



IBM eServer™

IBM @server zSeries April 2004 Announcement



Welcome

April 2004 IBM eServer™ zSeries® Announcement Summary



**40th Anniversary
of System/360™**



**Mainframe
Charter –
continued
commitment to
*Innovation,
Value and
Community***



**Introducing the
IBM eServer
zSeries 890 (z890)**

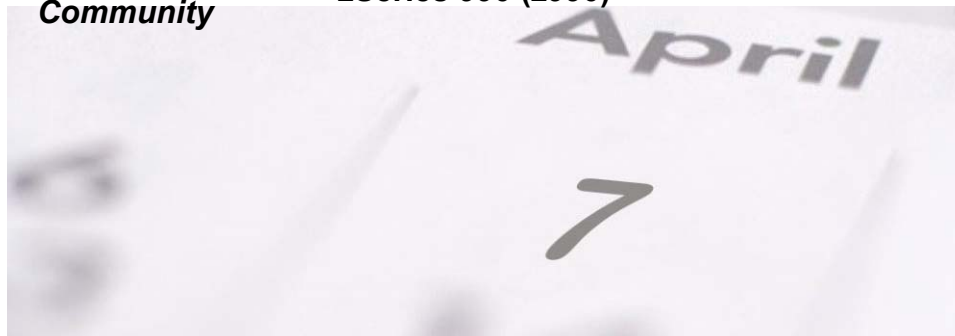
**Enhancing the
IBM eServer
zSeries 990 (z990)**



**Introducing IBM
TotalStorage®
Enterprise
Storage Server®,
Model 750**



**Operating System
Enhancements
—————
Software Tooling
Strategy and
Services**

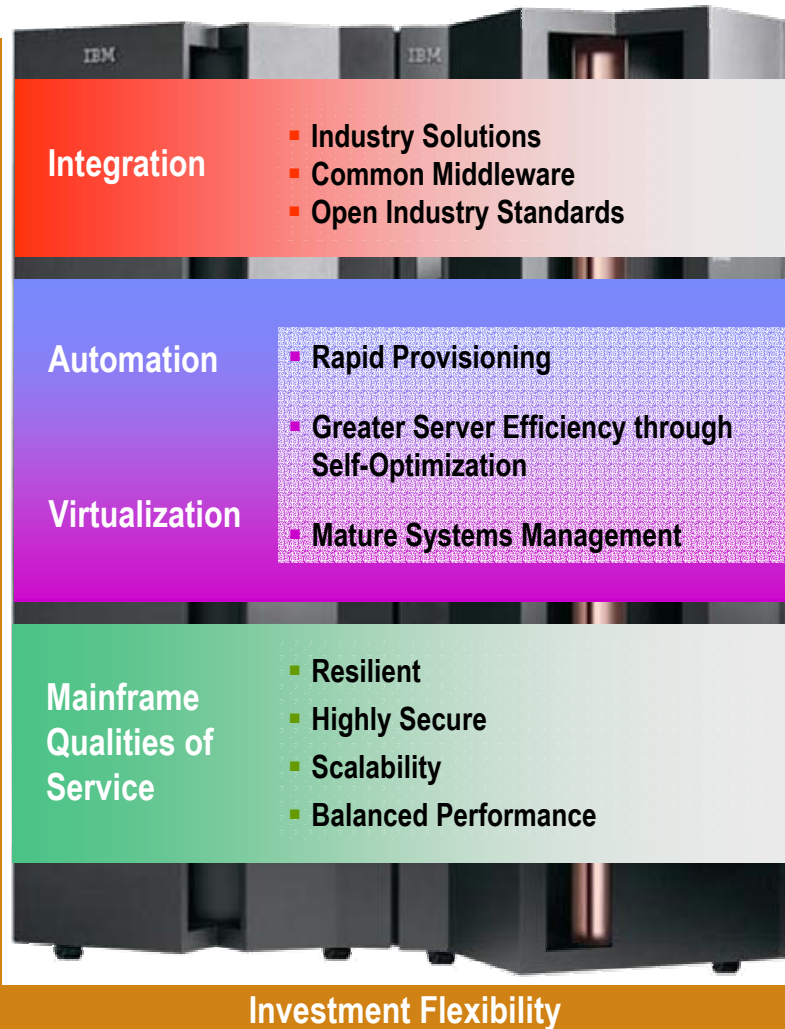


zSeries core values – Built upon a 40-year heritage. . .

