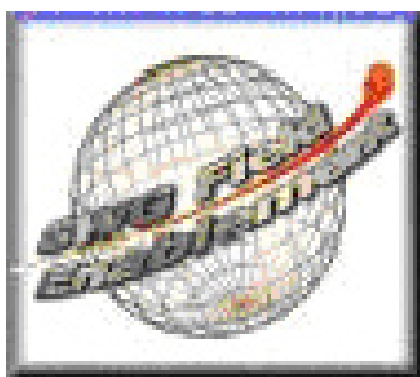


System z Software Strategy Notebook



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About This NoteBook

The Audience for This NoteBook

The IBM® Software Group Strategy NoteBooks, 2008 are intended for all software sales representatives and software technical sales specialists. This series of documents, designed to be an easy-to-read consolidation of software strategy information that is located elsewhere on the Web, benefit Software sales teams by helping to explain the overall IBM software portfolio and the role it plays in providing an open, on demand operating environment for IBM customers.

The series includes a book for the overall Software Group strategy, one for each of the SWG brands, including PLM. Additional NoteBooks cover open systems (Linux™) software and System z™ software. These books are not sales or marketing kits, but are designed to provide a better understanding of marketing and development strategies that will help sales people to effectively communicate IBM software strategies to customers.

These Strategy NoteBooks can be found on the IBM intranet at

<http://w3-103.ibm.com/software/xl/portal/viewcontent?type=doc&srcID=XT&docID=L107895Y49377G53>

and on PartnerWorld® at

https://sawa04p.austin.ibm.com/us/en/partnerworld/mem/pat/pat_sw_strat.html

Acknowledgments

Our thanks to Jax Shawley, System z Worldwide Marketing Manager (Jax Shawley/UK/IBM@IBMGB), who was the subject matter expert for this NoteBook.

Questions or Comments

If you have any comments, questions, or suggestions concerning this notebook, please contact Joan Arias, IBM World-Wide Software Enablement, at Joan Arias/Tarrytown/IBM@IBMUS.

System z Software Strategy Executive Summary

The System z mainframe continues to play a critical role in business today. The quest to become an agile business in today's fast-paced world is a daunting challenge that requires not only the most reliable and scalable IT environment but also one that is flexible, affordable and very secure. Exceptional servers require exceptional software. System z Software exploits the inherent qualities of the server, creating the right operating environment for a system that is autonomic, integrated, virtualized and open. IBM continues to invest heavily in software for the System z platform, adding new functionality to the z/OS® operating system, Linux and core middleware as well as an ever broadening portfolio of System z tools.

Building a successful environment for robust operations begins with a solid and simplified foundation of hardware and software. The mainframe is the cornerstone of 21st century enterprises. IBM System z hardware and software provide powerful, end-to-end solutions for a rock-solid, on demand environment.

We think 2008 will be known as the year we announced the future data center. This new System z10 Enterprise Class (z10 EC) brings real value to the three big plays, consolidation and virtualization, energy efficiency and process resiliency and security. Our strategy to bring real growth to System z and SWG includes:

- The launch of Systemz10 and the System z stack
 - o Software-led value propositions bring the value of the stack and therefore the entire system to the fore
- Adoption of new workloads, via expanded capability and new and updated applications
 - o New, complex applications driven by business initiatives and enabled by supporting middleware
- Migration of down-level clients to newer technology
 - o Assisted by software enhancements that help manage cost, improve security and maximize performance
- Large scale consolidation projects
 - o Justified by improved performance, TCO and end-to-end cross platform solutions
- Driving growth in the top accounts

There is a different approach in 2008 –to orient around the client, not around the brands. This Strategy Notebook will help you get started and provide links to the information and tools you need to proceed and succeed!

IBM sales teams should become familiar with the [Sales Acceleration Play menu](#), developed by the SWG brands in collaboration with the geographies. It is a one-stop shop for the most recent information about prospecting plays, sales guidance, standardized content and tools, including the newest plays that target the hottest solution areas, opportunities and acquisitions. Sales teams should use this page to help win business.

Business partners will find information about the most current focus areas on [PartnerWorld](#) in each brand section.

System z Software—an Overview

What is System z?

