



Enterprise IT Management Made Simple

IBM *@*server iSeries



*i890 and OS/400 V5R2
Announcements*



iSeriesJ Announcement at A Glance

- **i890 32-way with POWER4J provides unmatched iSeries growth**
 - **Enterprise IT Management Made Simple with OS/400⁷ V5R2**
 - **Delivering outstanding flexibility for adding new workloads**
-
- April 29, 2002 Announcement
 - June 14, 2002 i890 with OS/400 V5R2 Limited Availability (English only)
 - August, 2002 OS/400 V5R2 Worldwide General Availability

Notes: iSeries Announcement at A Glance

On April 29 2002, IBM eServer iSeries announced the iSeries Model 890, featuring the award-winning¹ POWER4 microprocessor. The i890 delivers unprecedented performance at the high end of the iSeries product line, with up to 1.85 times the performance of the existing i840 24-way server.

IBM also adds to its significant investments in OS/400 with the new V5R2 that focuses on simplifying enterprise IT management for companies of any size. OS/400 V5R2 builds on the strong foundation of mainframe-class technologies delivered with OS/400 V5R1. Both releases feature mainframe-class technologies that have been integrated and simplified for customers in both small to medium sized businesses and for those larger customers running iSeries in datacenters.

This announcement also signals new flexibility to add new workloads to iSeries with expanded options for Capacity Upgrade on Demand (CUoD), extending base processor features across the product line and sub-capacity pricing for WebSphere products running in logical partitions.

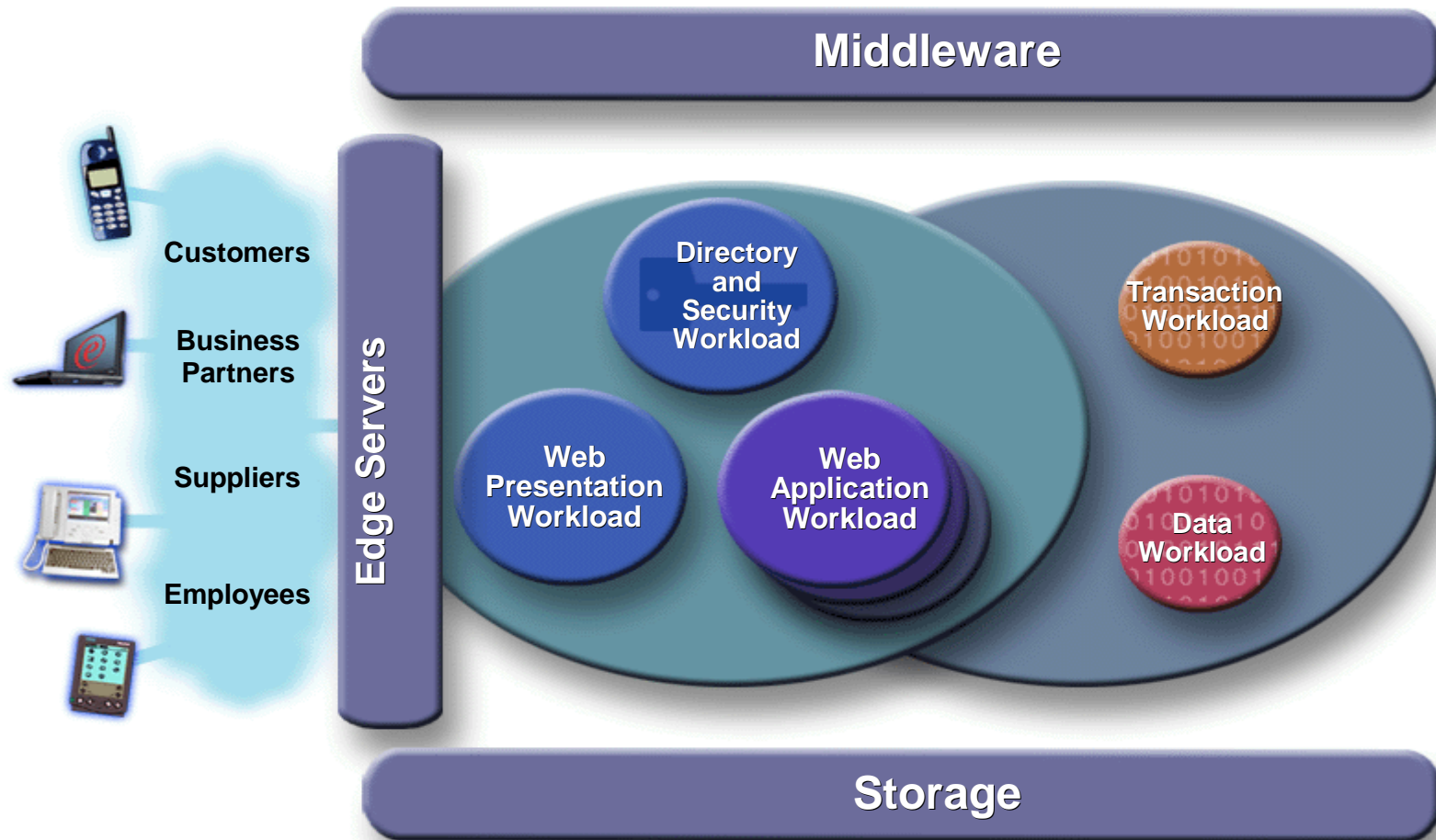
The i890 availability with OS/400 V5R2 (English only with enablement for DBCS) begins on June 14, 2002.

General availability for OS/400 V5R2 and additional language versions is planned for August, 2002.

New Capacity on Demand options and base processor features for the i830 and i840 are available April 29, 2002.

- (1) In **January 2000**, the IBM POWER4 processor was awarded Microprocessor Report's 2000 Microprocessor Technology Award in recognition of its innovations and technology.
April 30, 2002: -- IBM received the coveted Microprocessor Report Analysts' Choice Award for Best Workstation/Server Processor of 2001 at a microprocessor industry event. Cahners In-Stat/MDR, a leading microprocessor research firm, chose the POWER4 processor over Intel's Itanium and Compaq's Alpha 21264C 1 processors.

Enterprise IT Management Challenge



- Multiple platforms, optimized for specific workloads
- Complex management and skills requirements drive high costs

Notes: Enterprise IT Management Challenge

This chart describes information from IBM research with the institute of high performance of business computing. The study shows common approaches to large corporation's enabling of their e-business infrastructure, deploying multiple applications, resources and server workloads.

Some companies will chose to deploy multiple server platforms in their datacenter, each optimized for a specific workload. Multiple server platforms, however, also lead to more complex management tasks, driving higher level skills requirements and associated costs.

iSeries provides one opportunity to address the challenges associated with managing multiple workload environments by providing flexible consolidation options for multiple workloads, applications and operating system environments, all within a single server infrastructure. So, for example, iSeries can handle multiple partitions running database and transaction workloads, alongside WebSphere partitions for e-business application serving and Linux partitions for e-business infrastructure applications like web serving and firewalls. Combined with support for Windows-based applications, iSeries offers a single management infrastructure that can help customers reduce datacenter operations costs and total cost of ownership.

Innovative Technology

IBM @server POWER Processor Roadmap



Notes: IBM @server POWER Processor Roadmap

IBM's has a single roadmap for the POWER processor for deployment in both iSeries and pSeries products lines.

Using the POWER processor family, iSeries has consistently delivered highly scalable 64-bit processors with exceptional performance to support the growth of our largest customers.

In fact, the POWER4 is the 8th generation of 64-bit processors brought to market by IBM on the AS/400 and iSeries since 1995.

IStar and SStar processors continue to provide a flexible price/performance options for our entry and midrange offerings, along with the flexibility to support both OS/400 V5R2 and V5R1.

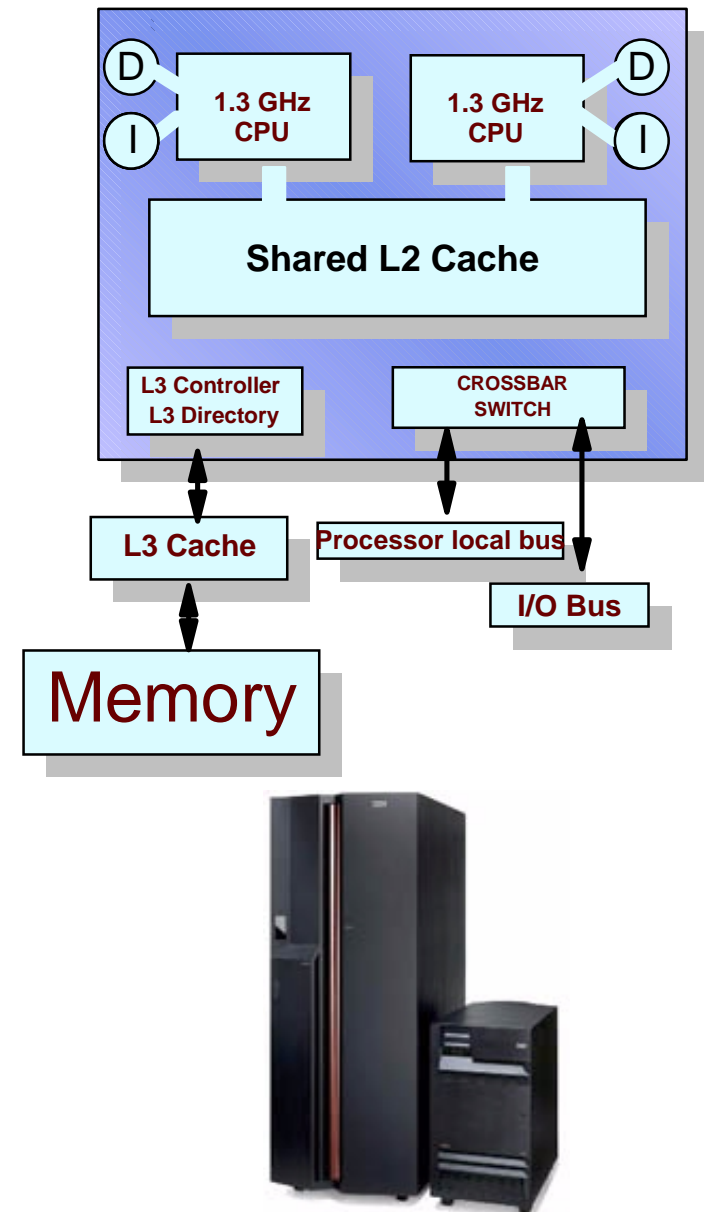
i890 with 32-way POWER4 Processor

IBM POWER4 delivers unmatched iSeries growth on i890 32-way*

- 37,400 CPW, up to 1.85 x growth over i840
- Processor features include Capacity Upgrade on Demand
- 1.3 GHz POWER4 microprocessors
 - 174 million transistors on a chip
- Up to 534 MB of L2/L3 cache
- Doubled memory and I/O capacity
 - Up to 256 GB memory
 - Up to 72 Terabytes disk
 - Up to 32 IXA

Common IBM eServer processor roadmap for iSeries and pSeriesJ

* Requires OS/400 V5R2



Notes: i890 with 32-way POWER4 Processor

The introduction of POWER4 processor in the new 32-way i890, along with Capacity Upgrade on Demand processor features delivers outstanding mainframe-class performance on iSeries.

The i890 incorporates the latest advances in RISC technology with the IBM POWER4 processor. With up to 32 processors running at 1.3 GHz, on-chip L2 cache and new L3 cache, the i890 delivers up to 37,400 CPW or an 85% increase over the 24-way i840. It serves businesses that need a server capable of mainframe-class performance, but retains iSeries focus on simplicity and robust availability.

Besides increased performance, the i890 also offers double the I/O capacity of previous iSeries servers, with up to 256 GB of memory, 72 TB of disk and up to 32 Integrated xSeries Adapters for attaching Windows-based xSeries servers.

The name *POWER4* refers not only to the processor, but also to the structure used to interconnect processor chips to form systems. POWER4 was designed to execute both commercial and technical applications supporting both iSeries and pSeries products, combining highly scalable compute intensive performance with exceptional transaction processing capabilities in a single processor.

IBM POWER4 embodies both a hardware technology and an architecture that are employed together to design complete systems. The image shown in the chart contains a logical view of the IBM POWER4 chip, which contains two processors as well as the associated Level 1 and Level 2 data caches, the directory for the Level 3 cache, communication and control circuitry for chip-to-chip, module-to-module, and memory interfaces.

Four POWER4 chips can be packaged on a single module to form an 8-way SMP, commonly referred to as a multi-chip module (MCM). Four such modules can be interconnected to form a 32-way SMP. POWER4 systems are designed to deliver balanced performance throughput. For example, as additional chips and MCMs are added to form larger SMP systems, additional resources such as memory capacities can also be increased.