Meeting today's challenges

Business Challenges

- Financial Pressures
- Security and Operational Resiliency
- Simplify Infrastructure Complexity
- Accelerate Time-to-Market
- Increase Revenues
- Deploy New Capabilities



IT Challenges

- Be responsive to changing business needs
- Meet service level agreements
- Increase server and IT resource utilization
- Help reduce IT Costs
- Develop new applications while mitigating risk

zSeries leadership: 40 years in the making

- Highly efficient operating environment
- An Industry Leader in virtualization technologies (across mixed workload design points)
- Sophisticated workload management capabilities that are tightly integrated with the Systems Resource Manager and Intelligent Resource Director
- Highly advanced scalability features allow for nondisruptive growth
- Existing GDPS® support and world-class virtualization capabilities position zSeries to be the premiere platform in providing high availability and system-wide disaster recovery
- A highly secure platform in the industry today – starting in the hardware and integrated throughout the stack

1964



1972



1982



1999

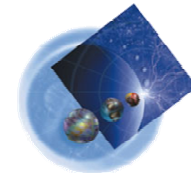


2004



zSeries software: 40 years of innovation

- **Strong level of hardware/software innovation and synergy on the zSeries platform**
- **36 years of IMS™**
- **35 years of CICS®**
- **21 years of DB2®**
 - ▶ DB2 Version 8 announced, delivering 64-bit capabilities
 - 19 of 24 DB2 tools are ready now to exploit DB2 V8.
- **More recently with the market-leading WebSphere® portfolio**
 - ▶ WebSphere Application Server for z/OS® can deliver an advanced Java™ technology-based application server – providing the means to modernize applications and leverage 40 years of application assets and legacy data.
- **Continued investment and development, with over 140 tools in the portfolio – offering cost-effective alternative tools in the marketplace**
 - ▶ 2,000 customers
 - ▶ 9,000 successful migrations



zSeries customers recognize highly differentiated value across the zSeries platform



- Extremely High Availability and Overall Reliability
- Massive end-to-end Scalability
- Capacity on Demand
- Rock Solid Security and Privacy
- Advanced Virtualization Capabilities
- Highly Manageable, Responsive and Autonomic via Workload Manager (WLM) and Intelligent Resource Director (IRD)
- Utilizes Open and Industry Standards
- World-class Integrated Support
- Higher Utilization and Balanced System Design

These technology values have now been combined with enhancements in price/performance and a commitment to expanding the zSeries community as part of the recently published "Mainframe Charter"

The Mainframe Charter – Providing a strategic framework

IBM intends to continue to:



Innovation

- Provide leadership in innovation to enhance the use of IBM eServer zSeries to support increasingly integrated and flexible business processes for the on demand business.
- Maintain zSeries' position as a benchmark for flexible, efficient, and responsive platforms for highly complex, integrated environments running a wide range of mission-critical workloads.
- Improve the autonomic and self-managing capabilities of the zSeries while working to simplify user processes and system administration tasks.



Value

- Enhance the value proposition and lower the cost of computing of zSeries solutions in a way that is compelling, clear, and consistent.
- Extend the on demand characteristics of zSeries servers, highlighting its strengths as an environment for usage-based computing.
- Increase the ability to account for allocation and use of zSeries resources in an on-demand environment.



Community

- Support programs designed to foster vitality in the zSeries community, helping to promote a strong application portfolio and world-class support services.
- Provide the skills and expertise to assist customers in designing, developing, and deploying on demand solutions built on a foundation whose cornerstone is zSeries.
- Leverage key open standards and common structures to enhance the use of zSeries in large, heterogeneous environments.

These principles help guide IBM's investment priorities in zSeries systems and demonstrate IBM's commitment to provide ongoing value to its zSeries customers.

