



IBM server™ iSeries™

Selling xSeries with iSeries for Windows Integration - Part II

iSeries Integrated xSeries Solutions

IBM & IBM Business Partner Use Only Until Announced

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Don't just TALK

*e*server™

DELIVER it !



Agenda - Part II

- **Demonstrating iSeries Windows Integration**
- **Customer Success Examples**
- **xSeries Positioning**
- **Solution Design**
- **Resources**

Integrated xSeries Solutions for Windows 2000 Server

- **V5R2 Highlights**
 - ▶ **1.6 GHz Xeon Integrated xSeries Server**
 - Built-in 10/100 Ethernet Adapter
 - ▶ **Integrated xSeries Adapter support for latest xSeries servers**
 - x235, x255, x360, x440
 - ▶ **Support for Microsoft Cluster Service**
 - Dynamically switch storage spaces (disk) between Windows servers
 - ▶ **Virtual Ethernet**
 - Very secure, high-performance interconnect without external LAN
 - Perfect for multi-tier applications and DB2 UDB access
- **New iSeries Models support increased numbers of IXS/IXA**
 - ▶ Up to 48 Integrated xSeries Servers
 - ▶ Up to 60 xSeries attached via Integrated xSeries Adapter
- **Product Preview* for Microsoft .Net Standard and Enterprise Server**
 - ▶ .Net planned for 1H 2003, dependent upon Microsoft delivery



integrated Education & Services for iSeries ...helping customers take the first step

■ Getting Started with Windows Integration for iSeries

■ Integrated Services

- Installation & Configuration
 - Creation virtualized resources
 - Installation of Microsoft Windows Server
- Define server operation options
 - Storage management
 - Back-up and recovery
 - User management

■ Windows Integration Solution Readiness Review

■ Integrated Education

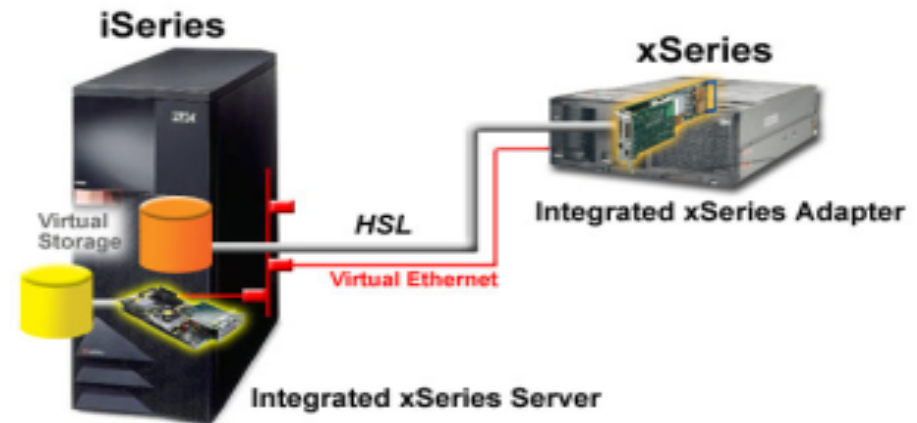
■ i825 – 1 voucher / i870 – 3 vouchers / i890 – 5 vouchers

■ AS30/S6225 - Implementing Windows Server on iSeries - 2.5 days

- 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.

■ For more information:

■ www.ibm.com/eserver/iseries/hardware/packages



Key demonstration points for Windows Integration

iSeries Navigator

Security Integration

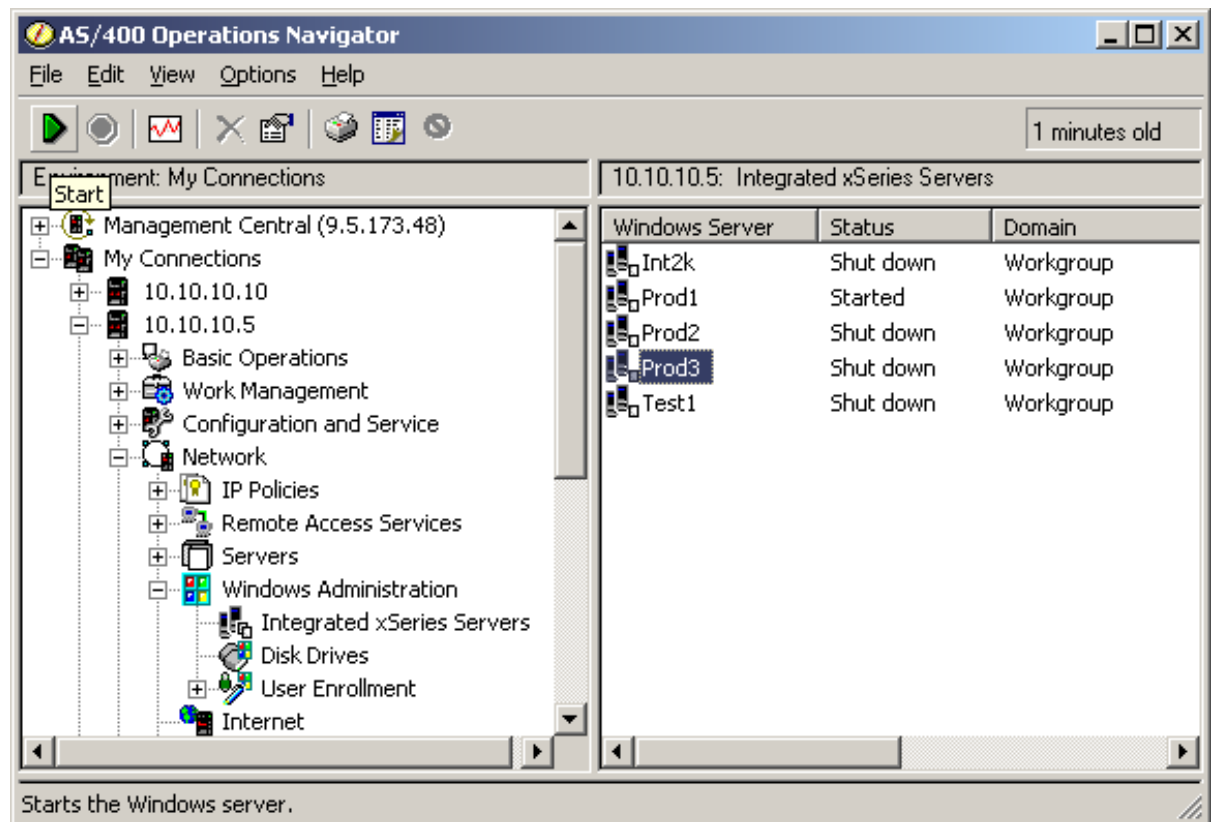
Creating Storage Spaces

**Linking/Unlinking
Storage Spaces**

Failover / Hot Spare

**Testing / Deploying
Changes**

Virtual Ethernet



Customer Success Stories

- **Wesco Aircraft**
- **Huhtamaki**
- **IU Medical Group - Primary Care**
- **Banco do Brasil**
- **Coleman Cable**
- **Chick's Sporting Goods**
- **Marshall Erdman & Associates**
- **Associated Grocers of New England**
- **Sanistaal A/S**
- **Mediocredito Fondiario Centroitavia**
- **Munce's Superior, Inc.**

*www.ibm.com/eserver/series/windowsintegration
Click on "Case Studies"*

Marshall Erdman & Associates

"Because of the cost of redundancy, companies our size do not generally perform disaster recovery. With xSeries server storage integrated with the iSeries, we can afford to deliver redundancy and rapid-recovery capabilities - for true business recovery protection."

