



IBM System z10 Enterprise Class Launch Roadshow

System z Software

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The Future Runs on System z

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Agenda

- **Introduction**
 - Examples of new projects being implemented on IBM System z™ and why
 - Incremental benefits
 - Quick view about recent investments that have helped spur projects on System z
- **New projects being driven to System z**
 - Application-driven projects
 - Information-driven projects
- **Supporting capabilities and infrastructure**
 - Application development and delivery
 - IT Management
- **Summary**



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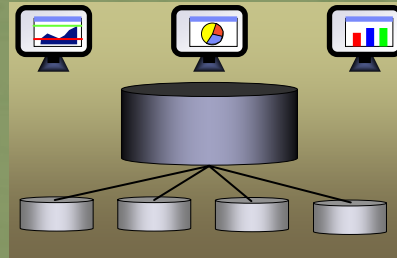


New Projects Being Implemented on System z

New self-service Web app



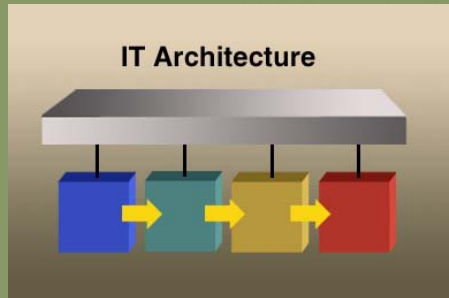
New business intelligence project



Web portals



Updated IT architecture to ↑ flexibility, responsiveness



Automated forms processing



and others



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 mainframe

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 new generation

Incremental Benefit Paths for System z Workloads

↑ Reliability & Control

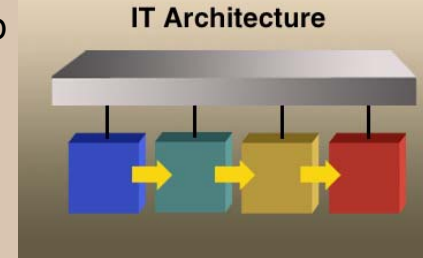
↑ Accuracy/ Control / Reliability

- Information integration
- Data and app governance
- Security hub



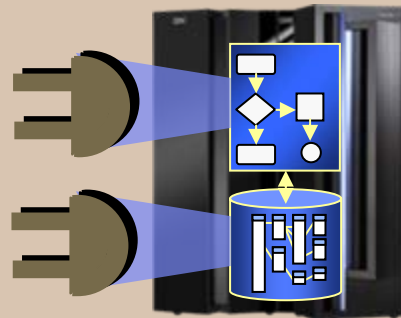
Create Dynamic Adaptability

- Composite apps
- Business mash-up
- SOA hub



↑ Access to Function & Information on System z

- Exposing traditional apps & data for quick and easy access: Service enablement



↑ Performance / Manageability

- Creating new Web apps
- Consolidate apps and data
- Web 2.0
- Data warehousing



↑ Performance, cost management, responsiveness

Recent IBM Investments Further Contributing to Adoption of System z for New Workloads

Application-Driven Projects

- Web 2.0 apps enabled using WebSphere Portal
- Workload consolidation benefits through common infrastructures (e.g., WebSphere® Application Server)
- Rapid time to market & low business risk with CICS® Service Flow Feature & WebSphere Adapters
- Ability to integrate existing & new assets across organizational boundaries via WebSphere MQ messaging backbone and federated ESBs
- Faster business innovation built through WebSphere Process Server

Information-Driven Projects

- Understand and optimize business performance with Cognos 8 BI for System z (preannounce)
- Reduce TCO of new workloads with DB2® for z/OS Value Unit Edition
- System z as the trusted information hub with IBM Information Server for System z
- Dynamic Warehouse on System z provides critical performance for real time analysis
- DB2 9 optimized for SAP
- IMS™ 10 for critical on-line operational applications
- Content Manager v8.4 and Content Manager On Demand v8.4 support a strategic ECM platform

Application Development and Delivery Infrastructure Incorporating System z

- Asset Management
- Architecture Management
- Skills Management
- Quality Management
- Change and Release Management

Enterprise IT zService Management Center

- Interdependent Applications
- Linux and SOA
- Composite Applications
- Distributed Environments
- Power and Energy Management
- Financial and Service
- Federated Identity
- Workload and Availability
- Storage