For additional information on POWER4 processor architecture, visit:

- <http://www-1.ibm.com/servers/eserver/pseries/hardware/whitepapers/power4.html>
- <http://www.research.ibm.com/journal/rd46-1.html>

Note for the chart: D = Data, I=Instruction

Mainframe Class Technology, iSeries Servers

i270 with up to



- 2,350 CPW
- 8 GB memory
- 840 GB disk

i820 with up to



- 3,700 CPW
- 32 GB memory
- 8 TB disk

i830 with up to



- 7,350 CPW
- 64 GB memory
- 22 TB disk

NEW

- 4/8-way Standard Processor Features
- 8-way Base Processor Features

i840 with up to



- 20,200 CPW
- 128 GB memory
- 38 TB disk
- 8/12, 12/18, 18/24-way Standard Processor Features

NEW

- 12-way & 24-way Base Processor Features

i890 with up to



- 37,400 CPW
- 256 GB memory
- 72 TB disk
- 16/24-way & 24/32-way Standard Processor Features
- 24-way & 32-way Base Processor Features

NOTE: Values quoted for CPW, Memory and Disks are the maximum values configurable within each of the models

Notes: Mainframe Class Technology, iSeries Servers

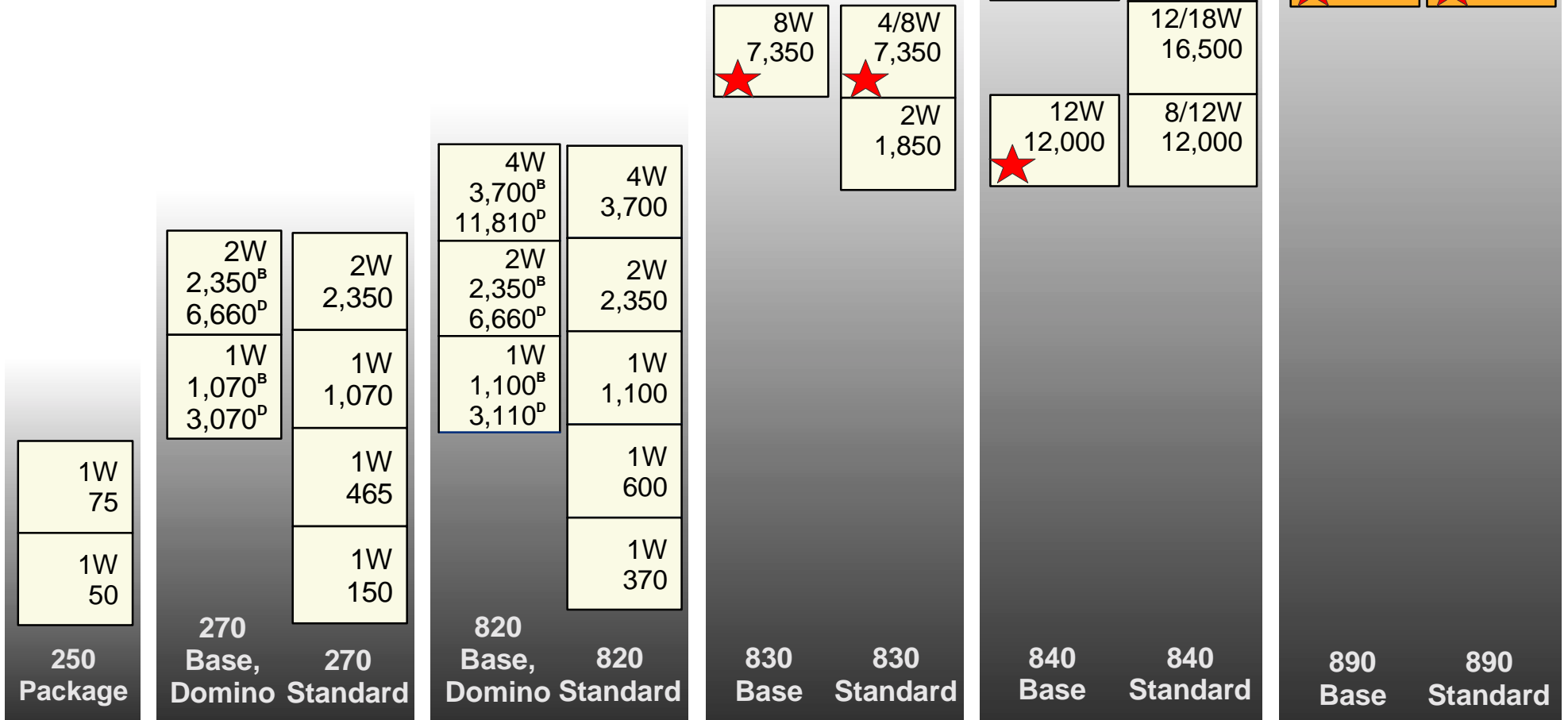
This chart shows the full iSeries product line up of from i250 and 270 through the high-end i890.

After this announcement there are base processor features right through the iSeries product line, with new base processor features for i830, i840 and i890. Capacity Upgrade on Demand (CUoD) options are now available on standard processor features with the i830 (4-way and above), i840 and i890. CUoD provides exceptional flexibility for customers to activate extra processing power, right when they need it to handle unexpected performance demands or to add new workloads.

The new i830 with 4-way standard processor feature with Capacity Upgrade on Demand with 4 standby processors offers new flexibility for customers who now have granular growth options through 5, 6, 7 and 8-way. Existing i830 4-way customers can upgrade into the i830 4-way with Capacity Upgrade on Demand.

For customers buying the i820 Dedicated Server for Domino, the new base processor features in i830, i840, and i890 offer an upgrade path if they need grow into iSeries' most scalable servers.

 New processor features



Notes:

1. Processor Commercial Processor Workload (CPW) values are used. CPW is a relative measure of performance of iSeries processors. Performance in customer environments may vary. The value is measured on maximum configurations.
2. Model 830, 840 Base Processor Features and Model 830 4/8 way do not support V4R5.

# of Processors Processor CPW Domino MCU	Runs V5R1 or V5R2
# of Processors Processor CPW	Requires V5R2

Notes: IBM@server iSeries Models

This chart shows the full iSeries product line from the Model 250 through the Model 890, highlighting the new processor features. These include the new Capacity Upgrade on Demand options and base processor features for the i830, i840 and i890.

With the exception of i890, all of the processor features can run either OS/400 V5R1 or OS/400 V5R2 (some also support OS/400 V4R5* either in primary or secondary logical partitions). Of course, customers will be able to take advantage of OS/400 V5R2 across the entire iSeries product line and on selected AS/400 models including the 170, 7xx, 6xx, Sxx and 150. Note OS/400 V5R2 is not supported on AS/400 Models 4xx and 5xx. Note that i890 requires OS/400 V5R2 in the primary partition and all secondary partitions.

SPD I/O is fully supported with V5R2 on iSeries and AS/400 servers that support the new release, with the exception of the i890 that is optimized for HSL and does not support SPD I/O either directly or through migration towers.

Planning for migrating from existing iSeries systems to i890 is highly recommended. Customers are recommended to review the planning information available through the following Web sites:

InfoCenter: <http://www.ibm.com/eserver/series/infocenter/>

Planning: <http://www.ibm.com/eserver/series/support/planning/>

Migration: <http://www.ibm.com/eserver/series/migration>

Additional IBM redbooks with 'how to' technical tips are also available to assist with migration planning, including the iSeries System Handbook and iSeries System Builder. You can also send your questions to rchgopci@us.ibm.com for specific questions that are not already addressed in the planning information available to you.

*NOTE: IBM support for OS/400 V4R5 is available through December 31, 2002.

Flexible Storage Options with SAN Switch Fabric

Switch fabric expands options across multiple initiators and multiple targets

- Enabled by IBM 2109 switch

Now multiple SAN targets can be connected through a single iSeries fibre channel adapter

- Optimizes number of fibre channel adapters
- Zoning recommended for performance

2 Gbp/sec SAN fabric support

- Existing iSeries Fibre Channel adapters can benefit from new high performance SAN fabric



Notes: Flexible Storage Options with SAN Switch Fabric

With OS/400 V5R1, IBM introduced Storage Area Network (SAN) capability on the iSeries, offering connectivity to a SAN fabric using the point-to-point and arbitrated loop topologies. This support enabled customers to connect multiple hosts to a single target device, such as a tape drive.

With OS/400 V5R2, IBM has extended iSeries topology options to include switched fabric support, allowing customers to have connect multiple iSeries hosts to multiple target devices such as tape drives. Switch fabric support with OS/400 V5R2 also removes the requirement for the IBM 2109 switch to be configured as a hub.

One of the key advantages with the switch fabric topology is the ability to connect multiple target devices through a single host fibre adapter. For example, with OS/400 V5R1, if a customer wanted to attach two tape devices to the iSeries across a SAN, they would need to have had 2 host fibre adapters (#2765) on the iSeries. Now with support for switch fabric, customers can attach both the devices through a single host fibre adapter via the IBM 2109 switch.

As usual, planning for performance is essential when you are implementing a SAN fabric. The overall bandwidth available on the host adapter, combined with the speed of the adapter and SAN infrastructure play an important role during the configuration of the switch fabric. Zoning, or dividing, the switches for tape and disk I/O is highly recommended to avoid potential I/O conflicts.

OS/400 V5R2 also supports 2 Gbps network speeds for the SAN fabric with existing fibre channel adapters for tape (#2765) and disk (#2766).

iSeries J Announcement Hardware Summary

- **i890**

- 16/24 and 24/32-Way with Capacity Upgrade on Demand
- 24 and 32-Way Base Processor Features

- **i840**

- 8/12, 12/18 and 18/24-Way with Capacity Upgrade on Demand
- 12 and 24-Way Base Processor Features

- **i830**

- 4/8-Way with Capacity Upgrade on Demand
- 8-way Base Processor Feature

- Key Dates:

April 29	Announcement
June 4	Configurator support and detailed announcement letters with pricing
June 14	i890 with OS/400 V5R2 Early Availability (English only)
August	OS/400 V5R2 Worldwide General Availability

Notes: iSeries Announcement Hardware Summary

This chart summarizes the hardware announcement of April 29, 2002.

IBM introduced the 32-way i890, based on IBM's award-winning POWER4 architecture. The i890 includes both base processor features, and standard processor features with options for interactive performance and Capacity Upgrade on Demand. The i890 with OS/400 V5R2 (English only with DBCS enabled) is planned for availability on June 14, 2002.

IBM expanded the existing iSeries product line with the introduction of new base processor features for both the i830 and i840, along with new CUoD options for i830 4-way standard processor features. Existing customers will be able to upgrade to the new CUoD options with immediate effect, and will require OS/400 V5R1 as a minimum for the i830 and i840. These new processor features and upgrade paths are available immediately.

General availability of OS/400 V5R2 is planned for August, 2002 with full national language version support.

Detailed pricing and configurator support for the i890 is planned to be available for June 4, 2002.

The new iSeries 2002 product line provides flexibility and scalability to meet customers growing e-business application requirements, providing a platform for consolidating multiple workloads, applications and operating system environments that make up an enterprise e-business infrastructure.

OS/400 Version 5 Release 2

Enterprise IT Management Made Simple

OS/400 V5R2 Highlights

Performance at your fingertips

- Flexible Capacity Upgrade on Demand now standard on i830 4-way and above*
- Dynamic logical partitioning for award-winning 64-bit Linux⁷
- Intuitive iSeries Navigator workload management tools

Adaptive storage virtualization for high availability

- Mainframe-class availability with switched disk cluster management
- Self-optimizing, multiple IBM DB2⁷ UDB images for business unit consolidation
- Extensive Windows server management now supports Microsoft⁷ Cluster Service

Flexible, secure management of e-business infrastructure

- Industry's first eLiza Enterprise Identity Mapping enables true single signon
- High performance Apache Web serving with secure sockets and caching accelerators
- Simple and pervasive operations with wireless-optimized Web-ready micro-drivers

*Capacity Upgrade on Demand also available on i830 and i840 with V5R1



Notes: Enterprise IT Management Made Simple

OS/400 V5R2 builds on the mainframe-class management functions of OS/400 V5R1, such as dynamic logical partitioning with built-in graphical management tools such as iSeries Navigator. OS/400 V5R2 continues to focus on enterprise-class management tools with new self-managing technologies from Project eLiza.

V5R2 also extends many of the virtualization technologies available on the iSeries, to further assist clustering and business continuity solutions. For example, switched disk cluster services are extended with V5R2 to support database objects. OS/400 V5R2 is also a significant database release with IBM DB2 UDB enhancements to further support open standards and with much greater compatibility with other IBM DB2 UDB platforms.

iSeries also extends its infrastructure for e-business applications with a range of performance and security enhancements for its WebSphere and Apache implementations, plus prepares for the wireless web revolution with new micro-edition drivers to enable applications from cellphones and PDAs.

