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U N I V E R S I T Y   2 0 0 3

iSeries: SCON Technologies - LPAR, and Windows Integration

Session IT-17

Kyle W. Wurgler

IBM

iSeries Server Consolidation

* **Statement of Direction**

Windows 2000	OS/400	OS/400	Linux	AIX 5L*
	JAVA	JAVA		
	OS/400 PASE	OS/400 PASE		
xSeries				

HSL

Virtual I/O   Virtual I/O

Virtual Ethernet

Hypervisor
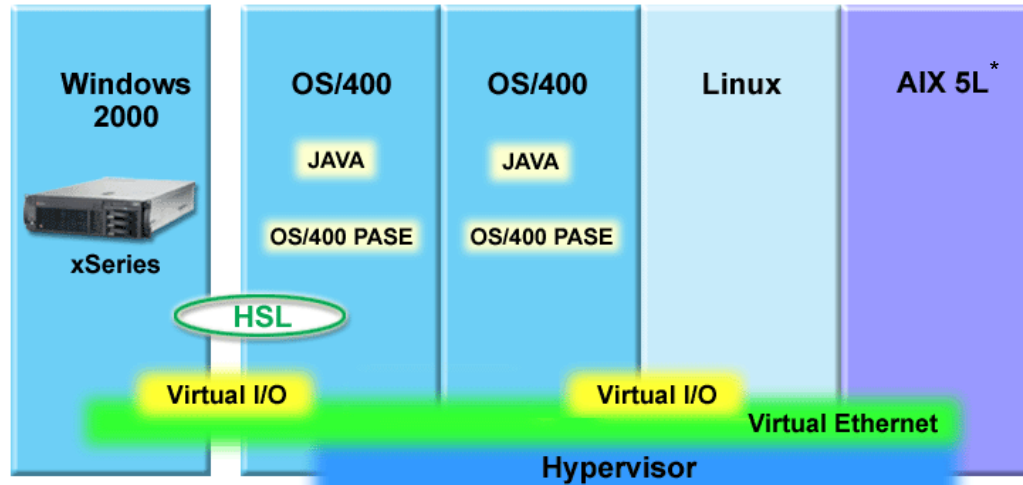
iSeries offers application flexibility

iSeries innovative technology can lower cost of management

iSeries provides enterprise IT management made simple

*Statement of Direction: This presentation contains IBM plans and directions. Such plans are subject to change without notice.

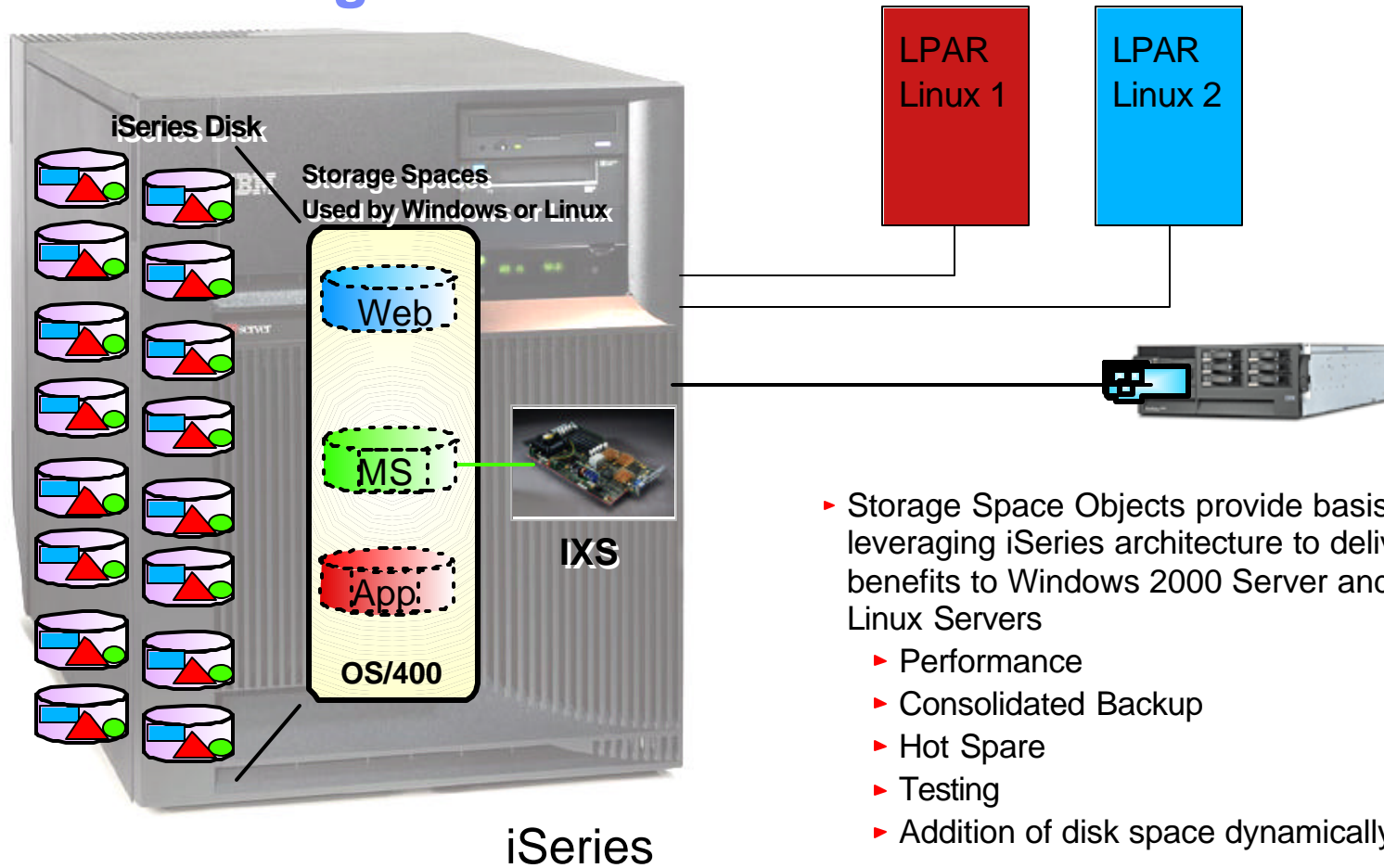Video Clip

Agenda - Discussions on the following

- **Is it really just another Windows Server or something IBM made?**
- **Common components and functions**
- **How do I demo this stuff ?**
- **How do I architect and size a Windows SCON opportunity ?**
- **Tips and Techniques for success**
- **What did our reference customers do ?**
- **Where do I find helpful information ?**

Common Components and Functions

Windows and Linux common components

- **Network Server Description - NWSD**

- **Storage as a SAN**
  - ► **Storage spaces**

- **Virtualization**
  - ► **Server as a set of object(s)**
  - ► **Not just hardware**

- **Backup and Recovery**

iSeries Storage Virtualization

LPAR
Linux 1

LPAR
Linux 2

iSeries Disk

**Storage Spaces
Used by Windows or Linux**

Web

MS

App

OS/400

IXS

iSeries

▸ Storage Space Objects provide basis for leveraging iSeries architecture to deliver benefits to Windows 2000 Server and Linux Servers
  - ▸ Performance
  - ▸ Consolidated Backup
  - ▸ Hot Spare
  - ▸ Testing
  - ▸ Addition of disk space dynamically

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V5R2 Virtual Ethernet   - less network traffic