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Application-Driven IT Projects: Typical IT Manager's Goals

- **Drive more business through existing business applications by expanding the user base**
 - Expanding “on Platform” usage: Make the applications accessible from other sources
 - Other people: Web, mobile phones, self-service portals, performance dashboards
 - Other applications: Messages, transactions, service calls
 - Other companies: Business-to-business transactions and service calls
 - Reduce cost of doing business leveraging the skills and assets already in place
- **Handle growing workload volumes through improved efficiencies**
 - Consolidating “Off Platform” workloads onto System z
 - Consolidating individual application instances to a scalable platform
 - Consolidating diverse databases to a scalable environment
 - Streamline the
 - Human/application interface
 - Application/database interface
 - Fewer but more complete interactions
 - Eliminate manual steps and manual cross-application handovers
- **Deliver on new business opportunities faster and more effectively**
 - Innovatively recombine existing application functions to create a new business service
 - Creatively link application instances (on and off platform)
 - Leverage agility gained from the investments in access and scale
 - Dynamically deploy new business services



Getting Workloads on System z Through Smart SOA Middleware That Helps Empower Agility

▪ Common execution environment

WebSphere Application Server Family is designed to

- Enable workload movement to the most effective platform
- Allow workload scaling, vertically and horizontally
- Enable workload consolidation to scalable platforms

▪ Comprehensive message backbone

WebSphere MQ and the ESBs are designed to

- Help assure message delivery
- Enable message transformation to bridge diverse protocols
- Enable workload distribution and coordination at the transaction level
- Allow business applications to communicate effectively

▪ Compelling end-user experience

WebSphere Portal Family is designed to

- Personalize interactions with applications, content, processes and people
- Allow partners, employees and customers to chose their user experience based on role, context, actions, location, preferences

▪ Process choreography

WebSphere Process Server and Integration Developer are designed to

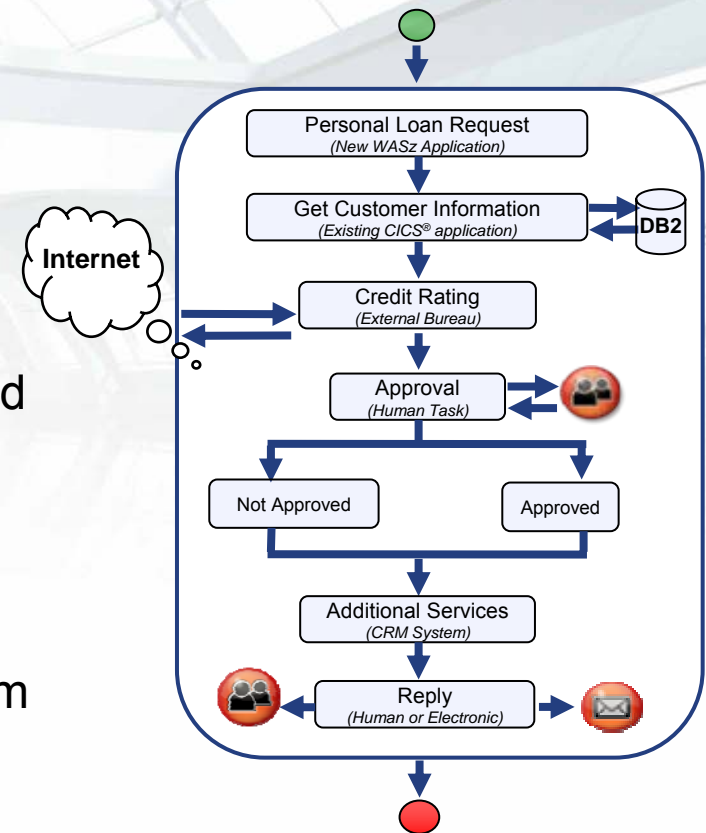
- Enable application and human-centric business processes in an integrated, services-based environment
- Form streamlined processes that help reduce costs, increase efficiency and enable compliance
- Allow for the dynamic creation of new business processes



