



IBM System z Software Premier Executive Briefing Event

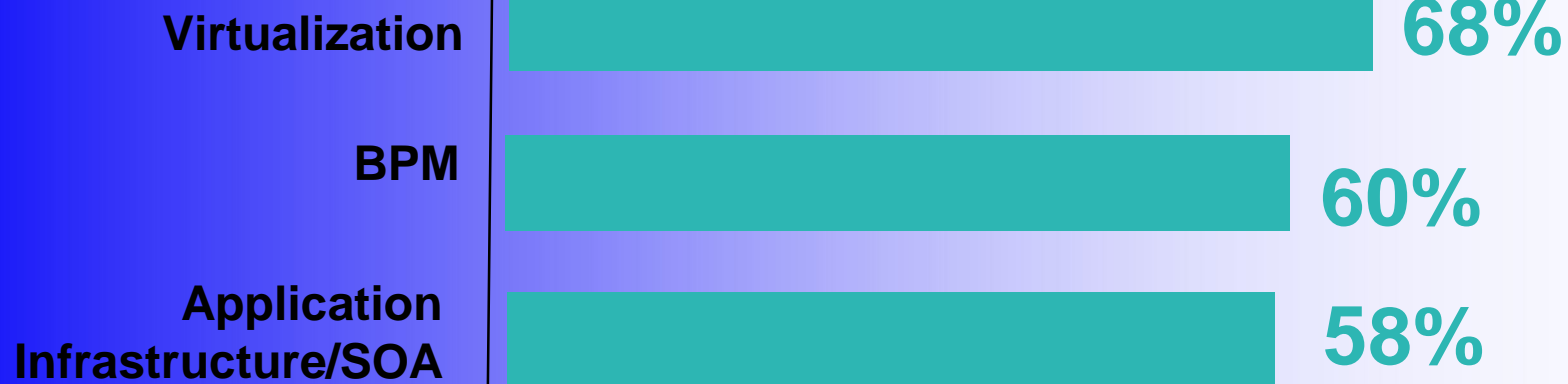
Ray Jones

Maximizing the value of your data and
applications and managing your
business processes

May, 2011



CIOs have identified their most important initiatives to address IT infrastructure challenges



IBM CIO Study 2011: <http://www-935.ibm.com/services/c-suite/cio/study.html>

New workloads on System z match the top CIO priorities, accelerated by the capabilities of zEnterprise

Strategic workload

- ▶ Transaction Processing
- ▶ Cloud
- ▶ BPM/BRMS
- ▶ Portal

Why zEnterprise?

- ▶ Qualities of Service
- ▶ Capacity
- ▶ Efficiency
- ▶ Flexibility
- ▶ Leverage existing System z assets



Transaction processing capabilities can be combined to meet the changing demands of the business



Extreme Scale-Out

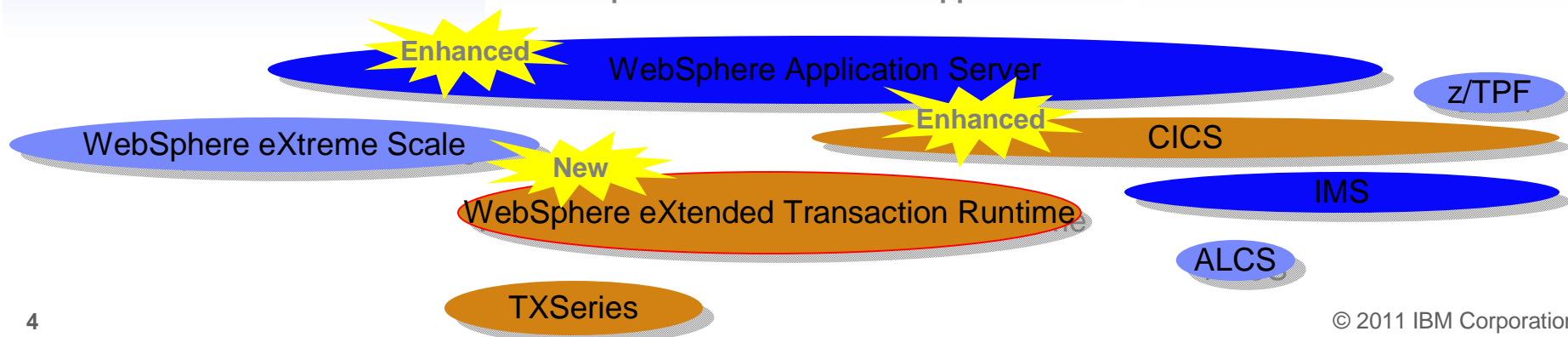
- Elastic distributed caching, in-memory databases, and XTP/Data Grid applications
- Performance and QOS focused

Broad Applicability in the Center

- Extensive standards and language support
- High ISV, application, and skill availability
- Broad platform and database support

Extreme Scale-Up

- Optimized for centralized data
- Database options affect scale
- Performance & QOS focused