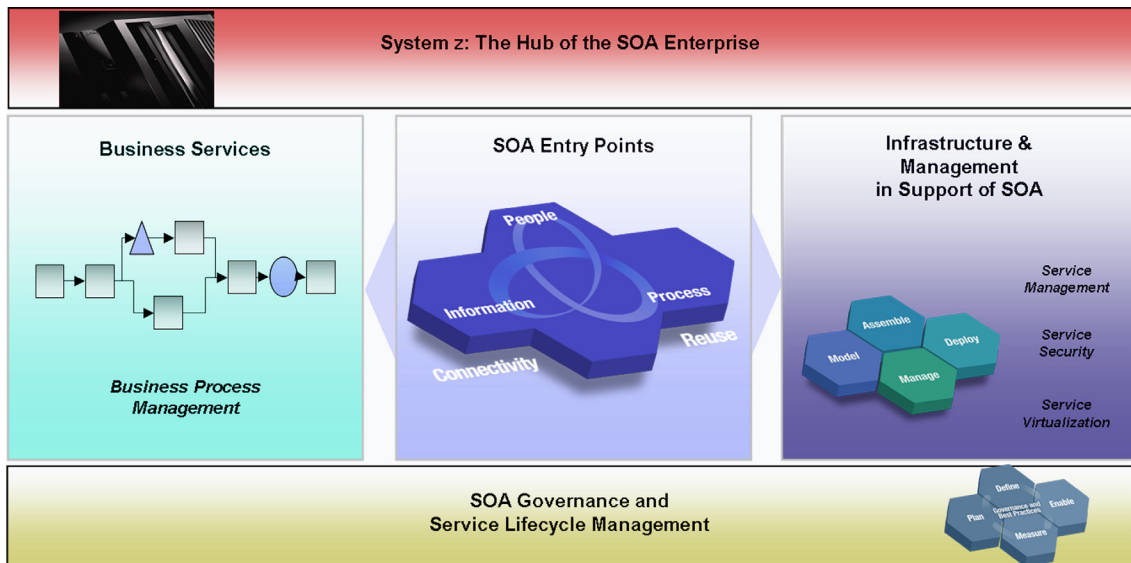
The mainframe continues to play a critical role in business today. The quest to become an agile business in today's fast-paced world is a daunting challenge that requires not only the most reliable and scalable IT environment but also one that is flexible, affordable and very secure. When a balance of the key criteria can be achieved and maintained, the resulting benefits are high system performance, maximum throughput, minimal bottlenecks, high utilization and low total cost of ownership. These are the mark of an on demand e-business – and what today's System z servers provide

The System z10 Enterprise Class (z10 EC) provides breakthrough performance to help businesses grow, deliver innovation and meet new challenges. Today's business opportunities, IT challenges, and potentially disruptive innovation are driving a transformation of the data center. The IBM vision for the future of the data center – the new enterprise data center – is designed to optimize service delivery and provide exceptional efficiency. The z10 EC can be the cornerstone of the new enterprise data center, helping to simplify infrastructure and provide powerful shared virtual resources while lowering cost of ownership.

However a business grows, z10 EC provides the flexibility needed to handle the new workloads with the:

- Up to 70% more capacity and 3 times the available memory of the largest System z9 mainframe
- Capacity on demand to deliver the right capacity at the right time
- Specialty engines for attractive pricing alternatives

Today's collaborative computing demands new generation, Service Oriented Architecture (SOA)-based, composite applications. IBM offers the industry's most comprehensive, robust, and advanced SOA middleware and tools suite. These servers, all of which have been updated, include WebSphere® Application Server for z/OS, WebSphere Portal for z/OS, WebSphere MQ for z/OS, and CICS® Transaction Server/CICS Transaction Gateway, all of which have enhanced support for SOA, Web services, and J2EE™. WebSphere Business Integration Server Foundation for z/OS provides a business process server. WebSphere ESB, WebSphere Process Server, WebSphere Message Broker (Advanced ESB) on z/OS, DB2® for z/OS and IMS™ offer enhanced and complementary database support. These engines provide full run-time support for deploying next-generation, collaborative, computing applications under an SOA, implementing the enterprise SOA node. The scale, breadth, and depth of developments, and the speed at which they have been delivered reflect the large investments IBM has made, and continues to make, in the System z software environment.