When Clients Use System z for Process Serving

System z – The choreographer for an SOA

- Efficiency: Control processes where they run
- Integration: Help improve the flow of processes
- Automation: Remove the "human enter" keys
- Reliability: Connections help deliver automated processes
- Workload Management: Integration with Workload Manager/Intelligent Resource Director
- Security: Built into system layers
- Availability: IBM System z goal – zero downtime
- Performance goal: Maximized utilization of system capacity with same class of service



New Business Initiatives Leveraging the Strengths of System z

IT Projects designed to help

- Create new business opportunities
- Streamline business operations
- Sustainable model supporting future growth
- Integrated platform for quick change
- Improved customer service



Web access to data for new revenue opportunities



- Provided access to worlds largest OLTP database via Web services
- New services result in £28 million in new fee revenue in one year

Scalable Business Portal



- Federate Web sites for service recipients, partners and employees
- Reduced processing time, workload and costs

Foundation for new custom workload



- Faster deployment cycle
- Provisioning time reduced to days and hours
- Easily transferable UNIX® to Linux® skills

New Customer Service using z/OS



- Modernizing APIs via Java™
- Standard programming language and unified development efforts
- Simplified management and administration

Partnership Extends Core Business



- Rapid time to market
- Web services-based access
- Sub-second transaction response

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Why is it Challenging to Leverage Information?



**Information
Silos**

**Volume
& Variety**

**Business
Velocity**

47% of users
**don't have
confidence**
in their information

59% of managers
**miss
information**
they should have used

42% of managers
**use wrong
information**
at least once a week

Enterprise Information is on System z

... Unlock the Business Value of this Information to Optimize

\$3 trillion/day transferred through IMS by one customer

95% of top Fortune 1000 companies use IMS

Over 15 billion GBs of production data in IMS...

8 of every 10 of the largest retail banks in the US, Germany, Japan, and Australia use IMS for their core banking

24x7 ATM Deposits & Withdrawals

Reserves airline seats



Runs the world's stock exchanges & banking networks

Tracks the world's packages

DB2 for z/OS supports the world's largest known peak database workload

DB2: 9 of the top 10 global life/health insurance providers

DB2: 59 out of the top 59 banks in the world

23 of the top 25 US retailers

Information on Demand Software Stack is now on System z ...

System z and Information On Demand

Unlocking the Business Value of Information for Competitive Advantage

Customer & Product Profitability Financial Risk Insight Workforce Optimization Dynamic Supply Chain Multi-channel Marketing

Business Optimization

Better Business Outcomes

Optimization

End-to-end Capabilities

Automation



New!

Business Intelligence & Performance Management
Cognos 8 BI for System z

New!

Information Integration, Warehousing & Management
Data Warehousing on System z
Information Server for System z
IMS Integration with Info2.0
InfoSphere MDM Server for System z

New!

Enterprise Content Management, Enterprise Data Management

DB2 9 for z/OS
IMS 10
Content Manager v8.4
Content Manager OnDemand v8.4

Other Information & Application Sources

System z Clients Leveraging Information on Demand

IT Projects

- Increased data center efficiency
- Business Intelligence & analysis
- Integrated view of customer
- Information for the enterprise
- Enterprise Resource Planning
- Loss and fraud prevention

Unlocking the Business Value of Information for Competitive Advantage



pureXML



- 20% a improvement in operating efficiency over Windows-based XML implementation

Dynamic Warehousing



- Co-located OLTP & DW
- Move to System z decreased reporting times 80%

SOA Data Serving



- Exposed legacy IMS through Web services
- Guaranteed integrity on over four billion IMS transactions per month

SAP Information Infrastructure



- Significant IT savings
- Improved customer service
- Business growth

Data Governance & Accountability



- Automated archiving to manage continuous data growth

New Information On Demand Software for System z

Better business decisions, faster and with a lower overall TCO

Cognos 8 Business Intelligence for System z

Reports and analyzes hundred of millions of transactions directly on the mainframe

Ensures everyone across the organization can quickly identify and respond to critical business trends

Provides a competitive advantage through improved decision making from business data

- *Accepting participants for a customer beta program with Cognos 8 BI for Linux on System z*

Coming!