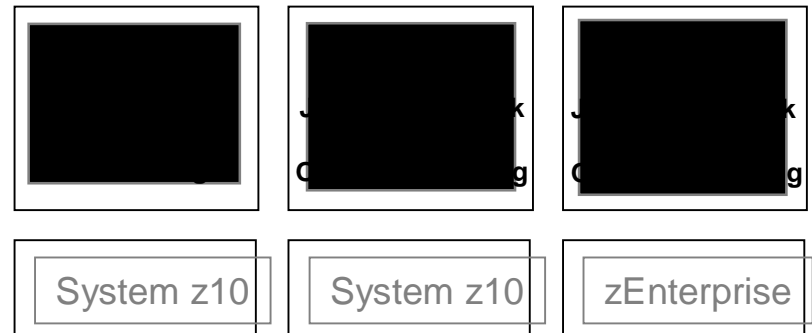
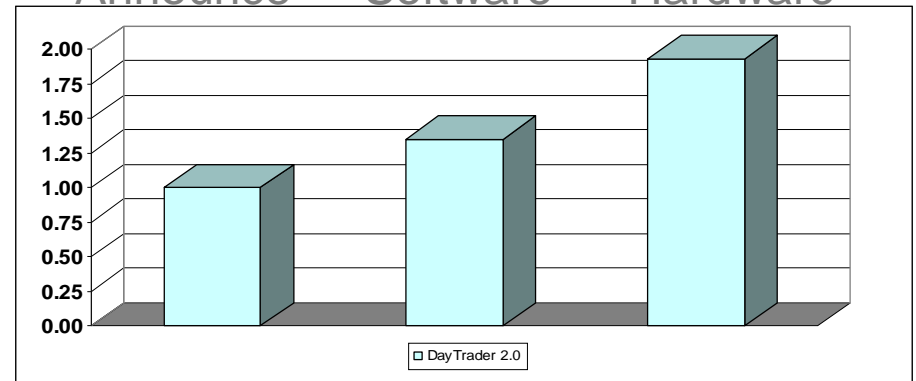


WebSphere Application Server performance is enhanced and optimized on zEnterprise

Continued investment to optimize WebSphere software for z/OS environment

- 1.35 times performance improvement for JPA 2.0 applications that exploit the OpenJPA caching facilities available in the WebSphere Version 7 JPA Feature Pack.
- Up level to zEnterprise hardware produces 1.43 times performance improvement
- Combined hardware and software - **1.93 times performance improvement**