Fast, More Secure, Flexible Communications Inside the iSeries
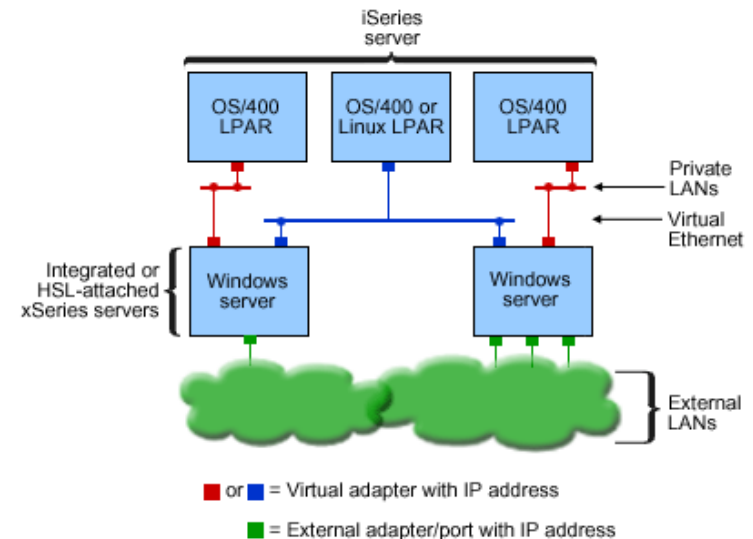
Virtual Ethernet Communication

- 1Gb Connections with no LAN Adapters/Switches

- Provides communications between OS/400, Linux, and Windows

- Up to 16 Virtual LANs may be defined

- Up to 5 of the 16 Connections may be used by one IXS / IXA
  - One Connection is automatically configured for Point to Point Communications with OS/400

Performance Improvements

- Windows App to OS/400 App / Linux App

- Windows File Level Back Up to OS/400 Tape

- Windows to Windows Communication

Support

- iSeries 270, 8xx

- OS/400 V5R2 in IXS or IXA owning partition

iSeries server

| OS/400 LPAR | OS/400 or Linux LPAR | OS/400 LPAR |

Private LANs
Virtual Ethernet

Integrated or HSL-attached xSeries servers

Windows server   Windows server

External LANs

■ or ■ = Virtual adapter with IP address

■ = External adapter/port with IP address

RZAHQ016-3

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So now what ?

Server consolidation is not about combining many servers into a single footprint
- Blade servers and SANs provide a great way to get multiple servers into a rack

Server consolidation is about combining many functions into a single footprint

The real questions are "Where is the best place for the function?" and "What platform provides the best manageability?"

We need to get our customers thinking about function.

How do we help the customer leverage the "Processor activation for Linux" and "included IXS" in the Enterprise Package of the high-end systems?

Function Matrix

	OS/400	Windows	Linux
LDAP	Supported	Supported	Supported
File / Print	Supported	Supported	Supported
Domain Controller		Supported	Supported - Samba
Active Directory		Supported	Future - Samba v3
Windows Apps - Terminal Server		Supported	* Some functions via office replacement
FTP	Supported	add-on	Supported
WebServer	Apache	IIS	Apache+
e-mail	SMTP, MSF, Domino Add-on	* Add-on	SendMail - Base Full-Function add-ons
Proxy	HTTP, FTP (within HTTP) gopher	Supported	Squid
WINS		Supported	Part of Samba
DNS	DDNS, Bind 8.3, Bind 4.2	Supported	Bind 8 Update to Bind 9 available

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Function Matrix

	OS/400	Windows	Linux
DHCP	Supported	Supported	Supported
NFS	Supported	* Add-on	Supported
User Admin. Functions	iSeries Navigator - Propagates Windows Domain	Native	Native / WebMin
Single-Server / Multifunction	Supported	VMWare	Supported
Database	DB2 UDB/400	SQL Server Access	mySQL postgreSQL DB2 UDB (future) ODBC/JDBC Access to DB2 UDB/400
Application Server	WAS 5 (express / standard) TOMCAT ? BEA Web-Logic	.NET	WAS (future) TOMCAT JSERV Ressin

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What to demo ?

iSeries Adds Value to Windows Servers - So What ?

User Administration

Networking

Disk Management

Backup

Testing

Reliability

Availability

Remote Server Admin

iSeries Navigator window

File   Edit   View   Help

7 minutes old

Environment: My Connections

- Asj1
  - Basic Operations
  - Work Management
  - Configuration and Service
  - Network
    - TCP/IP Configuration
    - Remote Access Services
    - Servers
    - IP Policies
    - Windows Administration

Asj1: Windows Administration

Name	Description
Integrated xSeries Servers	Manage Windows Integrated xSeries
Disk Drives	Manage Windows Disk Drives
User Enrollment	Manage Windows User Enrollment

My Tasks - Asj1
- Add a connection
- Install additional components

Windows Administration tasks
- Configure system as Dir
- Start all Windows server
- Shut down all Windows :
- Create a new disk drive
- Run Windows command
- Help for related tasks

1 - 3 of 3 objects

Videos available on the web

VIDEOS are now available for download from iSeries University TechEd Theater
http://www.ibm.com/eserver/iseries/education/theater.html

iSeries - xSeries Integration
featuring: Craig Johnson and Kyle Wurgler, iSeries Product Marketing Management

iSeries Windows Integration products, the Integrated xSeries Server and Integrated xSeries Adapter, are designed to extend the value of iSeries to Windows servers. This video reviews the IBM eServer solution, its benefits, and results customers are seeing. Included with the video are a series of demonstrations that highlight the advanced user, storage, and server management functions provided by IBM.

Linux on iSeries
featuring: Craig Johnson, iSeries Product Marketing Management

Customers are looking to Linux to deliver low cost and reliable solutions - from infrastructure to e-Business. This video reviews the iSeries support for Linux, solutions available, and reasons why customers are implementing Linux on iSeries.

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User Administration

Problem

► Multiple system user management

iSeries Solution

► Adding OS/400 Users and Groups to Windows 2000 Server Domains and Synchronizing Passwords

Benefit

► Can reduce costs with integrated user management

Video Clip

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iSeries Navigator

File   Edit   View   Help

2 minutes old

Environment: My Connections | Asj1: Users   Server: Nt2k

	Windows User	Enrollment Status	Enrolled Groups	Description
Windows Administration	Annasue	Enrolled		Anna Sue F
Integrated xSeries Ser	Ggaylord	Enrolled	Ntadmins	George Gay
Disk Drives	Krisd	Enrolled	Ntadmins	Kris Davis
User Enrollment	Ntmrkt1	Enrolled	Ntmrkt	
Ntassc Enrollment	Schuster	Enrolled	Ntadmins	Bob Schust
Extest Enrollment	Tgrube	Enrolled	Ntadmins	Todd Grube
Nttse Enrollment	Wurgler	Enrolled	Ntadmins	Kyle Wurgle
Nt2k Enrollment				
Users				
Groups				
Nt2kx Enrollment				

1 - 7 of 7 objects

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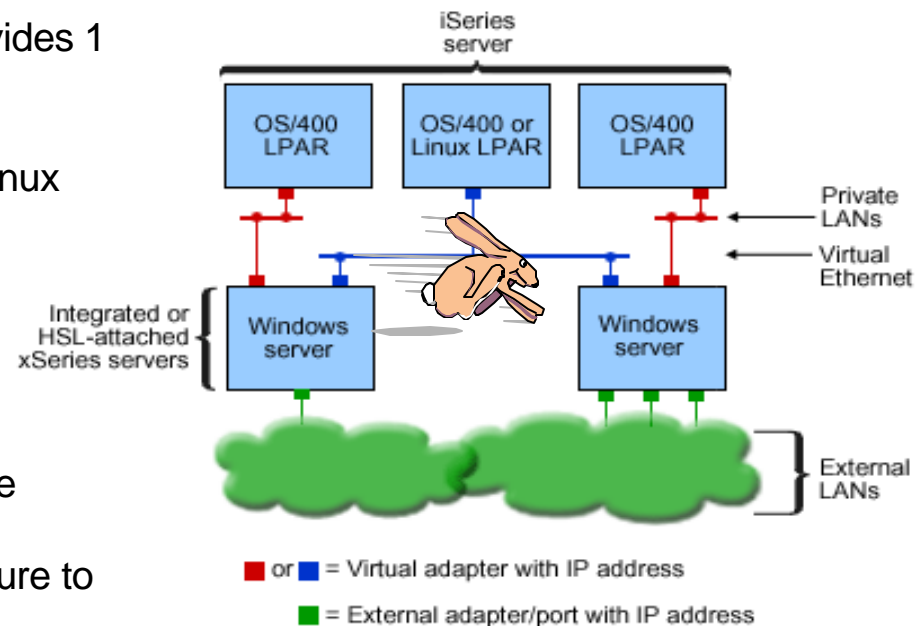# Networking - V5R2