Ron Cipolla, CIO

iSeries 820

J.D. Edwards
OneWorld



**Integrated xSeries
Servers**

File Server

Citrix Metaframe (3)



xSeries 360

File Server

Database Server

Development/Test/Hotspare

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

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



Benefits

- ▶ Operational costs reduced 20%, server admin costs significantly lower
- ▶ Windows server storage is much easier to manage
- ▶ Testing of new applications is more flexible
- ▶ Better utilization rates of Intel servers



xSeries & Positioning

Integrated xSeries Solution Positioning

- **1 GHz Integrated xSeries Server (IXS)**
 - ▶ Customers implementing on NT 4.0
 - ▶ Customers implementing on OS/400 V5R1
 - ▶ 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 xSeries Adapter (IXA) and xSeries Servers**
 - ▶ 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

How To Be Successful with xSeries

- Acknowledge the growth of Intel server and industry standards
- Express IBM's commitment to Intel servers
- Explain that our Intel server strategy is the same as our eServer strategy
- Point out only product features that are **DIFFERENT**
 - ▶ IBM Director, EXA, VMware, Blades, Linux support, etc. (some not supported on iSeries)
 - ▶ Make them "want" the xSeries brand due to the differences at the high end
 - ▶ If they understand that there **ARE** differences within the brand, they'll buy at the low-end
 - ▶ They won't switch vendors at the low-end due to price and features
- Keep coming back to overall eServer Value Proposition
- Everyone has Intel servers at competitive prices. Only IBM is committed to solving eBusiness problems using a combination of platforms and truly integrating those platforms to solve your problems.

IBM Technologies That Improve ROA

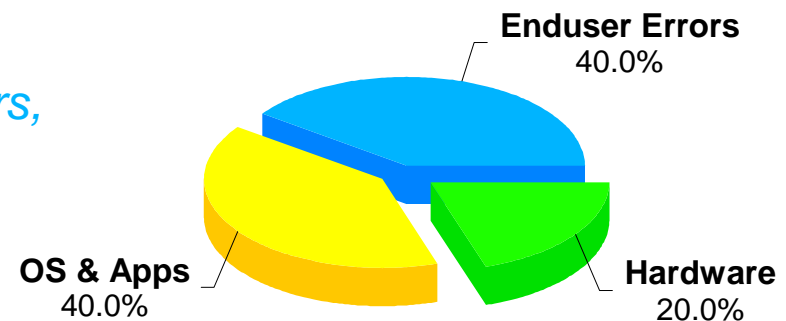
■ Technologies that reduce incidents of downtime

- ▶ *Software Rejuvenation*
- ▶ *Chipkill™ memory*
- ▶ *Fuel Gauge*
- ▶ UPS
- ▶ *PFA: memory, VRMs, HDD, processors, fans and power supplies*
- ▶ System Management Processor
- ▶ *Capacity Manager*
- ▶ Hot swap power supply
- ▶ Hot swap fans
- ▶ *Active™ PCI*

■ Technologies that reduce the duration of downtime

- ▶ *Light Path Diagnostics™*
- ▶ *Real Time Diagnostics*
- ▶ Power Restore
- ▶ Auto Server Restart
- ▶ *Remote Supervisor Adapter*

Causes of Downtime



Blue = IBM exclusive products

Positioning xSeries offerings for iSeries customers

Understand the customer's environment and competition to maximize success !

■ x235

- ▶ Tower offering with conversion option to 5U rack
- ▶ 1-2 way Xeon, Up to 2.4 GHz
- ▶ **MUST ORDER Remote Supervisor Adapter with x235**
- ▶ Lead offering for low-end & very price-sensitive environments
- ▶ Great for entry environments and to extend IXS value to xSeries/IXA in 270/800/810 customers
- ▶ Sell IBM X-Architecture reliability and systems management features

■ x255

- ▶ Tower offering with conversion option to 7U rack
- ▶ 1-4 way Xeon MP, Up to 2.0 GHz
- ▶ **MUST ORDER Remote Supervisor Adapter with x255**
- ▶ Great for business-critical Windows applications, particularly those demanding 4-way performance in a tower
- ▶ Good upsell to extend IXS to xSeries/IXA from IXS in 270/820/800/810 customers who need 4-way power
- ▶ Sell IBM X-Architecture reliability and systems management features

www.ibm.com/eserver/xseries

www.ibm.com/eserver/series/windowsintegration/xseriesmodels

Positioning xSeries offerings for iSeries customers

Understand the customer's environment and competition to maximize success !

■ x360

- ▶ Space-efficient Rack-dense (3u) offering
- ▶ 1-4 way Xeon MP, Up to 2.0 GHz
- ▶ Lead offering for mid-market customers who need up to 4-way performance and business-critical reliability in a rack solution
- ▶ Excellent competitive offering vs. DL580 G2
- ▶ Great to extend IXS value to xSeries/IXA in 8xx customers
- ▶ Sell IBM Enterprise X-Architecture reliability and systems management features

■ x440

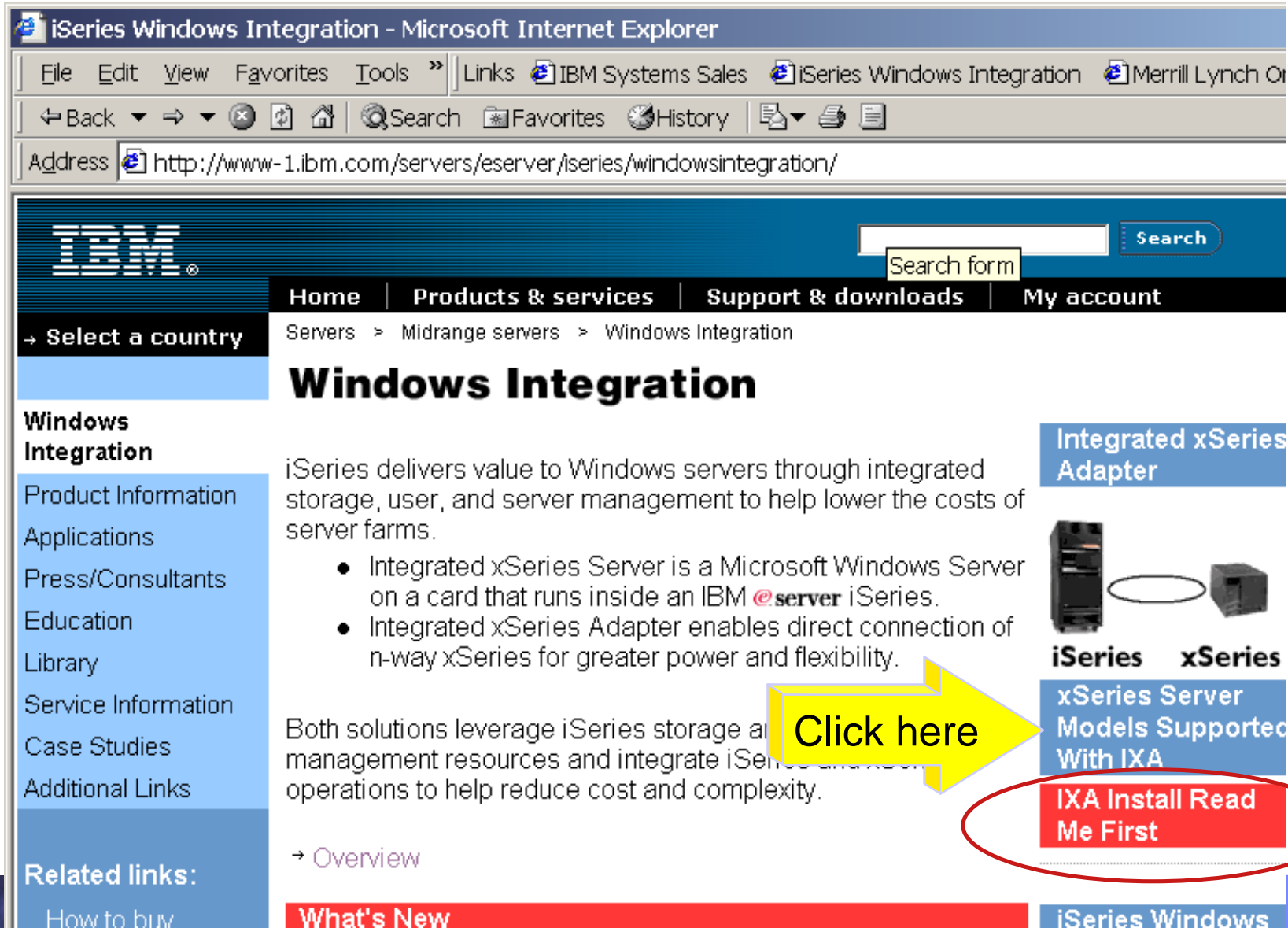
- ▶ Space efficient (4u) rack offering
- ▶ IXA supports up to 8 way on x440
- ▶ 2-4 way Xeon DP, up to 2.4 GHz
- ▶ 2-8 way Xeon MP, up to 2.0 GHz
- ▶ Lead offering for enterprise iSeries customers and large, business critical applications
- ▶ Excellent competitive offering vs. DL760 and DL580 G2
- ▶ Sell IBM Enterprise X-Architecture reliability and systems management features