System z Software Value for Customers

IBM helps customers raise the productivity of their technical staffs and make key mainframe information highly available to their organizations through major investments in technology that enhance its portfolio of mainframe software tools. With an IBM System z tool solution, customers can rely on a predictable tools budget, high quality support, new technology exploitation, and predictable vendor behavior.

IBM Software for System z is key to demonstrating the value of System z:

- System z software makes interfacing with other platforms, servers and mid-frames
 - o Example: Use of more robust and flexible .NET COBOL
- Make business flexibility a reality with virtual servers
 - o Example: Consolidation to a single mainframe on a Linux platform behaving like hundreds or thousands of individual servers
- Gain better control and management of relational and XML databases
 - o Example: Using DB2, improve security of data, allow faster queries, improve scalability, enable SOA, improve integration, etc.
 - o Cross-sell opportunities abound
- Integrate legacy applications with Web services and SOA (Reuse and modernize applications)
 - o Example: IMS tools enhance connectivity, broaden Java / XML tooling, simplify install, serviceability, usability and scalability
- Share information more easily across all channels and with increased speed
 - o Example: WebSphere MQ and Message Broker products provide service-oriented messaging layer, create plug-and-play integration solution and enable reuse of code

With System z managing critical resources, customers can take full control of their business to deliver:

- [Information On Demand](#), whenever and wherever your employees, customers and partners need it
- [Service oriented architecture](#) that integrates and makes full use of core IT assets across the enterprise
- [IT service management](#) that breaks down technology silos by integrating and automating IT processes.

Why IBM?

Hear what our customers have to say:

National Bank of Greece saves time and money with IBM Content Management Software

“With IBM Content Management software, we can now process large volumes of reports more quickly and securely and at a considerably lower cost. This helps us comply with auditing requirements and improve operational efficiency.” - — *Ioannis Balabanis, Head, Business Process Division, National Bank of Greece*

Metro shows how IBM external storage can provide an enterprise-wide high availability solution for SAP software environments

“The services performed by IBM have been outstanding. For example, the recent installation of the IBM Copy Services Tool kit was a great success, and significantly reduced our switchover times. The developers were very open to making changes that would further simplify our operations. It is this level of support that makes it clear that IBM is a true partner.” - *Metro*

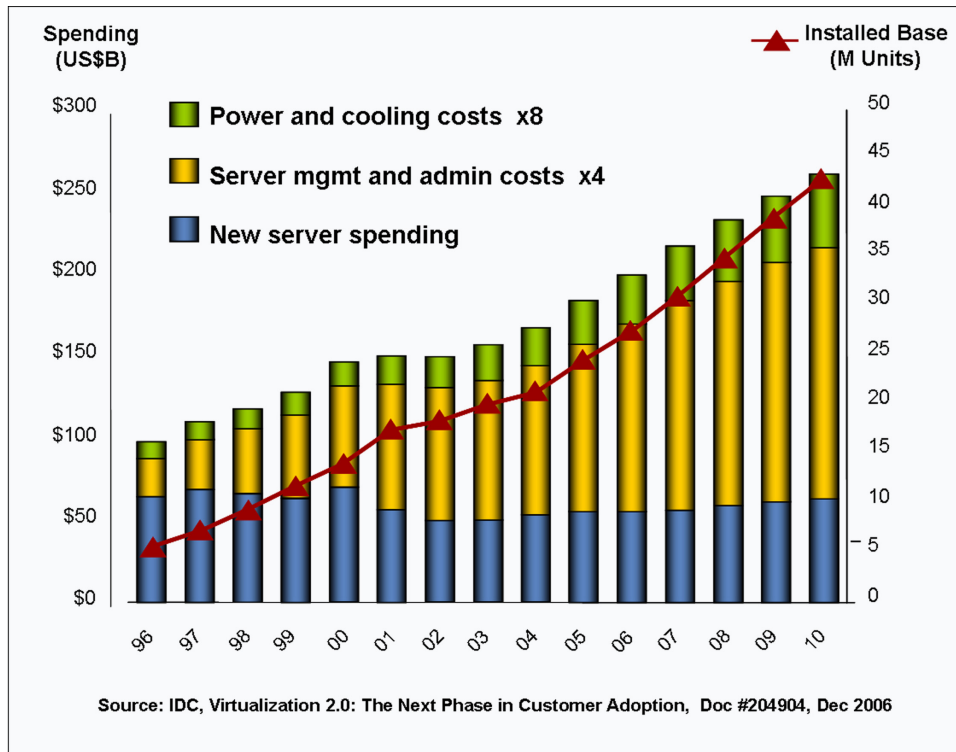
U.S. agency reduces costs and improves efficiency with IBM SOA solution.