Problem

▶ Upgrading network infrastructure to support high-speed application communication is expensive in terms of time, resources and equipment

iSeries Solution

▶ Virtual Ethernet at OS/400 V5R2 provides 1 Gb Connections with no LAN Adapters/Switches
▶ Windows to Windows to OS/400 to Linux
▶ Up to 5 Connections per IXS / IXA

Benefit

▶ Extremely secure and reliable server communication over high-performance connections
▶ Can reduce network traffic and exposure to "sniffing"

iSeries server

| OS/400 LPAR | OS/400 or Linux LPAR | OS/400 LPAR |

Private LANs
Virtual Ethernet

Integrated or HSL-attached xSeries servers

Windows server   Windows server

External LANs

■ or ■ = Virtual adapter with IP address

■ = External adapter/port with IP address

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Disk Management

Problem

► Storage management across the server farm

iSeries Solution

► Flexible Virtual Disks from 1 MB to 64 GB.

► Up to 2 TB per Windows server

► Hot add of iSeries Storage Space to Windows 2000 Server

Benefit

► Can reduce costs with flexible, centralized storage management

iSeries Storage Virtualization for Windows 2000 Server
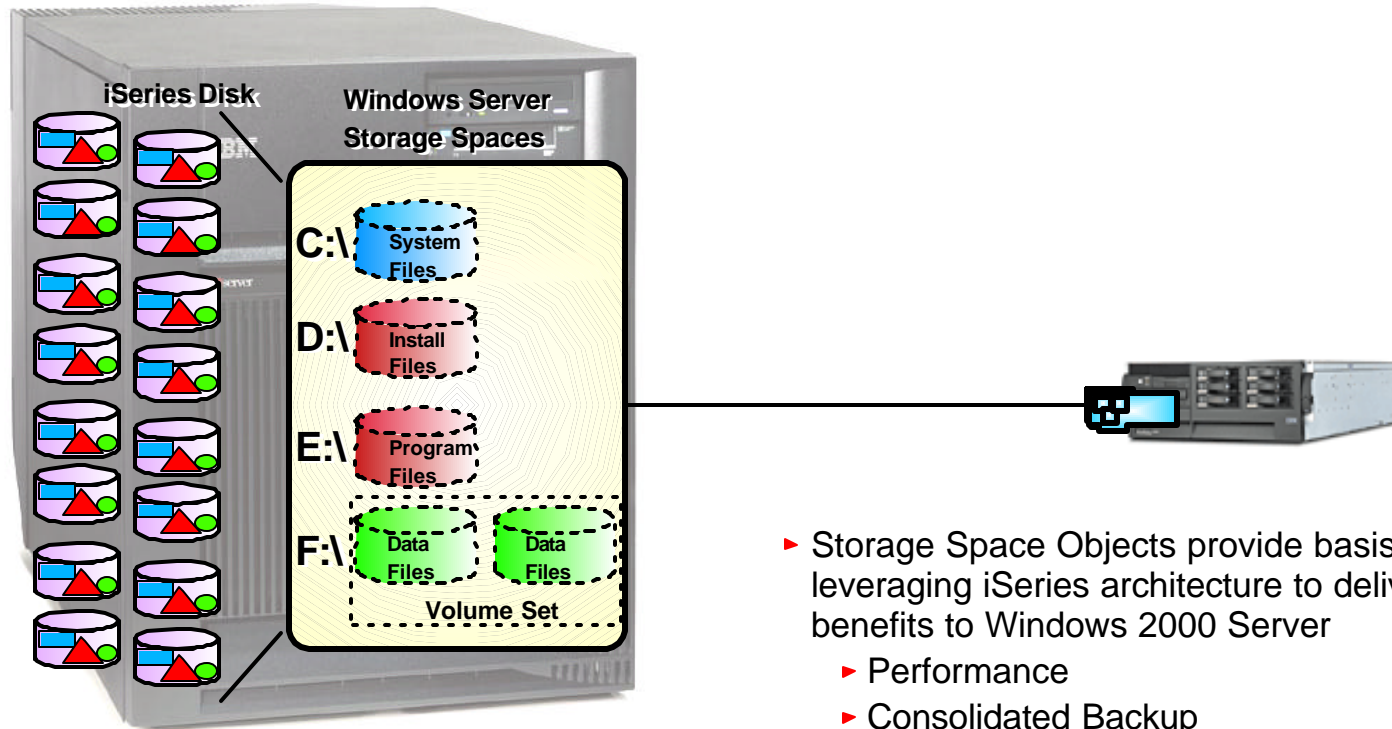
iSeries Disk　**Windows Server Storage Spaces**

C:\ System Files

D:\ Install Files

E:\ Program Files

F:\ Data Files | Data Files

Volume Set

► Storage Space Objects provide basis for leveraging iSeries architecture to deliver benefits to Windows 2000 Server
  ► Performance
  ► Consolidated Backup
  ► Hot Spare
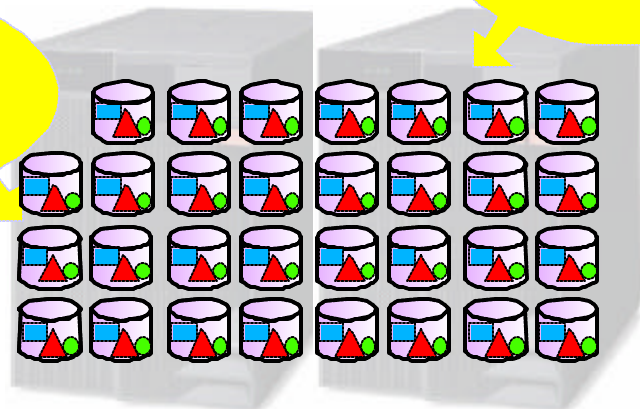 ► Testing

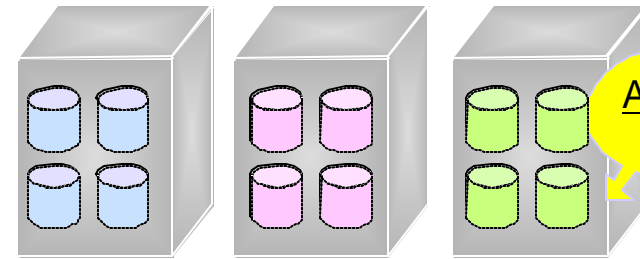# iSeries Storage Consolidation Advantages

Consolidated Storage
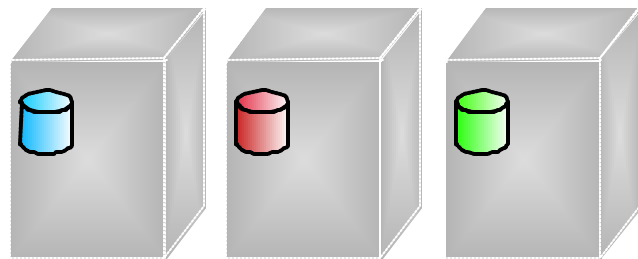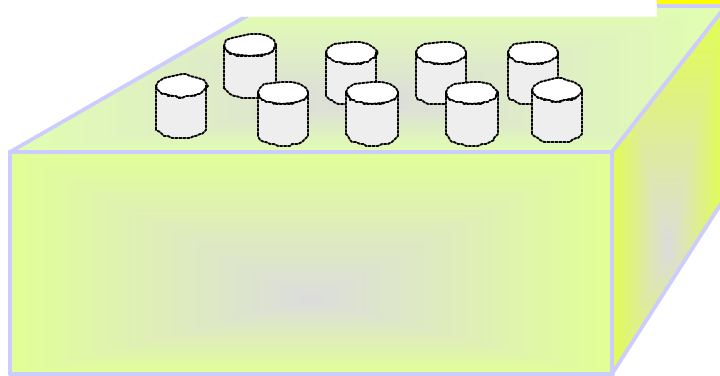
iSeries