Performance at Your Fingertips

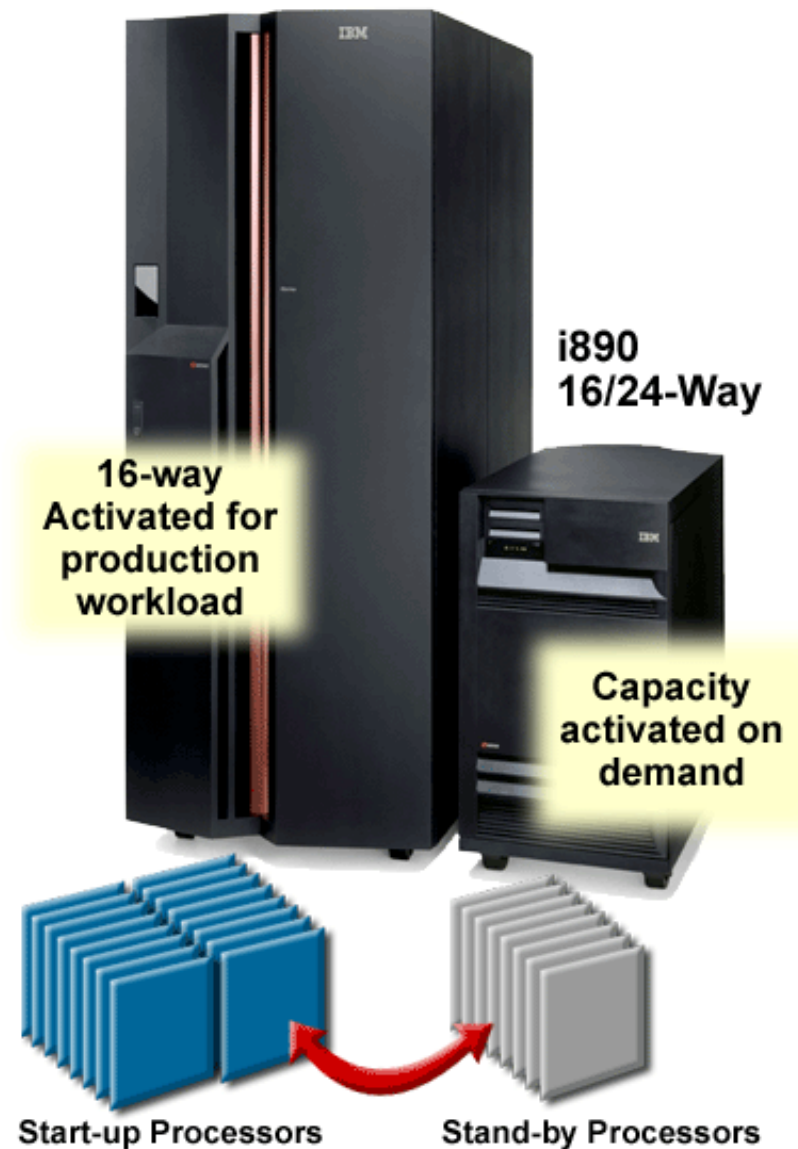
IBM @server iSeries Capacity Advantage

Flexible capacity management without interrupting business

- 33% of i840 customers exploited Capacity Upgrade on Demand in 2001

Capacity Upgrade on Demand solutions for i830*, i840* and i890

- Dynamic processor activation of standby capacity
- No system or application restart required



*Available with V5R1 and V5R2

Notes: **IBM@server iSeries Capacity Advantage**

Capacity Upgrade on Demand (CUoD) is a key data center technology that allows customers to immediately add extra processing power for new workloads or spikes in business processing demands. CUoD options were first introduced with OS/400 V5R1 on the i840, and already over 33% of i840 customers are exploiting the capability.

CUoD provides customers the ability to gain immediate access to extra processing power, right when they need it to handle unexpected performance demands or the additional granularity to increase their overall CPU processing power in stages. For example, a 4-way customer can add one processor at a time, as needed, to grow to a 5-way or a 6-way and so on. Customers are able to dynamically activate additional processor capacity - either by activating one processor at a time, or all of the standby processors available to them. A 14-day trial period is allowed to activate any standby processors, thus providing sufficient time to obtain activation keys for the additional processors. This trial period is restored after each permanent activation of standby processors.

With this announcement CUoD options will now be standard on selected i830 4-way models, i840 and i890 models.

The i830, i840 and i890 CUoD options will each have 4, 6 and 8 standby processors respectively, shipped with the system awaiting activation. OS/400 V5R1 is a minimum requirement for i830 and i840 CUoD options. All of the i890 processor features require OS/400 V5R2.

For additional information on CUoD, visit: <http://www.ibm.com/eserver/series/hardware/ondemand>

OS/400 V5R2 iSeries Navigator

Extensive automation for workload management

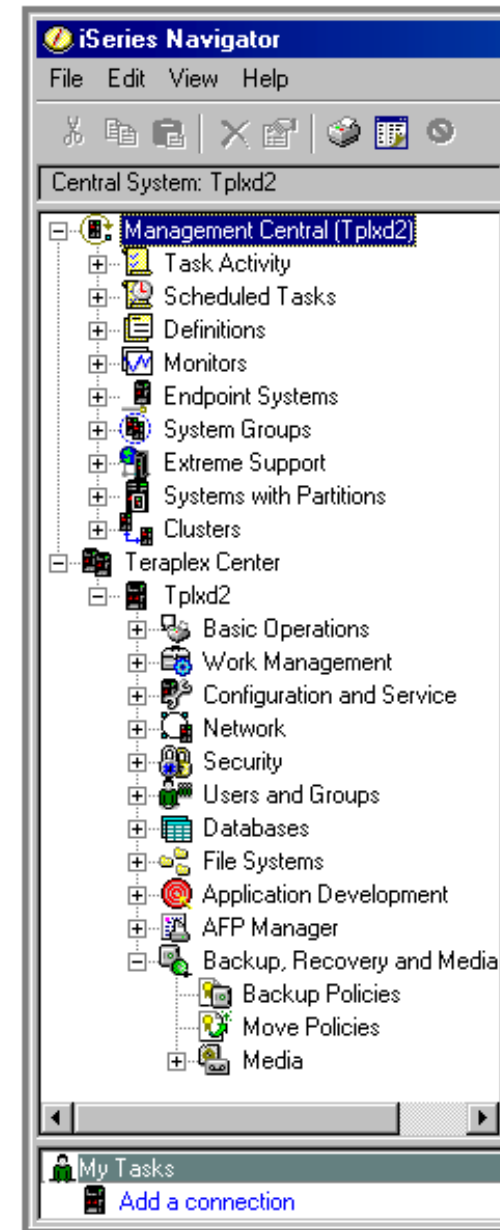
- New file and B2B transaction monitors
- Systems and storage management
- Backup and media policies
- Network management, including support for IPv6

IBM DB2 UDB transaction management

Switched disk cluster management

Linux dynamic partition management

Enterprise Identity Mapping security



Notes: OS/400 V5R2 iSeries Navigator

iSeries Navigator, a simplified name with V5R2 for iSeries Operations Navigator, provides extensive graphical user interfaces for managing and administering an iSeries server from a Windows desktop. iSeries Navigator's simple approach to managing complex operations tasks across multiple servers and operating systems helps customers reduce their cost of operations. It utilizes extensive self-guided graphical wizards to simplify management and configuration of a variety of tasks including security, logical partitioning, TCP/IP services, performance monitoring, applications and more.

V5R2 takes another significant step towards removing the requirement to access a 5250 terminal for day-to-day operational tasks, including the need to access Dedicated Service Tools (DST) and System Server Tools (SST) interfaces to assist with managing of disk storage and logical partitioning.

Some of the highlights for V5R2 include the new B2B transaction for monitor B2B transactions generated by applications such as Connect for iSeries or an e-marketplace. File monitors are designed to monitor updates to the file size, or a specific character string. These monitors provide the capability to run commands automatically when certain thresholds are triggered.

Applications such as Backup Recovery and Media Services for iSeries (BRMS/400) contain extensive self-guided wizards to assist with the set up and management of backup and media management policies.

Multiple databases are now supported on an iSeries server with V5R2 through the use of independent disk pools. Independent disk pools can be set up as unique databases or database schema.

Configuration tasks that would normally take several commands, and an understanding of each and every parameter have been simplified further with more self-configuring graphical wizards. Examples include creating and managing Linux logical partitioning and enabling Enterprise Identify Mapping.

Mainframe Class Logical Partitioning

V5R2 provides additional LPAR management with iSeries Navigator

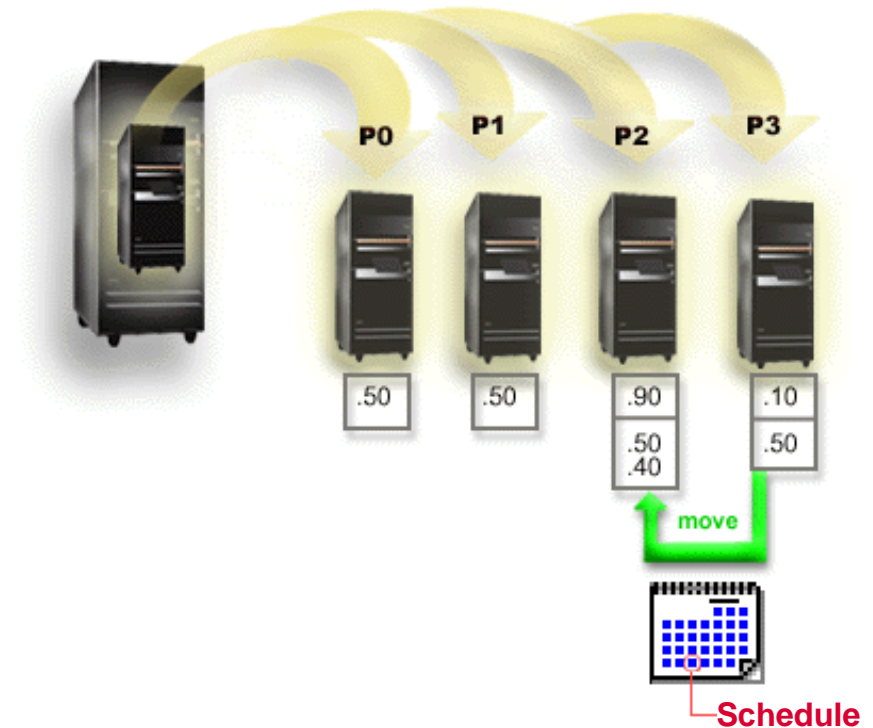
- Sophisticated, Windows-based graphical management tool
- Multi-partition management

Reduce costs via mixed workload consolidation and IT resource optimization

- 44% of i840 customers exploiting LPAR

Sub-capacity pricing on n-way servers

- WebSphere™ Commerce Suite
- WebSphere Application Server



Notes: Mainframe Class Logical Partitioning

OS/400 V5R1 was a breakthrough release for iSeries logical partitioning (LPAR) with the introduction of dynamic movement of processor and other I/O resources, plus the ability to create partitions of less than one processor unit. Since the introduction of LPAR, over 44% of i840 customers have exploited this mainframe-class technology and since V5R1 partitioning usage has soared on i820 uni-processor servers. The exceptional granularity of being able to move 100th of a processing unit between partitions is another example of how the iSeries continues to exploit the concept of resource virtualization - for memory, disk storage, or processors.

OS/400 V5R2 extends dynamic partitioning to Linux with the ability to move processing units between OS/400 and Linux partitions or between multiple Linux partitions. It also includes support to create and manage Linux partitions through iSeries Navigator.

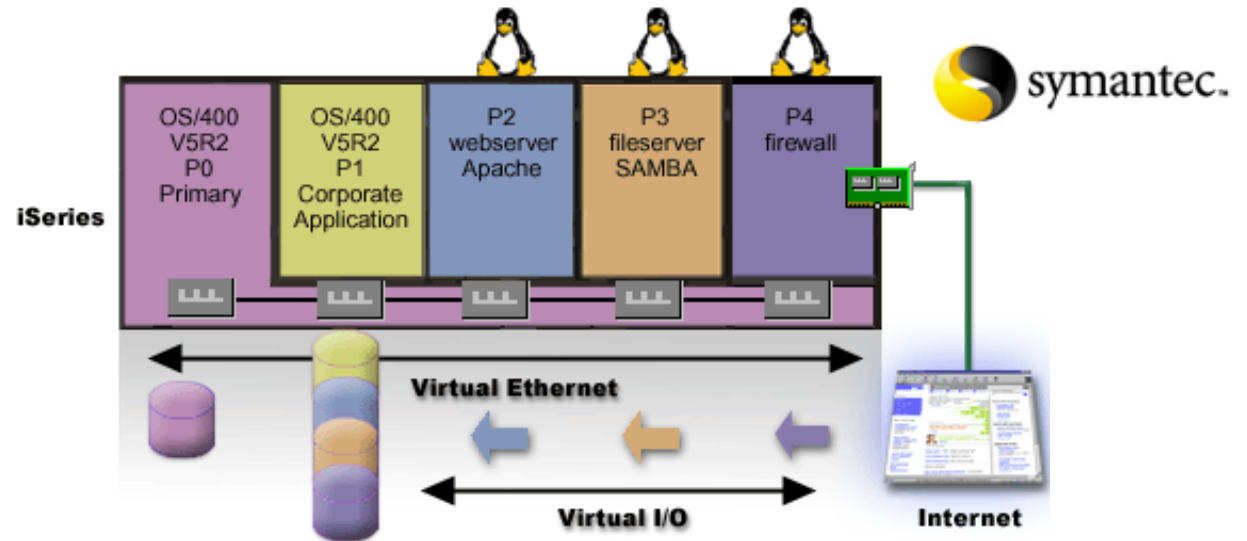
OS/400 V5R2 also allows customers better manage their partition configuration data with new support to save partition configuration data into an HTML file for storage with other business continuity information.

A key enhancement to the flexibility of LPAR is the new sub-capacity pricing for WebSphere Commerce Suite, and WebSphere Application Server. Previously, WebSphere Application Server was priced per processor, so that on a 32-way machine, you would pay 32 times the charge for a uni-processor. Now, with sub-capacity pricing, you just pay for the number of processors that you are using in partitions running WebSphere (rounded up to the next full processor where you are using partial processor partitioning).

For example, if a 4-way i820 has WebSphere Advanced Application Server running in two partitions sized at 0.9 processor units and 0.8 processing units respectively, the total number of processing units allocated will be 1.7. Customers would require a license for 2 processors and will have the flexibility of moving resources between two WebSphere partitions as long as it does not exceed a total of 2 full processors.

This more flexible approach to pricing clearly benefits customers who want to deploy WebSphere workloads on a large consolidated iSeries system where only fewer number of processors are required to meet their web transaction serving requirements.

Server Consolidation with Linux



- Dynamic virtual processor allocation for Linux partitions
- iSeries Linux now supports 64-bit kernel
- Symantec Enterprise Firewall planned for iSeries
- IBM DB2 Universal Database and WebSphere Application Server*

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



Notes: Server Consolidation with Linux

Our award-winning Linux implementation is enhanced with V5R2 to support dynamic allocation of virtual processor units between OS/400 and Linux partitions. This allows customers to get started with a small Linux partition, then dynamically add the capacity when needed, without restarting the Linux server or applications.

