Authenticity (COA) labels comes with the software package. You must attach the COA labels to your servers in accordance with the licensing agreement that come with the operating system. If you purchased servers with the operating system preinstalled, the COA labels might already be affixed to your servers.

Keep this documentation with the documentation that comes with your server and other optional devices that are part of your IBM Datacenter solution. Additional information is available from the IBM Datacenter Web site at <http://www.ibm.com/eserver/xseries/datacenter/>.

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## Configuring your IBM Datacenter solution

Before you turn on your server and optional devices, make sure that your hardware is correctly configured. See “Configuring your hardware” for hardware configuration information.

If your server does not come with the Datacenter operating system preinstalled, use the recovery CD to install the operating system with a default configuration. Complete the steps in “Using the recovery CD” on page 4 before proceeding.

Complete the following steps to configure your IBM Datacenter solution for the first time or after you restore the default configuration from the recovery CD:

1. Turn on any optional devices that are connected to the server according to the documentation that comes with those optional devices; then, turn on the server according to the documentation that comes with the server.
2. Wait for the automatic initial configuration process to complete. During this process, the server starts briefly in DOS. Then, it restarts and displays a Windows Checkdisk/Convert NTFS screen while the hard disk drives are converted from FAT32 to NTFS. Then, the server restarts again.
3. When the Server Setup window opens, click **Next**.
4. Read and accept the information in the License Agreement window; then, click **Next**.
5. In the Regional and Language Options window, select the applicable settings; then, click **Next**.
6. Type your full name and organization name in the applicable fields; then, click **Next**.
7. Set the license mode to five consecutive access licenses; then, click **Next**.
8. Type the computer name and configure the administrator account; then, click **Next**.
9. Complete the network setup process according to your network configuration; then, click **Next**.
10. Complete the network login setup process; then, click **Next**. When the additional automatic configuration processes are completed, the server restarts automatically.
11. After the server restarts, log in.

**Note:** The first time you log in, the RAID controller is initialized.

12. Install any additional software or device drivers as required for your configuration, which come with your IBM Datacenter solution or an approved service pack release from IBM. See “Installing additional software or device drivers” on page 4 for more information.

You can now install other applications, such as a database application, on your server and begin using your IBM Datacenter solution. See the Microsoft Windows operating system documentation that comes with the software package for information about the operating system.

See “Getting help and service” on page 6 for information about available help and service offerings from IBM if you need assistance with your IBM Datacenter solution.

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## Configuring your hardware

Use the information in this section and the documentation that comes with your server and optional devices to configure your IBM Datacenter solution. If applicable, install your server and optional devices in a rack cabinet according to the documentation that comes with the rack cabinet, server, and optional devices.

**Important:** To ensure compatibility between optional devices and your server, and reliability of your IBM Datacenter solution, make sure that you install and configure only supported hardware.

If your server comes with the operating system preinstalled, Hyper-Threading Technology is enabled for your server. Otherwise, you must enable it.

You must use Fibre Channel technology to connect your server to an external storage enclosure. The IBM Datacenter solution does not support external storage using SCSI connectivity. If your server comes with the operating system preinstalled, the integrated SCSI controller with RAID capabilities is disabled for your server. Otherwise, you must disable the integrated LSI-1030 SCSI controller.

You must install supported PCI and PCI-X adapters in specific slots in your server as indicated in “Installing adapters in stand-alone servers” for stand-alone servers, or “Installing adapters in 16-way configurations” for 16-way configurations.

## Installing adapters in stand-alone servers

You must install supported PCI and PCI-X adapters in specific slots in your server as indicated in the following table.

*Table 1. PCI and PCI-X adapter slot assignments for stand-alone servers*

PCI or PCI-X adapter type	xSeries 445 adapter slot
IBM ServeRAID™ 6M Adapter	1
IBM Gigabit Ethernet Adapter	3
IBM 10/100 Ethernet Adapter	4
IBM FAStT FC2-133 Host Bus Adapter	5
IBM FAStT FC2-133 Host Bus Adapter (secondary)	6

**Note:** The xSeries 445 server has an optional serial port bracket that you must install in adapter slot 1, if installed. If you install the optional serial port bracket, then you must install the ServeRAID adapter in slot 2.

## Installing adapters in 16-way configurations

You must disable the PXE ROM for the on-board Ethernet in both the primary and secondary servers. Also disable the execution option ROM for each installed FAStT FC2-133 Host Bus Adapter in the primary and secondary servers. See the documentation that comes with the adapter for detailed instructions.

If you have two xSeries 445 servers cabled in a 16-way configuration, you must install supported PCI and PCI-X adapters in specific slots in the primary and secondary servers as indicated in the following table.