Enterprise X-Architecture™


www.ibm.com/eserver/xseries

www.ibm.com/eserver/series/windowsintegration/xseriesmodels

xSeries Server Models Supported with IXA

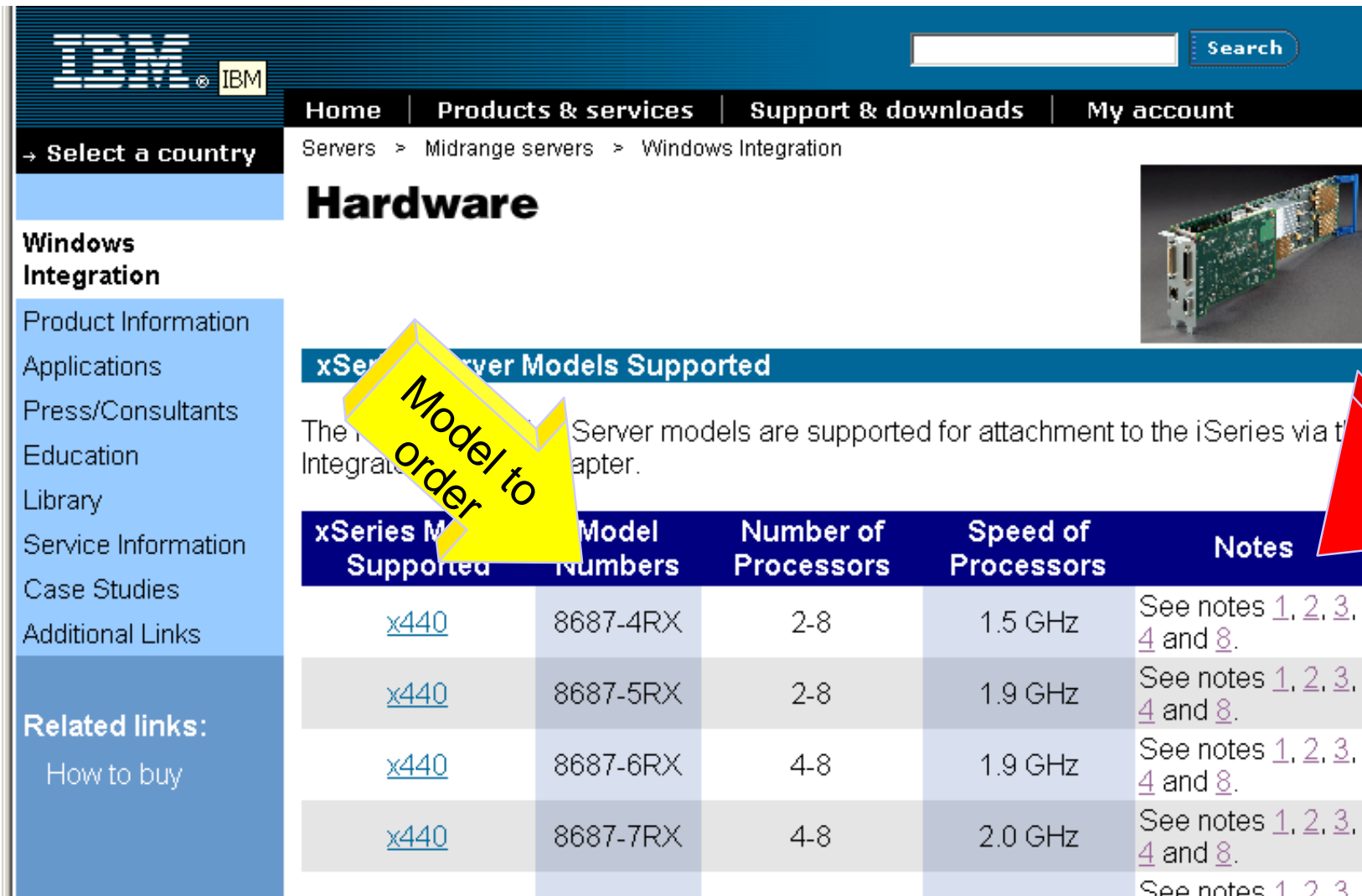


The screenshot shows a Microsoft Internet Explorer browser window displaying the IBM website page for Windows Integration. The browser title is "iSeries Windows Integration - Microsoft Internet Explorer". The address bar shows the URL: <http://www-1.ibm.com/servers/eserver/iseries/windowsintegration/>. The page content includes the IBM logo, a search bar, and navigation tabs: Home, Products & services, Support & downloads, and My account. The breadcrumb trail is: Servers > Midrange servers > Windows Integration. The main heading is "Windows Integration". Below this, there is a paragraph: "iSeries delivers value to Windows servers through integrated storage, user, and server management to help lower the costs of server farms." followed by a bulleted list:

- Integrated xSeries Server is a Microsoft Windows Server on a card that runs inside an IBM  server iSeries.
- Integrated xSeries Adapter enables direct connection of n-way xSeries for greater power and flexibility.

 To the right of the text is an image showing an "iSeries" server rack and an "xSeries" server rack connected by a cable. Below the image is the text "iSeries xSeries xSeries Server Models Supported With IXA". A yellow arrow points from the text "Click here" to a red button labeled "IXA Install Read Me First", which is circled in red. On the left side of the page, there is a sidebar with "Windows Integration" and a list of links: Product Information, Applications, Press/Consultants, Education, Library, Service Information, Case Studies, and Additional Links. At the bottom of the page, there is a "Related links:" section with "How to buy" and "What's New" links, and a footer with "© 2003 IBM Corporation" and "iSeries Windows".

ibm.com/eserver/series/windowsintegration/xseriesmode



The screenshot shows the IBM website navigation and a table of supported xSeries models. A yellow arrow points to the 'Model to order' column, and a red arrow points to the 'Notes' column.