System z10 Up level zEnterprise
Announce Software Hardware

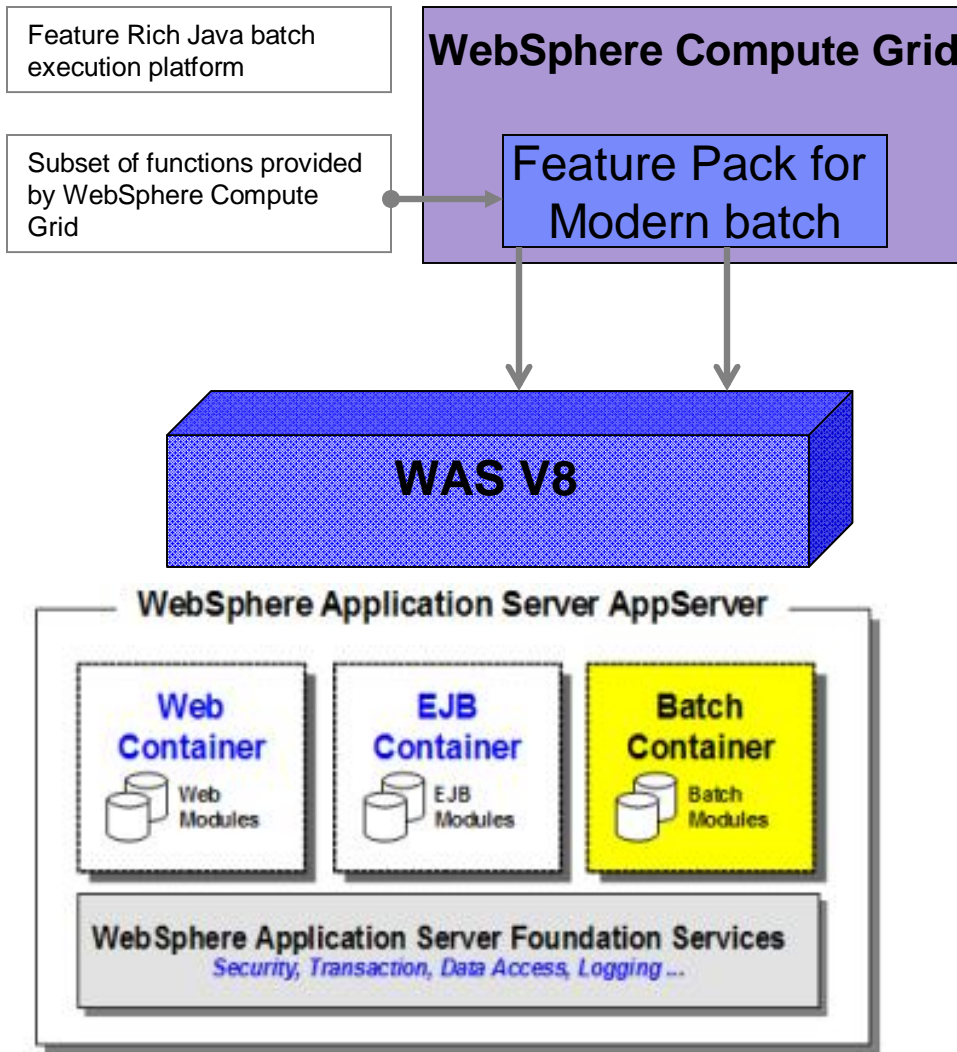


WebSphere Application Server offers unique capabilities for z/OS now and in parallel with business needs

- Expanded support for productivity enhancing programming models
- Faster time to value through a simplified and centralized product install
- Faster time to application development completion
- Enhanced security and governance capabilities
- Improved administration and migration capabilities
- Performance improvements
- Enhanced collocation

New!A graphic for WebSphere Application Server V8. It features a dark blue background with a pattern of glowing binary code (0s and 1s) in a lighter blue color. A large, light blue oval is centered on the image, containing the text "WAS V8" in white, bold, sans-serif font. In the top right corner of the graphic, there is a smaller, dark blue oval with a white starburst and the word "New!" in white.

Deploy concurrent execution of Java batch and OLTP for faster output and cost savings



What is it?

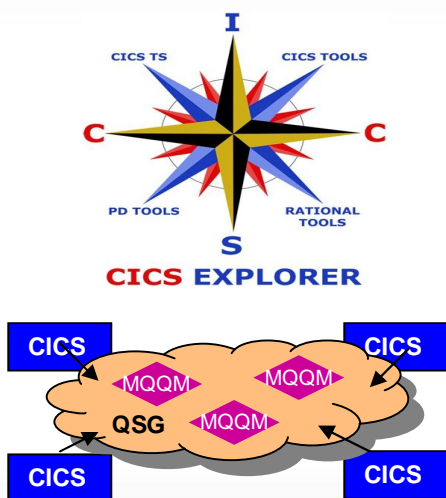
- Pre-integrated application framework to help increase developer productivity and time to value for Java batch applications allowing sharing of business logic between batch and OLTP applications

Benefits

- Reduce cost of infrastructure due to concurrent execution of batch and OLTP workloads using shared business logic on a shared infrastructure integrated with WebSphere Application Server
- Reduced operational cost due to integrated administration of OLTP applications and batch jobs
- High throughput and low resource consumption on z/OS for Java Batch when collocated with data subsystems

CICS is at the heart of smart business for modern architectures and development models

Integrated Tool Solutions



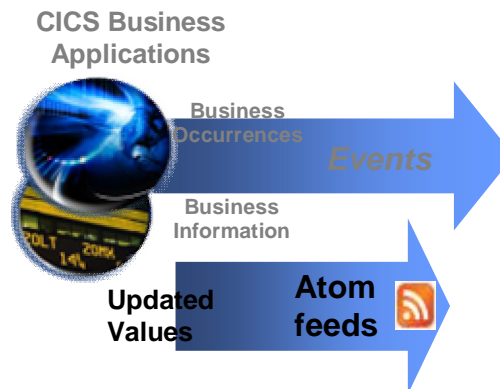
Tighter MQ Integration

Revitalize Business

“Real-time visibility for smarter decisions and actions”



Event source for Dynamic Business Networks



Integration for LOB and COBOL business rule mgmt.

Revitalize Infrastructure

“Greater efficiency and reduced costs”

Revitalize Applications

“Faster and easier to respond to change”

CICS delivers enhanced price/performance on z196

Workload

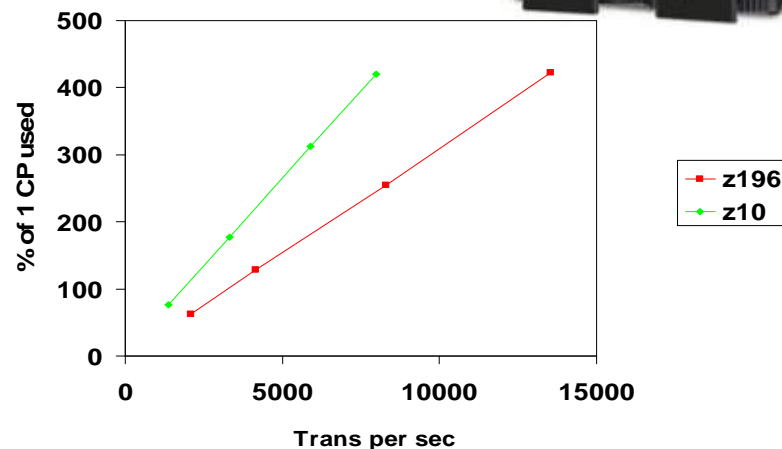
- Representative of a customer's CICS WebServices Workload
 - Based on SOA Benchmark
 - XML SOAP messages directly into CICS via TCPIP
- 5 CICS regions
 - 500 TCPIP clients per region