With OS/400 V5R1, iSeries Linux partitions already have exceptional support for accessing virtual disks in OS/400 partitions, or accessing their own directly attached I/O devices. OS/400 V5R2 also provides support for shared read-only virtual disks, so that multiple Linux partitions can share access to the same application or data, without having multiple copies on separate disks. In addition, Linux distributions for iSeries have been enhanced with additional direct I/O support for fibre channel and multiport serial device drivers.

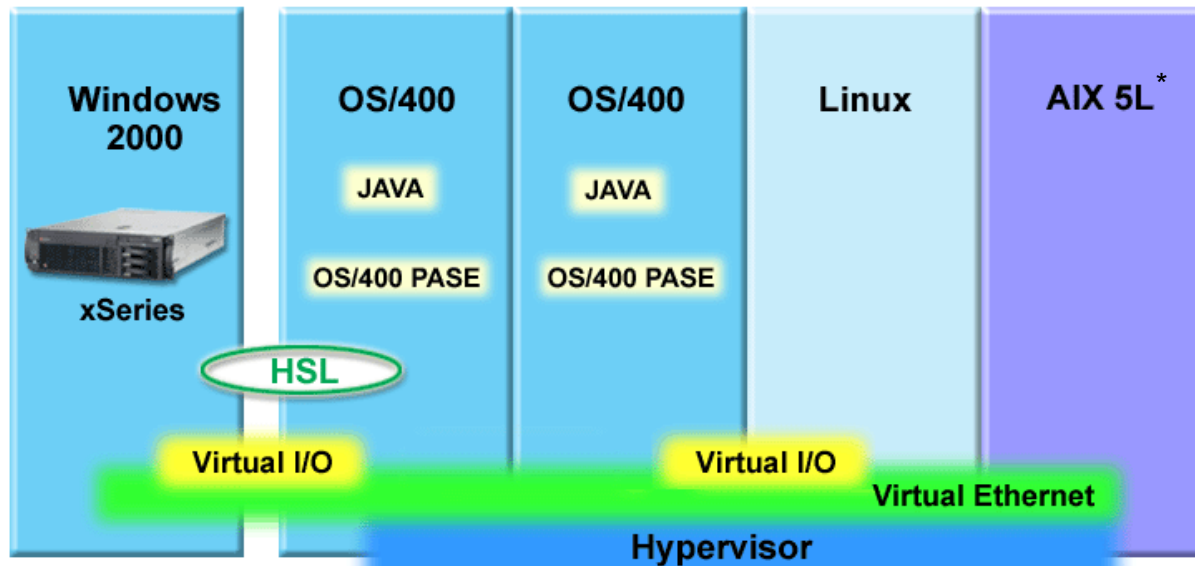
A range of new options are provided for Linux application developers, including Linux library support for 64-bit Linux applications. Building on the JDBC connectivity that already provides Linux applications access to iSeries data and applications, ODBC connectivity is now supported to IBM DB2 UDB for iSeries. Linux SAMBA file system access is now available to Integrated File System and output queues via iSeries Windows Network Neighborhood (iSeries NetServer). iSeries Linux implementations also now support IBM Java 1.3.1.

Additionally, to promote the growth of business applications on Linux partitions, IBM has issued a statement of direction to support WebSphere Application Server and IBM DB2 UDB on PowerPC Linux implementations. Providing these key middleware products will both provide a base for robust business solutions on Linux and allow applications on Linux and OS/400 to better inter-operate. Ultra-high speed connectivity across iSeries internal virtual ethernet LAN already provides the connectivity fabric required for application connectivity.

In another example of how Linux ISVs are moving to support iSeries, Symantec Corporation recently announced their plans to deliver an enterprise-level, full application inspection proxy firewall for the iSeries' Linux offerings in late 2002. This will allow customers to run a secure firewall alongside their OS/400 and WebSphere applications. For information, please visit the following Web sites:

- Press release: <http://www.symantec.com/press/2002/n020415.html>
- Symantec's beta program for iSeries Linux offering <http://www.symantec.com/calendar/ibmiseries/>

Enterprise IT Management Made Simple



* Statement of Direction

Lowering e-infrastructure management costs across multiple environments

V5R2 OS/400 PASE now provides integrated runtime for AIX⁷ 5L applications

Project eLiza will extend to future management of AIX 5L in iSeries partitions*

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

Notes: Enterprise IT Management Made Simple

There are clear challenges associated with managing multiple hardware and software infrastructures in today's complex e-business environment leave many customers striving to achieve cost efficiencies. In doing so, they also want better application integration and more common application and management tools to maximize their investment in skills and support personnel across the organization.

Today, iSeries provides arguably the industry's most flexible server platform, with options to consolidate multiple applications and operating system environments, from OS/400, Linux and Windows operating systems, to WebSphere Application Server, Domino and UNIX applications, through OS/400 Portable Application Solution Environment (OS/400 PASE).

OS/400 PASE is enhanced with OS/400 V5R2 natively to support the AIX 5L V5.1 application environment, with support for both 32 and 64-bit applications. OS/400 PASE now provides both a runtime and an application development environment for compiling applications. Additionally, OS/400 PASE (OS/400 option 33) is now packaged as a no-charge feature of OS/400, enabling use of OS/400 PASE by operating system functions, ISV applications or other IBM software such as the new Tivoli Storage Manager.

OS/400 PASE also includes Linux library support based on AIX 5L. Programs in OS/400 PASE can now launch the iSeries integrated Java Virtual Machine (JVM).

With the Statement of Direction* to support AIX in a logical partition in the future, the iSeries continues to open further consolidation opportunities for customers who want to deploy UNIX solutions in a single infrastructure server alongside OS/400 and iSeries other application environments. Customers will also benefit from the ongoing Project eLiza initiative, designed to common, self-managed technologies across IBM ^ across products.

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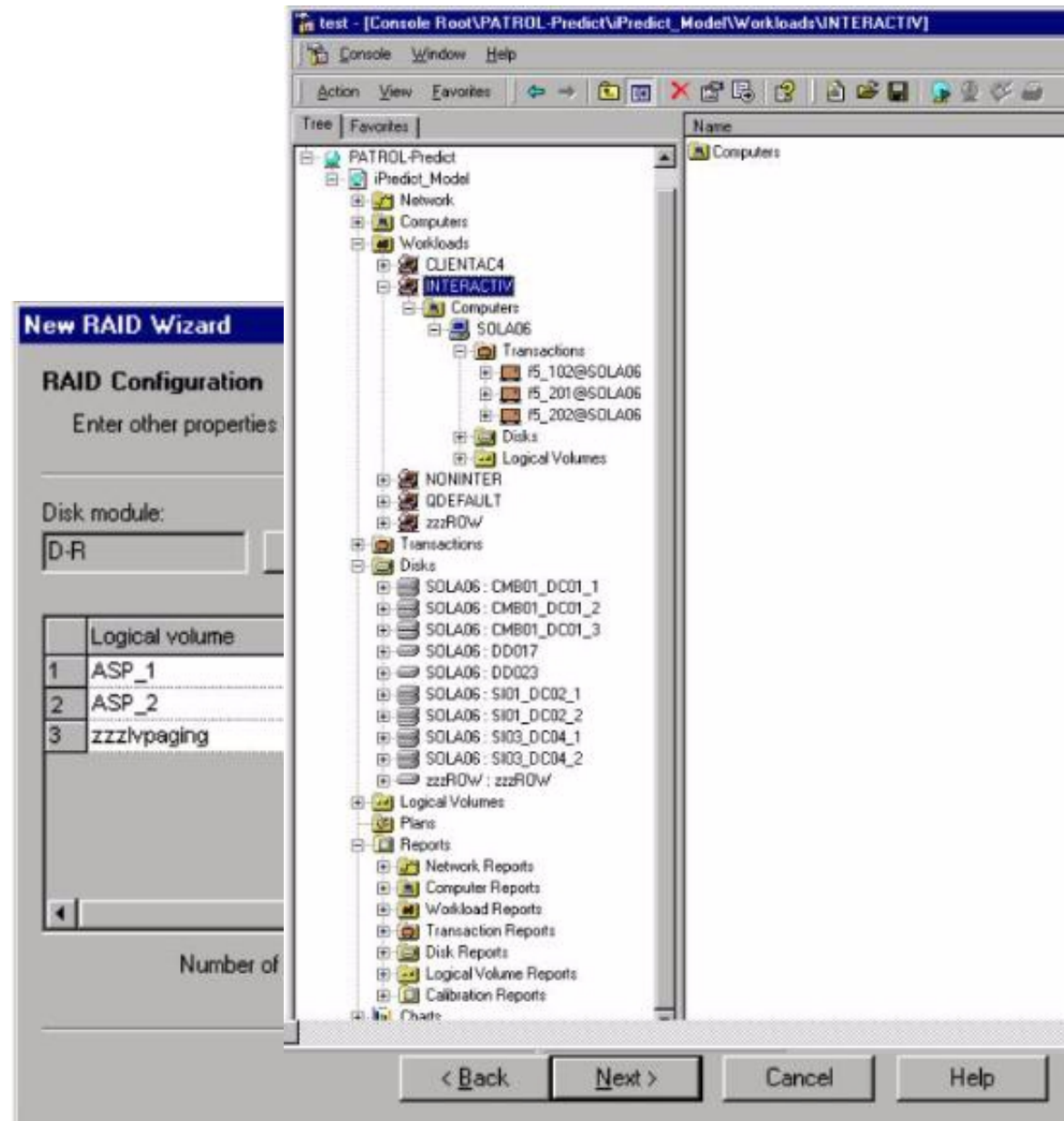
BMC PATROL Predict for iSeries

PATROL Predict provides powerful graphical analysis tool for Capacity Planning

Collects, measures and projects future performance requirements

- Uses OS/400 data collection

Comprehensive graphical analysis, "what-if" modeling



Notes: BMC Patrol Predict for iSeries

With V5R1 and previous releases, Performance Tools for iSeries included monitoring tools, plus the BEST/1 capacity planning tool.

BMC PATROL Predict is a replacement tool for BEST/1 in V5R2, available as a separately priced product through BMC Software. PATROL Predict is a sophisticated graphical analysis tool that will be used for capacity planning purposes on the iSeries.

Collection services for performance data, including PM/400 will continue to be part of OS/400, and enabled through iSeries Navigator. Customers will continue to use the existing Performance Tools for iSeries licensed program product (5722-PT1) to analyze or print performance reports.

IBM's web based tool, Workload Estimator, or BEST/1 can still be used with V5R1 to size for new workloads such as Domino or WebSphere or to evaluate upgrades on i270, i820, i830, and the i840 servers. Workload Estimator is also planned to be updated to include recommendations for incremental processor capacity enabling customers to take advantage of the Capacity Upgrade on Demand options on iSeries.

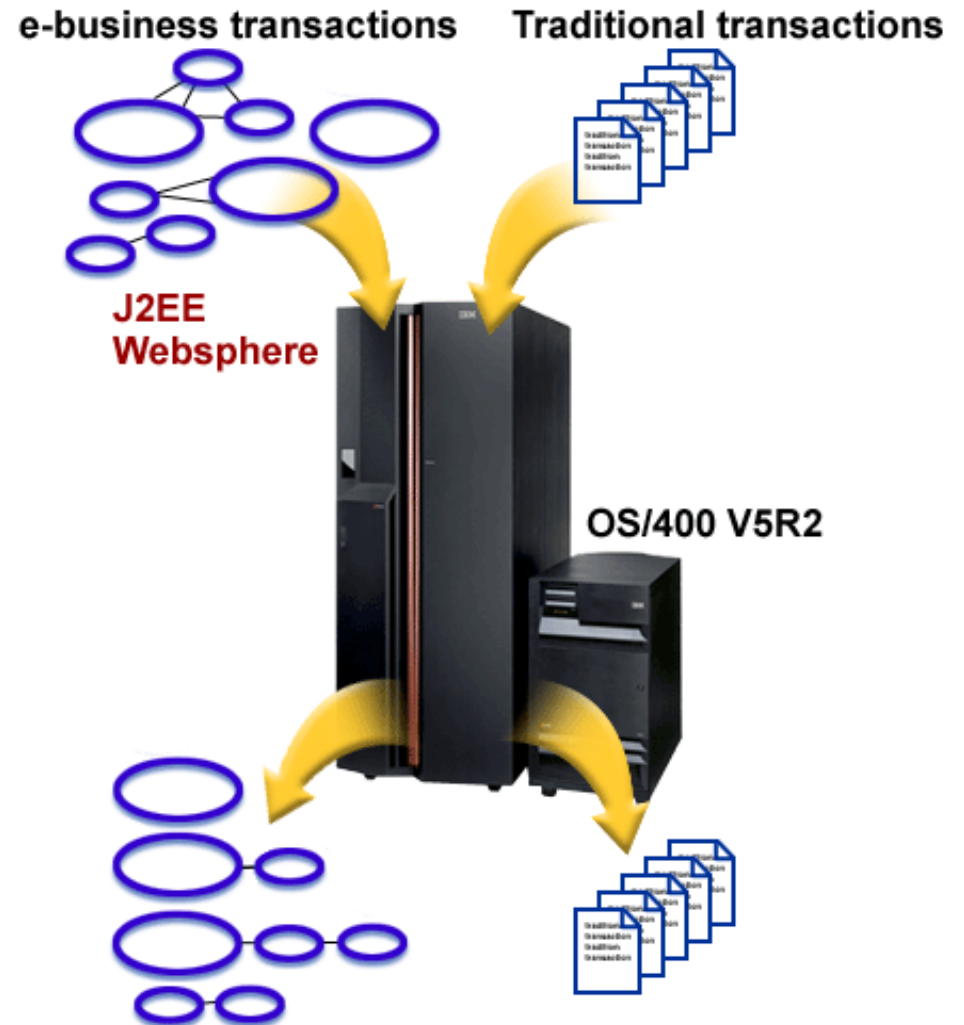
Enterprise Class Adaptive e-transaction Services

iSeries optimized for both traditional and e-business transactions

Adaptive e-transaction Services

- Extends robust iSeries transaction services to e-business applications
- Transaction server automatically adapts to application requirements
- No programming changes required