Hardware

xSeries Server Models Supported

The following xSeries server models are supported for attachment to the iSeries via the Windows Integration chapter.

xSeries Model Supported	Model Numbers	Number of Processors	Speed of Processors	Notes
x440	8687-4RX	2-8	1.5 GHz	See notes 1 , 2 , 3 , 4 and 8 .
x440	8687-5RX	2-8	1.9 GHz	See notes 1 , 2 , 3 , 4 and 8 .
x440	8687-6RX	4-8	1.9 GHz	See notes 1 , 2 , 3 , 4 and 8 .
x440	8687-7RX	4-8	2.0 GHz	See notes 1 , 2 , 3 , 4 and 8 .
...	See notes 1 , 2 , 3

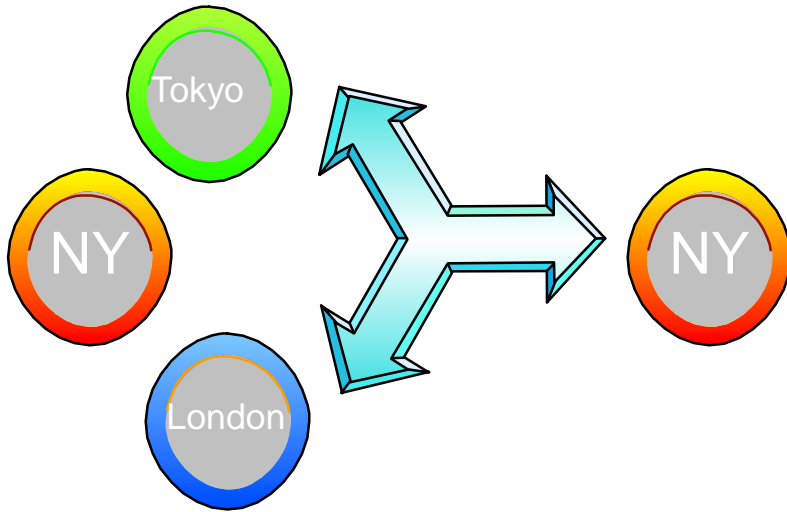
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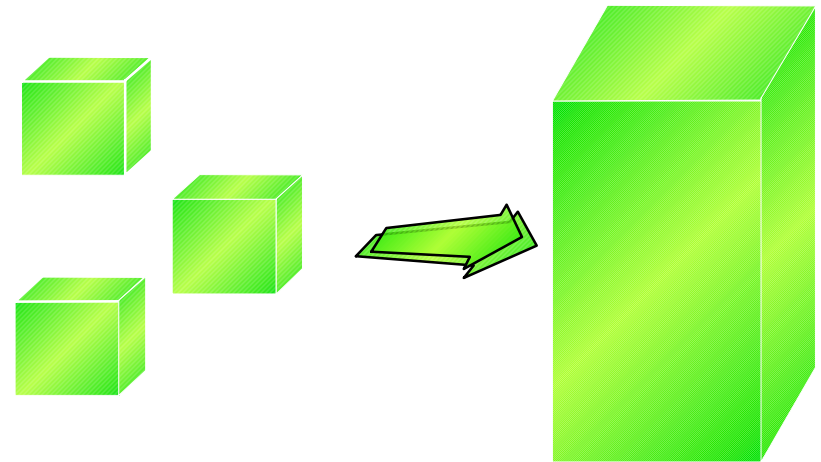
Solution Design

Server Consolidation Stages

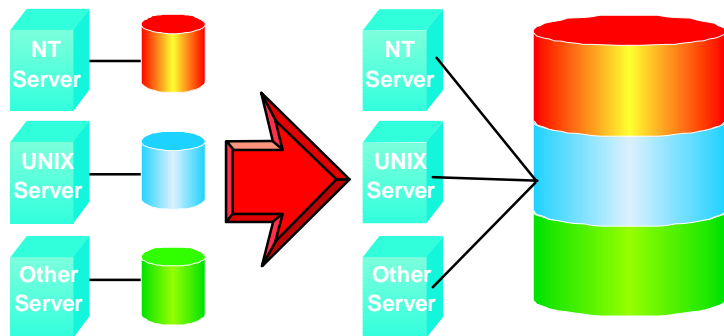
Centralization



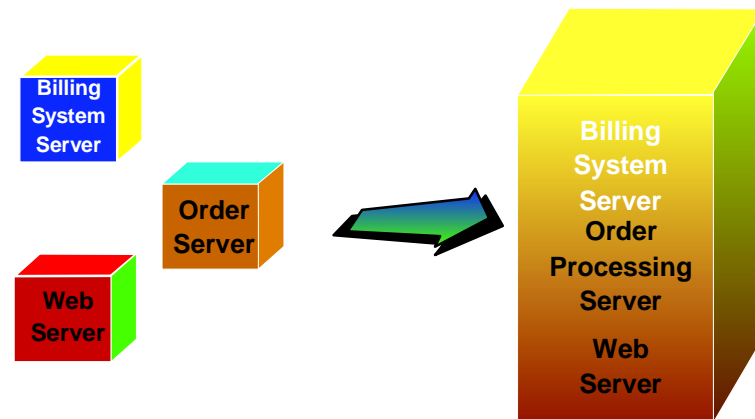
Physical Consolidation



Data Integration



Application Integration

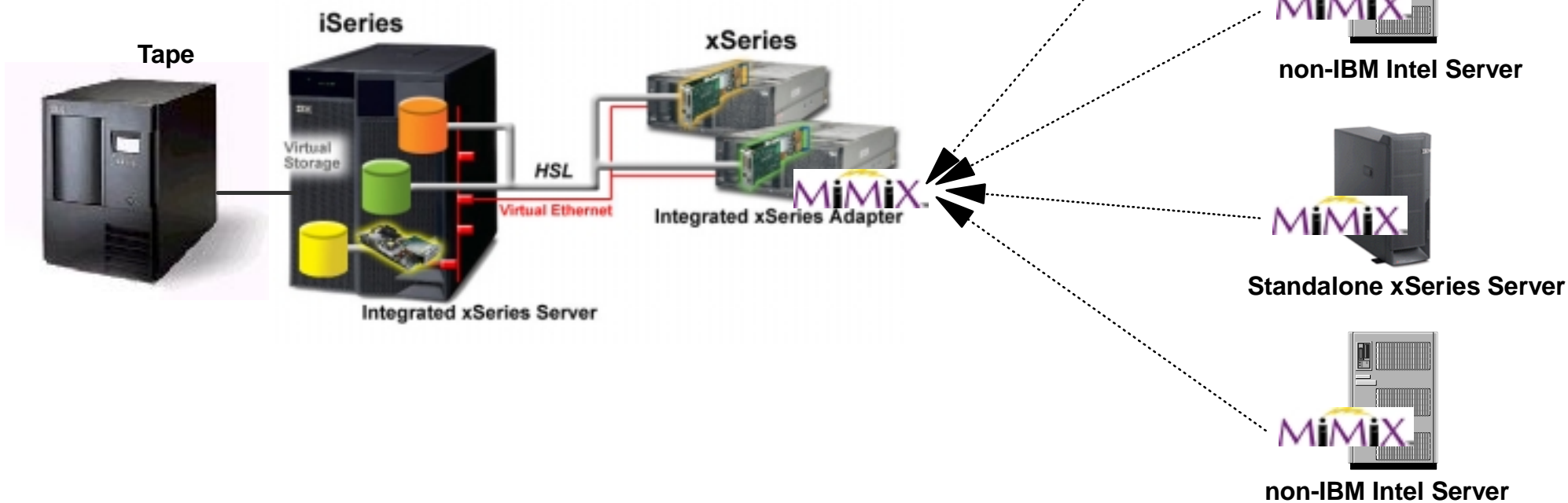


Integrated xSeries Solution Opportunity Examples

- **Customer is running NT 4.0**
- **Customer has Business-critical applications that require Windows servers**
 - ▶ **Need high reliability**
 - ▶ **Considering Microsoft Cluster Service**
- **Customer has I/O intensive Windows applications**
- **Customer has Windows applications that integrate with OS/400 Apps & DB2**
 - ▶ **Reporting / BI application**
 - ▶ **Lakeview Technologies' Mimix installations**
- **iSeries J.D. Edwards installations**
- **LANSA Development environment**
- **Citrix Metaframe installed (or need to control managing desktops)**
- **iSeries customer is evaluating a SAN for consolidated storage for Intel servers**
- **Customer has remote sites with iSeries & Windows servers installed**
- **Customer has a short window or lengthy backup process for their Intel servers**
- **Customer has a significant investment in Windows Development and/or Test environment**