The Application

- Fairly complex XML
 - 3K and 69 elements inbound
 - 10K and 321 elements outbound
- Back end application
 - COBOL Threadsafe OPENAPI
 - 1 additional link to another COBOL program
 - Average of 20 VSAM Reads
 - Data in memory

Hardware

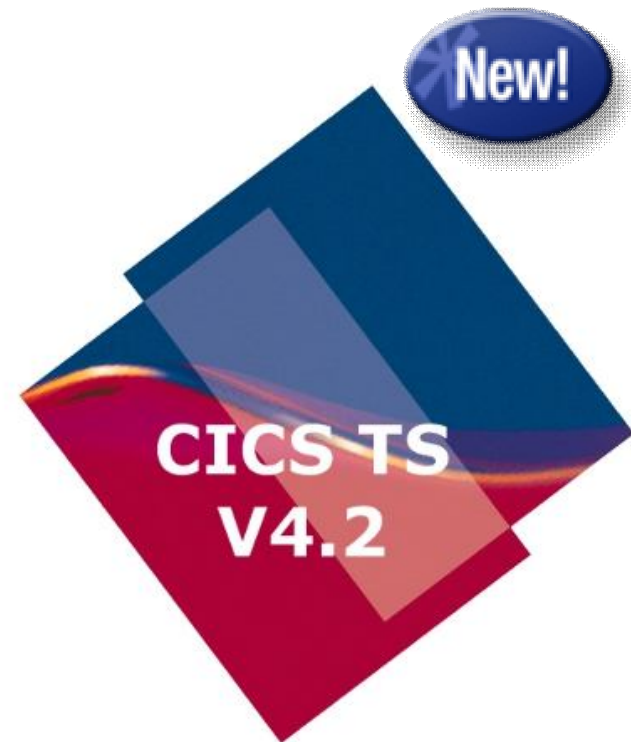
- Systems under comparison
 - Z10 2097-763 and z196-772
 - LPARs with 5 dedicated CPs
 - Separate LPAR for network simulation
 - 4 data points highlighted on each machine



- Comparing 2097-705 with 2817-705
- ITRs 9365 vs 16274 gives 73% improvement

CICS Transaction Server V4.2 enhances events, Java development, connectivity, management, and scalability

- Events: including system health events to warn of potential problems
- Java: including 64-bit, multithreaded JVM, optimized for zEnterprise
- Connectivity: including option to offload Web services parsing to zAAPs
- Management: including cross system transaction tracking capabilities
- Scalability: including threadsafe and 64-bit exploitation



Improve application performance, stakeholder satisfaction with tools for development and deployment



Session and user views, Configuration, Broadcast, User and Admin commands
ISM

Daemon & Connection Status & Test
TG

Threadsafe, File, CPU, Response Time, Statistics, Alerts, Graphical and Sheet views
PA

Deployment, Discovery, Visualization, Cloning, Automation & Control
DA

CRUD/Install History, Audit Backout Search, Compare
CM

Dependencies Queries Command Flow
IA

CRUD/Install Control, Filter Topology Events, ATOM
SM

- SM CICS Transaction Server
- IA CICS Interdependency Analyzer
- PA CICS Performance Analyzer
- CM CICS Configuration Manager
- DA CICS Deployment Assistant
- TG CICS Transaction Gateway
- ISM IBM Session Manager

CICS, IMS, DB2, & z/OS Application Debugging
DT

CICS, IMS, DB2, & z/OS Abend Reporting & Diagnosis
FA

CICS, IMS, DB2, and z/OS Observation Requests and Reporting
APA

Configuration Status Control, Test
MQ

Status Situations Topology
XE

Develop Test Etc
RDz

APA	Application Performance Analyzer
FA	Fault Analyzer
DT	Debug Tool
MQ	WebSphere MQ
XE	OMEGAMON XE for CICS
RDz	Rational Developer for System z

ibm.com/cics/tools

ibm.com/cics/explorer

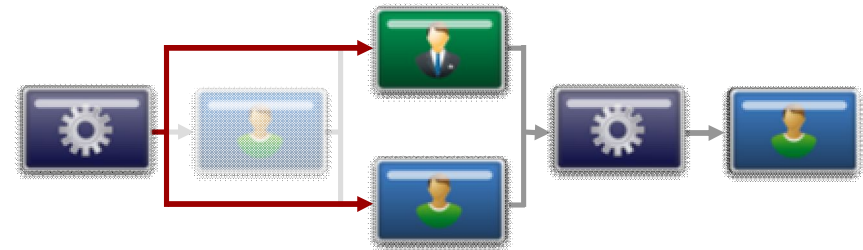
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Dynamic Process Management