A large agency of the Federal government had to break down boundaries and make connections across governmental silos to increase efficiency, avoid duplication and share resources across the organization. The agency made the decision from top IT management down to institute a service oriented architecture (SOA) throughout the agency to achieve these goals, which would help it fulfill its highest mandate: serving the public better while minimizing the draw on taxpayers' dollars.

Results: Improved accountability between government and commercial vendors; cross-department collaboration and building consensus on technology directions; ability to deploy applications once and make them accessible throughout the agency via services, reducing IT administrative overhead; saving money while improving services by replacing several disparate infrastructures with a common, cohesive one.

Marketplace Analysis

There has been a significant shift in the IT cost structure since 2000 when 70% of the cost was in the hardware with only 30% being charged to administration and utilities. This structure is now shifted to 70% for admin and power with only 30% of the cost needed for the hardware and software. In fact the IT costs are growing at a rate faster than that of the business revenue and profits. Clearly this is an unsupportable situation. The changes are shown in this graph from IDC, Virtualization 2.0



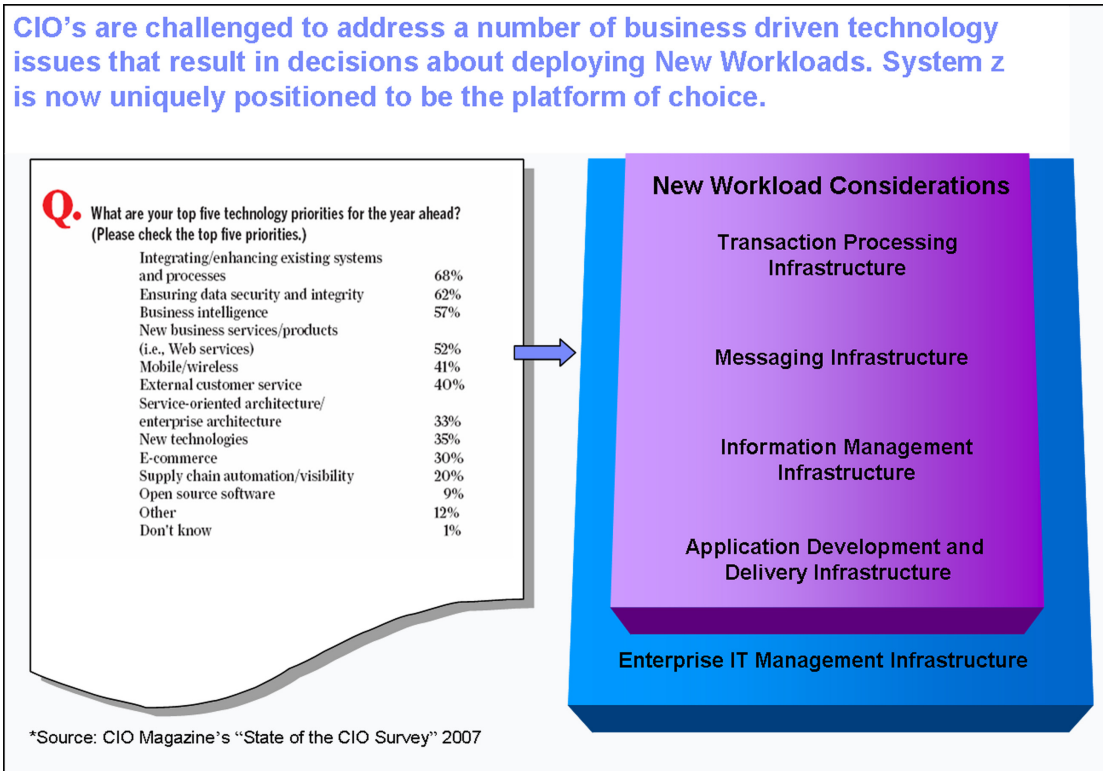
Primary Forces Causing Acceleration to System z

Customer forces:

- Reduce TCO via consolidation of applications and data
- Provide quicker response to business requests
- Improve application performance
- Increase quality of service
- Ability to leverage modern skills on mainframes

Supplier forces:

- Modern middleware honed for the mainframe
- Cross-platform, integrated software development and delivery
- Optimized cross-platform IT management for System z
- Increased ISV support
- Investment in skills development for next generation



Who Buys System z?

