

IBM @server iSeries Server Consolidation Solutions



Highlights

- ***Helps reduce total cost of ownership through simplified management, resource sharing and improved availability***
- ***Increases application flexibility through support for a variety of operating systems***
- ***Optimizes server usage through dynamic logical partitioning technology***

Success can be simple

Today's e-businesses rely on a variety of information technologies, from messaging systems to groupware to Web servers to mission-critical line-of-business applications. The total picture can be very complex. But it doesn't need to be.

Server consolidation with the IBM @server iSeries offers an uncomplicated approach to cutting costs, allowing corporations to focus on business—not technology. Server consolidation allows you to run diverse applications, on a variety of operating systems, within a single iSeries server footprint. You can leverage the simple systems management, leading-edge performance, enterprise-class functionality and advanced storage technology of the iSeries to streamline your company's information technology (IT) operations and drive down costs. Consolidation on the iSeries gives you the best of many diverse operating systems in one place.

Flexibility:

Your business, your choice

Thanks to the iSeries' dynamic logical partitioning (LPAR) technology and support for multiple application environments, e-business technologies and operating systems, you have the flexibility to choose the best applications for your needs. In a single server, you can run your core business and e-business applications, Linux®, Lotus® Domino™, UNIX®, Microsoft® Windows® and Java®—all managed centrally and running completely independently of one another. One iSeries can be divided into as many as 32 separate logical partitions with server resources divided at will among them.

The new dynamic logical partitioning and incremental processor allocation support built into Operating System/400® (OS/400®) V5R1 let you assign each application exactly the server resources it needs as it needs them...without shutting down the partition. It's true enterprise-level functionality in a midrange business computer.

A single partition acts as a completely separate server. For example, within one partition, you can run a standard PowerPC® Linux server just as if it were running on its own separate computer. Thus, a single iSeries can replace an entire Linux server farm, with up to 31 separate Linux partitions.

The iSeries also has the ability to handle multiple Windows servers—as many as 32, installed internally—via the newly enhanced Integrated xSeries Server. This lets you run Windows NT® and Windows 2000® servers separately from the iSeries itself, yet still share management and storage resources. There's also a new Integrated xSeries Adapter that lets you connect up to 16 n-way xSeries servers directly to the iSeries to handle a wide variety of Windows 2000 Server workloads.

Plus Storage Area Network Support

iSeries has the Storage Area Network (SAN) support built in so you can manage your storage resources centrally as well. iSeries provides the disk storage, fabric and the management for these OS/400, Linux and Windows server environments. By letting iSeries be the SAN, you leverage iSeries storage virtualization facilities to efficiently support diverse workloads onto one server.

Consolidation that delivers to the bottom line

Consolidating all applications, file/print, e-mail and Web serving on the iSeries avoids the necessity of building “server farms” of multiple underutilized servers, each running a single application or service.

Not only does having fewer servers translate into the opportunity to more efficiently manage human, financial and IT resources, but it also helps you optimize server capacity. And server consolidation can also help reduce your total cost of ownership.

IBM's server consolidation solutions

As one of the industry's most successful application servers, iSeries offers companies a more intelligent solution to managing technology through consolidation. Some firms prefer to have servers distributed in multiple sites; others prefer a more centralized approach. In either case, the iSeries can play a vital role for companies eager to reduce server administration costs by relocating existing servers and replacing smaller servers, and can help you gain efficiencies by moving applications running on multiple servers onto a single server.

IBM also offers a wide range of IBM Global Services specialists who have the practical experience and expertise to help you with both the planning and the project management of iSeries server consolidations.

The iSeries provides four solutions for companies intending to improve their IT operations through server consolidation:

- *iSeries consolidation with logical partitioning (LPAR)*
- *Linux*
- *Lotus Domino*
- *Microsoft Windows Servers on the Integrated xSeries Server or on standalone xSeries servers attached via the Integrated xSeries Adapter*

Logical partitioning

The new LPAR functionality provided by OS/400 V5R1 gives you unprecedented application flexibility. For the first time in this class of server, you can dynamically move processing power to service applications running in separate partitions. The reallocation is done without the need to shut down and restart the partition. Also, a portion of an individual processor can be assigned to a partition, giving you a fine degree of control over the system and optimizing usage. The possibilities are striking. For example, a company with operations on both sides of the Atlantic could allocate

resources to its European operations while they're open, then simply reallocate those resources to the North American operations as the day progresses.