Bridging 40 years of core values to infrastructure simplification . . . on the road to on demand

The Latest in zSeries Innovation

▪ zSeries Application Assist Processor (zAAP)

- ▶ Helps build an optimized execution environment on zSeries for the J2EE open programming model – key for your strategic applications that need to integrate with mission-critical data.

▪ z990 Enhancements

- ▶ Additional innovation and value, helping to simplify complex IT infrastructures.

▪ Introducing the z890 . . .

- ▶ Further innovation, bringing latest generation zSeries function and value to a wider audience with a lower entry point, improved price/performance and increased flexibility.
- ▶ Designed to easily fit your business while responding quickly to changing needs through affordable growth options.
- ▶ Versatility to help simplify your infrastructure and reduce costs.
- ▶ New application options provide the flexibility and choice to meet a range of on demand business challenges.

On Demand

Infrastructure
Simplification

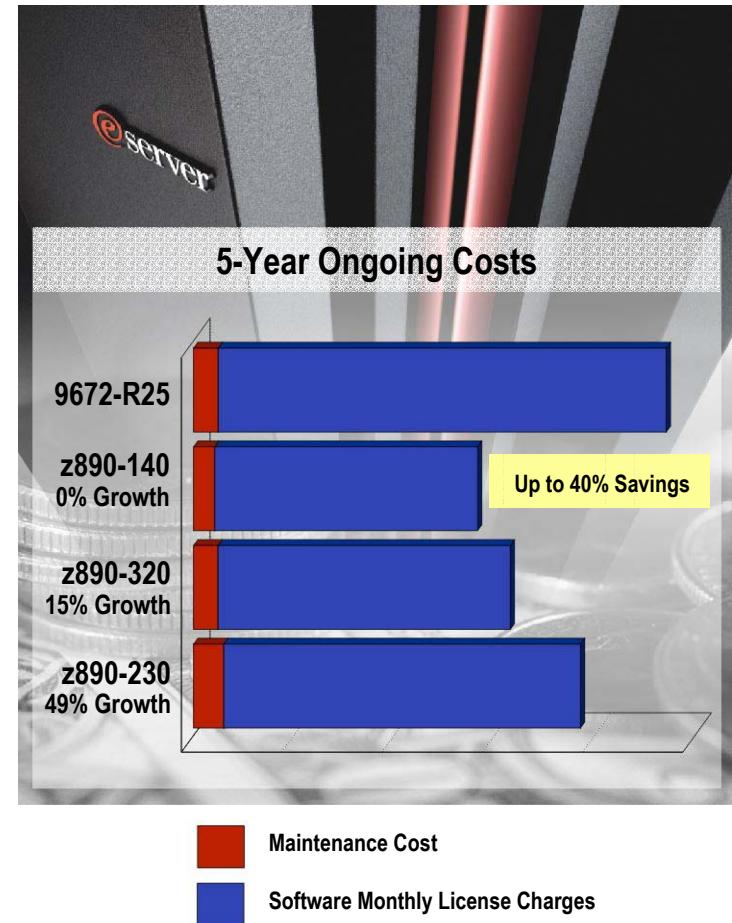
Mainframe Charter

40-Year Foundation of
zSeries Core Values

Managing Ongoing Costs

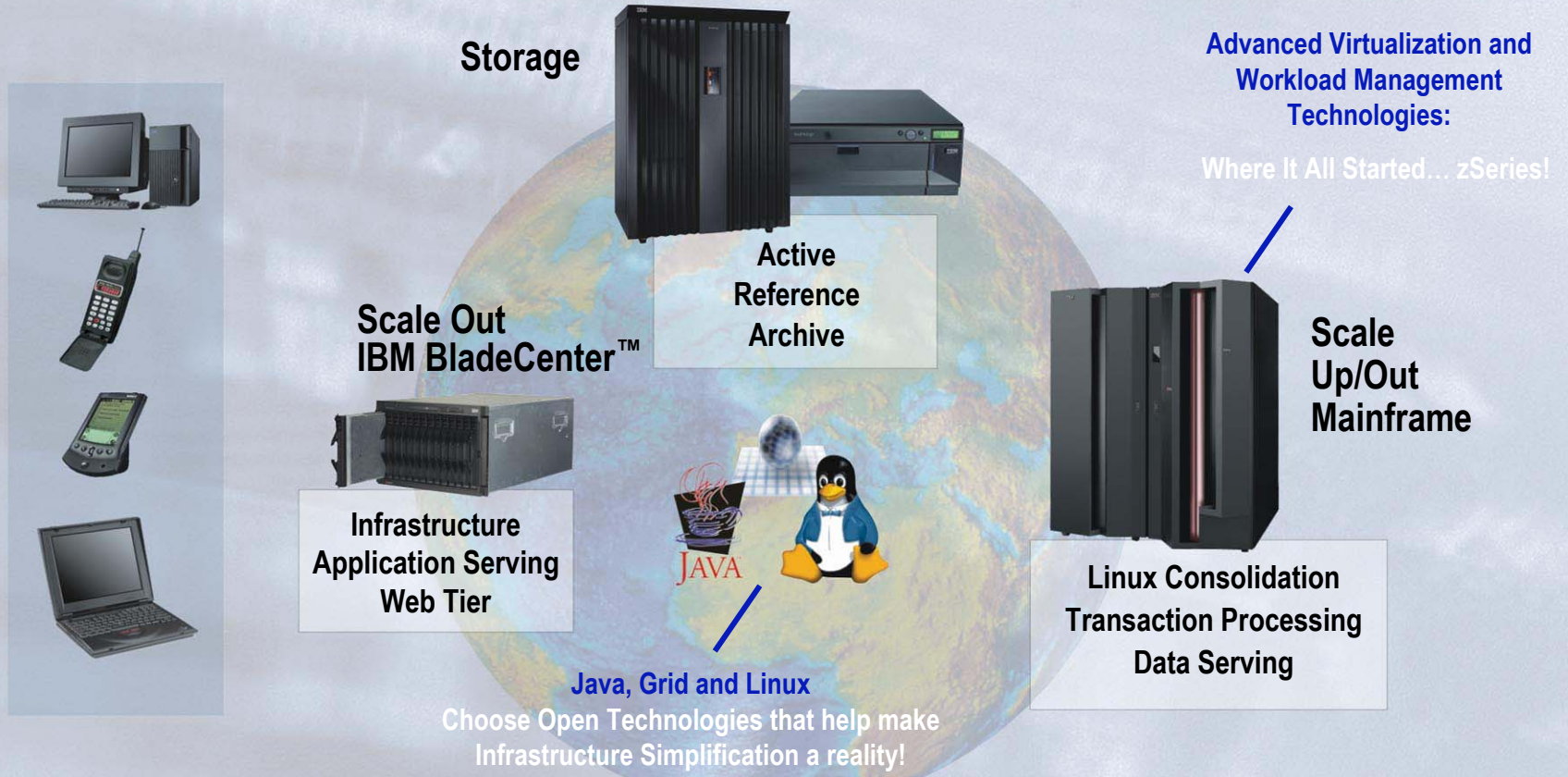
The Tactical Value of Staying Current with New Technologies

- **Technology value of z890**
 - ▶ Latest 64-bit architecture
 - ▶ zAAPs: help enable customers to strategically integrate their Java technology-based Web applications with core business databases by providing a more cost-effective, specialized z/OS Java execution environment.
 - ▶ OSA-Express
 - ▶ On/Off Capacity on Demand
 - ▶ High Capacity Integrated Facility for Linux (IFL)
 - ▶ PCI Crypto
 - ▶ OSA-ICC
- **Ongoing Savings help you offset the cost of your hardware investment**
- **Savings driven by**
 - ▶ Lower priced z890 maintenance
 - ▶ Lower priced z/OS on EWLC
 - ▶ Lower software pricing on applicable IBM Monthly License Charge (MLC) software for z890
- **Additional Value considerations**
 - ▶ Upgradeable to z990
 - ▶ Qualifies for On/Off Capacity on Demand