Further optimizes iSeries for highly scalable WebSphere and Java™ transaction performance



Notes: Enterprise Class Adaptive e-transaction Services

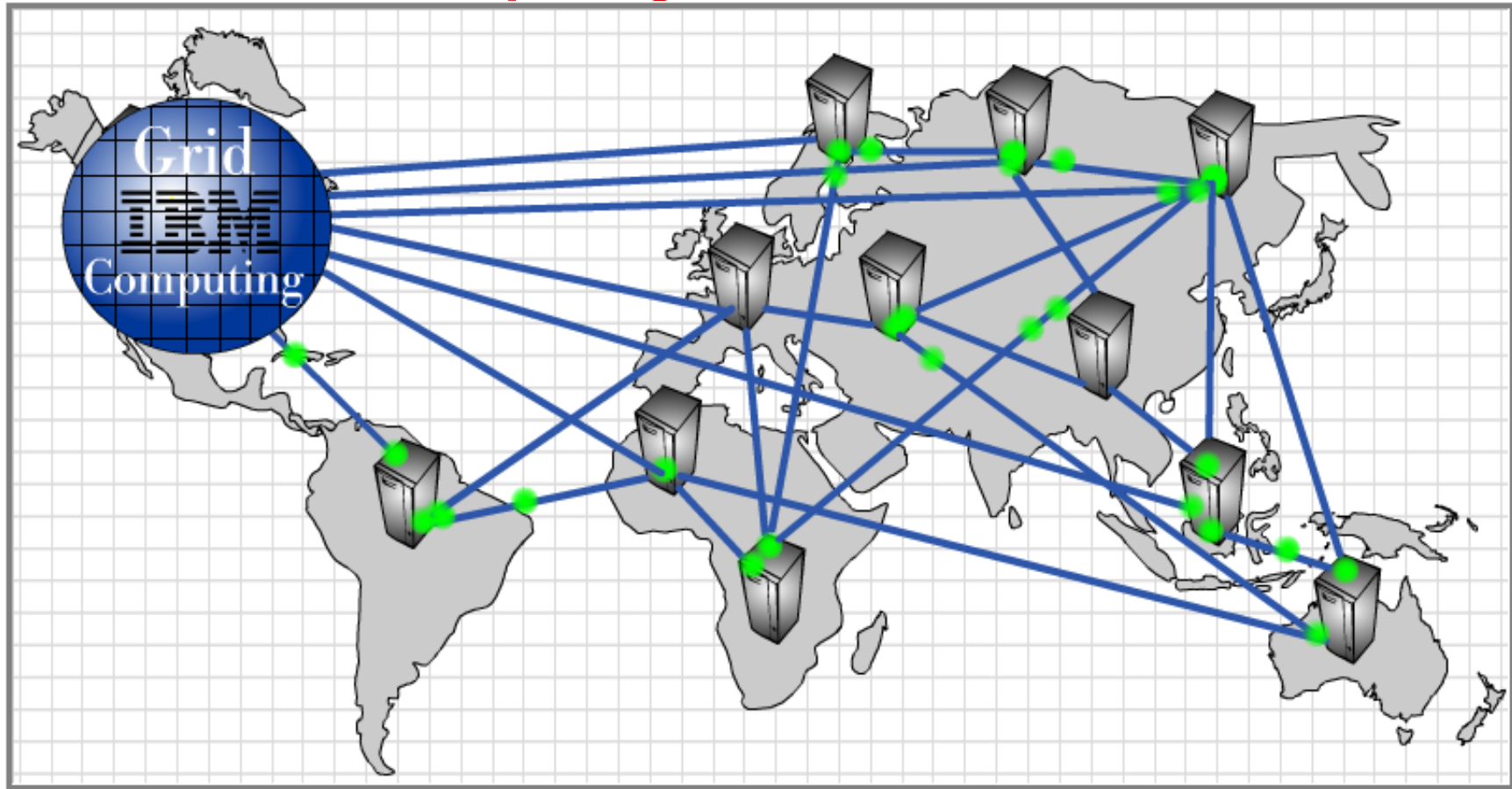
The iSeries and AS/400 reputations as business servers have largely been built around their ability to process transactions. OS/400 has always featured a sophisticated transaction manager, and has been optimized to manage multiple applications transactions together with advanced workload management tools such as subsystems and dynamic performance management.

Many commercial applications, such as those in the banking, manufacturing or distribution industry, fit a common profile: small, single threaded order entry or account transactions that write an update to a single file in the database. Many of today's e-business transactions running in WebSphere Application Server and using Java are much more complex, require more processor and memory resources and often spawn multiple other tasks to complete the transaction.

The new adaptive e-transaction services is designed to enable OS/400 to adapt and self-optimize for both traditional transactions and new e-business applications. Now OS/400 has the ability to detect the transaction type and automatically adapt its transaction manager as appropriate. Traditional transactions will be detected and handled as before, with no degradation in performance. When detecting a more complex, e-business transaction, however, the OS/400 transaction manager will automatically adapt to process multiple tasks.

The result is that WebSphere and Java transactions will now benefit from better operating system optimization and gain higher performance.

iSeries and Grid Computing



Flexible, secure, standards-based access to shared computing resources

iSeries support signals growth of commercial grid applications

OS/400 V5R2 provides support for Globus ToolkitJ

Available with OS/400 PASE or Linux



Notes: iSeries and Grid Computing

Grid is a further stage in internet evolution -- the ability, using a set of open standards and protocols, to gain access to applications and data, processing power, storage capacity and a vast array of other computing resources over the Internet. Just as the user looks at the Internet and sees content via the World Wide Web, the user looking at a Grid sees essentially one, large virtual computer.

IBM's focus is to extend the technology used to today's Grid computing implementations that primarily address the needs of very specialized scientific and engineering applications environments to the robust infrastructure needed to support commercial applications enabling them to harness the full potential of the Internet. To accomplish this, IBM intends to collaborate with the Grid community, such as Globus, to establish an open architecture which provides resource aggregation across a heterogeneous set of servers and software, providing the qualities of service necessary to meet commercial application demands.

Project eLiza, IBM's initiative to provide self managing systems, is a key element of enabling Grid computing for commercial applications. Project eLiza is focused on delivering end-to-end systems management and self optimization across the entire IT infrastructure. This capability will allow a variety of dissimilar systems to be aggregated and shared in a transparent manner. Using industry standard interfaces allows the entire suite of organizational resources to be included and shared creating a Grid environment across all the servers and systems within the IT infrastructure.

Grid computing will continue to evolve, and shows the potential of running commercial applications across the virtual organizations. The iSeries is poised to take advantage of Grid Computing as business applications are made available. Research and development to exploit Grid computing has already started in the Development Laboratory, as demonstrated by the recent successful connection of iSeries to the IBM BlueGrid using the Globus Toolkit through OS/400 Portable Applications Solutions Environment (OS/400 PASE), and iSeries PowerPC Linux.

For more information on Grid computing, see: <http://www.globus.org> , <http://www.gridforum.org> , <http://www.gridcomputing.com/>

Adaptive Storage Virtualization for High Availability

IBM DB2 UDB for iSeries

Availability enhancements

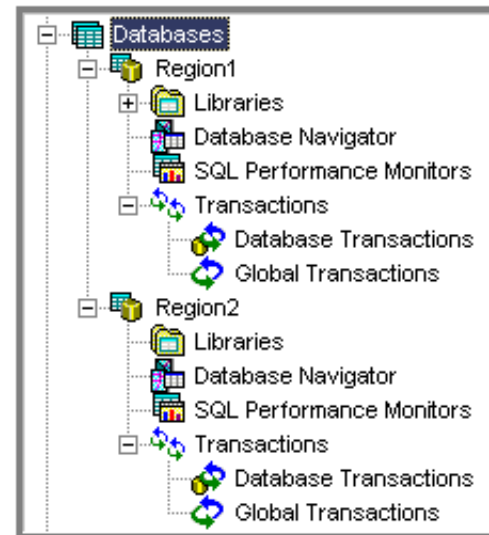
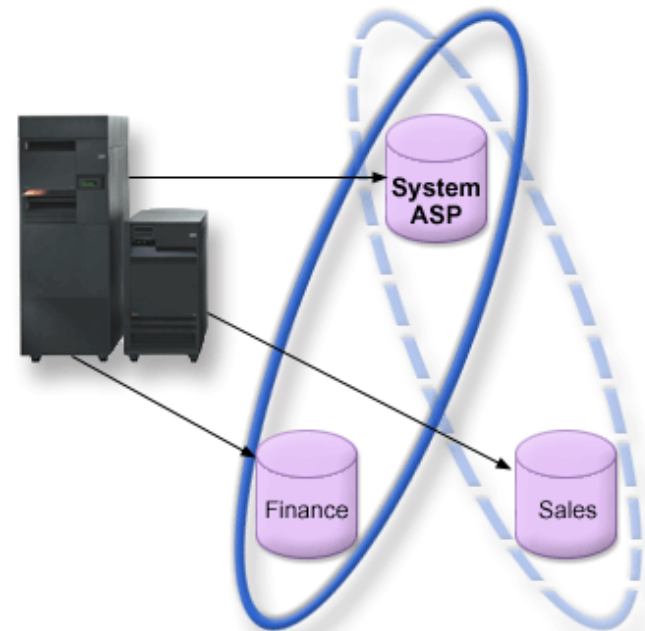
- Multiple independent name spaces
- Switched disk (IASP)

Open standards support

- SQL enhancements
- Java Transaction API (JTA)
- X/Open Distributed Transaction Processing (XA-DTP)
- Enhanced DB2 UDB family compatibility

iSeries Navigator Enhancements

- Self-optimizing automatic index advisor and statistics collection
- Graphical management for local DB2 UDB and global WebSphere transactions



Notes: IBM DB2 UDB for iSeries

In V5R1, we introduced Independent Auxiliary Storage Pools (IASPs) to support switch disk capability for application using the integrated file system, such as Domino and Windows servers. With OS/400 V5R2, this capability is extended to support database objects. Support for multiple independent name spaces allows multiple databases in separate storage pool on iSeries.

V5R2 is also a significant release for the iSeries as it continues to be at the forefront of meeting the requirements of open SQL standards, along with much greater compatibility between IBM DB2 UDB on iSeries and with DB2 UDB on our other IBM platforms.

New DB2 transaction services provide consistency for two established e-business industry standards - the x/Open Distributed Transaction Processing (XA-DTP) standard, and the Java Transaction Services API (JTS). Products like WebSphere Application Server should show performance improvements because of how we are handling multiple jobs using the new adaptive e-transaction services.

iSeries Navigator also provides a graphical view of database or global transactions. Database transactions are transactions that are local jobs using the iSeries database. These transactions are completely under the control of the application running within a single job. They would typically use SQL statements begin, followed by commit or rollback to identify transactional work. Global transactions may span multiple jobs, databases, or systems. These transactions are coordinated by an external Transaction Manager, such as WebSphere or Tuxedo. They use a standard set of APIs, such as the APIs defined in the XA or JTA specifications to identify transactional work.

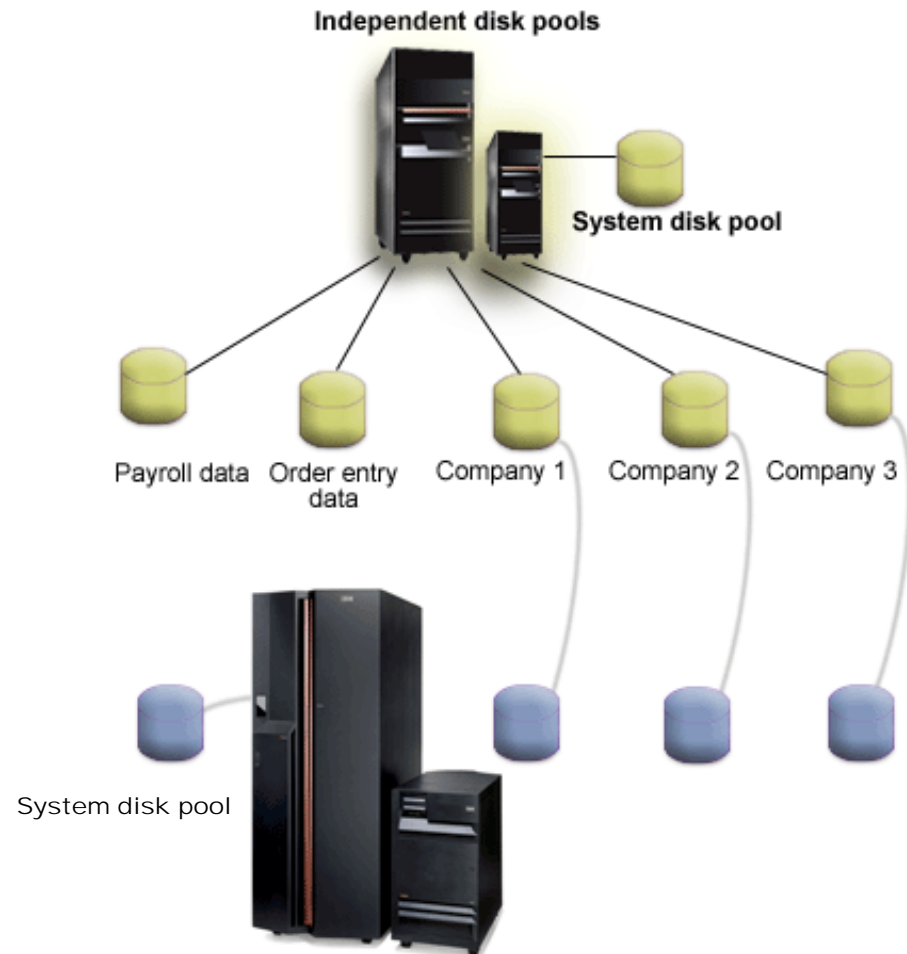
Switched Disk for High Availability and Clustering

Consolidate data with multiple name spaces within single server

- Multiple independent databases, system libraries, library names

Support for switching database and other objects between servers

- Switch disk for scheduled maintenance and upgrades
- Improved availability for unscheduled outages



Notes: Switched Disk for High Availability and Clustering

Another valuable feature of OS/400 V5R2 is the ability to have multiple independent name spaces, essentially allowing for same library names to be duplicated across independent disk pools. This is ideal for customers considering consolidation of multiple regions or multiple companies where the business applications contain the same library names. Multiple name spaces, combined with IASP provide yet another tool to the already rich server consolidation portfolio on the iSeries. The key advantage here is that customers can consolidate multiple regions or business units within a single server with one operating system image or potentially one application image - without having to deploy logical partitioning or going through the complex task of consolidating multiple database files. Another advantage that IASP provides here is the ability to archive historical data to an independent disk pool, enabling customers to reduce their save and restore times and bringing historical data on-line when needed.