DB2 for z/OS Value Unit Edition

New one-time-charge offering that simplifies the deployment of new application workloads

Strengthens the role of System z as a cornerstone for key business initiatives such as SOA, DW, BI & SAP

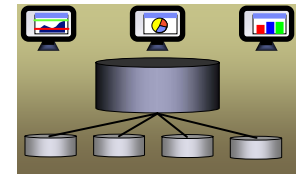
Delivers pureXML which optimizes information availability in the new enterprise data center

Now Available

Data Warehousing on System z

More than 50 new features in the last two releases of DB2 for z/OS supporting warehousing

Information Server for System z - brings new scalability, information consistency and performance to System z customers



InfoSphere Master Data Management Server for System z

More effectively manage high-value operational information

- Customers, suppliers, partners, product materials and employees

Addresses and solves the root cause of master data complexity

Coming!

Information on Demand Software Stack is now on System z

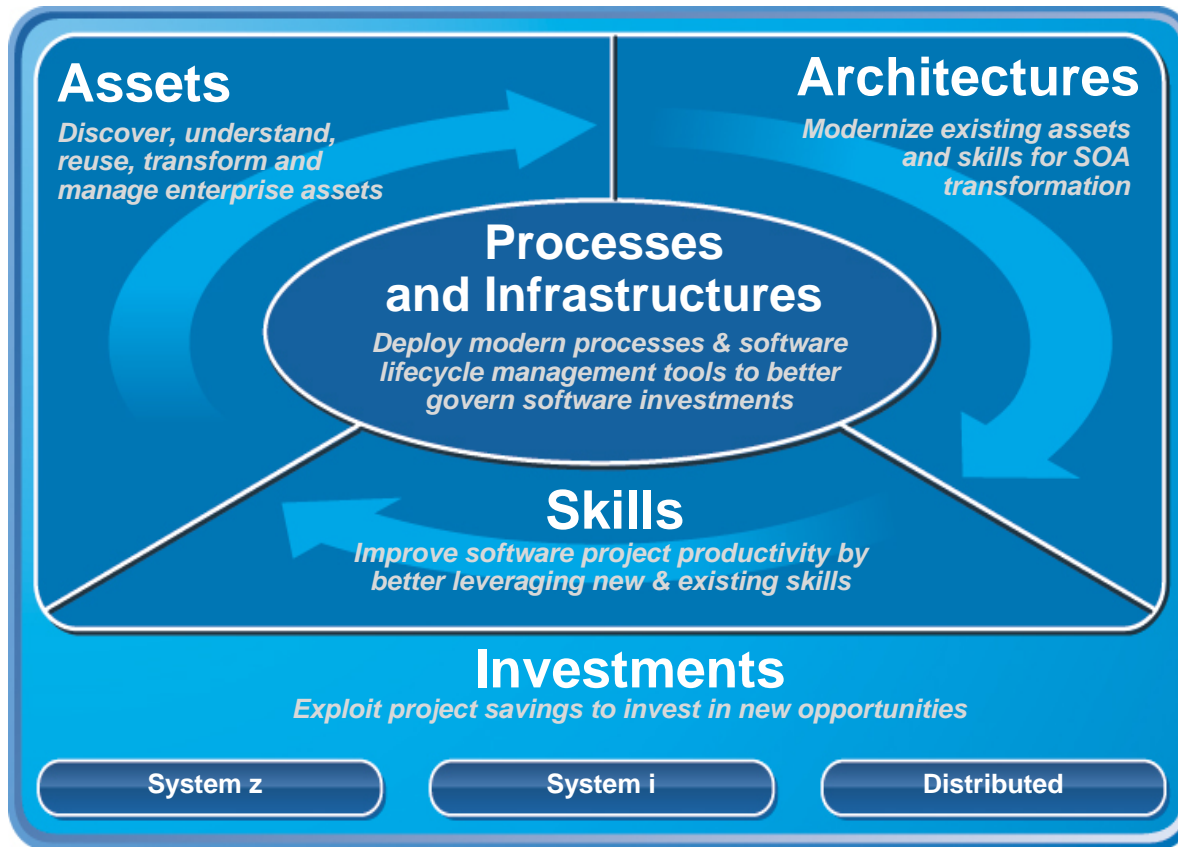
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Enterprise Modernization Solution for System z