Consolidating your systems with LPAR can help to provide:

- *Substantial cost savings for fewer systems and data centers*
- *Improved availability management and service levels*
- *Faster deployment of e-business and modernized applications*
- *Increased ability to rationalize and modernize networks*
- *Centralized international operations with separate languages and time zones*

With LPAR on the iSeries, companies have both the power and flexibility to address multiple system requirements in a single machine. LPAR lets you run up to 32 independent servers—each with its own processors, memory and disks—within a single iSeries. And there's high-speed TCP/IP communication between partitions, entirely within the iSeries; applications can communicate with one another without sending data out through the I/O adapters and onto your network.

Support for native Linux

One of the most important developments in business computing in recent years is the arrival of Linux. Linux, an open-source implementation of UNIX, is rapidly becoming the de facto standard for fundamental e-business applications like Web servers, firewalls and e-mail.

With V5R1, the iSeries supports Linux. Linux for PowerPC runs within an iSeries logical partition, allowing you to extend and enhance your OS/400 applications with Linux applications running on up to 31 separate Linux server partitions, all on the same iSeries.

The great advantage to consolidating your Linux servers onto iSeries is that it makes them far easier to manage and more cost-effective. The individual Linux servers, each running in its own partition, are able to share processors, disk, tape, CD-ROM and LAN resources with the other applications running on the iSeries.

And networking performance is improved over discrete servers. The separate Linux partitions can be connected together in a virtual LAN;

from their point of view, they're sitting in separate boxes and communicating with one another using standard networking protocols. But the network traffic never leaves the iSeries to pass through your network infrastructure: the partitions communicate directly with one another at high speed, and don't add any load to your physical LAN.

Lotus Domino for iSeries

You can take advantage of real business benefits by consolidating your Domino and other e-mail systems from Windows 2000 or NT servers to the more robust Domino for iSeries environment. Consolidating on iSeries servers can help lower costs, speed implementation, increase performance and reliability, and result in higher user satisfaction compared to PC servers. And, the enhanced connectivity afforded by iNotes helps you integrate your Domino applications more effectively into a Microsoft Outlook and/or Web-based environment.

Outstanding scalability. Domino partitioning delivers hosting capabilities by supporting an unlimited number of Domino servers on a single iSeries. NotesBench benchmarks demonstrate that the iSeries Model 840 can support as many as 75,000 concurrent NotesBench R5 Mail users.



World-class reliability and availability. Each Lotus Domino server runs in its own independent OS/400 subsystem, sharing processor, memory and other computing resources while remaining isolated from one another. If one Domino server goes down, the Domino servers in other subsystems are not affected and the iSeries is able to automatically restart the failing server. This unique architecture provides the reliability you need to run Lotus Domino and your core business applications on the same server.

Windows 2000 Server

The Integrated xSeries Server for iSeries is an Intel® Pentium® III-based server that plugs into your iSeries and runs Windows 2000 Server. The Integrated xSeries Adapter lets you directly attach n-way IBM xSeries servers to the iSeries via a High-Speed Link (HSL), exploiting their robust scalability for complementary Windows applications, while retaining all the storage and systems management features of the iSeries.

Consolidating multiple Windows servers inside an iSeries server allows you to manage all your servers together in a single system and delivers flexible storage management. It's the answer for businesses that want to run Microsoft Exchange, personal productivity applications or any Windows application that extends your core business applica-

tions on the iSeries. This helps reduce the high cost and complexity of PC server farms, and improves management and administration of a combined iSeries and Windows 2000 and NT network.

All together now

By consolidating critical data and applications on the iSeries, you can do more than cut costs—you can create a total business solution that's greater than the sum of its parts. That, in turn, means you can go to market faster, smarter and more efficiently than the competition. It's an opportunity you can't afford to miss.

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Integrated Marketing Communications,
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3-01
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GM13-0059-00