Of course, for maximum application resiliency and for the highest level of availability, IBM's recommended solution continues to be the solutions provided through our IBM High Availability Business Partners, such as LakeView Technologies and Vision Solutions. These data replication solutions not only provide options for business contingency, but also provide an active-standby cluster system that can be used productively for day-to-day read operations such as Web serving, application testing, and performing save operations without interrupting business applications running on the primary system. These solutions also integrate some of our ClusterProven™ ISV applications that provide automated application and user switchover capabilities as part of our clustering solutions for the iSeries.

Scheduling maintenance for datacenter infrastructure can be a real challenge. With the switched disk clustering capability in OS/400 V5R2, customers can further reduce the downtime for maintenance and upgrades. For example, applications running on independent disk pool can be switched from one system to another system connected within the High Speed Link (HSL) when performing maintenance tasks on the first system. Once maintenance is complete, the application can be switched back - thus reducing the downtime associated with maintenance.

Enterprise High Availability Management

Safeguard OS/400 software upgrades with virtual media installation

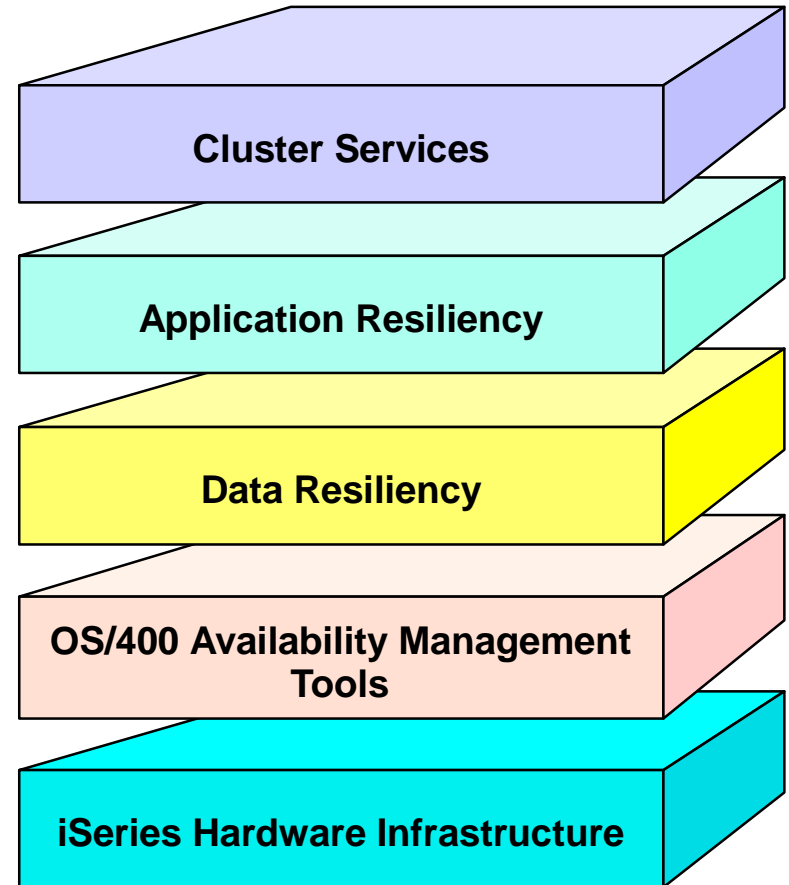
Simplified enterprise backup and media management with iSeries Navigator tools

Journal standby mode improves availability with faster restart of clustered system

Enhanced performance and recovery options for DB2 UDB access path protection

Reduced disk upgrade downtime through new disk migrate while active

IBM Tivoli⁷ Storage Manager V5.1 - OS/400 PASE*



*General Availability planned for Oct, 2002

Notes: Enterprise High Availability Management

Besides supporting database objects within independent disk pools, OS/400 V5R2 delivers several additional availability enhancements ranging from simplifying journal management through to the new Tivoli Storage Manager V5.1.

With virtual media installation, you now have the option of using image catalogs which are particularly useful for optical media verification, for unattended installations, and for upgrading software within a network. Image catalogs are stored in the Integrated File System (IFS) and are created prior to performing a software release upgrade. Customers will be able to point to this image catalog through a virtual media emulating an installation device during their next system restart to automate their OS/400 release installation. This support will also be available through PTFs for OS/400 V5R1, enabling customers to take advantage for installing V5R2.

Backup Recovery and Media Services for iSeries (BRMS/400) contains extensive self-guided graphical wizards to enable customers quickly define and manage backup and media policies, including support for automating management of Domino, Linux and Windows

In a replication cluster environment, failover (and switchover) times need to be significantly reduced. One of the tasks that typically consumes time during failover is the starting of journaling on new primary. By providing the new journal standby mode, the time to start journaling during a failover can be significantly reduced. This allows customers to have journaling pre-started on the target machine in a HA replication environment without incurring a significant performance penalty. Customer can expect to see much more rapid failover time from a production to backup machine in high availability cluster environments.

The default settings for DB2 UDB access path protection (SMAPP) have been lowered 70 minutes to account for the growth in processor performance, protecting customers from spending more than 70 minutes of access path rebuild time during an abnormal system restart. It also provides additional granularity allowing customers to explicitly journal access paths defined over physical files which are attached to standby journals.

Disk Migrate While Active with OS/400 V5R2 further enhances availability by supporting concurrent migration of disk subsystem data during normal operations. This capability is available through the Start ASP Balancing (STRASPBAL) command with options to mark and move data off disk subsystems. These new options provide customers the options to migrate the majority of data, for example, from SPD-attached I/O towers to HSL-attached I/O and significantly reduces the time required to keep the system in a restricted state.

IBM Tivoli Storage Manager V5.1 product provides a iSeries-based backup server with enhanced performance and ease of use on the iSeries.

Self-Configuring Disk Management

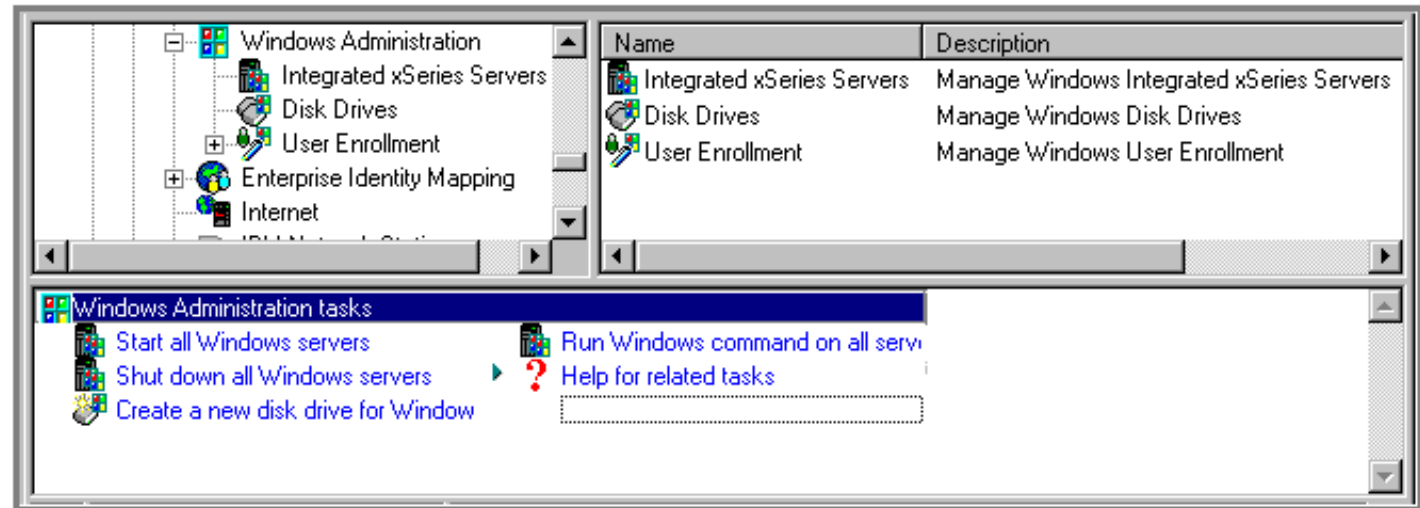
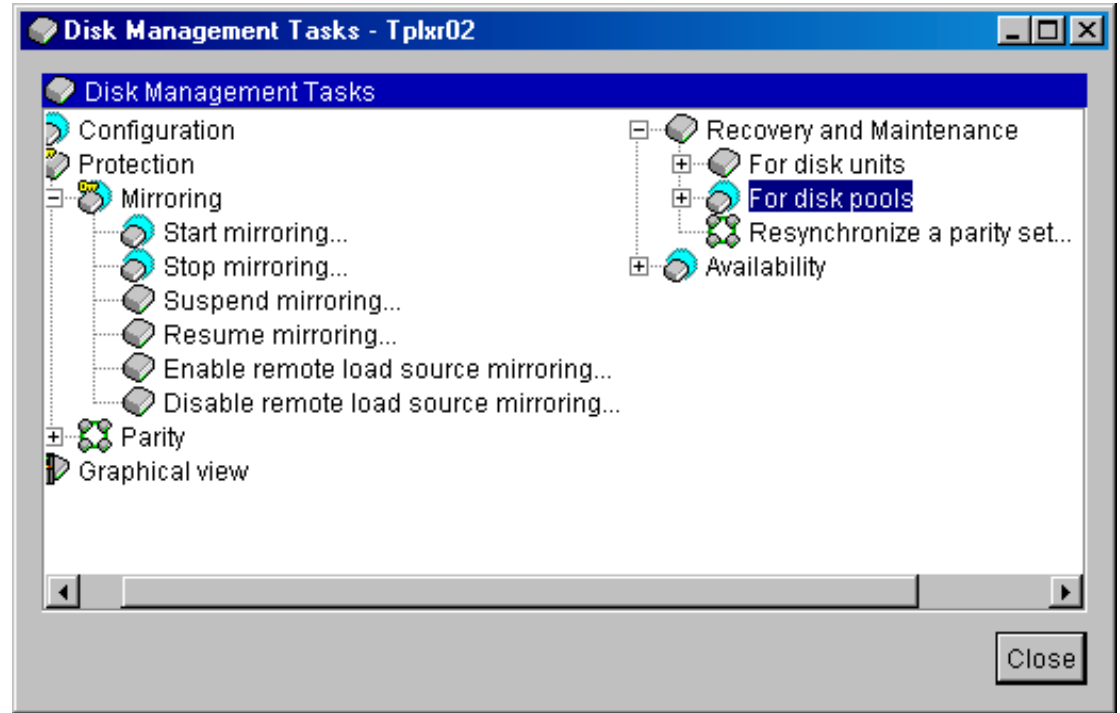
Create, manage and monitor storage virtualization on iSeries

Self-guided configuration wizards

Simplification of complex disk management tasks

- RAID-5 and Mirroring

SAN-like storage management for Windows Servers through IXA/IXS



Notes: Self-Configuring Disk Management

Managing your disk units and disk pools is a straightforward process with the help of iSeries Navigator that implements a graphical view so that customers can see exactly where their disk units are located and obtain configuration information about each of the disk units within their configuration. iSeries Navigator offers several wizards that simplify configuration tasks allowing customers to manage their storage. Most of the Dedicated Service Tools (DST) or the System Service Tools (SST) interfaces to manage disk storage have been automated through iSeries Navigator replacing multiple menus and command options with a simple, easy to use, secure graphical interface. OS/400 V5R2 also provides several options for parity set optimization within RAID-5 configuration.

You can now create as many as 223 independent disk pools. Previous releases only supported 67 independent disk pools. In V5R1 independent disk pools were numbered from 33-99. That range has been expanded to 33-255 at V5R2.

V5R2 also introduces a new terminology called a disk pool group - made up of primary and secondary disk pools, used in a clustered environment with switched disks. For example, customers can create a disk pool group to isolate journal receivers from the objects for which they contain journal entries. The primary disk pool could contain the libraries, journal and objects to be journaled, while the secondary disk pools could contain the associated journal receivers. The journals and journal receivers would remain separate for maximum performance and recoverability, but they would function together in the disk pool group, and will be switched together also.