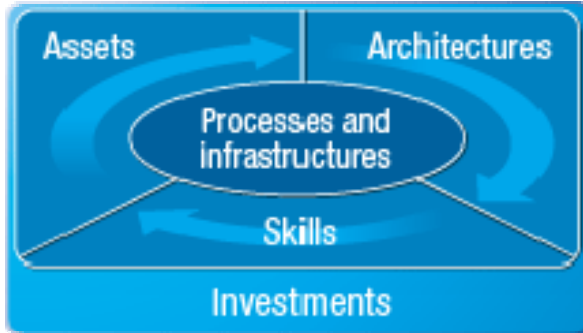
Unleashing enterprise software assets and skills



- ✓ ***Extend value of existing enterprise assets***
- ✓ ***Leverage and modernize existing and new skills***
- ✓ ***Drive innovation with technology advancements***
- ✓ ***Ensure quality throughout the software lifecycle***
- ✓ ***Enable business flexibility and change across the software lifecycle***

Summary “At a Glance” - Accelerating Software Innovation on System z

Unleashing enterprise software assets and skills



- ✓ *Extend value of existing enterprise assets and skills*
- ✓ *Drive innovation with technology advancements*
- ✓ *Improve team collaboration and responsiveness*
- ✓ *Enable business flexibility and change across the software lifecycle*



Rational software

New & Enhanced Capabilities

Rational Business Developer v7.1

Rational Developer for System z v7.1

Leverage the IBM business language “EGL” to accelerate Web 2.0 and SOA development on System z platform; increase productivity and skills flexibility

Rational Transformation Workbench

Rational Host Access Transformation Services

Analyze, extend and reuse core System z transactions as services; reduce time to market and increase responsiveness; modernize assets for SOA transformation

Rational ClearCase for z/OS and Rational BuildForge

Speed software delivery and improve quality by automating and streamlining software lifecycle management processes for System z; leverage a common software repository across organizational development projects.

Academic Initiative for System z

Engaged with over 400 colleges and universities to accelerate mainframe courses and degrees

New System z Sandbox

Quickly evaluate and learn new capabilities in a virtual System z development environment

New System z Starter Packs

Jump-start modernization projects with IBM System z starter packs

System z for ISV

Provides IBM's business partners with a variety of training programs and resources to increase their return on investment (ROI),

How to get started?

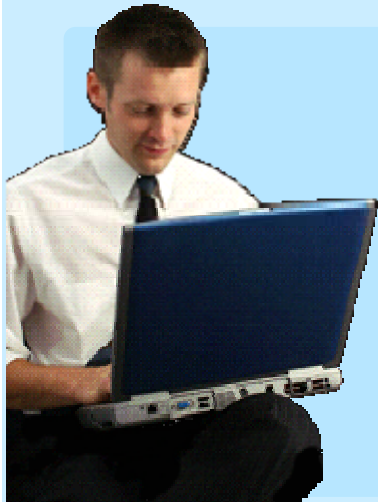
Kickstart your System z application development projects



System z Sandbox

Example assets and best practices providing low-risk, practical, hands-on path to leveraging IBM solutions

Visit: ibm.com/rational/modernization



Full version software trials
'Try online' hosted System z environments
Tutorials
Architectural Guidance

System z Starter Packs

Solutions for common System z application modernization challenges

- *Discover, Reuse and Grow*
- *Develop and Manage*
- *Test and Track*



Education Series - Modern Application Architecture for COBOL Developers

Learn how to design and integrate composite applications across CICS and WebSphere – leveraging existing COBOL processes.



Accelerating Software Innovation on System z

IT Projects

- Integrate distributed applications with its z/OS® environment
- Identify business services to leverage across the enterprise
- Extending COBOL applications for online banking
- Improving productivity by breaking skills silos
- Unifying enterprise and distributed teams



User interface modernization



- Decrease development cycle time from 11 to 6 months with HATS
- Speeds creation of new customer services
- Improved operational efficiency

Enterprise portfolio management



- Identify obsolete code within automotive systems, and begin "decommissioning"
- Perform impact across massive systems with WebSphere Asset Analyzer and Rational Transformation Workbench
- Communicate impacts to potentially affected development teams

Rapid application development



- New application framework based on IBM COBOL standard
- Rational Developer for System z to design new COBOL to provide online banking services