Leveraging all available resources

...ery server's ...is spread on ...all drives

All disk is virtual

Server 1   Server 2   Server 3

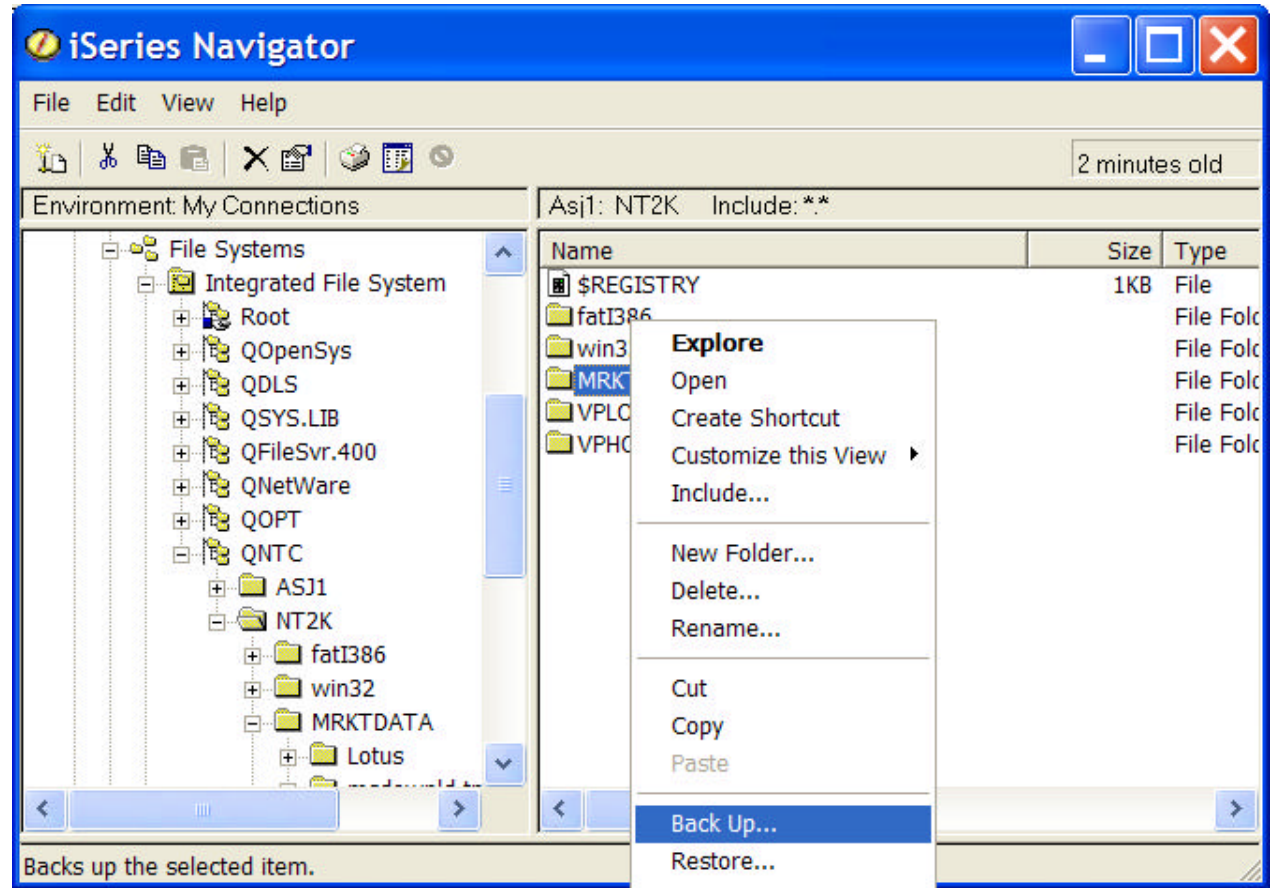Server 1   Server 2   Server 3

Backup

Problem
► Managing heterogeneous backups

iSeries Solution
► Save OS/400 and Windows storage spaces to iSeries tape drives

Benefit
► Can reduce costs by leveraging iSeries resources and skills

Testing

Problem

► Adequately testing Microsoft Service Packs, Application Fixes, device drivers before they are placed in production

iSeries Solution

► Logical Servers allows testing with the production image and hardware

Benefit

► Can reduce the outages caused by change

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Reliability

Problem

► Different hardware and device drivers can cause server instability

iSeries Solution

► IBM provides a consistent set of disk, tape, CD, and LAN hardware and device drivers that are tested to work together

Benefit

► Greater consistency can lead to better reliability

Nt2k Properties - Asj1

General | OS/400 | Software | Messages | Disk Drives

Windows version

Version:	5.0
Build number:	2195
Service pack level:	SERVICE PACK 3

iSeries Integration for Windows Server version

Version:	V5R2M0
Language version:	2924 - English
Service pack:	SI06875
Hot fixes:	

OK   Cancel   Help   ?

iSer

File Edit

Environm

⊞ Mar
⊟ My
⊟
⊞
⊞
⊞
⊟
⊞ TCP/IP
⊞ Remote
⊞ Servers
⊞ IP Polici
⊟ Window
    Intec

Run Windows Command...

Server Integration Software ►

     Install Latest Version...

     Install Latest Service Pack...

Properties   Install Latest Version and Ser

     Install Hot Fix...

     Uninstall Latest Service Pack.

     Uninstall Hot Fix...

Installs the latest service pack for the iSeries Integration for Windows S

Availability - One iSeries Server

Problem
- ► Providing an effective and efficient availability solution

iSeries Solution
- ► Hot Spare allows one xSeries server to provide a backup to several production servers

Windows Data

HSL

Benefit
- ► Efficient availability solution for planned or unplanned server outages

Switch

Production

Test

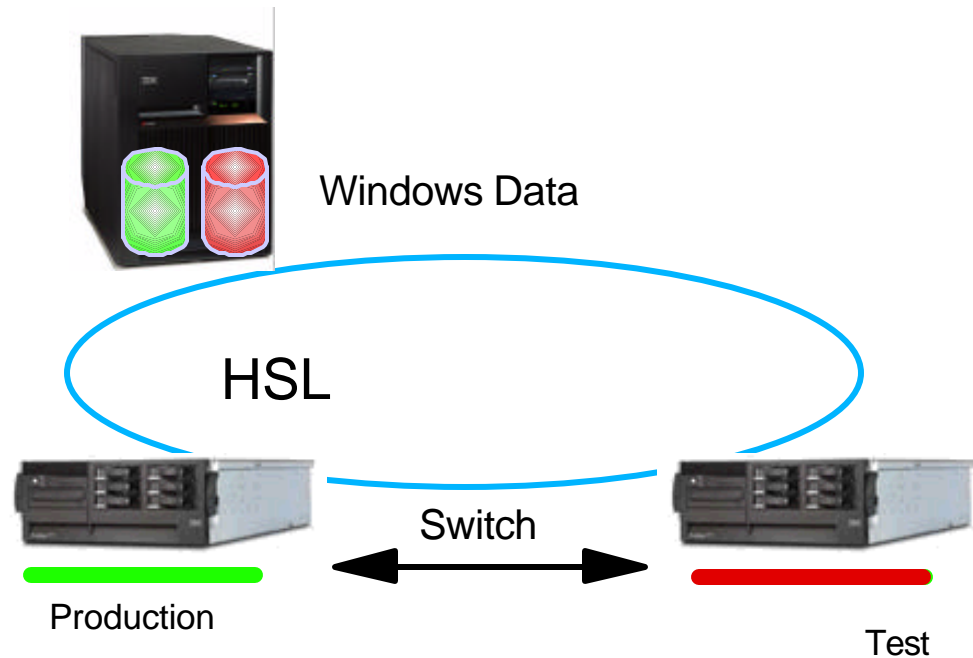IBM @server™ & TotalStorage™
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Availability - Microsoft Cluster Service (V5R2)