Providing Value in a heterogenous Intel environment

Lakeview Technologies' Mimix for Windows and iSeries Integrated xSeries Solutions can provide replication services for multiple heterogenous Windows servers to a single point of consolidated backup

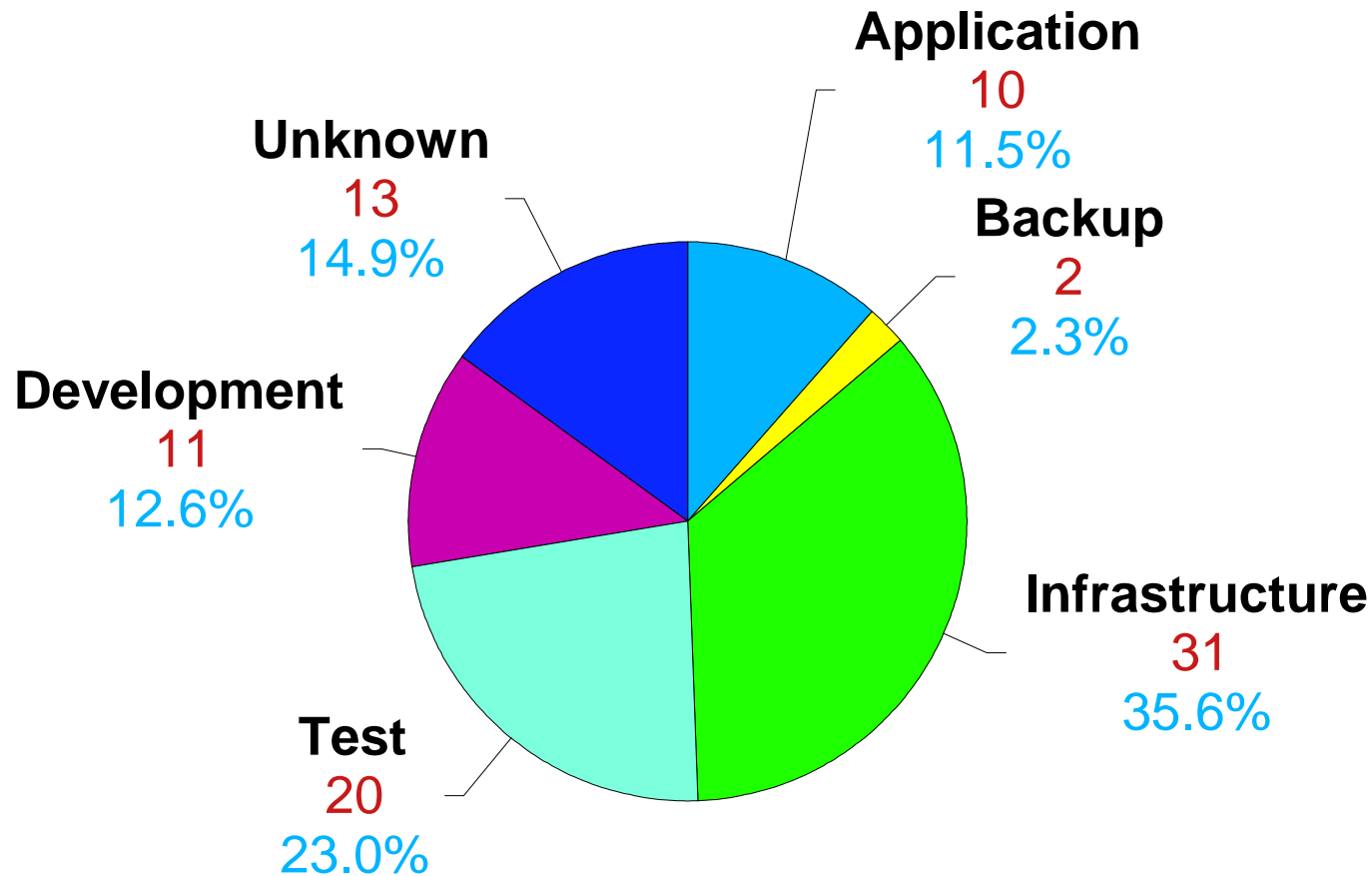


5 Steps to delivering a valuable IXS/IXA Solution

- 1. Gather existing server infrastructure information**
 - a. Includes existing infrastructure, e.g. physical servers, SW, tape, network
 - b. Includes definition of applications, # users per, utilizations, organizational considerations
- 2. Gather new Application requirements**
 - a. Include any new applications, requirements (e.g. service level improvements)
 - b. Discuss existing bottlenecks, boundaries and availability / backup requirements
 - c. Discuss integration of applications/data with iSeries operations and data
- 3. Group servers into "islands" of opportunity**
 - a. Based upon same applications similar requirements, (e.g. software, data, service levels)
- 4. Prioritize value of iSeries integration for each island or major application**
 - a. Discuss value of iSeries integration with customer - can assist with quantifying substantial savings for cost justification
- 5. Analyze and propose consolidation solution for high-value and same-function servers**
 - a. Consolidating file servers, development/test environments, and single-application servers with Integrated xSeries Solutions can deliver high-return and may be easily implemented

xSeries Consolidation Customer example

NT Servers by Function



Questions to Ask

- **How many Windows servers do you have?**
- **Have you replaced or are you planning to replace your Intel servers with newer models?**
- **Do you have multiple Windows servers deployed for the same application or function? e.g. File/Print, SQL Server?**
- **Do you have consistent, timely backup of your Windows environment?**
- **Has your business been inconvenienced by Windows server outages?**
- **Have you deployed multiple test servers to support the maintenance and upkeep of your Windows environment?**
- **Have you moved, or are you in the process of moving to Windows 2000 yet?**
 - ▶ **Are you planning to purchase new hardware to accomplish this transition?**
 - ▶ **Are you familiar with Windows 2000 licensing and its financial impact on your environment?**

Questions to Ask (continued)

- **Do you have excess capacity on your Windows servers? Is it where you need it?**
- **Do you typically deploy a new Intel server for each Windows application you deploy?**
- **Do you support Linux applications today on your Intel servers? Which applications? Do you have multiple test servers for supporting the maintenance of your Windows environment?**
- **Does your company support remote locations with both iSeries and Intel servers installed?**
- **Have you deployed or are you considering Citrix Metaframe to deliver Windows applications to your desktops?**

Gathering existing server information

Windows

For each server:

- ▶ size of processor and number of processors
- ▶ CPU utilization
- ▶ applications/services installed
- ▶ hard disk size, protection and utilization
- ▶ high availability schemes used

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

Common Windows servers in iSeries customers

- **File/Print Services**
- **Messaging**
 - ▶ Exchange
 - ▶ Domino/Notes
- **Terminal Servers**
 - ▶ Citrix
 - ▶ Windows Terminal Services
- **Database**
 - ▶ SQL Server
- **Webservers**
- **Infrastructure Servers**
 - ▶ Domain Controllers
 - ▶ Primary, Backup DNS
 - ▶ Systems Management
 - ▶ Active Directory
 - ▶ Proxy
- **Development Servers**
- **Test Servers**
- **Application Servers**