*Table 2. PCI and PCI-X adapter slot assignments for xSeries 445 16-way configurations*

PCI or PCI-X adapter type	Primary server adapter slot	Secondary server adapter slot
IBM ServeRAID 6M Adapter	1	
IBM FAStT FC2-133 Host Bus Adapter	2	2
IBM 10/100 Ethernet Adapter	n/a	3
IBM FAStT FC2-133 Host Bus Adapter (secondary)	5	5
IBM Gigabit Ethernet Adapter	6	

**Note:** The xSeries 445 server has an optional serial port bracket that you must install in adapter slot 1, if installed. If you install the optional serial port bracket, then you must do the following:

1. If applicable, move the 10/100 Ethernet Adapter from slot 3 in the secondary server to slot 4 of the secondary server.
2. If applicable, move the FAStT FC2-133 Host Bus Adapter from slot 2 in either the primary or secondary server to slot 3 in the primary or secondary server. Repeat as necessary if you have adapters in both servers.
3. Move the ServeRAID 6M Adapter from slot 1 in the primary server to slot 2 in the primary server.

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## Using the recovery CD

The software package includes a recovery CD, which you can use to restore your server to the default configuration. If your server does not come with the Datacenter operating system preinstalled, use the recovery CD to install the operating system with a default configuration. If your server comes with the Datacenter operating system preinstalled, you do not have to use the recovery CD before you begin using the server for the first time.

**Attention:** Any applications that are installed or configuration changes that are made during or after the initial configuration will be lost when you use the recovery CD to restore the default configuration. You must back up all data and configuration information on your server if you want to preserve this information.

Complete the following steps to restore the default configuration to your server.

1. If you have not already done so, back up the data on the hard disks in the server if they contain configuration information or data that you need to preserve.
2. If you have two servers in a 16-way configuration, make sure that the hardware is correctly cabled and configured before installing the operating system. See the documentation that comes with your server for detailed instructions.
3. Turn on the server and insert the recovery CD into the DVD-ROM drive.

**Note:** For 16-way configurations, turn on the primary server and use the primary server DVD-ROM drive.

4. After the operating system installation is completed, configure your IBM Datacenter solution. See “Configuring your IBM Datacenter solution” on page 2 for information about configuring your IBM Datacenter solution.

**Note:** The configuration process could take up to 45 minutes to complete.

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## Installing additional software or device drivers

After initial configuration of your server, you can install additional software or device drivers.

**Important:** Do not install any device drivers that are not part of your IBM Datacenter solution or service pack release unless otherwise instructed by an IBM support representative. If a version of software is included with your solution or a service pack release, always use that version unless otherwise instructed by an IBM support representative.

## Installing a service pack

If you purchase either the Software Update Subscription or Maintenance Update Subscription for your IBM Datacenter solution, you might receive a service pack release that contains updated software or device drivers. The service pack release contains instructions for installing the software or device drivers that are part of that release. See “Getting help and service” on page 6 for more information about these optional service offerings.

## Installing IBM Director

You can install IBM Director Agent from the *IBM Director* CD that comes with your server. Follow the instructions in the IBM Director documentation or your server documentation to install IBM Director Agent.

**Note:** Do not perform a complete IBM Director installation on the server that is running a Microsoft Windows Datacenter operating system. Install only IBM Director Agent on that server.

## Installing TotalStorage FAStT Storage Manager software

Use the information in this section to determine the location of the TotalStorage® FAStT Storage Manager software on your hard disk that comes with your IBM Datacenter solution.

### For Microsoft Windows 2000 Datacenter Server:

- *d:*\Software\FAS900\CONTROL\_CODE – This directory contains firmware to update an IBM FAS900 Storage Server. See the documentation that comes with the controller for update instructions.
- *d:*\Software\FAS900\SM8clientcode\SM8agent – This directory contains the FAStT Storage Manager Agent. See the documentation that comes with the optional device for installation instructions.
- *d:*\Software\FAS900\SM8clientcode\SM8client – This directory contains the FAStT Storage Manager Client. See the documentation that comes with the optional device for installation instructions.
- *d:*\Software\FAS900\SM8clientcode\RDAC – This directory contains the FAStT Storage Manager Redundant Disk Array Controller (RDAC). See the documentation that comes with the optional device for installation instructions.

(where *d:* is the drive letter of the hard disk)

### For Microsoft Windows Server 2003 Datacenter Edition:

- *d:*\Software\FAS900 – This directory contains firmware to update an IBM FAS900 Storage Server. See the documentation that comes with the controller for update instructions.
- *d:*\Software\SMAGENT – This directory contains the FAStT Storage Manager Agent. See the documentation that comes with the optional device for installation instructions.
- *d:*\Software\SMCLIENT – This directory contains the FAStT Storage Manager Client. See the documentation that comes with the optional device for installation instructions.
- *d:*\Software\SMRDAC – This directory contains the FAStT Storage Manager Redundant Disk Array Controller (RDAC). See the documentation that comes with the optional device for installation instructions.

(where *d:* is the drive letter of the hard disk)

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## Getting help and service

See the documentation that comes with your server and optional devices for warranty information and information about how to obtain help and service for your hardware. Software support is provided by several optional service offerings described in this section. Contact your IBM representative for information about how to purchase one of the optional service offerings.

## Hardware service and support

You can receive hardware service through IBM Services or through your IBM reseller, if your reseller is authorized by IBM to provide warranty service. Go to <http://www.ibm.com/planetwide/> for support telephone numbers, or in the U.S. and Canada, call 1-800-IBM-SERV (1-800-426-7378).