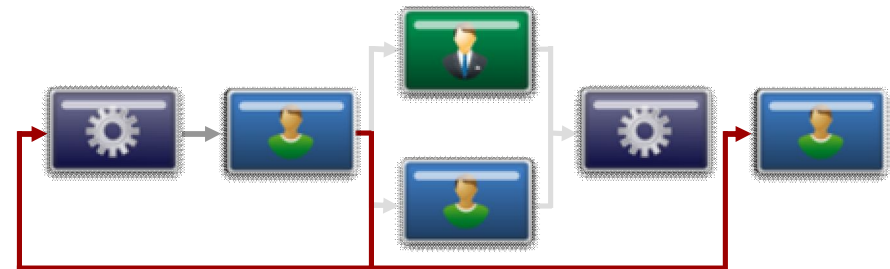
Robust support for process owners to easily manage task assignments



- Respond to changing business needs with greater flexibility
- Dynamically assign roles based on runtime context
- Support for ad-hoc human collaboration based on personnel assignments
- Multi-level escalation mechanisms



Skip steps within a process instance



Jump forward and backwards within a process instance

***Websphere Business
Process Server on zOS
And Linux on z***

***Websphere Lombardi
on Linux on z***

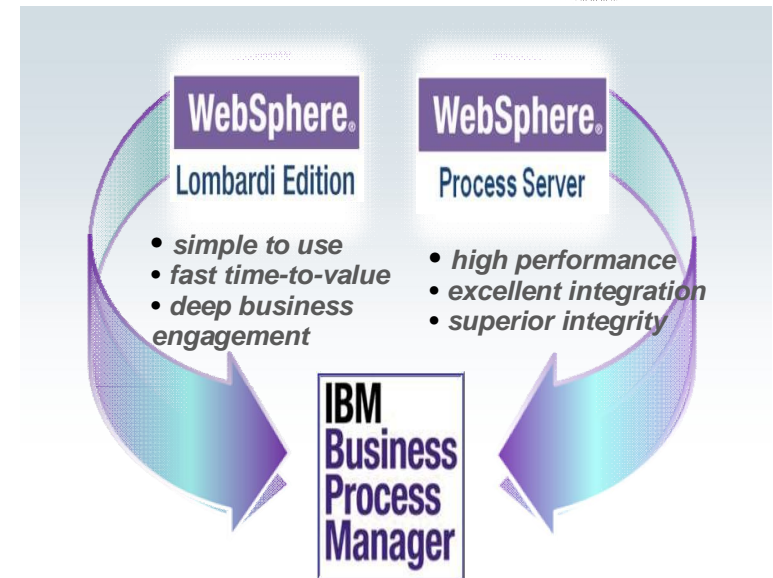
***Websphere Business
Monitor on zOS and
Linux on z***

Powerfully Simple Process Improvement

IBM Business Process Manager V7.5



- **Unified BPM platform** combines the **simplicity** of Lombardi Edition experience and the **power & scalability** of WebSphere Process Server.
- **Process Center and asset repository** provides maximum **collaboration & governance** required to scale up your BPM program.
- **Single product with multiple entry point configurations** and deployment options for companies & programs of all sizes.
- What's new in V7.5:
 - Joint WebSphere Lombardi Edition & WebSphere Process Server backward compatibility ensures preservation of your BPM investments to-date
 - WPS applications can tap into easy-to-use design, playback, rapid deployment, and optimization capabilities
 - WLE applications can extend their robustness & reach with SOA-based process automation, enterprise integration, and high reliability



Empowers business users to take back their business by providing federated visibility across all process participants.

