



**IBM System i integration with BladeCenter and System x**

## Highlights

- Integrate server management and user administration to help reduce maintenance and operation costs
- Centralize Windows® data using System i™ virtual storage
- Consolidate backup and share tape resources
- Help streamline communication to applications and data with virtual network connections
- Easily and affordably adapt to business growth



## Innovative solutions to simplify your Windows infrastructure

### IT simplification

When it comes to simplifying your IT environment, you need to look well beyond basic hardware or server consolidation. In complex environments necessary to support your business needs, one way to reign in costs is better management, better administration and better control.

The integrated design, advanced systems management and enhanced virtualization technologies make the IBM System i platform ideal to help you reduce costs, improve productivity and increase responsiveness. What the System i family allows you to do is integrate, extend and grow your business applications like never before by integrating a variety of operating systems, including i5/OS®, AIX 5L™, Linux® and Windows Server 2003®. You choose and run the best mix of applications for your business and manage them centrally. By helping reduce complexity and enabling a high level of IT flexibility, System i integration with BladeCenter® and the System x™ platform offers an uncomplicated approach to gaining real business value.

### Innovative integration

The System i platform combines operating systems, middleware, database, security and storage into a single integrated system. This one system can be deployed very quickly, is less costly and offers easy manageability. Instead of supporting and maintaining multiple disparate servers, often one for each application running on Windows, you can simply integrate operations, networking and server management of a System i, BladeCenter and System x environment to help:

- Simplify your Windows infrastructure, and easily grow for the future
- Reduce administration and maintenance costs
- Run the applications you need—using resources and skills already in place

### Centralized, graphical server management

The System i Navigator provides a graphical user interface (GUI) for managing the System i and attached BladeCenter and System x servers. You can easily start and stop servers, enroll i5/OS users in a Windows domain and perform storage management tasks such as adding new virtual disks to a Windows server. In addition, Navigator for Wireless enables you to view server status and start/stop servers from a Web-enabled cell phone, personal digital assistant (PDA) or a Web browser.

### Synchronized security

We all know the importance of effective security. We also understand the time and costs associated to administer and enforce security measures. One of the ways System i can reduce IT costs is by enabling i5/OS and Windows Server user IDs and passwords to be managed centrally. Now when a user is added to i5/OS, the user can be automatically added to the Windows environment with proper authorizations. When the user changes his or her i5/OS password, the corresponding Windows password can be automatically updated. This integration capability can do a lot to ease user administration efforts because it eliminates the need for users to maintain multiple passwords across multiple systems.

### Simplified storage management

One of the most significant advantages of the System i family is its unique storage architecture. It can provide more flexibility than standalone Windows server implementations, where dedicated disk drives are typically attached to each server and every server's capacity is managed separately. With System i integration, there is a single pool of virtual storage that Windows may share. "Virtual disks" are allocated in i5/OS to each System x or blade server individually, yet all physical disk capacity and drive utilization is automatically managed by the System i for improved performance and asset utilization. If a Windows server begins to run out of disk space, additional virtual storage may be allocated simply and easily, without rebooting.

### Consolidated backup

i5/OS can consolidate the backup of System i, System x and BladeCenter systems allowing businesses to use their hardware and IT support resources more fully. In a typical server farm, data may be scattered across multiple servers, with backup processes running on each one and multiple tape drives to manage. With the integrated System i environment, all data and files are centralized in virtual storage and a single process can backup i5/OS and Windows data to a high-speed System i tape device. It's that simple.

### Flexible server deployment

System i storage virtualization also provides innovative options for enhancing the reliability and recoverability of your Windows servers. If a physical server fails, you can quickly and easily switch the server's storage to a "hot spare" System x or blade server. This can reduce the overall number of servers needed by enabling one "spare" to be available to protect multiple production Windows servers.

In a typical Windows implementation there may be several server configurations, including production servers, development servers, and test servers—each with their own set of software and device drivers. Testing and deploying changes across the various Windows servers can be problematic because of the number of configurations that must be maintained. A test server may need to be rebuilt from scratch to match a production server whenever there are changes to be deployed.

A single System x or blade server integrated with System i may be used to support multiple test and deployment environments. One physical System x or blade server is easily reassigned to the role of another server, because the hardware may be completely disconnected from the virtual storage on which a specific Windows server configuration and data image resides.

### Streamlined communications

System x and BladeCenter servers can communicate over System i virtual Ethernet network connections, which may be utilized for Windows-to-Windows, Windows-to-i5/OS or even Windows-to-Linux on POWER™ communications. Because there are fewer cables, connectors, hubs and routers, there are fewer points of potential failure. Network traffic travels within the System i infrastructure and less across client networks. Using virtual Ethernet networks can isolate server-to-server traffic to help provide more reliable communications between applications and reduce external network traffic.

### How it works

IBM System x and BladeCenter servers integrate with the System i platform via iSCSI host bus adapters. Internet SCSI (iSCSI) is an industry-standard storage networking protocol for linking data storage facilities. iSCSI commands are sent across an Ethernet network in TCP/IP packets. By taking advantage of iSCSI Host Bus Adapters (HBA), you can attach one or more diskless System x or BladeCenter servers to the System i platform via standard 1 Gbps Ethernet switches and cables. iSCSI HBAs enable you to connect System x and BladeCenter servers to your System i environment, tightly integrate server management and take advantage of System i virtual storage, networking and tape resources.





System x and BladeCenter servers running Windows Server 2003 may be integrated via iSCSI with System i models 520, 550, 570 or 595 running i5/OS V5R4. These Windows servers integrated via iSCSI are also able to coexist with integrated eServer™ xSeries® servers and xSeries systems attached via Integrated xSeries Adapters.

**For more information**

Contact your IBM sales representative or IBM Business Partner or please visit:

**ibm.com/systems/i/systemx**

For information about iSCSI host bus adapters for System i, please visit:

**ibm.com/systems/i/systemx/iscsi**

For detailed information about System x and BladeCenter configurations that may be attached to System i, please visit: **ibm.com/systems/i/systemx/iscsi/servermodels**



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