In the U.S. and Canada, hardware service and support is available 24 hours a day, 7 days a week. In the U.K., these services are available Monday through Friday, from 9 a.m. to 6 p.m.

## Optional service offerings

**Note:** Not all service offerings are available in all countries or regions. Your IBM representative can assist you in finding out what service offerings are available to you. Additional information can be found at the IBM Datacenter Web site <http://www.ibm.com/eserver/xseries/datacenter/>.

IBM provides Solution Assurance at the time of purchase, which includes:

- Server and solution evaluation
- ServerProven<sup>®</sup> – Ensures solution compliance
- ClusterProven<sup>®</sup> – Ensures solution compliance for clustered configurations
- Independent technical assessment of selected solution designs or proposals
- Evaluation of the solution to ensure that your requirements are met

IBM offers software support for your IBM Datacenter solution through Microsoft Authorized Premier Support (MAPS) as an optional service.

MAPS consists of the following features:

- Prompt and accurate problem resolution for Microsoft technologies, with toll-free telephone support 24 hours a day, 7 days a week, year-round
- An assigned IBM Technical Account Manager (TAM)
- A Microsoft-designed Support Account Manager (SAM)
- Support coverage in blocks of 10 incidents
- Single point of contact for IBM Datacenter solution hardware and software support
- Monthly status calls and reports
- Escalation management with third-party support coordination
- Unlimited access to the Microsoft Premier Online Web site, including solutions to common problems, product-critical problem alerts, and expert roundtables.
- A one-year subscription to Microsoft Technet Plus (Server License), which includes monthly kits consisting of patches, device drivers, and technical documentation

Support provided by MAPS includes:

- Usage and installation assistance
- Product compatibility and interoperability assistance
- Diagnostic information review
- Specific configuration assistance
- Defect resolution

The following optional service offerings are available for your IBM Datacenter solution on a fee basis:

- **Advanced Software Support** — IBM provides 24-hour-a-day, 7-day-a-week, year-round coverage tailored to meet your unique needs for continuous business-critical system operation. This also includes access to the Joint Queue
- **Business Continuity and Recovery Services** — This service provides assistance in planning, designing, and implementing processes and solutions in preparation for potential business disruptions or disasters.
- **Custom Installation Services** — IBM provides skilled, experienced technical resources to deliver installation services for your IBM Datacenter solution.
- **Enterprise Services for Microsoft Technologies** — Skilled Microsoft Certified Professionals deliver migration, assessment, planning, architecture, design, and deployment services to assist with the implementation of your solution.
- **Hardware Maintenance Agreements** — This service provides post-warranty support for your hardware for one year with 24-hour-a-day, 7-day-a-week support. It is available in 4-hour response time or 2-hour response time offerings in some countries or regions.
- **High Availability Services** — This service provides comprehensive, cross-platform, end-to-end, business-critical support for xSeries environments designed to improve availability and reduce the duration and impact of outages, should they occur. This service includes the following features:
  - Availability-readiness workshop
  - Comprehensive availability assessment
  - Development and delivery of a tailored packaged solution
  - Service-level agreement for an availability guarantee on eligible xSeries platform environments up to 99.9%
- **Operational Support Services:**
  - **Account Advocate** — This service provides support from an assigned specialist thoroughly familiar with your solution and business environment from the time the problem is reported until the problem is resolved.
  - **Electronic Systems Management** — This service is designed for xSeries servers to reduce the total cost of ownership in complex xSeries systems-management environments. There are three systems-management elements to this offering:
    - Server Health Management — Remote problem response and resolution
    - Server Service Level Management — Automated local and remote backup and restoration
    - Server Accounting Management — Automated monitoring and asset tracking
- **IBM Software Update Subscription for Microsoft Windows Datacenter** — This subscription service provides periodic updates for a period of 12 months for the Microsoft Windows Datacenter operating system for which you are licensed. In addition to IBM firmware and device drivers certified by Microsoft for use with Datacenter and IBM servers (the Datacenter Server Solution), you will also receive updates including a new version or release for the Microsoft Datacenter operating system. IBM builds, tests, and provides the complete certified package of these components. An update might contain a supplement or service pack as specified by Microsoft and IBM.

- **Support Line** — Technical assistance is provided through support available from the IBM Support Line. The Support Line provides assistance for solving problems, correcting operating-system errors, and resolving problems. Installation assistance is also available through the Support Line. It also includes access to the Joint Queue.
- **Testing Services** — These services provide proof of concept, assessment, design, planning, and automated testing to help determine problem areas before you implement system applications. These services help create a scalable, stable, and reliable business environment.

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## Important notes

Processor speeds indicate the internal clock speed of the microprocessor; other factors also affect application performance.

CD-ROM drive speeds list the variable read rate. Actual speeds vary and are often less than the maximum possible.

Maximum internal hard disk drive capacities assume the replacement of any standard hard disk drives and population of all hard disk drive bays with the largest currently supported drives available from IBM.

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