



IBM  **server xSeries**

IBM Global Services

Solution Partnership

Microsoft Windows 2000

Datacenter Server

The Datacenter experience

Microsoft® Windows® 2000 Datacenter Server is Microsoft's operating system for mission-critical enterprise applications, and IBM has been supporting these kinds of systems for decades. IBM understands the complexities of working within a data center, the requirements for reliability and the demands for availability that drive today's market. To ensure that you feel confident about your decision to move to Windows 2000 Datacenter Server, the IBM Datacenter Solution Program provides you with IBM Datacenter knowledge through our offerings, services and software developer relationships.

How is Microsoft Windows 2000 Datacenter Server different?

Windows 2000 Datacenter Server not only provides a greater level of scaling, up to 32 processors, versus eight processors for Windows 2000 Advanced Server, but it also provides a better “uptime” model through Microsoft's relationship with selected OEMs. IBM rigorously tests hardware and software components and will continue to do so to provide you with Windows 2000 Datacenter Server-certified solutions. This certification will help ensure that only tested hardware, device drivers and validated kernel-level applications for example, are offered in each solution. IBM has been conducting this type of extensive testing through its ServerProven®, and ClusterProven®¹ programs for years.

Why IBM?

IBM has a heritage of supporting enterprise-class customers and has been doing just that for more than 40 years. The IBM Datacenter Solution Program provides a comprehensive set of offerings around the Microsoft Datacenter operating system. The program includes certified hardware configurations, certified kernel mode applications as well as standard and optional services. IBM is also working with other solution developers and hardware developers to validate their components within the overall IBM Datacenter offering.

Scalable

The IBM Datacenter Solution Program is centered around the Microsoft Datacenter operating system, which scales to support greater memory, processors and clustered nodes than Windows 2000 Advanced Server and Windows 2000 Server. IBM also offers unique system attributes for the data center with IBM Enterprise X-Architecture® technology that includes outstanding scalability, systems management and serviceability.

Reliable

With scalability comes the demand for higher reliability—whether it's the cornerstone of your e-business, your payroll system or your e-mail server. The IBM Datacenter Solution Program is designed to provide the level of service and support that you have come to expect and demand for solutions that are critical to your operations.

Services

To deploy a highly available solution you need a robust configuration, which has controlled change and greater levels of support and service. IBM Datacenter services have been designed with these attributes in mind. IBM Global Services (IGS) has the breadth of experience to provide tailored optional services that complement the program services.



Specifications

Following is a single-node sample configuration.

IBM also offers two-, three- and four-node cluster configurations

Server

- IBM *@server* x440
- Four Intel Xeon Processors MP with up to 2MB L3 cache (x440 designed to support 16 processors)
- 2GB ECC SDRAM Memory (x440 supports up to 32GB of memory)
- ServeRAID-4MX Ultra160 SCSI Controller
- Two 73.4GB⁸ internal hot-swap hard disk drives (Windows Datacenter is preloaded onto these drives in a mirrored configuration)
- FASiT FC-2 host bus adapter

Storage subsystem

- FASiT700 Fibre Storage Server
- Two FASiT EXP500 Storage Expansion Units
- Two 18.2, 36.4 or 73.4GB Fibre Channel hot-swap hard disk drives

Other hardware items

- NetBAY42™ Enterprise Rack
- 15" TFT LCD Color Monitor
- Space Saver II Keyboard
- Optional expansion components for additional processors, memory, storage expansion, tape backup and connectivity

Software

- Microsoft Windows 2000 Datacenter Server licensed for up to 16 processors (Client Access Licenses to be purchased separately)
- IBM Director 3.1 Management Software
- APC UPS Software

Standard IBM Services⁹

- 24x7 same-day response for hardware service
- Factory installation and software preload
- Solutions Assurance Review

Comprehensive IBM Support Services

- 24x7 base level software support (response times may vary)
 - Unlimited Calls
 - Incident-based Option¹⁰
- Single point of contact for hardware and software support
- Software support (24x7)
- High Availability Services with availability guarantee up to 99.99%
- Limited warranty hardware service upgrade (24x7x2 hour response)¹⁰
- Operational Support Services
 - Electronic systems management for xSeries servers
 - Account Advocate
- Server Migration and Consolidation
- Proof of Concept Testing
- Design and Planning Services
- Business Continuity and Recovery Service
- Custom services for unique requirements
- Microsoft Windows 2000 Datacenter Software Update Subscription Service

Additional hardware

- IBM Enterprise Storage Server Model F20
- EMC Symmetrix 5000 Enterprise Storage System
- IBM LTO Tape Library
- IBM 10/100 and Gigabit Ethernet adapters
- IBM SAN Fibre Channel switch, up to 16 ports
- Cisco 12-port Ethernet switch
- APC Smart-UPS

The Datacenter solution

IBM Datacenter Solution Program hardware offering

The IBM @server xSeries™ 440 is the foundation of the Datacenter solution. Designed for mission-critical environments with IBM Enterprise X-Architecture technology, the x440 provides the highest levels of availability. With IBM Enterprise X-Architecture attributes, this rack-optimized, 8-way (designed for 16-way) SMP server utilizes leading-edge technology in the marketplace. Moreover, the Datacenter Server operating system can support scaling up to a 32-way SMP to maximize your growth potential. Using a building-block approach to provide the broadest range of solution choices, the base offering includes four Intel® Xeon™ processors MP; 2GB ECC SDRAM memory; two high-performance internal disk drives utilizing ServeRAID™ technology to house the OS; external Fibre Channel Storage, along with multiple LAN connectivity options. The high-performance I/O subsystem and high-availability attributes make the x440 the perfect choice for the Datacenter OS server platform. IBM will preload

Windows 2000 Datacenter Server on your systems. In addition, the solution comes with IBM Director software and APC UPS software³.