Cross-platform application development



- Standardize on Rational Business Developer extension and Rational Application Developer to unify application development across all platforms and transaction managers (e.g., WebSphere Application Server, IMS)
- Rapid time to market

Unified change and release management



- Highly automated cross-platform solution using ClearCase to manage and support the software lifecycle for COBOL and Java development

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Challenges with Managing Enterprise Assets

■ Complexity

- Heterogeneous infrastructures consisting of IT and non-IT assets
- Increased interdependency of assets and their effect on the business service
- Operational changes requiring approval of multiple disconnected operational domains

■ Change

- Industry consolidation, globalization
- Boundaries between enterprise and IT assets are blurring with IT-enabled business assets

■ Laws and compliance

- Regulations, security and audit capabilities

■ Cost

- Management and administration, especially across silos of redundant infrastructure



- 80% of CEOs agree that collaboratively integrating business and technology is key to business growth and innovation
- 40% of CEOs surveyed in the 2004 Global CEO Survey indicated that asset utilization would be a key focus in strengthening financial performance given the impact of anticipated market focus.

¹ IBM Global 2006 CEO Survey

IBM Tivoli Service Management Center for System z

Enabling clients to strategically use their System z as an integrated, enterprise-wide, hub for the efficient management of business and IT services

IBM Tivoli Service Management Center for System z

Best Practices and Services

Process Management

Service Management Platform

Operational Management

Optimized Infrastructure

Incident & Problem Management

Change & Release Management

Business Continuity Management

Business Service Management

Discovery & Relationship Mapping

Federated Configuration Archive

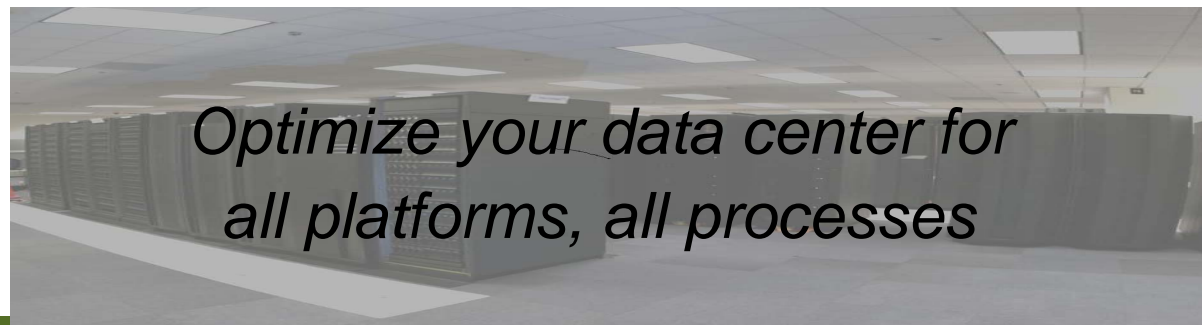
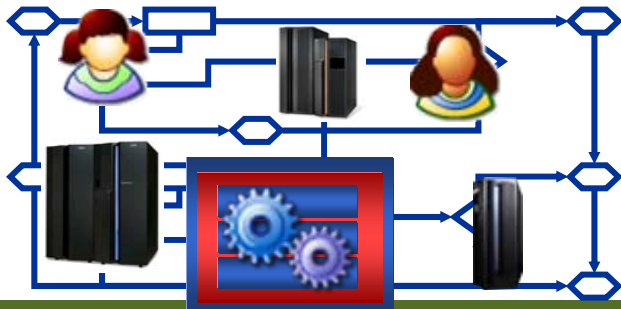
Process Automation Engine