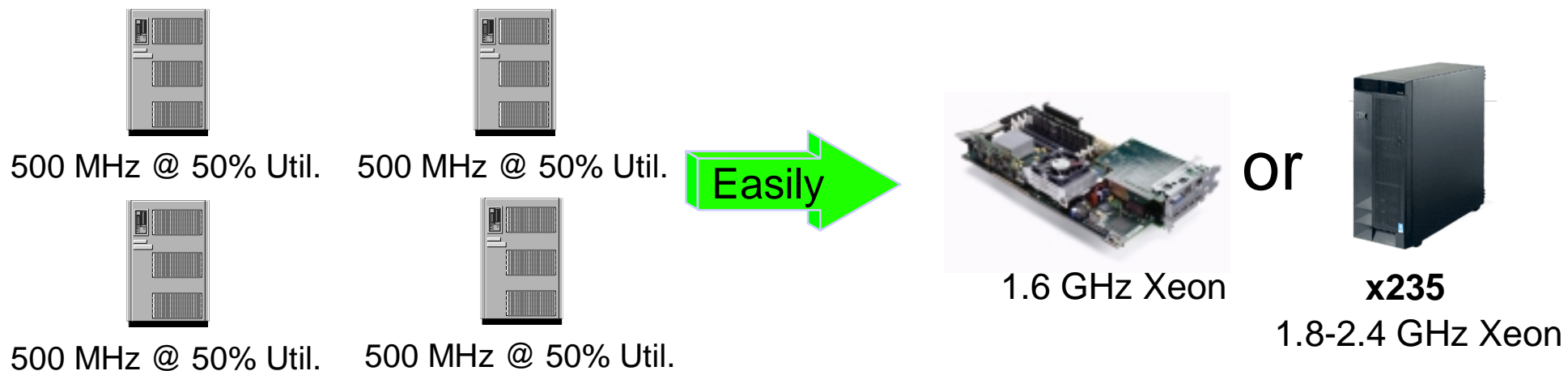
Best Server Replacement Targets

Look for Intel server functions that match Integrated xSeries Solution benefits

- ▶ **Mission critical, line-of-business Windows applications**
 - Key opportunities : Citrix, JDE
 - highlight: hot spare, testing, backup and recovery
- ▶ **Heavy I/O applications**
 - highlight: storage virtualization
- ▶ **Consolidation of identical servers (multiple file servers, messaging servers)**
 - highlight: storage virtualization, latest xSeries technology
- ▶ **Infrastructure servers (DNS, DHCP, Domain Controller, Development/Test)**
 - highlight: storage virtualization, hot spare, latest xSeries technology, user admin

Physical Consolidation of old or obsolete servers

- **Assumption: Servers are running similar workloads that can be consolidated**
- **Based on Moore's Law : Processing Power Doubles Every 18 Months**
- **Take a more conservative approach.....Servers over 3 years old can generally be replaced by 1/2 their number and still have roughly the same processing power**
- **Manually : For every server being consolidated, use its MHz x Peak CPU utilization to determine processor requirements**



VMWare GSX & ESX Positioning

- VMWare enables Intel servers to support multiple virtual server environments
- iSeries is NOT able to support VMWare ESX running on xSeries attached with Integrated xSeries Adapters
- VMWare GSX is a Windows 2000 Server application that can run on xSeries attached with Integrated xSeries Adapters



VMWare GSX
Server

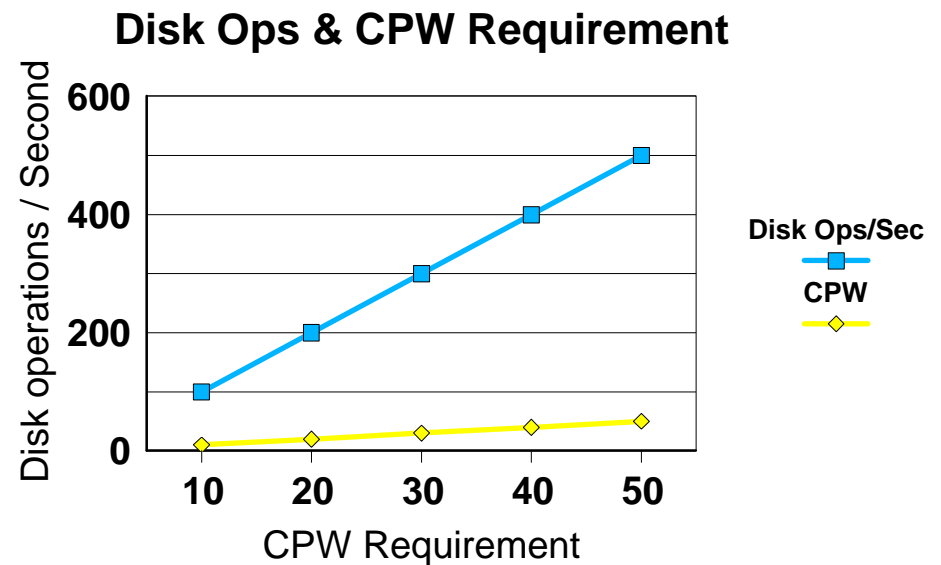


VMWare ESX
Server

www.vmware.com

Disk Considerations

- **Size for total disk capacity**
- **Size for minimum disk arms required**
 - ▶ IXS = 3
 - ▶ xSeries & IXA = min. 3 + 2 per add'l CPU
- **Reality Check...how much existing disk performance can I leverage?**
 - ▶ Does existing iSeries have many arms that are not heavily utilized ?
- **Adjust for existing iSeries capacity and arms that may be leveraged**
- **CPW Requirement Guideline**
 - ▶ 1 arm = 100 I/O's Per Second = 10 CPW
 - ▶ 10 arms = 100 CPW = 1000 Ops/Sec



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.

Resources

iSeries SCON Resources

iSeries Sales Kit, iSeries SCON Sales Kit (System Sales)

- IBM - w3.ibm.com/sales/systems/ibmsm.nsf/mainframeset?readform&cdoc=isconkit
- BP - www.ibm.com/partnerworld/sales/systems/ibmsm.nsf/mainframeset?readform&cdoc=isconkit
- Windows Integration Presentations, Brochure, Sales Guide

Windows Integration

- Presentations
- Spec Sheet, Sales Guide
- Case Studies
- V5R2 Announcement Sales Kit CD Pack
 - Publication Order# SK3T-3873-07
 - Bonus Videos on CD 2
- Redbooks: SF24-6222, SG24-6056
- Implementation Class - AS30 / S6225
- www.ibm.com/series/windowsintegration

xSeries

- www.ibm.com/eserver/xseries
- Up to Speed on xSeries Servers SK3T-8148
- Complete product info, competitive info on Systems Sales intranet & Partnerworld websites
- xSeries vs. competitive Intel Server side-by-side comparisons
 - Get PDF File from Systems Sales website:

<http://w3-3.ibm.com/sales/competition/compdlib.nsf/41b3dc2211cc2f6ac12566a200259ba4/70b0c57d5993a8b280256aa300344eeb?OpenDocument>