Managing storage requirements for Windows users through OS/400 provides additional simplicity and extends the rich functions such as dynamic disk add, automatic disk protection through RAID-5 or mirroring, and the ability to extend switch disk capabilities to Windows server environments. iSeries' integrated SAN-like storage virtualization environment extends storage automation to Windows application allowing customers to consolidate multiple Windows servers through the Integrated xSeries Server of the Integrated xSeries Adapter.

In addition, a Run Windows command function and iSeries integration for Windows Service functions are also added to the Windows Administration section of iSeries Navigator.

Windows Server Management

Microsoft Cluster Service

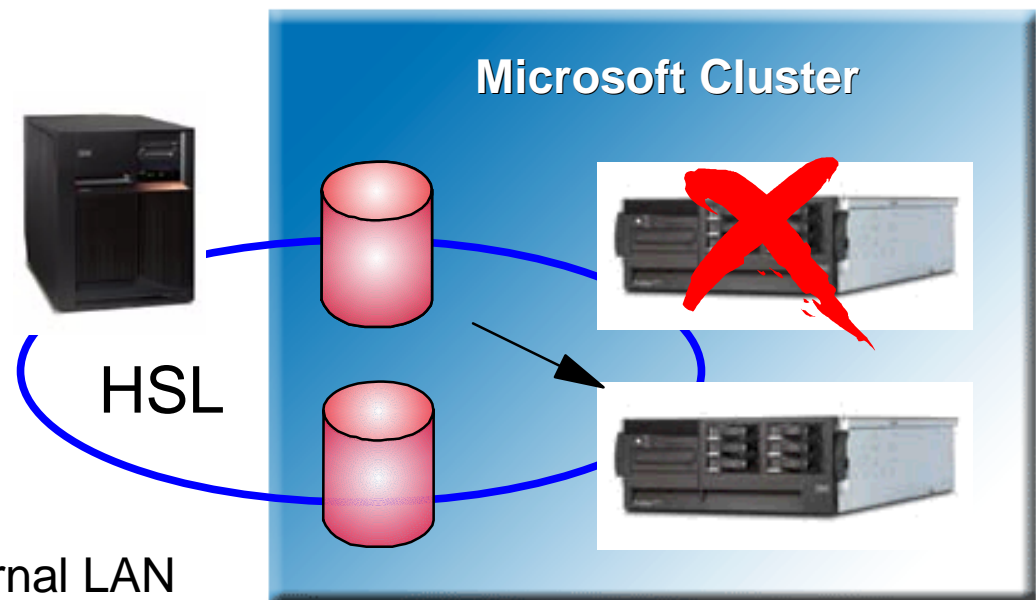
- Availability solution for planned and unplanned outages
- Dynamically switch storage spaces (disks) between Windows servers

xSeries™ servers

- IXA now supports latest x360 and x440 servers

Virtual Ethernet

- Higher performance for multi-tier apps and backup
- High-speed interconnect without external LAN
- Connects multiple Windows servers, Linux and OS/400 partitions



**xSeries
with
Integrated xSeries Adapter**

Notes: Windows Server Management

With OS/400 V5R1, the Integrated xSeries Adapter (IXA) that attaches up to a 4-way xSeries server directly to the iSeries through the High Speed Link (HSL), with the management of storage and users controlled from iSeries.

With this announcement, we are supporting the 4-way x360 and the new x440 with its Enterprise-x architecture. Actually, with the x440, we can have up to 2 IXAs and connect two logical 4-ways from that product back into the iSeries.

Microsoft Cluster Service now enables Integrated xSeries Servers (IXS) or xSeries connected through an Integrated xSeries Adapters to have their disk clustered inside iSeries, switching disk storage from one server to another server in case of a failure.

OS/400 V5R2 also enables Virtual Ethernet LAN support for Windows servers to communicate with OS/400 and Linux partitions. A three tier application with the front end installed on the Windows server can now use the Virtual Ethernet for high speed interconnect to the iSeries database.

Flexible, Secure Management of e-business Infrastructure

Enterprise Identity Mapping

Project eLiza



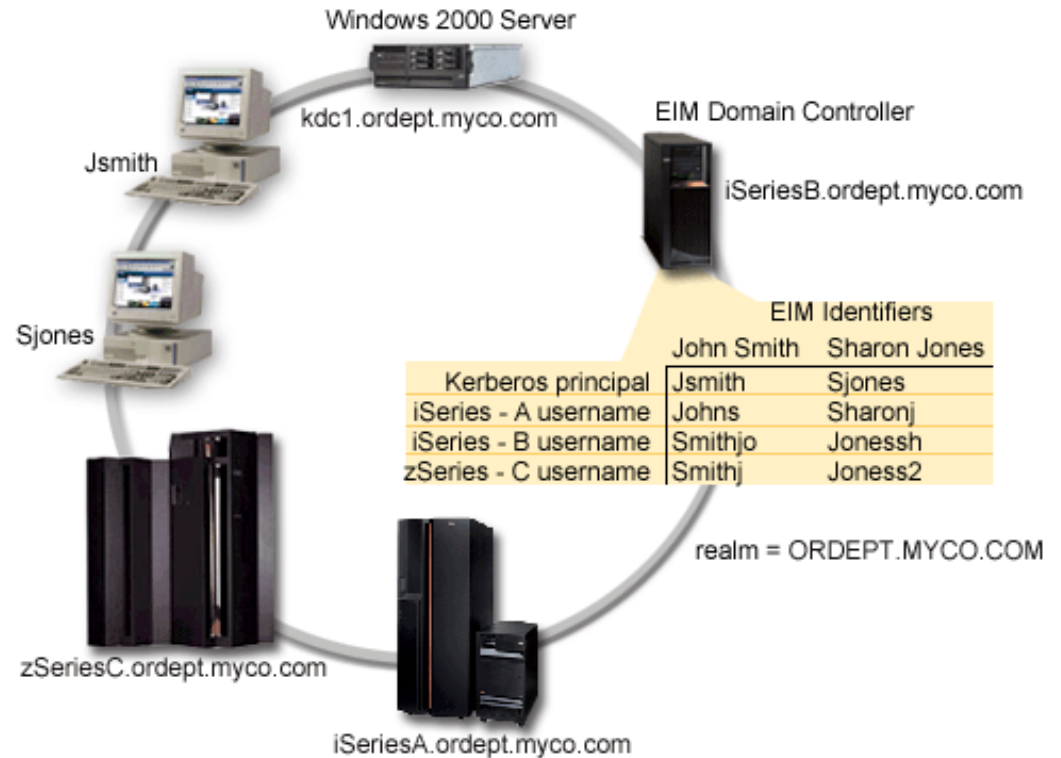
The industry's first Enterprise Identity Mapping implementation

Simplifies authentication process for users

Enables single signon

Reduces costs of user identity, password and network administration

Simplifies the development of multi-tier, multi-server applications



Notes: Enterprise Identity Mapping

Most computer users today access multiple servers and applications with different user identities and passwords. As a result, the most common help desk call is to reset a password driving up the cost of security administration. Aside from complex security administration, there is also no common standard today for application developers to enable security, resulting in unique and complex implementations of user registries and security semantics for each major application..

OS/400 V5R2 delivers the first implementation of Enterprise Identity Mapping (EIM), a self-protecting security element of IBM's Project eLiza. EIM helps customers reduce the costs of security administration by associating and tracking a user's multiple security identities across a multi-server, multi-application network. EIM provides an infrastructure that allows users to easily and inexpensively build applications or interfaces to enable single sign-on environment, regardless of the server platform. It also enables programmers to write simpler and more secure applications without forcing users to sign on and authenticate to each server in a network.

iSeries exploits both EIM and Network authentication services, IBM's implementation of Kerberos and the General Security Service (GSS) APIs. Configured together, these two technologies, allow administrators to enable a single sign-on environment.

Windows⁷ 2000, XP, AIX⁷ and zSeriesTM use the Kerberos protocol, allowing iSeries to extend EIM to these platforms as well as enabling EIM support in iSeries Navigator, PC5250 Emulation, SQL, DDM, DRDA⁷, NetServer and QFileSrv.400 environments.

Secure High Performance Apache Web Serving

Web Caching Accelerator

- Provides high performance, high volume Apache Web serving
- More than doubles the capacity for Web serving
- Self-activating, easy to setup
- Exploits caching techniques developed by IBM Research

Secure Sockets Accelerator

- Cryptography adapter delivers optimized performance for Internet security checking
- Secure Sockets Level (SSL) and Transport Layer Security (TLS) protocols
- Multiple accelerators per system enable ultrahigh volume throughout

IPv6 with self-configuring wizards

- Simple network configuration using latest industry standards

Firewall-friendly VPN with UDP encapsulation

- Application-transparent security allow servers to remain behind firewall

Notes: Secure High Performance Apache Web Serving

OS/400 V5R2 provides a broad range of performance and security enhancements for customers using iSeries for web serving.

With OS/400 V5R2, the IBM HTTP Server Powered By Apache takes advantage of the high-performance Web caching technology that IBM pioneered in IBM research and was featured at the Nagano Olympics. Existing web servers do not need to be reconfigured to take advantage of the new caching techniques.

Most customers implementing secure web services uses secure sockets as part of their security infrastructure. With OS/400 V5R2, customers can now use the Cryptographic Accelerator for iSeries as a high-performance, hardware-accelerator for their SSL session processing. Originally designed to improve iSeries performance by rerouting the processing of private cryptographic keys away from the iSeries' main processor, this hardware assist feature provides ultrahigh performance to handle high volumes of SSL (Secure Sockets Layer) transactions.

OS/400 V5R2 incorporates the new IPv6 Internet Protocol version 6 (IPv6), which is designed to gradually replace Internet Protocol version 4 (IPv4). Customers using IPv4 today can continue using that level without reconfiguration if required.

Virtual private networking (VPN) is enhanced with OS/400 V5R2 with NAT compatible IPsec, also known as UDP encapsulation. By simply encapsulating the VPN traffic, it address the problem of incompatibilities between IPsec and network address translation (NAT) technologies. UDP encapsulation allows the iSeries to be located behind a firewall that uses NAT. It avoids locating iSeries on the perimeter of the network and using a public address when using VPN.

iSeries Desktop Solutions with iSeries Access Family

iSeries Access for Web

- Browser based access to iSeries resources
- Easily customizable front page
- Secure, central administration
- Includes 'My Personal Folder'

WebSphere Host Publisher 4.0

- Rapid Web-enablement of 5250 applications
- Fully translated, including DBCS languages
- Runs on WebSphere Application Server 4.0
- Supported on OS/400 V5R1 and V5R2

iSeries Access for Windows

- A leading Windows desktop connectivity alternative
- Enhanced to include new Personal Communications 5250 emulator - V5.5
- Supports Kerberos, the emerging industry preferred method to authenticate users

IBM  **iSeries Access for Web**
showcase

iSeries Access for Web

Welcome to iSeries Access for Web, the lightweight, browser-based access to your iSeries server.

Pure Java servlet based access

iSeries Access for Web is a set of servlets that run on iSeries extensions to the HTTP server. The servlets provide access to databases, files, print queues, printer output, and messages on the iSeries server.

Industry standard protocol

iSeries Access for Web uses the industry standard HTTP and FTP protocols instead of proprietary TCP/IP ports and protocols. This makes issues much more manageable as a result.

Lightweight access

iSeries Access for Web provides lightweight, and convenient access to iSeries servers from any web browser. Most of the iSeries Access for Web functions have minimal browser requirements and work on any browser on any platform.

Related Links:

- [iSeries Access for Web](#)
- [Client Access](#)
- [Operations Navigator](#)
- [WebSphere Host Publisher](#)
- [iSeries Information](#)

Notes: iSeries Desktop Solutions with iSeries Access

iSeries Access for Web offers browser-based access to iSeries servers. iSeries Access for Web enables end users to exploit business information, applications, and resources across an enterprise by extending the iSeries resources to the client desktop through a web browser. iSeries Access for Web runs on the iSeries server using Java Servlet technology and uses the industry standard protocols HTTP, HTTPS and HTML. Since it runs in a browser, it does not have installed code on the client. It allows users to run batch commands, access the iSeries database, integrated file system, printers, printer output, and messages, and provides a 5250 user interface.

The iSeries Access for Web 5250 user interface is provided by the WebSphere Host Publisher product. Together, iSeries Access for Web and Host Publisher provide a complete web-to-host integration solution. IBM iSeries Access for Web (5722-XH2) iV5R2 is fully translated, including DBCS languages. iSeries access for web is administered centrally and there is no user configuration required. The sample front page provides a simple 'portal' that can be easily customized to fit the needs of individual customers.

iSeries Access for Web in V5R2 runs on both WebSphere Application Server (Advanced or Single) 4.0 and IBM HTTP Server with the "Tomcat" plug-in from the Apache Software Foundation (ASF).

WebSphere Host Publisher 4.0 will ship with V5R2 iSeries Access Family and will support WebSphere Advanced Edition 4.0.

iSeries Access for Windows (5722-XE1) provides a comprehensive solution for PC-to-server connectivity, allowing end users or programmers access to all of the key functions of iSeries. It includes iSeries Navigator, Operations Console and EZ-Setup. Highlights for iSeries Access for Windows with V5R2 include support for Kerberos Principal, 64-bit Intel Itanium processor, and the latest version of Personal Communicator 5250 Emulator V5.5.