Monitoring

Operations & Production Control

Financial Management

Security



End-to-End Management from Tivoli

System z Portfolio – Managing Across the Enterprise

Managing Information

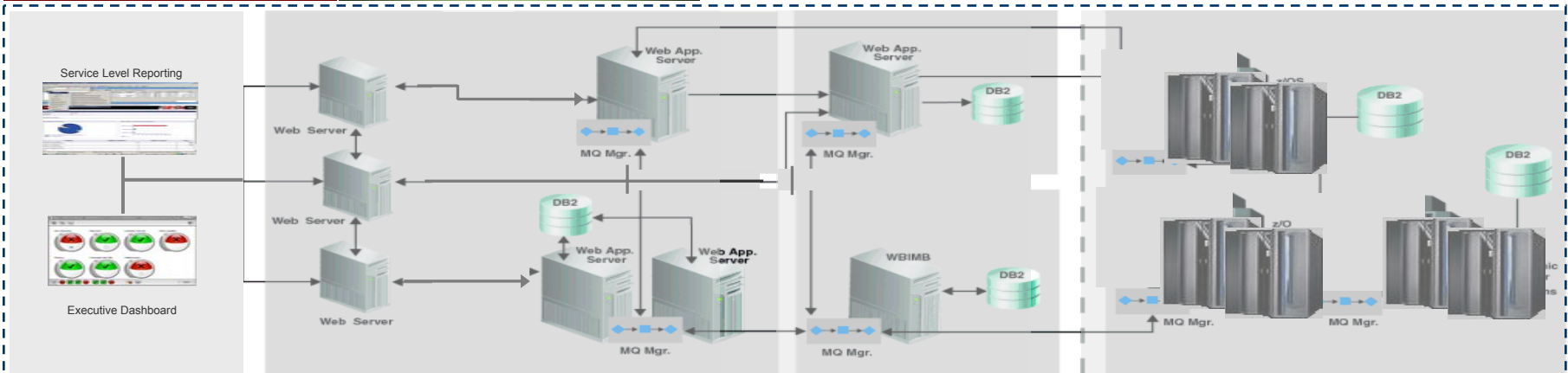
- Monitor delivery quality of application information

Compliance

- Security
- Storage
- Sarbanes–Oxley
- HIPAA
- Audit reporting

Core Process Monitoring

- Dynamic Workload Automation
- Virtualization of the infrastructure
- Management of workloads / Capacity Planning
- Cross-platform and multi-tiered application management
- Cross-product integration for single focus view for:
 - z/OS, DB2, CICS, Mainframe Networks, storage



Application Management and Development

- Single customized portal
- Integrated cross-platform resources
- Packaged for multi-environments:
 - SOA, J2EE™, WebSphere, CICS
- Analyze specific issues: Response time, process tracking, messaging

End-to-End Monitoring

- Security
- Compliance
- Service and Service Desk
- Customer service response
- SLA assurance

System z as your Security Management Hub

Centralize security management for the whole environment

**Security Provisioning
and Administration**

Intrusion Detection

Identity Management

**Encryption and Secure
Key Management**

**Access, Authorization
and SSO**

Audit Management

Authentication Management

**Policy/Regulatory
Compliance Management**

- Sarbanes–Oxley
- HIPAA
- Audits



Comprehensive and Centralized Service Management through System z

Service management

- Cross-enterprise security
- Faster technology adoption
- Virtualization
- Greater productivity and improved resource use



Cross-Environment Security Management



- Single point of contact for security
- Faster and secure access to customer applications
- Ability to deploy applications faster

Speed of Entry Into New Businesses



- Secure user ID for application development process
- Secure on-line form publication
- Seamless integration into portal application with single sign on

Reduction in Infrastructure Complexity



- Consolidate 80 physical servers to virtual servers on one System z9
- Ease of integration corporate acquisitions
- Automated monitoring and provisioning move skilled resources up value chain

Increase staff productivity across the enterprise



- Support increased workload with no service impact
- Centralized IT and improve staff productivity
- Manage critical workloads across the environment

Rapid Response to Global Market Changes



- Centralize SAP implementation and reduce cost 10%
- Application and resource drill downs for problem mitigation
- Simple capacity reallocation as needed for demand

Summary

- **Significant performance gains for IBM software running on System z10 EC**
- **New software announcements further benefit System z customers**
 - Utilizing System z as an information hub
 - Applying modern processes and software lifecycle management tools to the mainframe
 - Foundation for transaction-based workloads and SOA
 - End-to-end visibility, control and automation across the service management, technical support, operations, security and financial management
- **System z platform for new workloads helps clients attain the following benefits**
 - Faster response to demands by business for change
 - Reduced dependency on specialized skill-sets
 - Reduced cost of workloads and management
 - Reduced risk associated with changing IT infrastructure
 - Better alignment of IT with business



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