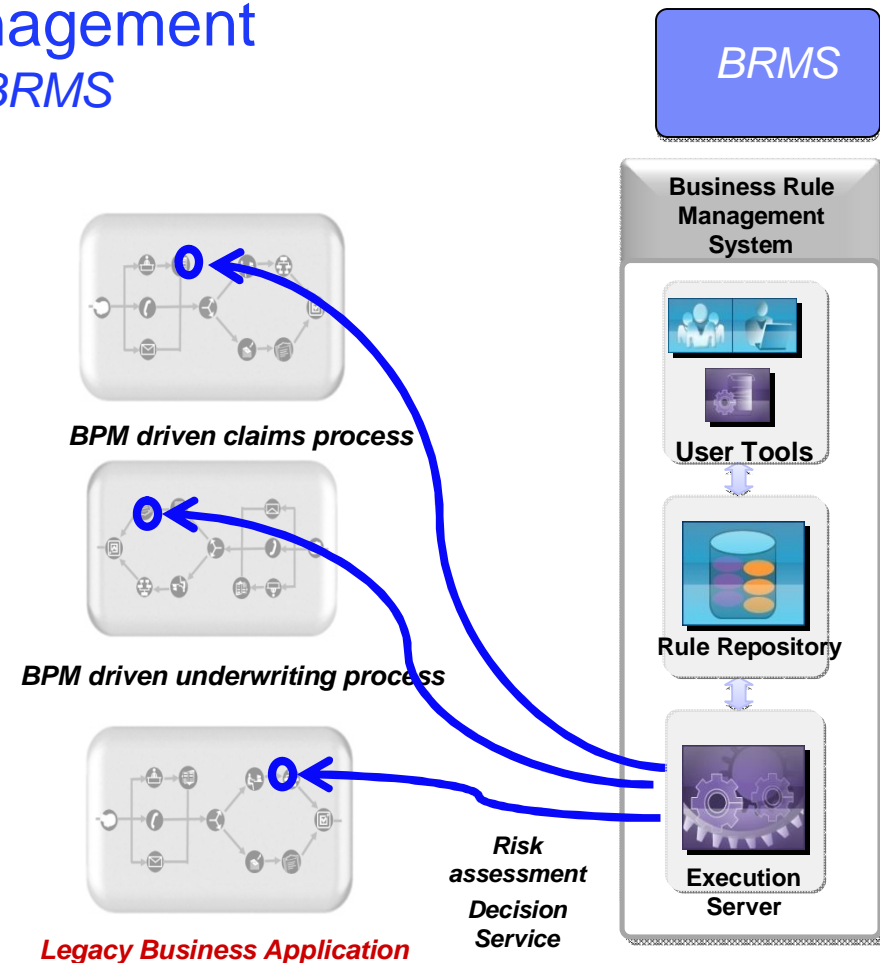
Designed to enable business-led change

Simple enough to engage process participants, regardless of their role, yet powerful enough to scale as needed to support enterprise-wide transformation.

Dynamic Business Rules Management

Managed Execution Environment with BRMS

- **High performance and scalable** rule execution
- **Add new behaviors** - key COBOL business applications and minimize risk and disruption
- **Improve Agility** – author and reuse business decisions and rules across applications
- **Automate business decisions** – quick response to market and regulatory changes
- **Rule services management & monitoring**



Websphere Business Rules and WebSphere Business Events on zOS

Websphere Decision Server On Linux on z

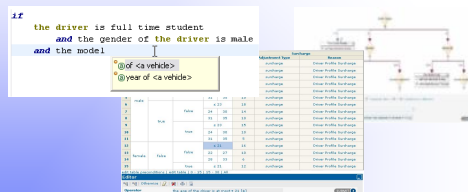
Websphere Rule Team Server and Decision Validation Services on zOS and Linux on z

Decision Server for System z



┌

Decide



Business Rules

- **New COBOL Management Support**
- **New Native z/OS rule execution**



Decisions

A

IBM Decision Management for System z

IBM Decision Management for zOS and zLinux

IBM Rules Team Server for z

IBM Decision Validation Services for z

IBM Business Rules for z/OS

- Increased focused on core z/OS execution for efficient execution of rules with your z Applications
- Enhanced management of rules across the enterprise especially with COBOL and Java applications
- Enhanced COBOL Management capabilities to develop business rules and business models for your COBOL applications
- Focus of Decision Management including rules and events.
- Enhanced rule testing support for COBOL applications



BEP - Detects when events or patterns of events occur to notify people or systems to take action



BRMS - Decides business outcome through execution of business rules against available data

Hardware ESB offers universal connectivity capability to help enable Web 2.0 and Cloud



What is it?

The IBM WebSphere DataPower Integration Appliance XI50 for zEnterprise can help simplify, govern, and enhance the security of XML and IT services by providing connectivity, gateway functions, data transformations, protocol bridging, and intelligent load distribution.



- Consumable hardware ESB



- “Any-to-any” conversion at wire-speed
- Dynamic routing; intelligent load distribution