Switch Disk Cluster

- Dynamically Switch Storage Spaces Between Windows Servers
- Up to 4 IXS or IXA Server Nodes per Cluster
- 16 New 1 MB to 64 GB Shared Storage Spaces

Availability Improvements

- Planned or unplanned outages

Requirements

- iSeries 270, 820, 830, 840, or 890
- OS/400 V5R2
- Windows 2000 Advanced Server for 2 Node Support
- Windows 2003 Enterprise for 4 Node Support*
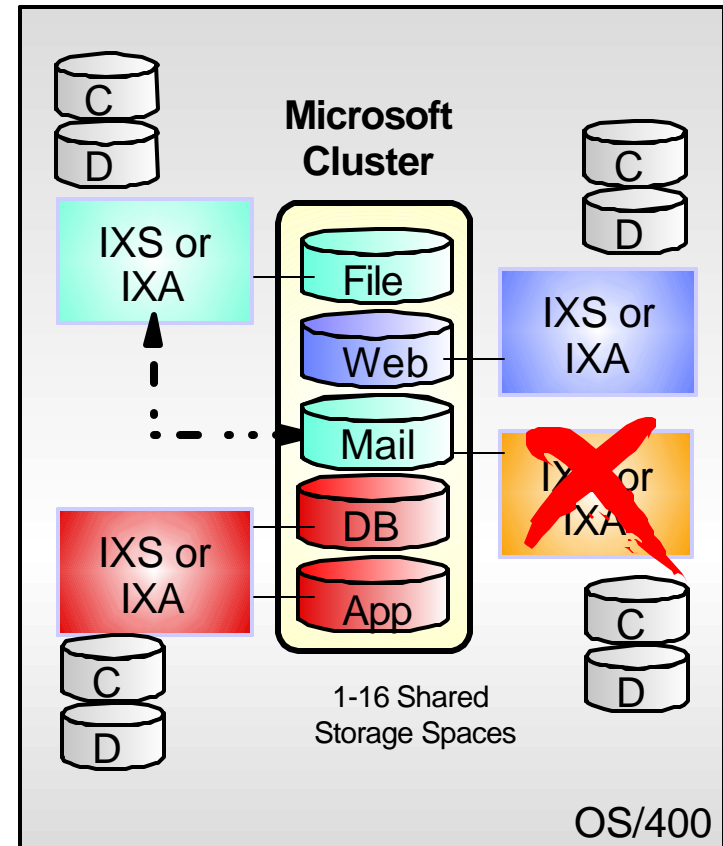
* Planned for 1H 2003 dependent on Microsoft delivery

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Availability - One Computer Room

Problem
- Providing an effective and efficient availability solution

Solution
- iSeries switch disk support with Independent ASP

Benefit
- Solution for planned or unplanned server outages

Windows Data

IASP

HSL

HSL

Switch

Production

Test

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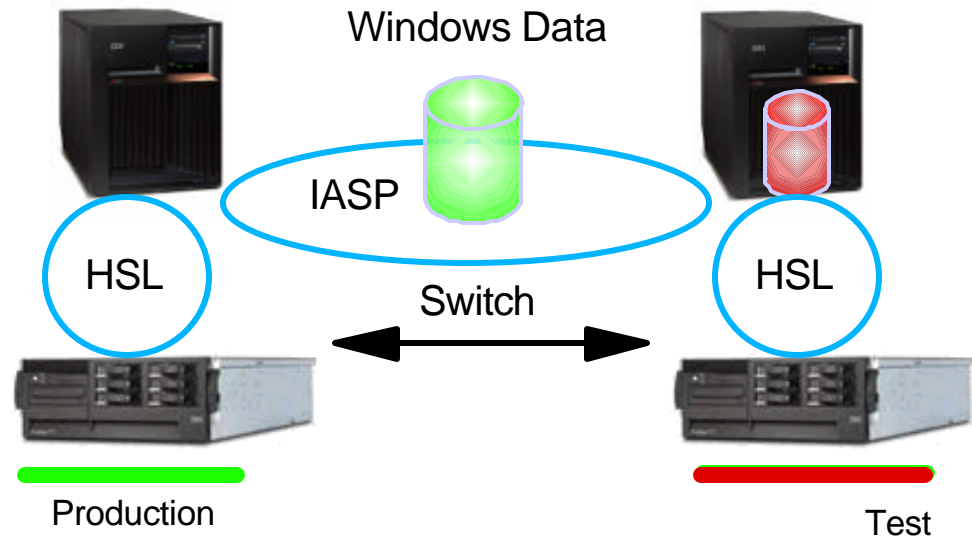
Availability - Multiple Locations

Problem
- ► Provide effective disaster recovery solution

Solution
- ► Lakeview Technologies' Mimix for Windows

Benefit
- ► Replication solution for planned or unplanned site outages

Windows Data

Windows Data

HSL

HSL

Replication

LAN or WAN

Production

Read Only

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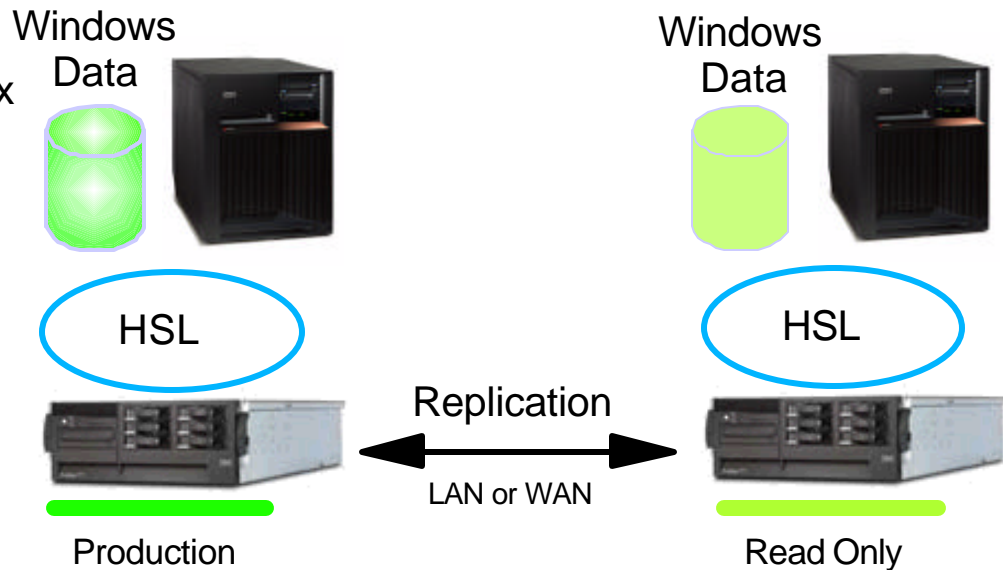
Remote Server Administration

Problem
> ► Managing heterogeneous server environments installed in remote offices

iSeries Solution
> ► With iSeries Navigator user, storage, backup administration for remote iSeries with integrated xSeries servers can be done centrally
> ► iSeries Navigator for Wireless provides access from cell phones

Benefit
> ► Can reduce costs by centrally managing remote servers

How to architect a solution ?