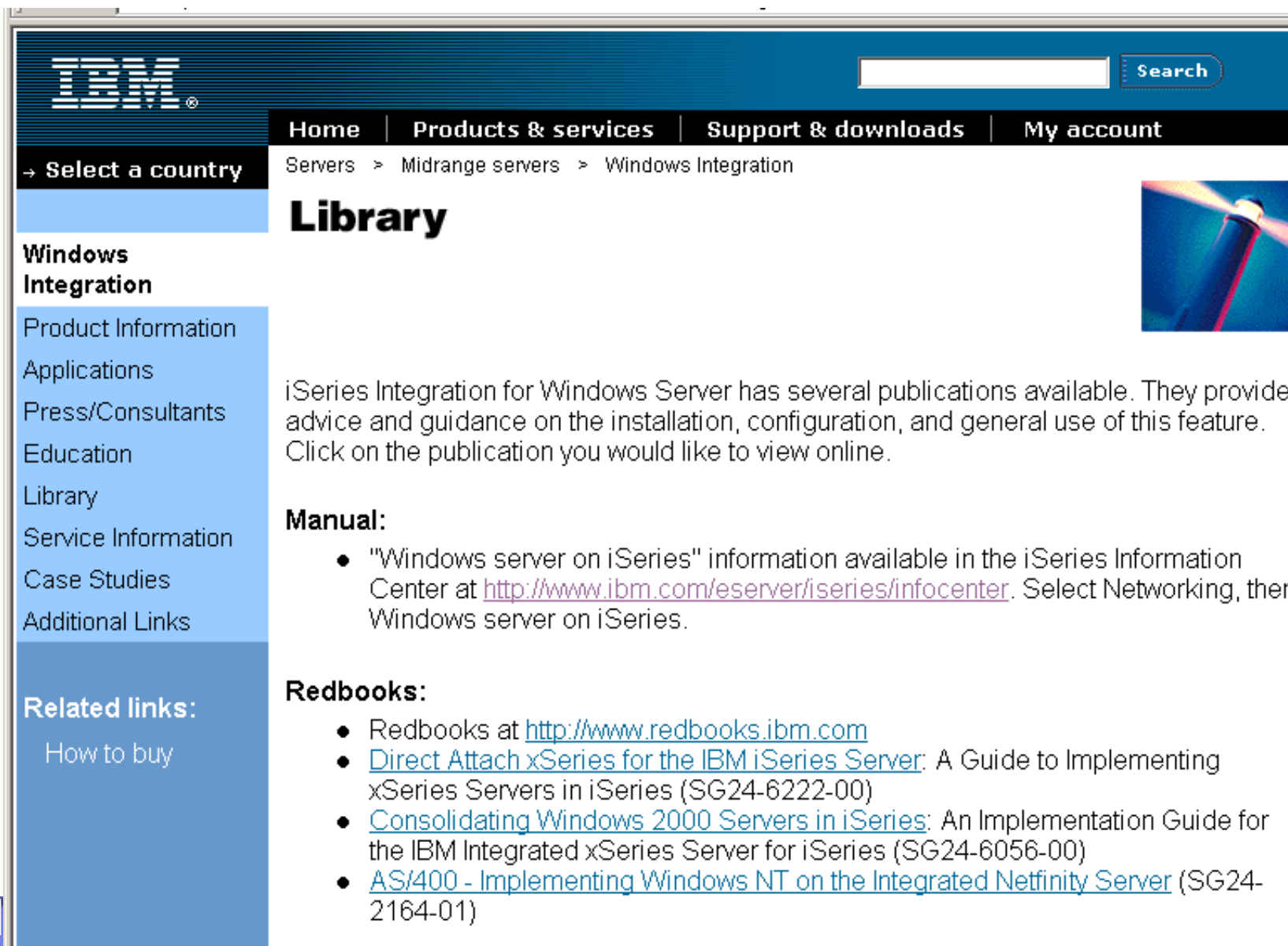
iSeries SCON

- Presentations
- Reference Presentation
- Spec Sheet
- TCONow! Tool
- ITG Reports
- www.ibm.com/series/scon

Advanced Windows Integration Center

- Presales technical support to FTSS teams
- intwin@us.ibm.com

Installation Information - USE THE MANUAL !!



The screenshot shows the IBM eServer iSeries website. The top navigation bar includes the IBM logo, a search box, and links for Home, Products & services, Support & downloads, and My account. A breadcrumb trail indicates the current location: Servers > Midrange servers > Windows Integration. The main content area is titled 'Library' and features a sidebar with navigation options: Windows Integration, Product Information, Applications, Press/Consultants, Education, Library, Service Information, Case Studies, and Additional Links. The main text describes the available publications and provides a list of links under 'Manual' and 'Redbooks'.

Library

iSeries Integration for Windows Server has several publications available. They provide advice and guidance on the installation, configuration, and general use of this feature. Click on the publication you would like to view online.

Manual:

- "Windows server on iSeries" information available in the iSeries Information Center at <http://www.ibm.com/eserver/iSeries/infocenter>. Select Networking, then Windows server on iSeries.

Redbooks:

- Redbooks at <http://www.redbooks.ibm.com>
- [Direct Attach xSeries for the IBM iSeries Server](#): A Guide to Implementing xSeries Servers in iSeries (SG24-6222-00)
- [Consolidating Windows 2000 Servers in iSeries](#): An Implementation Guide for the IBM Integrated xSeries Server for iSeries (SG24-6056-00)
- [AS/400 - Implementing Windows NT on the Integrated Netfinity Server](#) (SG24-2164-01)

Advanced Windows Integration Center

- A virtual team of iSeries and xSeries resources who provide a single point of contact for assistance with iSeries Windows Integration opportunities
- Technical support and field enablement to drive the iSeries Windows Integration (IXA/IXS) solution portfolio.
- Support for iSeries & xSeries Technical Sales personnel
 - ▶ Participate in and support your customer calls and presentations
 - ▶ Identify and connect technical resources to resolve problems
 - ▶ Engage in competitive & first-of-a-kind opportunities
 - ▶ Provide solution design and architecture assistance
 - ▶ Host eMeetings to provide Windows Integration technical sales education
 - ▶ Develop whitepapers, presentations and demonstrations
- e-mail: intwin@us.ibm.com
- Phone: +1 (507) 253-9018

Education: Implementing Windows Server on iSeries

- **WW Course Code AS30 / S6225 in N. America**
- **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.**

iSeries Windows Integration Services

- **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.**
- **Customers may choose 12 hours of material from an ala carte menu of choices.**
 - ▶ **Installing Windows Server**
 - ▶ **High Availability options**
 - ▶ **Planning and Allocating storage to Windows servers**
 - ▶ **Strategic Planning of your integrated Windows environment**
 - ▶ **Backup and Recovery options.**
- **For additional information or to schedule this service, send an email with your request to the following address:**
- **E-Mail: intwin@us.ibm.com**
- **Phone: 1-507-253-9018**

Competitive Information: IBM and Business Partners

Dell Compete Pack on System Sales:

IBM - <http://w3-1.ibm.com/sales/systems/ibmsm.nsf/docnames/dellcompk>

BP - <http://www-1.ibm.com/partnerworld/sales/systems/ibmsm.nsf/docnames/dellcompkbp>

Dell PortLet on COMP:

IBM - <http://w3-3.ibm.com/sales/competition/compdlib.nsf/pages/dell+portlet?Opendocument>

BP - <http://partners.boulder.ibm.com/src/compdlib.nsf/bpweball?OpenView&Dell&Start=1&>

HP Compete Pack on System Sales:

IBM - <http://w3-1.ibm.com/sales/systems/ibmsm.nsf/docnames/xhpcompaqs>

BP - <http://www-1.ibm.com/partnerworld/sales/systems/ibmsm.nsf/docnames/xhpcompaqs>

HP PortLet on COMP:

IBM - <http://w3-3.ibm.com/sales/competition/compdlib.nsf/pages/hp+portlet?Opendocument>

BP - <http://partners.boulder.ibm.com/src/compdlib.nsf/bpweball?OpenView&HP&Start=1&>