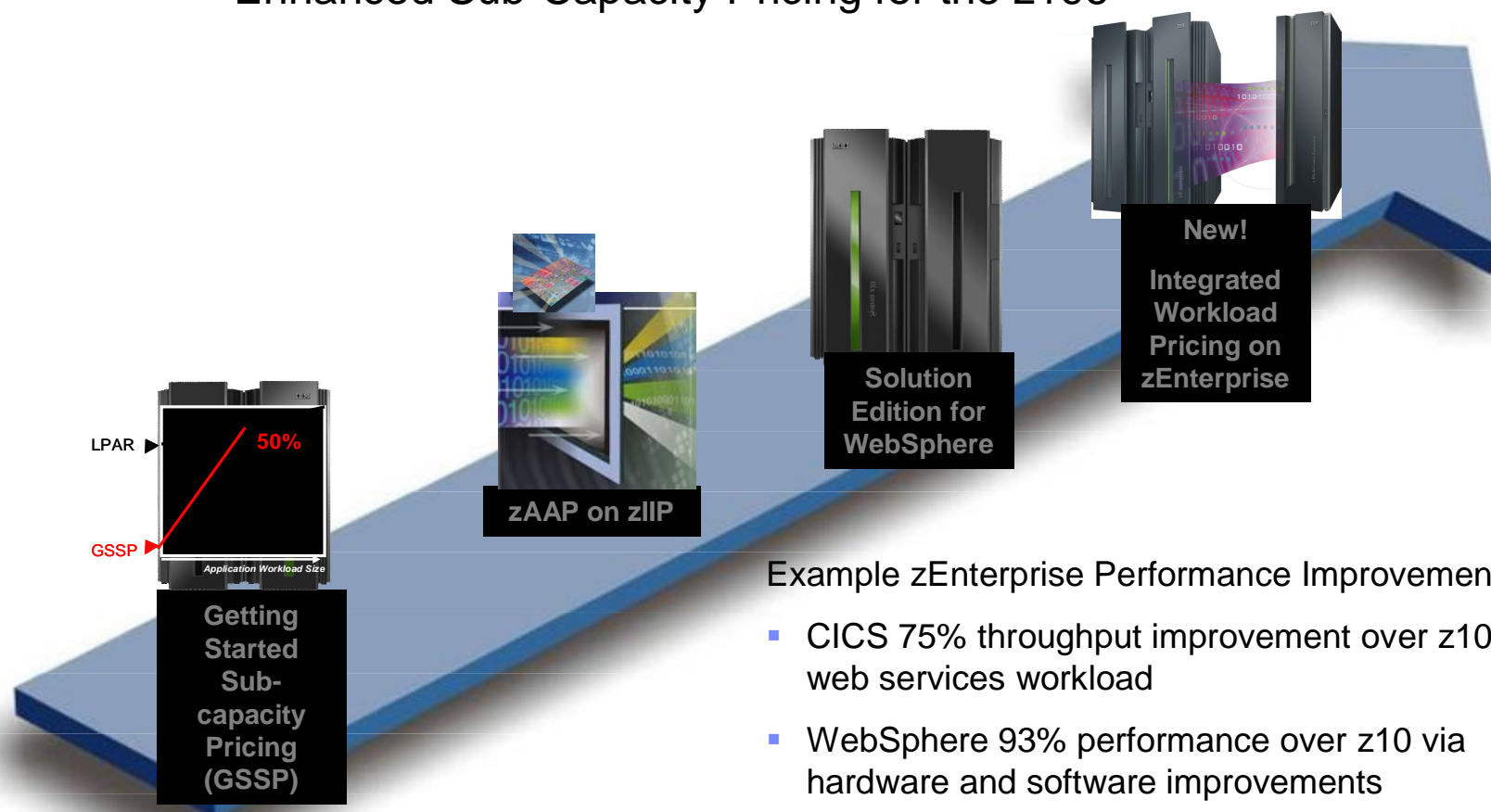
How is it different?

- **Security:** VLAN support provides enforced isolation of network traffic with secure private networks. And integration with RACF® security.
- **Improved support:** Monitoring of hardware with “call home” for current/expected problems and support by System z Service Support Representative.
- **System z packaging:** Increased quality with pre-testing of blade and zBX. Upgrade history available to ease growth. Guided placement of blades to optimize.
- **Operational controls:** Monitoring rolled into System z environment from single console. Time coordination with System z. Consistent change management with Unified Resource Manager.

Continuous price/performance enhancements for zEnterprise improve total cost of ownership



Enhanced Sub-Capacity Pricing for the z196



Example zEnterprise Performance Improvements:

- CICS 75% throughput improvement over z10 for web services workload
- WebSphere 93% performance over z10 via hardware and software improvements



The company

- Founded in 1983
- Independent cooperative association
- Bank data center in Nuremberg
- Two redundant data center locations
- 340 employees
- Provides IT services to 10,000 users
- 500 servers



SDV faced several challenging business requirements from the Sparda banks that impacted IT service

- Changing consumer and customer expectations toward more consultancy and customer care. New applications need to support those requirements.
- 24-by-7 access to a majority of services and products of the Sparda banks via the Internet is crucial.
- New banking products need to be created and changed regularly within the IT applications.
- Strong growth in users of Internet and Intranet applications at the Sparda banks.

IBM System z196 and software helped SDV address these business challenges

■ Quality of Service

- New applications are built on a rock-solid mainframe z/OS core banking system. That keeps risk low and allows for fast implementation of new applications.
- Linux for System z has become one of the most flexible and agile application environments at SDV.

■ Efficiency

- WebSphere on z/OS in comparison to x86 was clearly more efficient.
- WebSphere Portal on z/OS has shown an excellent growth path. We can grow this environment extensively and keep costs and administration efforts low.

■ Capacity

- System z196 has shown a tremendous increase in CPU power for all workloads.
- Increased network capacity allows us to place bandwidth-heavy Java z/OS and Linux applications on z196.
- Powerful disaster recovery functions such as capacity backup in System z196 help us meet our availability targets easily.
- IFL – I/O-bandwidth seems to be endless, and clock-speed is appealing.

“Our disaster recovery test showed we can recover the entire System z environment including Linux within 2 minutes, with I/O back up within 15 seconds, and some applications up within 30 seconds.”