System z products are not just purchased by large, enterprise customers but any sized organization who need an e-business infrastructure that offers disciplined system management and is flexible enough to absorb new technologies. Unlike the past, when the typical influencer was in the IT shop, we now find that the major influencers of software purchases for System z are managers of the organization.

System z customers need a server that will help them manage end-to-end growth, reduce risk, and lower costs. And the system should allow choices in selecting, building, and deploying applications and provide extreme performance matched with scalability, reliability, and security.

IBM System z software and tools extend the System z system architecture as a premier platform for the next generation of e-business and exploit its enterprise class qualities of service, such as scalability, performance, security, and availability. Today it is necessary to manage multiple systems with a small staff, and servers that have to run 24 hours a day, seven days a week. IT managers have mission-critical applications to maintain and keep vital. Mainframe software tools need to offer real solutions, not more challenges. IBM offers companies complete System z solutions that integrate hardware, software, and required support and service.

The typical System z software customer is experiencing the following pains:

- Unpredictable and excessive ISV software upgrade and maintenance fees
- Poor quality of service and technical support provided by ISV
- Long-term contract lock-in (sometimes more than five years)
- Strong pressure to show a return on investment
- Restrictions on staff recruiting
- Need to show optimization of existing resources, such as staff and systems

Companies choose IBM because it offers unsurpassed technology for infrastructure products and provides end-to-end solutions that support database management, systems management, application development, and Customer Information Control System (CICS) needs. IBM offers self-tuning, self-healing, and self-managing technologies to free a company's IT staff from routine tasks so that they can focus on business system enhancements, as well as tools for trend-analysis and forecasting to help administrators with system optimization.

Market Strategy – Taking System z Software to Market

The IBM System z10, with unprecedented scale and stellar performance, takes new steps forward to amplify the IBM commitment to energy savings and computing economics. Designed to handle the computing needs of the world's largest organizations, the mainframe can serve many different computing styles at eye-popping speed. Positioned as a core component of "cloud computing," the mainframe uniquely offers scale, performance and security needed by today's businesses who want on demand computing.