Infrastructure Simplification

The Strategic Value of Staying Current with New Technologies



**Take the next step to on demand via Infrastructure Simplification:
z890/z990 + BladeCenter + TotalStorage + SWG + Services + IGF**

The zSeries Solution-Provider Community

Over 70% of zSeries capacity shipped continues to support strategic new workloads

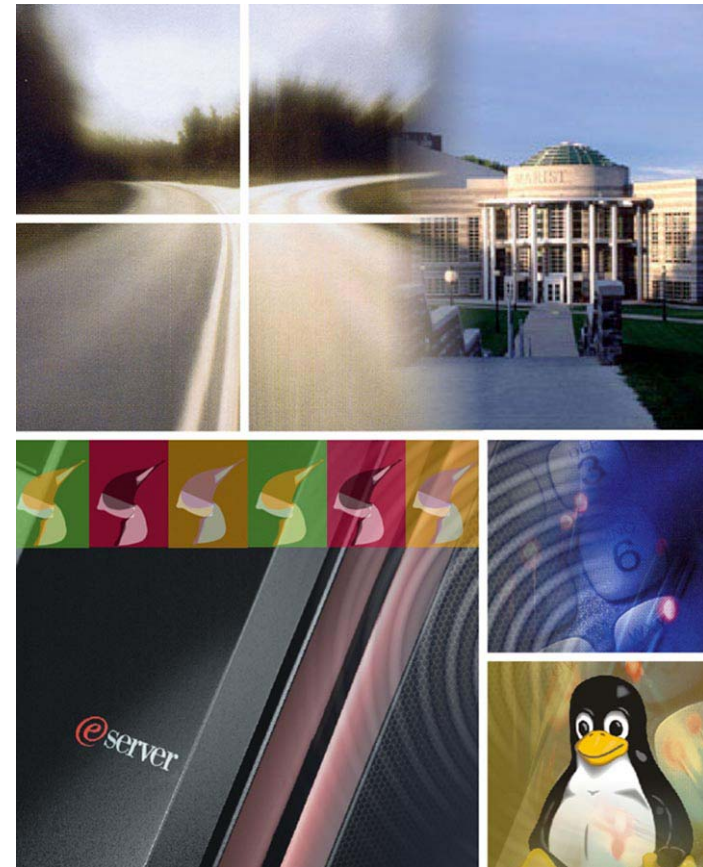
- **Reap the benefits of enterprise application solutions from an IBM-Alliance partner**
 - ▶ PeopleSoft, SAP, Siebel
 - ▶ A better solution due to joint development between the ISV, IBM eServer brand and middleware
 - ▶ A better implementation due to the resources and dedicated specialists in the International Competency Centers
 - ▶ And better support due to coordinated call centers between IBM and the ISV
- **Enhance the value of your mainframe investment**
 - ▶ Over 180 ISVs now provide nearly 400 Linux applications on zSeries
 - ▶ Linux solutions have moved beyond infrastructure into the enterprise application space.
- **Building on a strong portfolio of business-critical enterprise management solutions**
 - ▶ Operations control
 - ▶ Systems monitoring and management
 - ▶ Back-up and restore
 - ▶ Charge-back and billing
 - ▶ Security



Further Enriching the zSeries Community

Expanded participation in Linux open source community

- **IBM will provide a z990 to Marist College, as a resource to the Linux development community**
- **Marist College will open a new lab in the summer of 2004, in association with the Open Source Development Lab (OSDL)**
 - ▶ Managed by Marist in conjunction with OSDL
 - ▶ Through Marist College, Linux developers will have remote access to the mainframe to run qualified projects, testing Linux software for inclusion to the Linux kernel
- **Significant value to open source and academic communities**
 - ▶ This enables business hardening of Linux on the mainframe
 - ▶ Students can improve Linux and mainframe skills through open source projects that encourage innovation and support personal competitiveness in the jobs market



zSeries Today – Helping our customers meet their challenges



Helping Reduce IT costs

- Lower cost design point and granular capacity levels improve pricing flexibility
- EWLC allows you to pay for capacity you use
- zAAPs and IFLs can help lower the cost of computing by providing highly integrated, specialized workload processing environments.