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iSeries Server Consolidation Example

Before

After

Web Servers

File Servers

DNS/DHCP Server

Firewall

Windows Application Servers

(2) xSeries 360 & Integrated xSeries Adapter (IXA)

iSeries Model 820 Linux

(3)1 GHz Integrated xSeries Servers
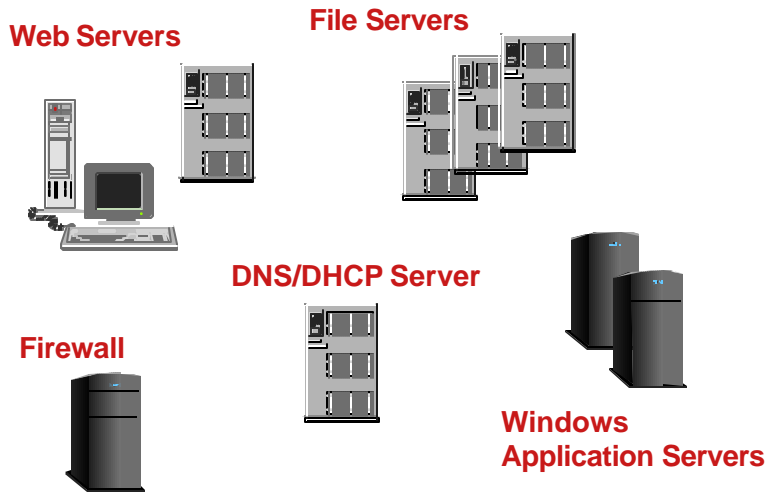
✖ **Multiple Windows servers**

✖ **Moving to Windows 2000**

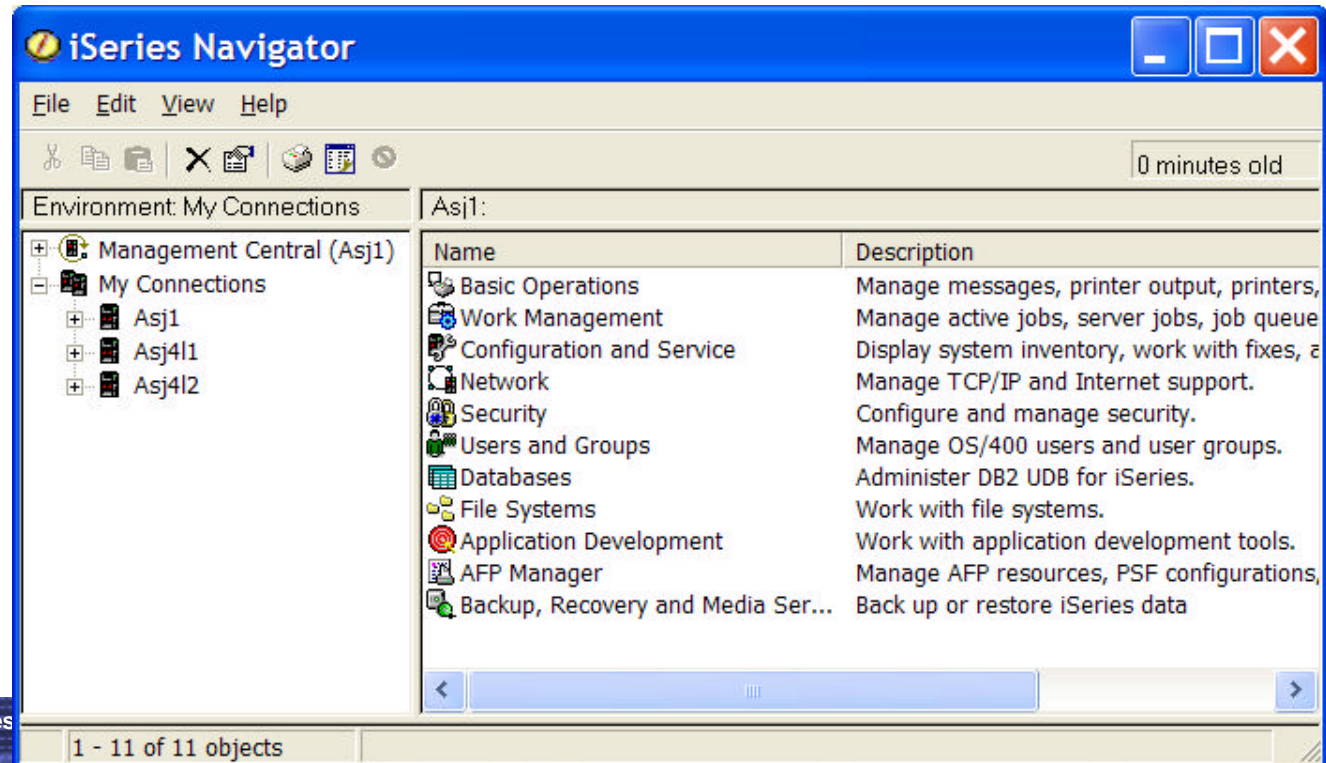✖ **Growing operations costs and limited staff**

✖ **Poor availability**

✖ **Storage management is out of control**

✖ **Multiple, inconsistent backups**

✖ **Aging capacity in a variety of places**

✖ **Servers coming off maintenance**

✖ **No test environment**
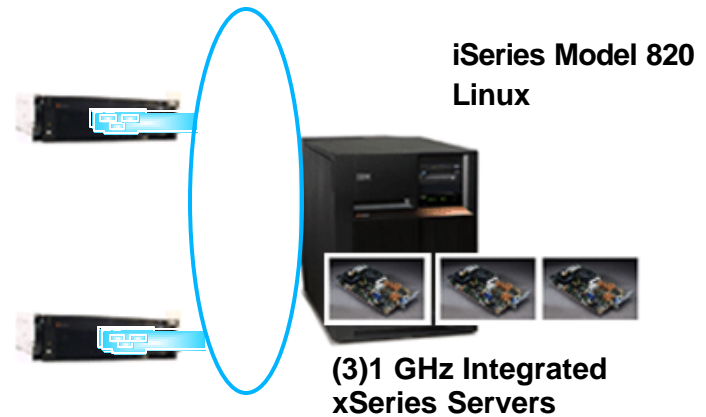
✔ Operations simplified
  ★ Flexible, centralized storage management
  ★ xSeries scalability delivers consolidation

✔ Outages reduced
  ★ xSeries Enterprise X Architecture
  ★ Test environment reduces impact of change

✔ Software costs reduced
  ★ Linux OpenSource solutions

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Decision Process

- **Inventory existing functions**

- **Determine platform that function is currently implemented on**

- **Inventory existing skills and skill availability**

- **Determine customer preference (if any) for platform**

- **Consider strengths / limitations of individual functions/platforms**

- **When the function is available on all platforms need to look at what sub-components are needed when considering the decision.**

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Take an Inventory of the Existing Environment

Windows/Linux

For each server:

- ► **size of processor and number of processors**
- ► **CPU utilization**
- ► **applications/services installed**
- ► **hard disk size, protection and utilization**
- ► **I/O rates (# of disk operations per second)**
- ► **high availability schemes used**
- ► **number of users**

iSeries

For each server:

- ► **model and processor feature**
- ► **release level**
- ► **# of disk arms**
- ► **# I/O towers**
- ► **tape device**
- ► **available slots**
- ► **CPU utilization**
- ► **disk capacity and utilization**

i.e.. rack config info

Best Server Replacement Targets

You need to look for server functions that match the benefits

- ▶ mission critical, line of business applications
  - – hot spare, testing, backup and recovery

- ▶ heavy I/O applications
  - – storage Virtualization

- ▶ like to like function servers (file servers)
  - – storage Virtualization, latest xSeries technology

- ▶ infrastructure servers (DNS, DHCP, WINS, DC)
  - – storage Virtualization, latest xSeries technology, user admin.