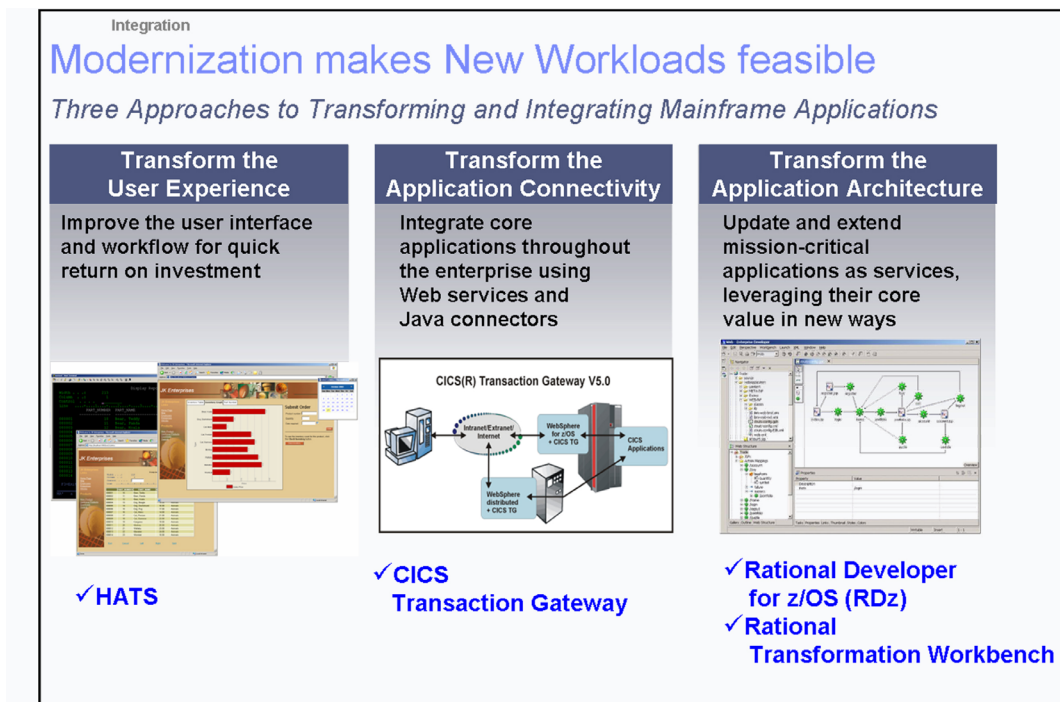


The software strategy for System z is not easily separated from the hardware strategy, but is an integral part of the overall system strategy. You can see the software benefits in the individual brand Strategy NoteBooks .

It is essential that we demonstrate how IBM software translates these advantages into real solutions for real businesses. With software equaling 65% of the System z stack, the impact is significant in the creation of system value.

The discussion needs to center on the customer, not the products. Customers are experiencing pain growing out of ever-expanding server installations and the need for better management of information. There are concerns about the rising total cost of operation, security, the need to modernize and manage IT systems and information. System z software solves problems at the same time the system itself is driving down power and cooling costs, administrative costs—even labor costs.

Business modernization drives new application workloads for the mainframe and IBM software make this possible. Three approaches to modernization are shown here:



Architecture and Products

Following is a brief description of the z/OS operating system and the seven primary middleware pillars that are the foundations of the System z mainframe's integrated software operating environment today. More information about the products is available in the individual brand Strategy NoteBooks:

1. [z/OS](#), the native operating system for System z mainframes, is a secure, scalable, high-performance enterprise operating system on which companies can build and deploy Internet and Java-enabled applications. It provides a comprehensive and diverse application execution environment that delivers the highest Quality of Service (QoS) for enterprise transactions and data and extends these qualities to new applications using the latest software technologies. z/OS creates an operating environment that delivers many benefits, including autonomic capability, integration, virtualization, and openness. New advances include the full exploitation of 64-bit virtual addressing, support for the zAAP Java off-load processor that brings large cost savings on System z Java workload processing, and extensions to enterprise workload management.
2. **Middleware for System z**
IBM has also heavily strengthened, extended and added middleware and software tools for the mainframe. The tools target new mainframe workloads and popular utility software functions, for example:
 - a. [CICS software](#) provides online transaction management for mission-critical applications
 - b. [IMS software](#) provides a continuous link to mission-critical data. It provides a robust, versatile transaction processing environment for over 10,000 of the world's larger businesses and is almost ubiquitous at mainframe sites for more than 35 years.
 - c. [DB2 software](#) runs powerful enterprise applications, builds applications with greater ease, and makes e-commerce a reality. Performance enhancements drive down the total ownership cost for DB2 applications. Earlier barriers and system limitations have been greatly extended or removed, enabling much larger applications. By removing barriers that prevent non-DB2 applications from being easily ported to DB2 on the System z platform, DB2 Version 8 opens the way for server consolidation and new migration projects. Increased automation and intelligence built into the product and supporting tools significantly increases productivity.

- d. **Rational®** IBM Rational now offers new and enhanced solutions to help accelerate software innovation on System z, enabling organizations to leverage growing ecosystem of skills, solutions and services. The new capabilities help ease transformation of enterprise assets and skills toward modern architectures and technologies.

Rational products help organizations:

1. Reduce cost and risks of rewrite by reusing and integrating core application assets with Web services and modern user interfaces.
2. Leverage IBM's newest business language – EGL – to achieve new levels of business value and innovation.
3. Increase productivity and eliminate technology silos by simplifying development environment.
4. Increase efficiency and lower costs by consolidating fragmented processes, tools and infrastructures.