Managing infrastructure complexity

- Use of capacity settings allows you to start at the right size
- z890 brings zSeries balanced performance and granular scalability to a wider audience



Responding to business changes quickly and with flexibility

- As needs of the business arise, you are able to smoothly upgrade your capacity permanently or temporarily with features like Customer Initiated Upgrade and On/Off Capacity on Demand
- Using virtualization technology in z/VM, you can easily create, deploy and manage virtual servers and resources



Support new applications

- Over 180 ISVs now support Linux solutions on zSeries
- Applications built on common middleware bring the application and the data in closer proximity
- z890 brings zSeries QOS needed for applications



Meet service level agreements

- Automatic sense and respond capabilities of the zSeries can help improve service levels and optimize IT resources
- Enhanced software incorporates tools' autonomic capabilities
- zSeries operating systems provide data isolation and security across partitions

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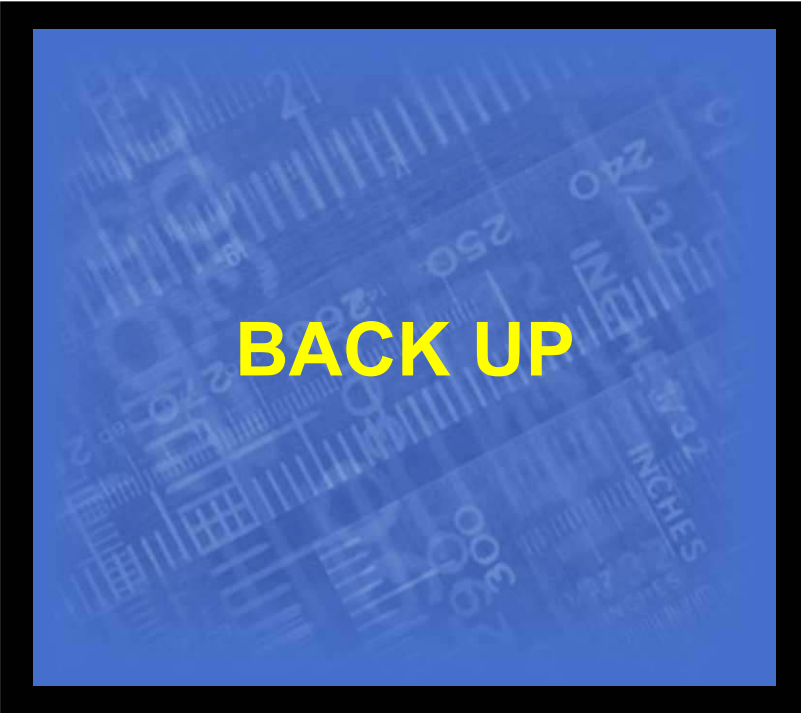
**Introducing
TotalStorage
Enterprise
Storage Server,
Model 750**



**Operating System
Enhancements
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Software Tooling
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**zSeries Core Values are at the heart of Infrastructure Simplification and On Demand.
zSeries . . . Continuing to be the Foundation for Innovation.**



z890 – Bringing latest generation zSeries on demand technology to a new audience!



Innovation

- New Lower IBM zSeries entry point
- One Model with 28 Capacity Settings
- System Capacity is over 2X compared to IBM eServer zSeries 800 (z800)
- New zAAP
- Increased bandwidth compared to z800
- OSA-Integrated Console Controller



Value

- Improved hardware granularity
- EWLC and EWLC Tiered Pricing Structure
- On/Off Capacity on Demand
- Improved software price/performance for applicable MSU-based software products (i.e., compared to z800)
- Improved Capacity IFLs vs. z800 at same price point
- New z/VM® 5.1 Pricing
- z/OS.e



Community

- Linux for zSeries application solutions
- Leveraging our IBM Business Partner skills, software and applications
- Solution offerings



**The z890 . . .
The mainframe built,
sized, and priced to suit
your needs.**

Enterprise Storage Server Model 750 – Bringing ESS storage technology and capabilities to the mid-sized enterprise!