EMC storage compete pack: Resources, tools and tips to beat EMC

<http://w3-1.ibm.com/sales/systems/ibmsm.nsf/docnames/emccompk>

Hitachi storage compete pack: Resources, tools and tips to beat Hitachi

<http://w3-1.ibm.com/sales/systems/ibmsm.nsf/docnames/hdscompk>

STK storage compete pack: Resources, tools and tips to beat EMC

<http://w3-1.ibm.com/sales/systems/ibmsm.nsf/docnames/stkcompk>

How to Contact Competitive Help

Americas CompeteLine

Provides hotline support, competitive information, and on-site calls:

Phone: 1-888-426-5525 Option 4

In Latin America call: T/L 445-9700 or (770-835-9700)

e-mail: compline@us.ibm.com

Intranet: <http://w3-1.ibm.com/support/americas/competeline.html>

Business Partners must contact Partnerline: 1-800-426-9990

EMEA CompeteCenter

Provides hotline support on IBM main competitors, competitive information, and on-site call support and education

Phone: +45 45234450

e-mail: comp@dk.ibm.com

Intranet: <http://cmssc.dk.ibm.com>

Business Partners can contact CompeteLine directly by phone or mail

AP

Provides hotline support on IBM competitors and competitive information in general

Phone: +45 45234450 (EMEA) or 1-888-426-5525 Option 4 (Americas)

Mail: comp@dk.ibm.com (EMEA) or compline@us.ibm.com (Americas)

Intranet: <http://cmssc.dk.ibm.com> (EMEA) or <http://w3-1.ibm.com/support/americas/competeline.html> (Americas)

Business Partners can contact CompeteLine in Americas via Partnerline: 1-800-426-9990. CompeteLine in EMEA can be contacted directly by phone or mail

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AG: Chris Smit [csmit@us.ibm.com] or Maureen O'Hara [oharam@us.ibm.com]

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Sector7 Migration Services Partner: Contacts: Anne Ruehman [aruehman@us.ibm.com]

eServer TCOnow! Tool Overview

- **TCOnow was commissioned to compare IBM solutions against solutions from competitors**
 - ▶ **Objective is very specific - win business over Sun, Dell, Compaq, HP**
 - ▶ **Convince customer that if they are investing in new technology... it should be on the IBM solution**
- **TCOnow profiles and quantifies 10 TCO cost differentiators**
 - ▶ **HW SW Personnel Downtime Maintenance**
 - ▶ **Storage Network Facilities Services Training**
- **Performance metrics for IBM solutions provided by IBM solution subject matter experts and multiple external sources as well**
- **Windows application with automatic updates and enhancements to product information and assumptions**
- **Training and support available from System Sales TCOnow! Web site**
- **Will be used in conjunction with other TCO Sales Enablers**
 - ▶ **Scorpion Replacement Savings TCO Spreadsheets**
 - ▶ **ITG / Gartner Studies IBM Benchmarks**

TCOnow Use and Support Information

SYSTEM SALES is the Source

● How to use TCOnow with your customers

- ▶ Load your free copy of TCOnow onto your system
- ▶ Gather the information requested in the tool
- ▶ Run the analysis with input and interaction from your customer
- ▶ Use the results and findings to quantify real TCO value for your customer
- ▶ Plenty of TCOnow experts and support available via the [System Sales TCOnow Support web site](#)

● How to get your copy of TCOnow! tools from CIOview Corporation:

- ▶ All users can get a licensed copy via the [System Sales TCOnow web site](#)
 - IBM -
<http://w3-1.ibm.com/sales/systems/ibmsm.nsf/MainFrameset?OpenForm&cdoc=tconow>
 - Business Partners:
<http://www.ibm.com/partnerworld/sales/systems/ibmsm.nsf/mainframeset?readform&cdoc=tcoe6a>

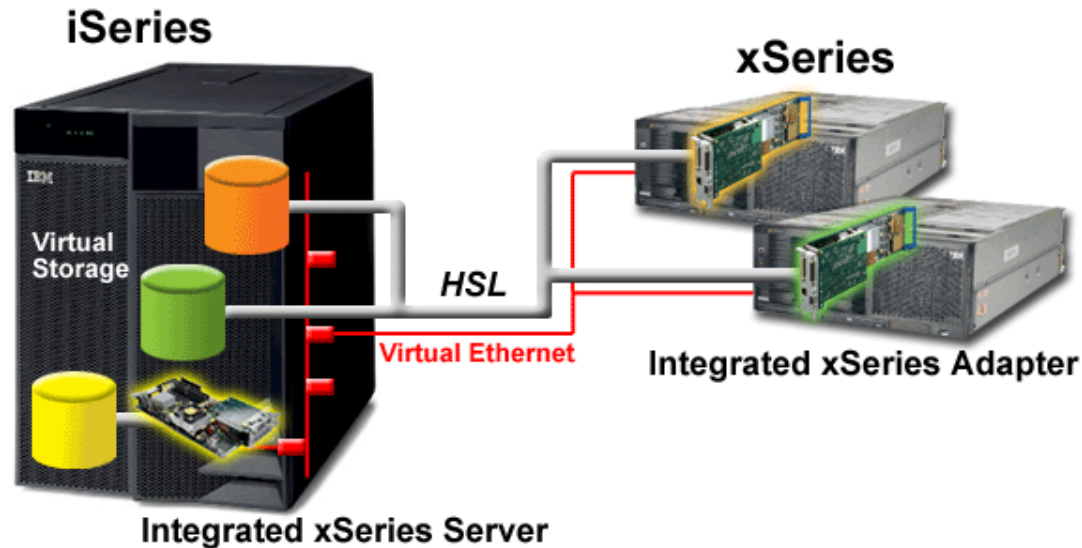
● TCOnow! Tools Education and Support

- ▶ TCOnow! Education and Support website under [System Sales TCOnow web site](#)
- ▶ Self guided training available from web
- ▶ Weekly 1 hour eMeeting for Guided Tours of TCOnow tools
- ▶ Request one-on-one assistance via [System Sales TCOnow web site](#)

● Learn more about TCOnow! and winning against the competition

- ▶ TCOnow! demos in eSTSU solution center
- ▶ eServer TCO sessions integrated into Top Guns and other in-classroom training
- ▶ General TCOnow assistance: Denise Knorr dknorr@us.ibm.com

iSeries Windows 2000 Server Integration Summary



- Integrate server management and user administration
- Leverage investment in iSeries resources and operations
- Simplify server test and deployment using Virtual Storage Spaces
- Communicate securely over 1 Gbps Virtual Ethernet connections

www.iseries.ibm.com/windowsintegration

IXS/IXA Performance Example

Impact of xSeries on iSeries depends on the number of disk operations

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

1 Disk ops/sec assume 8K byte block transfers, 67% read, 33% write.

2 Disk arms at 40% utilization (unprotected)

Performance results measured on a xSeries 4-way 700 MHz server connected to iSeries via an IXA

Putting these numbers in perspective:

- ▶ File serving: A Netbench 6.0 Enterprise load resulted in approximately 1000 write ops per second maximum before the Xeon CPUs become the bottleneck.
- ▶ Mail Serving: An Exchange 5.5 Loadsim test exercising 9000 medium exchange user's produced approximately 400 disk ops per second - 50/50 reads to writes.
- ▶ The IXS and IXA has a similar maximum capacity as a high end xSeries RAID controller.

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.

IXA/IXS and Loop Maximums

Model	Max IXS	Loop	Max IXA	Max iSeries Towers	Max IXA per Loop	Max I/O and IXA per loop	Max I/O and IXA
270	3	1	2	1	2	3	3
820	12	1	8	5	8	9	9
830	28	4	16	13	8 Loop1 = 1	9	21
840	48	8	32	23	8	9	39
800	4	1	3	1	3	4	4
810	13	1	7	4	7	8	8
825	36	3	18	18	8	9	27
870	48	8	60	47	8	6	60
890	48	14	60	47	8	9	60

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