- e. **OMEGAMON® software** enables users to quickly identify, isolate, and resolve application performance issues across the System z environment

3. **Lotus® Domino®** provides an integrated messaging and Web application software platform to improve customer responsiveness and streamline business processes.
4. The **new IBM Tivoli® Service Management Center for System z**, part of the IBM Service Management portfolio, automates the management of complex IT disciplines and allows policy driven processes such as incident and problem management, change and release, discovery and business service management to be seamlessly managed from either mainframe or distributed computing environments. In so doing, it extends service management and process automation benefits across enterprise assets and the datacenter, better equipping clients to address business mandates -- from explicitly tying IT performance to business goals, reducing IT costs, meeting security, regulatory and compliance requirements and improving customer satisfaction.

System Management products include a wide range of support categories:

- a. Application Performance & Availability
- b. Change & Configuration
- c. Event Management Automation
- d. Job Scheduling
- e. Network Management & Performance
- f. Systems Performance
- g. Transaction Management

5. [WebSphere Application Server Family](#) is the global market share leader in the J2EE application server marketplace. Business executives who need to deliver better customer service, and increase their ability to quickly adapt to changing business priorities should consider the product. WAS for z/OS provides a dynamically scalable IT environment capable of handling variable transaction volumes and provides increased IT application responsiveness and performance, along with near-continuous availability, to meet the most challenging business demands.

6. [WebSphere MQ software](#) supports heterogeneous any-to-any connectivity from desktop to mainframe, providing the services of an enterprise services bus (ESB), ensures reliable delivery of messages, including XML documents and SOAP messages, connects applications and Web Services, spans environments, such as J2EE and Microsoft .NET, and bridges over 35 platforms. Business and application integration is a central enabler of an On Demand business. In this environment, integrating and connecting applications securely, reliably, and manageably over network connections is a universal requirement. With so much of the world's largest and most demanding transactional applications and data sources residing on System z mainframes, software to loosely couple and transfer data and messages between the different environments and platforms, to and from the mainframe, is crucial.

Competition

In any competitive situation, remember to point to IBM as the leader in and the strategic vendor for System z tools. Competition for IBM System z software and tools occurs mainly in the data management (DM), application development (AD), and systems management areas.

For detailed competitive information visit the System z Software Competitive Portal at <https://w3-03.ibm.com/sales/competition/compdlib.nsf/pages/System+z+Software>

Additional Resources

External Information

IBM (external home page)

<http://www.ibm.com>

System z Software

http://www-306.ibm.com/software/os/systemz/en_US/index.html

IBM System z10 Announcement

<http://www-03.ibm.com/press/us/en/pressrelease/23592.wss>

IBM developerWorks® is IBM's premier technical resource for software and hardware practitioners developing solutions across the IT industry. Since its debut in late 1999, developerWorks has emerged as a trusted and reliable global community for the delivery of timely, relevant and accurate technical information. Whether the audience is developers, software architects, project managers or system administrators, developerWorks provides a constant stream of content which is instrumental in providing valuable development choices for building and deploying applications across heterogeneous systems. It offers a wealth of resources that include a broad range of tools, code and educational venues helping developers to realize the value and benefits inherent in IBM's Lotus Software. As the community continues to grow, your customers and IBM Business Partners have an easy path to access resources intended to bolster productivity, advance expertise and increase skills by:

- Downloading free trials of the latest IBM Lotus products and technology
- Taking advantage of IBM's complimentary tech support
- Learning from the experts and sharing best practices through forums, tutorials, demos, evaluation guides, webcasts, how-to articles and podcasts
- Using collaborative tools such as blogs, forums, and wikis,
- Attending complimentary technical briefings that shorten learning curves, and improve quality
- Participating in technical webcast series to automate and integrate software development projects

www.ibm.com/developerWorks

IBM Internal Resources

IBM (internal home page)

<http://w3.ibm.com>

My zSpace

<http://w3-03.ibm.com/software/sales/salesite.nsf/swgsites/zSeries+software>

News and Information about System z

[http://w3-03.ibm.com/software/sales/salesite.nsf/salestools/zSeries+software\\$Now is z time](http://w3-03.ibm.com/software/sales/salesite.nsf/salestools/zSeries+software$Now is z time)

All IBM SWG Strategy NoteBooks

<http://w3-103.ibm.com/software/xl/portal/viewcontent?type=doc&srcID=XT&docID=L107895Y49377G53>



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Produced in the United States of America

05-08

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