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Strategies

- **One recommended strategy would be to start with a pilot to help customer through the issues and decision making (for Linux purposes).**
  - ► **User Administration will be single biggest concern/prohibiter to moving to Linux**

- **Rather then bring in new function to existing infrastructure - consider new function for implementation in Linux or IXS/IXA.**

Highlight Exclusive Benefits - apply to situation

▶ User Administration - IXS/IXA
- manage users

▶ Virtual Gigabit Ethernet
- Less network traffic

▶ Storage Virtualization
- iSeries as a SAN

▶ Testing
- flexibility, reliability

▶ Hot Spare
- availability option

iSeries Windows Server Integration

iSeries and Windows Environment

90+% of iSeries customers also have Windows™ servers

Windows servers typically used for infrastructure applications

Number of Windows servers continues to grow, along with management costs

Number of NT Servers in iSeries Accounts

Number of Servers	% of Customers
1-5	**57%**
6-10	**14%**
11-20	10%
21-200	17%
201+	2%

IBM IT Trends Survey - 4Q 2001, 100-999 Employee Site Data

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Integrated xSeries Solution Positioning

1 GHz Integrated xSeries Server (IXS)

- Customers implementing on NT 4.0 / Windows 2000

- Customers implementing on OS/400 V5R1

- Price sensitive customers who do not need extra processing power and/or 1 GB memory

1.6 GHz Integrated xSeries Server (IXS)

- Customers on or moving to Windows 2000 Server and OS/400 V5R2

- Integrated Ethernet 10/100 - Less slots used !!

Integrated xSeries Adapter (IXA) and xSeries Servers

- Customers on or moving to Windows 2000 and OS/400 V5R1/V5R2

- Customers who need 2-8 way Intel processing power

- Customers who need flexibility to add additional PCI cards in their Intel servers

- Customers with no remaining slots in CEC or expansion towers for IXS

- One Integrated xSeries Adapter per xSeries server attached

www.ibm.com/eserver/iseries/windowsintegration

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Intel Processor Considerations - what solution(s)

IXS vs. IXA
- ‣ uni-processor vs. multiprocessor
- ‣ adapter requirements (IXS NIC only)
- ‣ available slots in iSeries & I/O towers
- ‣ which side of the house talking to
  - – iSeries side more accepting of IXS
  - – Windows side more accepting of IXA
- ‣ memory requirements (IXS 4 Gig limit)

IXS - Which model ?

IXA - Which xSeries ?

Integrated xSeries Server Price/Performance Improvements

V5R1 Example:

1 GHz with 512 MB Memory

	1.0 GHz	Now
Integrated xSeries Server	$ 2,800	$ 1,300
Ethernet LAN	900	600
512 MB Memory	1,610	720
Keyboard/Mouse	90	90
Extension Cables	110	110
	$ 5,510	$ 2,820

Substantial Price/Performance Improvements for V5R1 & V5R2 customers

V5R2 Example:

1 GHz vs. 1.6 GHz IXS & 1 GB Memory

> 60% more processor performance for 1/2 the price !

	1 GHz	Now 1.6 GHz
Integrated xSeries Server	$ 2,800	$ 1,900
Ethernet LAN	900	Included
1 GB Memory	3,300	1,450
Keyboard/Mouse	90	90
Extension Cables	110	110
	$ 7,200	$ 3,550

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xSeries Examples for Windows 2000 Server Deployment

1.0 GHz Integrated xSeries Server

- Intel Pentium III processor, 512 MB Memory
- 10/100 Mbps Ethernet Adapter
- File/Print serving, DNS/DHCP
- Development/test

< $3,000

1.6 GHz Integrated xSeries Server

- Intel Xeon processor, 1 GB Memory
- Built-in 10/100 Mbps Ethernet Adapter
- Citrix server, Exchange Server

< $4,000

x235 with Integrated xSeries Adapter

- 1.8 GHz Intel Xeon processor, 1 GB Memory
- 2-way capable, built-in 10/100/1000 Mbps Ethernet Adapter
- SQL Server, Windows 2000 Server applications

< $6,000

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xSeries Servers Supported with IXA - MUST Understand xSeries advantages !

x360

- ▸ 1-4 way server
- ▸ 1.4 to 1.6 GHz
- ▸ 3U Rack server

x255

- ▸ 1-4 way server
- ▸ 1.4 to 1.6 GHz
- ▸ Tower or 7U Rack server

Enterprise X-Architecture

First servers with new Intel Xeon™ MP™ Processors
Active™ Memory (hot-swap and hot-add)
Active™ PCI-X
XpandOnDemand™ Scalability
RXE-100 Remote Expansion Enclosure
XceL4™ Server Accelerator Cache

X-Architecture Technology

Chipkill™ memory
Active™ PCI & PCI-X
Light Path Diagnostics™
Extensive Predictive Failure Analysis
Redundant Components
IBM Director

x440

- ▸ 1-8 way server
- ▸ 1.4 to 1.6 GHz
- ▸ 4U Rack server

x235

- ▸ 1-2 way server
- ▸ 1.8 to 2.4 GHz
- ▸ Tower server

iSeries Considerations - What happens on iSeries

CPW

Disk Ops/sec (1)	400	800	1,600	3,200
HSL (MB/sec)	3	6	13	26
CPW	41	81	152	300
Disk Arms (2)	7	10	18	40

HSL

Model	Loop	Max IXA	Max iSeries Towers	Max IXA per Loop	Max I/O and IXA per loop	Max I/O and IXA
270	1	2	1	2	3	3
820	1	8	5	8	9	9
830	4	16	13	8 Loop1 = 1	9	21
840	8	32	23	8	9	39
800	1	3	1	3	4	4
810	1	7	4	7	8	8
825	3	18	18	8	9	27
870	8	60	47	8	6	60
890	14	60	47	8	9	60

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iSeries Considerations - continued

Available slots

▶ predefined slots available in each CEC and I/O tower

Model	Max IXS	Model	Max IXS
		800	4
270	3	810	13
820	12	825	36
830	28	870	48
840	32	890	48

Model	Max IXA	Model	Max IXA
		800	3
270	2	810	7
820	8	825	18
830	16	870	60
840	32	890	60

Disk arms

▶ for every 100 disk ops per sec you need at least 1 arm
▶ minimum 3 arms to start with

Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput or performance that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput or performance improvements equivalent to the ratios stated here.

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Tips & Techniques

Pre-install Checklist - Windows Integration

▶ *Do you have a supported xSeries model?- goto*
  www.ibm.com/eserver/iseries/windowsintegration/daxsmodels.html
▶ *Does the xSeries model require a Remote Supervisor Adapter (RSA) option (P.N. 09N7585)*
  to attach to iSeries?
  - ▶ *X235 & X255 require a RSA*
  - ▶ *X440, X360, X250, X350 & NetFinity 7100 & 7600 DO NOT require a RSA*

▶ *What will the HSL loop configuration be?*
  - ▶ *Is this a new loop?*
  - ▶ *If existing loop, do you have capacity on the loop?*
  - ▶ *If other I/O towers on loop, make sure you place xSeries in middle of loop.*
  - ▶ *Do not place next to Migration towers.*

▶ *Do you have the necessary HSL & SPCN cables?*
  - ▶ *If a new loop, you will need an HSL cable for each IXA + 1.*
  - ▶ *If adding to an existing loop you will need an HSL cable for each IXA.*
  - ▶ *If placing xSeries in a rack, get the shortest HSL cables, 3m (1460 feature) for between the IXAs.*
    - ▶ *You may need longer HSL cables to and from iSeries to IXAs.*
  - ▶ *You will need a SPCN cable for each IXA.*
  - ▶ *If placing xSeries in a rack, get the shortest SPCN cables, 2m (1463 feature) for between IXAs.*
    - ▶ *You may need longer SPCN cables to and from iSeries to IXAs*