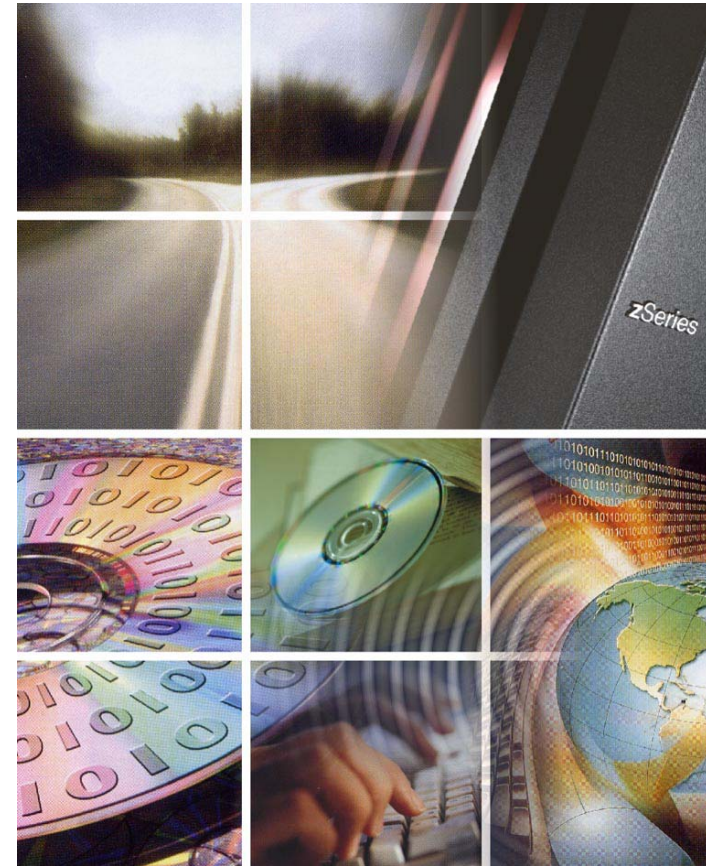
- An exciting new alternative to meet today's "on demand" storage requirements
- An excellent solution for modest physical disk capacity (up to 4.6 TB) environments that demand the highest availability and functionality, at entry prices
- Designed to meet the high availability requirements of mainframe and open environments
- Most of the same features and advanced function options offered by IBM TotalStorage Enterprise Storage Server (ESS) Model 800 and supports the same large array of operating systems



Operating System and Middleware Enhancements

Delivering innovation and value throughout the entire zSeries stack

- **Multilevel Security for zSeries**
 - ▶ Introduced with z/OS 1.5
 - ▶ Synergy with DB2 for z/OS V8 provides additional row-level labeling capability for “need to know” security requirements
- **z/OS 1.6 Preview***
 - ▶ Next major positioning release for integrating new workloads on zSeries
 - ▶ Support for zAAP
- **z/VSE** 3.1 Preview***
 - ▶ Signal IBM’s commitment that VSE/ESA™ is part of the zSeries family of operating systems
 - ▶ Planned support for Fibre Channel Protol (FCP) channel-attached SCSI disk
- **z/VM 5.1**
 - ▶ More flexible support for all-SCSI environments
 - ▶ New z/VM 5.1 pricing
- **Tools availability for DB2 V8**
 - ▶ All IBM DB2 tools planned to support DB2 V8 by June 2004
 - ▶ 19 of 24 IBM tools exploit DB2 V8 today.



* All statements regarding IBM future direction and intent are subject to change or withdrawal without notice, and represent goals and objectives only.

** z/VSE can execute in 31-bit mode only. It does not implement z/Architecture, and specifically does not implement 64-bit mode capabilities. z/VSE is designed to exploit selected features of IBM zSeries hardware.