Datacenter applications

The rigorous Datacenter certification process tests the system, as well as any included software product that has a kernel-mode component, to provide unimpaired interaction with the operating system. But our testing does not stop there. IBM, in concert with VeriTest (third-party provider of ISV certification for Microsoft products), is working with leading software vendors to ensure that their applications execute smoothly on Datacenter under the expected intense workloads. Testing system management, storage management and database offerings on IBM Datacenter systems are just a few ways that IBM is working to meet your needs. For a complete listing of Datacenter-certified software, visit VeriTest's Web site at www.veritest.com.

In addition, the IBM Center for Microsoft Technologies, a 50,000-sq.-ft. facility located near Microsoft headquarters in Redmond, Washington, houses over 130 highly specialized technicians who are working hand-in-hand with their Microsoft counterparts to deliver validated solutions.

The IBM service advantage

IBM Global Services offers a set of standard and optional services as part of the IBM Datacenter Solution Program. Services include factory hardware integration and installation of the operating system, a Solution Assurance Review⁴, 24x7 same-day hardware service with single point of contact and access to the joint IBM and Microsoft support queue. By providing hardware integration and operating system installation, IBM is able to fully test the operational readiness of the hardware configuration.



IBM @server x440

Comprehensive Support Services

IBM support ensures that you only have one number to call for hardware and OS support. IBM and Microsoft jointly staff the support queue, so that the risk of “fingerpointing” between hardware and software providers is reduced. Base software support includes 24x7 support. IBM can also provide remote electronic systems monitoring, expert account advocates with in-depth knowledge of your IT environment, as well as assistance with server migration and

consolidation projects. You can get High Availability Services for up to a 99.99% availability guarantee on your servers and additional service level guarantees on your entire network⁵. Periodic updates to Datacenter including IBM firmware and device drivers are available via a Software Update Subscription Service. Additionally, IBM can provide custom services for a host of unique requirements, such as Business Continuity and Recovery Services to ensure systems availability in the event of a natural disaster or other catastrophic event.

Confidence in making the right decision

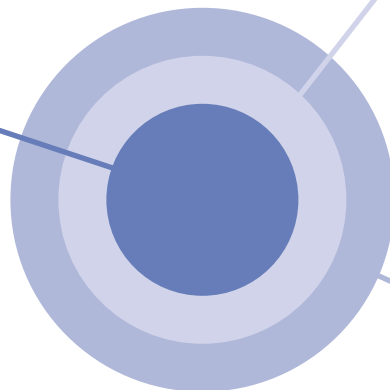
You want to partner with a company that has worked with enterprise customers for decades; a company that knows more about business-critical operating environments than any three competitors combined; a company that makes some of the best, industry-standard servers on the market; a company with a strong relationship with Microsoft. You need a company that is all of these—IBM.

IBM Datacenter Solution Program

The IBM Datacenter Solution Program provides all the right elements for your enterprise needs.

Core Product System and Services

- Certified xSeries hardware
- Solution Assurance Review
- 24x7 same-day onsite labor limited warranty service for term of limited warranty⁶
- Factory integration
- Microsoft Windows 2000 Datacenter Server
- IBM Director Management software



Comprehensive IBM Support Services

- 24x7 base software support⁷
- Single point of contact for hardware and software support
- High Availability Services with up to 99.99% availability guarantee (limited availability)
- 24x7x2-hour warranty upgrade (limited availability)
- Electronic systems monitoring and management
- Microsoft Windows 2000 Datacenter Software Update Subscription Service

Additional IBM Services

- Operational support
- Account Advocate
- Design and Planning Services
- Custom services for unique requirements
- Windows 2000 migration and consolidation
- Proof of Concept Testing
- Business Continuity and Recovery Service



Need more information?

Refer to the IBM Datacenter Solution Program Configuration Guide for configuring Datacenter systems.

This, as well as other Datacenter information, can be found at:

ibm.com/pc/ww/eserver/xseries/windows/datacenter

Other useful Web sites include:

Main xSeries Windows 2000 site

ibm.com/pc/ww/eserver/xseries/windows

IBM xSeries High Availability Guarantee

www.pc.**ibm.com**/ww/eserver/xseries/999guarantee

IBM Enterprise X-Architecture technology

www.pc.**ibm.com**/us/eserver/xseries/xarchitecture/enterprise

IBM Global Services

ibm.com/services/index.html

IBM MAPS: Microsoft Authorized Premier Support

Main site

www-1.**ibm.com**/services/its/us/drmklm10.html

Supported Products site

www-1.**ibm.com**/services/its/us/spl_drmklm10.html

Microsoft Windows 2000 Datacenter Server Product and Program

www.microsoft.com/windows2000/datacenter/default.asp

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- ⁴ IBM will perform a Solution Assurance Review as a standard part of a Datacenter Solution sale; however, Business Partners may not offer it as a standard service.
- ⁵ The High Availability Services for Business Critical Systems offering for an availability guarantee is an optional service and is only offered for eligible IBM @server xSeries environments at this time. IBM reserves the right to change the terms and conditions of the program at any time, without notice. For more details, refer to **ibm.com**/services/its/us/highavail2.html.
- ⁶ For information regarding the IBM statement of limited warranty, please call 1 800 772-2227. Copies available upon request. Telephone support may be subject to additional charges. With respect to onsite service, IBM sends a technician after attempting to diagnose and resolve the problem remotely.
- ⁷ Response times vary. May exclude some holidays.
- ⁸ GB equals one billion bytes when referring to storage capacity; accessible capacity may be less.
- ⁹ Not all Services listed are Business Partner-enabled.
- ¹⁰ May not be available in all countries.



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