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Pre-install Checklist (continued)

► *Software*
- *OS/400 V5R1 minimum for IXA support*

- *OS/400 V5R2 required for new 1.6 GHz IXS*

- *5722WSV LPP*
  - *Base required*
  - *Option 2 required for Windows 2000 server*

- *OS/400 Cums and PTFs (include Windows Integration Service Packs) goto www.ibm.com/eserver/iseries/windowsintegration/ntsrvc.htm*

- *Microsoft Windows 2000 Server or Advanced Server*

- *Microsoft Windows Service Packs supported goto www.ibm.com/eserver/iseries/windowsintegration/ntsrvc.htm*

- *OS/400 Backup Performance update information for V5R1 http://www-1.ibm.com/servers/eserver/iseries/windowsintegration/savbackupperf.html*

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xSeries Server Preparation

▸ *The boot fail counter and virus detection need to be turned off before installing the IXA card. This is done from Setup utility.*

▸ *Upgrade xSeries server BIOS to the latest level goto www.pc.ibm.com/support to get latest BIOS.*

▸ *Upgrade xSeries Advanced Systems Management Firmware goto www.pc.ibm.com/support to get latest version of firmware.*

IXA Card Installation

▶ *Make sure power is unplugged from xSeries Server*
▶ *IXA card must be place in correct slot for each supported xSeries Server goto iSeries PCI Card Installation Instructions to find current instructions.*
▶ *Jumpers need to be set for certain models of xSeries Servers to provide 3.3v standby power, goto iSeries PCI Card Installation Instructions to find current instructions goto http://publib.boulder.ibm.com/iseries/v5r2/ic2924/info/rzame/eng47451.pdf.*

▶ *Power down iSeries*
▶ *Connect HSL & SPCN cables to IXA*
   • *Keep all SPCN, HSL and Interconnect cables 6" away from any power source or power cables*
▶ *Reconnect xSeries power cables*
▶ *Power on iSeries, do NOT power on xSeries server, it will be powered on by iSeries*

▶ *You will notice the LED's on the IXA flashing, BE PATIENT - SPCN code is being downloaded, then xSeries Server will be powered on. This can take up to 1/2 hour.*
▶ *After iSeries & xSeries are powered on, you may want to have the SPCN network renumbered by doing an option 33 from the OPs Panel. This can be done from any point in time.*

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References

New Reference Accounts - IXS/IXA

- ► Marshall Erdman Inc.
- ► Wesco Aircraft
- ► Coleman Cable
- ► IU Medical Group
- ► Chick Sporting Goods
- ► Huhtamaki
- ► Banco do Brasil

Wesco Aircraft

Background

▸ Wesco Aircraft is one of the largest distributors of aerospace fasteners, bearings, fittings, and installation tooling

Objectives

▸ Improve management for Exchange, SQL Server and File servers
▸ Reduce costs for PC server farm
▸ Improve availability
▸ Consolidate AS/400 JD Edwards servers and 31 PC servers

Solution

▸ 2 iSeries with LPAR and Clustering
▸ 8 xSeries attached to iSeries with IXA
▸ Switch disk clustering

Benefits

▸ Total cost of server administration is down over 20%
▸ Windows server storage is much easier to manage
▸ Testing of new applications is more flexible
▸ Better utilization rates compared to their stand-alone servers

iSeries 830

iSeries 840

Development
2 Logical Partitions

Switched Disk Cluster

J.D. Edwards OneWorld
Production

xSeries
Exchange & SQL

xSeries
File & Print

Banco Do Brasil

Background

▶ Banco Do Brasil is the largest bank in South America

Objectives

▶ Centralize IT service and delivery
▶ Exploit open source software
▶ IT Europe had 8 branches with 250 users, 8 NT networks, and 41 NT Servers

Solution

▶ iSeries Model 820 Offering for Linux
▶ SuSE SLES 7
▶ 3 Integrated xSeries Servers
▶ 4 Integrated xSeries Adapters
▶ Replacing NT applications with Linux

Benefits

▶ Centralized storage
▶ Reduced Administration and support
▶ More reliable IT service
▶ Software license savings

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more information needed ?

For More Information - Windows Integration

iSeries Windows Integration Web Site:
- ► http://www-1.ibm.com/servers/eserver/iseries/windowsintegration/
- ► Product information
- ► Service information (PTF's)
- ► Library

iSeries InfoCenter:
- ► http://publib.boulder.ibm.com/pubs/html/as400/infocenter.htm
- ► Articles on Windows NT and Windows 2000 on the IXS/IXA

Redbooks:
- ► http://www.redbooks.ibm.com
- ► AS/400 - Implementing Windows NT on the Integrated NetFinity Server SG24-2164
- ► Consolidating Windows 2000 Servers in iSeries SG24-6056
- ► Direct Attach xSeries for the IBM iSeries Server: A Guide to Implementing xSeries Servers in iSeries - SG24-6222

Contacts:
- ► Server Consolidation Segment Manager: George Gaylord ... ggaylord@us.ibm.com
- ► Advanced Technical Support: Bob Schuster ... raschus@us.ibm.com
- ► Product Manager: Kyle Wurgler ... wurgler@us.ibm.com

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More information - Education and Service

Implementing Windows Server on iSeries (Course Code S6225)

Gain the skills needed to install, configure, manage and support
Microsoft Windows Server on the iSeries Integrated xSeries Server
and Direct Attached xSeries Server via Integrated xSeries Adapter.
Learn the concepts, terminology and hardware that is related to the
iSeries Integrated Windows environment. Through lecture topics and
hands-on exercises, explore installation requirements and
procedures, TCP/IP communication configuration including Gigabit
Virtual LAN, storage space and combined user id administration,
device sharing, backup and restore procedures, problem
determination techniques and look at high availability options.
For additional information or to view schedules and enroll, go to the
following url: http://www-3.ibm.com/servlet/com.ibm.ls.lsow.servlets.
CourseDescriptionServlet?coursecode=S6225

iSeries Windows Integration QuickStart

This services offering will get your company's integrated Windows
environment up and running quickly. The engagement will be 1 & ½
days at a fixed price of $2500. You will be able to choose 12 hours of
material from an ala carte menu of choices. Some example choices
will be Installing Windows Server, High Availability options, Planning
and Allocating storage to Windows servers, Strategic Planning of your
integrated Windows environment or Backup and Recovery options.
You will get the expertise you need to have a successful
implementation. For additional information or to schedule this
service, send an e-mail with your request to the following address;
E-mail: intwin@us.ibm.com
Phone: 1-507-253-9018

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end-to-end Technical Support *...the Key Links*

How to engage Technical Sales Support
- ✔ External Support:
  - ✔ http://www.ibm.com/support
- ✔ Sizing Tool - http://www.ibm.com/servlet/EstimatorServlet

INTEGRATED APPLICATION SERVERS
IBM *e*server iSeries
NEW TOOLS TO MANAGE E-BUSINESS, INNOVATIVE TECHNOLOGY, APPLICATION FLEXIBILITY.

http://www-1.ibm.com/servers/eserver/iseries/education/key.html

IBM *e*server **iSeries University**

http://www.ibm.com/servers/eserver/iseries/education/

IBM *e*server **iSeries Technology Center**

http://www.ibm.com/servers/eserver/iseries/service/itc/educ.htm

IBM *e*server **iSeries Support**
Served by Lotus® Domino™ with iSeries® power

http://www.ibm.com/eserver/iseries/support

http://publib.boulder.ibm.com/pubs/html/as400/infocenter.html

Redbooks
http://www.redbooks.ibm.com

IBM.

Partners In Education
Educating at the speed of change

http://www-1.ibm.com/servers/eserver/iseries/education/pie/

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