Wireless-Web Ready Java 2 Micro Edition

Micro Edition drives growth of secure wireless Web access to enterprise data

Write customized wireless applications with power of iSeries

IBM Toolbox for Java 2 Micro Edition

- Micro Java classes and drivers optimized for pervasive device
- Includes JDBC Micro Edition for Java application access to iSeries database and applications

iSeries Access for Wireless

- Integrated package of wireless middleware
- Includes iSeries Navigator features for wireless systems management



Notes: Wireless-Web Ready Java 2 Micro Edition

IBM iSeries Access for Wireless (5722-XP1) is part of the iSeries Access Family and provides access to iSeries servers from wireless, handheld devices.

It consists of the following separate services that can be used individually, or together, to provide the access you need:

- IBM Toolbox for Java 2 Micro Edition is a set of Java classes that allow you to develop Java programs to access iSeries servers from wireless, handheld devices. You can use these classes to write client/server applications that work with data and resources on your iSeries server. For example, you can access iSeries database data using functions similar to Java Database Connectivity (JDBC), an industry standard.
- iSeries Navigator for Wireless provides a user interface for performing some systems management activities from wireless, handheld devices. As network administrator, it allows you to monitor your iSeries server while you are away from the office.

WebSphere Development Studio for iSeries

WebSphere Development Studio will integrate the WebSphere Studio Workbench

WebSphere Studio Workbench is a superset of the open-source Eclipse Integrated Development Environment

- Open tooling infrastructure
- Integration platform for IBM and non-IBM tools

One-stop, integrated development environment

- Tools for everything from traditional to e-business development

Will be delivered as a no-charge upgrade with Software Subscription



50,000 copies shipped since May 23, 2001

Notes: WebSphere Development Studio for iSeries

WebSphere Development Studio for iSeries is a fully integrated application development toolset, packaged to provide a full suite of visual development tools that encompass all phases of e-business applications. It incorporates both Web design (workstation-based tools) and deployment capabilities (iSeries-based tools and compilers) of WebSphere Studio, VisualAge Java and the new Web Facing Tool, and the development and integration of business logic using CODE or VisualAge RPG.

WebSphere Development Studio for iSeries is priced aggressively to encourage e-business development. Customers with Software Subscription will be able to upgrade to these tools at no additional charge. For example, a customer with RPG and ADTS licensed program products can benefit from getting access to the complete suite of application development tools that are offered with the WebSphere Development Studio for iSeries.

A variety of language resources and compilers are provided to allow customers to accomplish the transformation to e-business easily, either by extending existing application investments already made in RPG or COBOL applications and skills, or by investing in new Java, XML, C or C++ applications.

Based on industry standards, companies can develop applications with procedural code, object-oriented constructs, architecting applications for browsers, thin clients, fat clients, or even for batch. When targeting their application development to new e-business needs, they can also take advantage of OS/400's built-in IBM HTTP Server powered by Apache and WebSphere Application Server (Standard Edition).

New with V5R2 is a single user interface to IBM's programming tools based on the Eclipse open source project, with open options to snap in tools from other vendors. The Eclipse Project is dedicated to providing a robust, full-featured, commercial-quality, industry platform for the development of highly integrated tools. The mission of the Eclipse Project is to adapt and evolve the eclipse technology to meet the needs of the eclipse tool building community and its users, so that the vision of eclipse as an industry platform is realized.

The project provides a focal point for diverse tool builders to ensure the creation of best of breed tools for the Eclipse Platform. The mission of Eclipse Tools Project is to foster the creation of a wide variety of tools for the Eclipse Platform. The Tools project provides single point of coordination for open source tool developers in order to minimize overlap and duplication, ensure maximum sharing and creation of common components, and promote seamless interoperability between diverse types of tools. The Eclipse Tools Project will use its experience in developing tools for eclipse as a source of technical input and feedback for the Eclipse Project.

WebSphere Portal Server for iSeries*

WebSphere software

Enables secure access to dynamic information, application and people

- Single point of entry incorporating industry-leading Personalization technologies

Provides an open framework for creating multiple portal solutions

- Business-to-Employee (B2E)
- Business-to-Business (B2B)
- Business-to-Commerce (B2C)
- Ideal for application portlets, syndicated content and collaboration

Enables access anytime, anywhere

The screenshot displays a web portal interface with several portlets:

- NEWS** portlet: Contains a section titled "YOU AND IBM" with a sub-section "Quality and health care" and a link to "read". Below this are two columns: "Your Money" and "Your Health", each with introductory text and links to related content.
- SEARCH** portlet: Features a search bar with a "GO" button and a list of search suggestions: "BluePages - Advanced", "w3 - Advanced", and "ibm.com - Advanced". It also includes a "Search help" link.
- MARKET REPORT** portlet: A small portlet with an "Edit" button.
- SCORECARD** portlet: A small portlet with a "?" icon.
- FORUMS** portlet: Contains a "Links" section with two links: "forums.hardware.as400" and "forums.hardware.iseries".

*General availability of WebSphere Portal Server 4.1 is planned for 4th quarter of 2002



Notes: WebSphere Portal Server for iSeries

WebSphere Portal Server allows companies to build their own custom portal Web site to serve the needs of employees, business partners, and customers. Users can sign on to the portal and receive personalized Web pages that provide access to information, people, and applications they need. This personalized single point of access to all necessary resources reduces information overload, accelerates productivity, and increases Web site use.

WebSphere Portal Server provide an open framework for creating multiple portal solutions (also known as portlets) making it easier to deploy Business-2-Employee (B2E), Business-2-Consumer (B2C) and Business-2-Business (B2B) environments. Portal servers can remove much of the overhead of developing user interfaces to support multiple browsers or mobile devices.

Note: IBM plans to make WebSphere Portal Server for iSeries available during 4th quarter of 2002.

Domino⁷ and Advanced Collaboration

Domino 6

- Major release with continued focus on ease-of-use and TCO
- Extends client mobility advantage
- Provides enriched application environment
- Simplifies deployment and management



Exploiting OS/400 V5R2 enterprise-class performance

- Highly scalable groupware options extended from i270 to i890
- Domino servers benefit from improved file system performance
- Domino Web serving integrated with OS/400 Digital Certificate Manager and SSL accelerator

IBM @server iSeries

EXCHANGE YOUR EXCHANGE

iNOTES ACCESS FOR MICROSOFT OUTLOOK



Notes: Domino 6 and Advanced Collaboration

The design goals for Domino 6 are to

- Improve ease of use
- Remain the premier mail, calendar & scheduling, and task management client
- Strengthen replication and mobility features
- Continue to focus on collaboration
- Enhance performance
- Streamline deployment and administration

For a full description of Domino 6 enhancements, see http://www-10.lotus.com/ldd/today.nsf/lookup/notes_next_technical_overview

IBM now offers an upgrade path from i820 Dedicated Server for Domino into the new i830 base processor feature and then up into the i840 and i890 for highly scalable Domino server consolidation.

iSeries e-Output

InfoPrint Server for iSeries

- New PDF and e-mail capabilities

InfoPrint Designer for iSeries

- Enhanced graphical output design

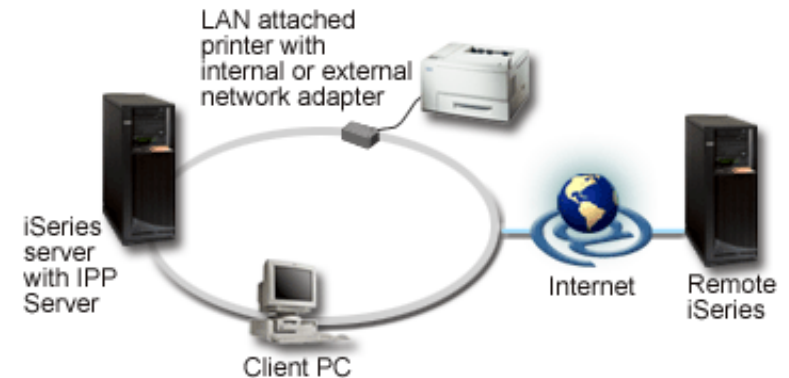


e-Output server in OS/400

- PDF output distribution integrated with iSeries Access
- Standard API access to PDF and e-mail functions
- Internet Print Protocol (IPP)

Infoprint 85 and 105 printers

- Supported with Print Services Facility for OS/400



Notes: iSeries e-Output

Infoprint Server is focused on enterprise and e-business driven output management. On the e-output side, Infoprint Server provides PDF and portable AFP support for the iSeries. Any standard iSeries-AS/400 output format can be transformed into PDF. The PDF is text-based, fully navigable, and provides high-performance. In addition, you can segment an output file, triggering the PDF server to create multiple PDF files - this is an "electronic burst and bind" function. In addition, e-mail options are fully integrated and automated so that output files can be transformed to PDF and automatically sent to any destination .

Infoprint Server is also focused on allowing the iSeries to manage network output. Infoprint Server provides transforms for PCL, Postscript, and PDF into AFP so output generated in those formats can be brought into the iSeries and effectively managed to the printer.

Infoprint Designer for iSeries provides a fully-graphical document composition interface to the iSeries-AS/400 printing and e-output system. It supports the requirements of today's complex documents and reports, producing fully electronic documents combining data, text, electronic forms, graphics, image, bar coding, and typographic fonts. Infoprint Designer for iSeries can be used for the design of new output applications or the re-engineering of existing applications.

IPP is the emerging standard for Internet printing, allowing you to submit print jobs direct to a URL anywhere in the network. With V5R1, the iSeries enabled IPP (Internet Print Protocol) server support and with V5R2 IPP client support is now enabled.

Project eLiza

OS/400 exploits IBM's blueprint for self-managing systems

- Self-protecting
 - Enterprise Identity Mapping
 - Digital signatures and intrusion detection
- Self-optimizing
 - Dynamic LPAR
 - Self-learning DB2 UDB Automatic Index Advisor
- Self-healing
 - Switched disk support for improved availability
 - Agent Building Learning Environment (ABLE) for problem management*
- Self-configuring graphical wizards for managing
 - Performance and multiple workloads
 - Switched disk clusters and high availability
 - Security and network
 - Storage and system backups



*NOTE: ABLE, an IBM Research Project, is designed to reduce human intervention through using artificial intelligence when diagnosing hardware and software errors. ABLE will debut first with iSeries and OS/400 V5R2.

Notes: Project eLiza

Many of the founding elements for Project eLiza already manifest into today's iSeries systems. One year after announcing Project eLiza initiative to develop self-managing for Autonomic Computing¹, iSeries continues to exploit IBM's blueprint for delivering technology and tools to ease management of systems.

V5R2 continues to build on many of eLiza elements that were available with V5R1 such as, such as self-optimizing dynamic LPAR and workload management, self-configuring graphical wizards, self-healing performance monitors, and self-protecting digital certificates. Extensive additional graphical wizards have been added with V5R2 to the iSeries Navigator to automate several complex configuration tasks along with increased flexibility to monitor and manage storage, jobs, and database tasks.

Some of the highlights for V5R2 include:

- Self-protecting Enterprise Identity Mapping for easing user identity management
- Self-protecting Digital certificate APIs for ISV applications to assist with unauthorized application modifications
- Self-optimizing dynamic LPAR to allow resource movement for virtual processing units between Linux and OS/400 partitions
- Self-optimizing index advisor and statistic collections for DB2 UDB for OS/400, allowing users to avoid manual tasks associated with SQL optimization
- Self-healing Independent disk pools for switched disk clustering
- Self-healing Agent Building Learning Environment (ABLE) enablement through building intelligent agents on the iSeries to assist with problem determination and diagnosis processes. The ABLE research project is made available by the IBM T. J. Watson Research Center. For additional information, [see: http://www.alphaworks.ibm.com/tech/able](http://www.alphaworks.ibm.com/tech/able)
- Extensive self-configuring graphical wizards to simplify network, performance, security, storage, work management and LPAR configuration tasks.

Note 1: Autonomic Computing reflects a vision to develop and deploy intelligent systems that self manage and regulate themselves, much the way the human autonomic nervous system manages the human body. This vision is motivated by the tremendous complexity in today's computing environments and the resultant difficulties, and expense, of managing them. The biological metaphor suggest a systemic approach, coordinating activity across the many components of computing systems, achieving a much higher level of automation. For a complete discussion of the autonomic computing direction see the Autonomic Computing Manifesto (<http://www.research.ibm.com/autonomic/manifesto/>).

Summary

iSeries J Announcement at A Glance

- **i890 32-way with POWER4 provides unmatched iSeries growth**
- **Enterprise IT Management Made Simple with OS/400 V5R2**
- **Delivering outstanding flexibility for adding new workloads**
- April 29, 2002 Announcement
- June 14, 2002 i890 with OS/400 V5R2 Limited Availability (English only)
- August, 2002 OS/400 V5R2 Worldwide General Availability

<http://www.ibm.com/eserver/series/>

Enterprise IT Management Made Simple

Capacity Upgrade on Demand

OS/400 V5R2

WebSphere Development Studio

64-Bit Linux

32-way, 64-Bit POWER4 i890

Enterprise Identity Mapping

Adaptive e-transaction Server

Innovative Technology

Application Flexibility

Apache Web
Caching Accelerator

Lotus Domino 6

Switched Disk Clustering

Virtual Ethernet

Microsoft⁷ Cluster Service

iSeries Navigator

OS/400 PASE with AIX 5L

SAN Switch Fabric

Wireless-Web Micro Edition

Secure Sockets Accelerator

New Tools for e-business

LPAR Sub-capacity Pricing

Project eLiza

WebSphere Portal Server

Multiple DB2TM UDB Namespaces



iSeries Access for Web

DB2 UDB Open SQL Standards



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AFP	CODE/400	HTTP Server for AS/400	Net.Commerce	PowerPC	VisualAge for RPG
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APPN	DB2 UDB for AS/400	Information Warehouse	NUMA-Q	PSF	WebSphere Development Tools for AS/400
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