Mainframe Charter – Community

Strengthening Internal Skills to Better Serve our Customers

- **Over 1,000 zSeries-skilled technical support professionals available worldwide to assist customers in designing, developing and deploying zSeries based on demand solutions**
 - ▶ Training & redeployment of new zSeries resources worldwide
 - ▶ Creation of cross-IBM Systems Architect resources to recommend and support heterogeneous IT infrastructure solutions
 - ▶ Creation of Enterprise Modernization specialty within the Software IT Architect community to help create e-business software solutions for the zSeries platform
- **Over 20 design centers worldwide available to build and validate zSeries solutions**
- **Comprehensive internal education & training programs, and mentorship programs**
- **Skills alignment with targeted solution spaces**

Mainframe Charter – Community

Addressing the Need for New and Updated External Skills

- Customer calls and surveys clearly point out a concern with ensuring a continuous supply of zSeries skills (as a career path and as a focus area in university programs)
- zSeries is committed to addressing these concerns through a variety of university programs and educational offerings:
 - ▶ Expanding the Scholars zSeries Program to entice and enable more colleges and universities to teach more zSeries-related topics and courses in their curriculums.
 - ▶ IBM external education class offerings and initiatives
 - ▶ IT Co-op Program (for “customer-oriented” education)

Mainframe Charter - Community

IBM ITTS Offers a Variety of Courses and Methods to Build zSeries Skills

- Public Classes
- On-site Private Classes - deliver complete on-site training packages, including:
 - ▶ Planning and design
 - ▶ Customized content
 - ▶ Course materials and equipment
 - ▶ Training for a small (1-7) or large (8-14) group of students.
- e-Learning in the form of a Digital Video Library (DVL) – provides an easy to use CD-ROM format for desktop training
- Education Cards, Education Packs, and Education Passes provide opportunities to save money when purchasing IBM Education

Mainframe Charter – Community

IT Skills Co-op Program

■ Purpose:

- ▶ Develop a pool of university graduates (for IBM and our zSeries customers) who have basic z/OS IT skills and experience in key areas: build, operations, test and service.
- ▶ Started in 2003 for proof of concept; our zSeries customers might want to establish similar programs

■ Approach

- ▶ Establish a manageable set of 6 month co-op assignments
- ▶ Provide rotational assignments in task areas customers deem important; students work with area experts and gain valuable experience
- ▶ Provide z/OS fundamentals training; use modules from introductory courses on z/OS
- ▶ Include some level of on-site involvement (e.g. workshops and mentoring)

Samples from the offering portfolio . . .

Helping you achieve your business goals

Offering Name	Availability Date
Integrated Platform for e-business	Now
Enterprise Modernization	Now
WebSphere Healthchecker Services	Now
Application Deployment and Optimization	Now
WebSphere for z/OS Security Design Workshop	Now
Linux for zSeries Installation Offering	Now
Linux for zSeries e-business solutions	Now
Software Tools Migration Services	New! 4/7
Technology Upgrade Option on IGF-leased z890	New! 4/7
zSeries Software Tools Starter Pack Promotion	New! 5/31
zAAP (Server and z/OS support)	New! 9/30 *

* For customers planning to run WebSphere Application Server V5 under z/OS on a z890 or z990 server, you may be eligible to take advantage of some of the benefits that zAAP provides for a limited time on your z890 or z990 prior to migrating to z/OS 1.6. Contact your local IBM or authorized Business Partner hardware sales specialist for more information.

The image shows a close-up, angled view of a server rack. The rack is dark grey or black with several horizontal slots. In the center, the IBM logo is printed in white, consisting of its characteristic eight horizontal stripes. Below the logo, the text '@server' is visible in a smaller font, with the '@' symbol in red and 'server' in white. To the right, a portion of a server blade is visible, featuring a perforated metal grille for ventilation. The lighting is dramatic, highlighting the textures and lines of the server hardware.

IBM

@server

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Domino	VSE/ESA
e-business logo*	WebSphere*
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GDPS*	z/VM*
IMS	zSeries*

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Notes:

Performance is in Internal Throughput Rate (ITR) ratio based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput 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 improvements equivalent to the performance ratios stated here.

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