**-----Bernd Bohne, Manager,
Central Systems, SDV**

Forward-thinking companies are making strategic investments in zEnterprise to propel business growth

Qualities of Service

- Ability to extend the z/OS legendary qualities of service to the entire enterprise

Capacity

- Accommodates 50 billion instructions per second

Efficiency

- End-to-end management of the hybrid computing environment

Flexibility

- Freedom to deploy applications based on business objectives instead of platform



Resources

- White papers
 - **Considerations for making System z your ESB deployment platform**
 - http://download.boulder.ibm.com/ibmdl/pub/software/solutions/soa/websphere/app_integration/WS/W11335-USEN-01_Final_Nov6_10.pdf
- Redbooks
 - **IBM zEnterprise System: Smart Infrastructure for Today's Heterogeneous Business Applications**
 - <http://www.redbooks.ibm.com/redbooks.nsf/RedbookAbstracts/redp4645.html?Open>
- Case studies
 - **SDV delivers innovative banking solutions with a Web solutions build on IBM WebSphere Portal software**
 - http://www-01.ibm.com/software/success/cssdb.nsf/CS/LMCM-7YZR5B?OpenDocument&Site=default&cty=en_us
 - **IBM zEnterprise/z196 case study: JD Williams- z196 enables new mainframe workloads**
 - <ftp://submit.boulder.ibm.com/sales/ssi/ecm/en/zsl03116usen/ZSL03116USEN.PDF>

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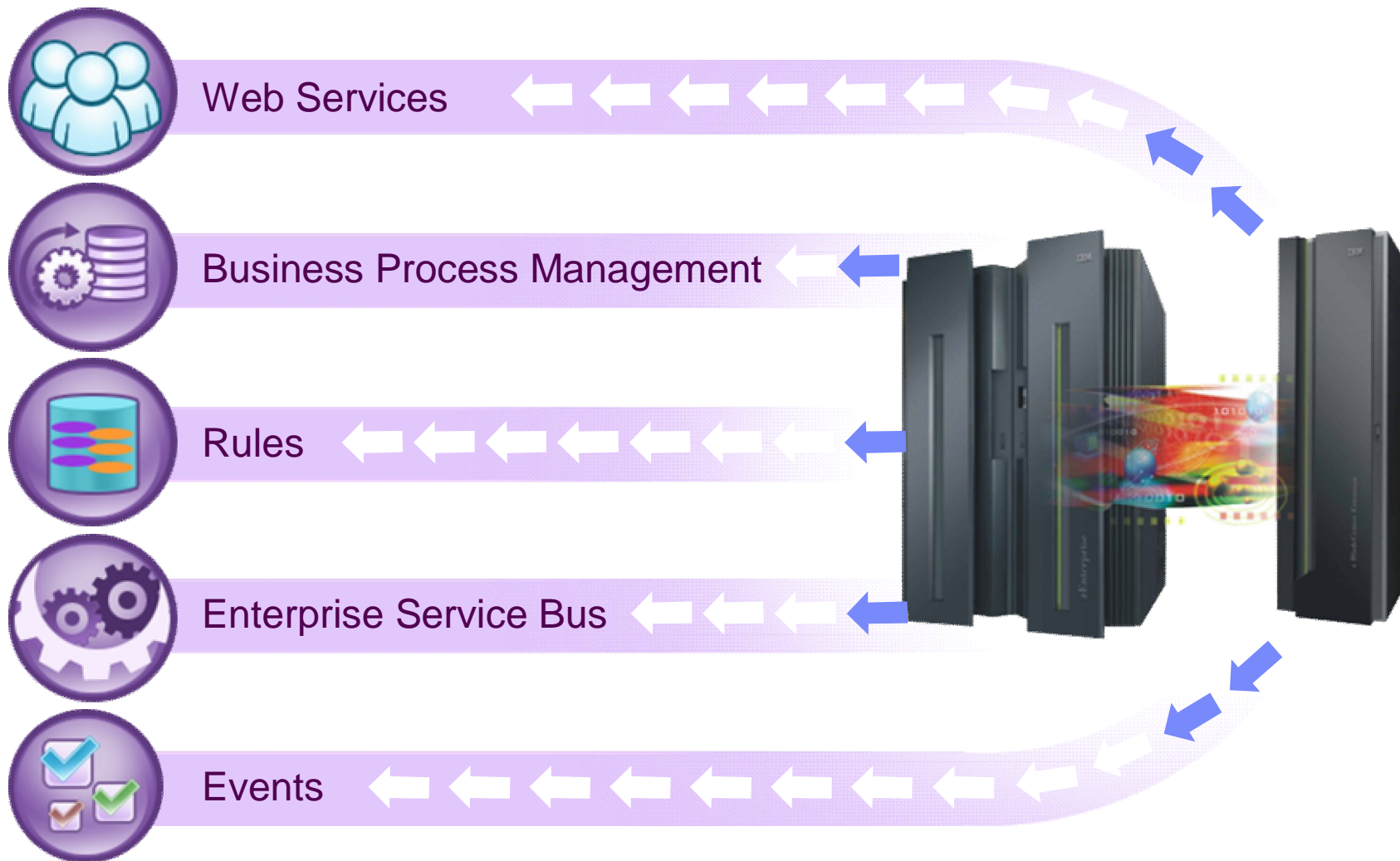
Performance is based on measurements and projections using standard IBM benchmarks in a controlled environment. The actual throughput or performance that any user will experience will vary depending upon considerations such as the amount of multiprogramming in the user's job stream, the I/O configuration, the storage configuration, and the workload processed. Therefore, no assurance can be given that an individual user will achieve throughput or performance improvements equivalent to the ratios stated here.

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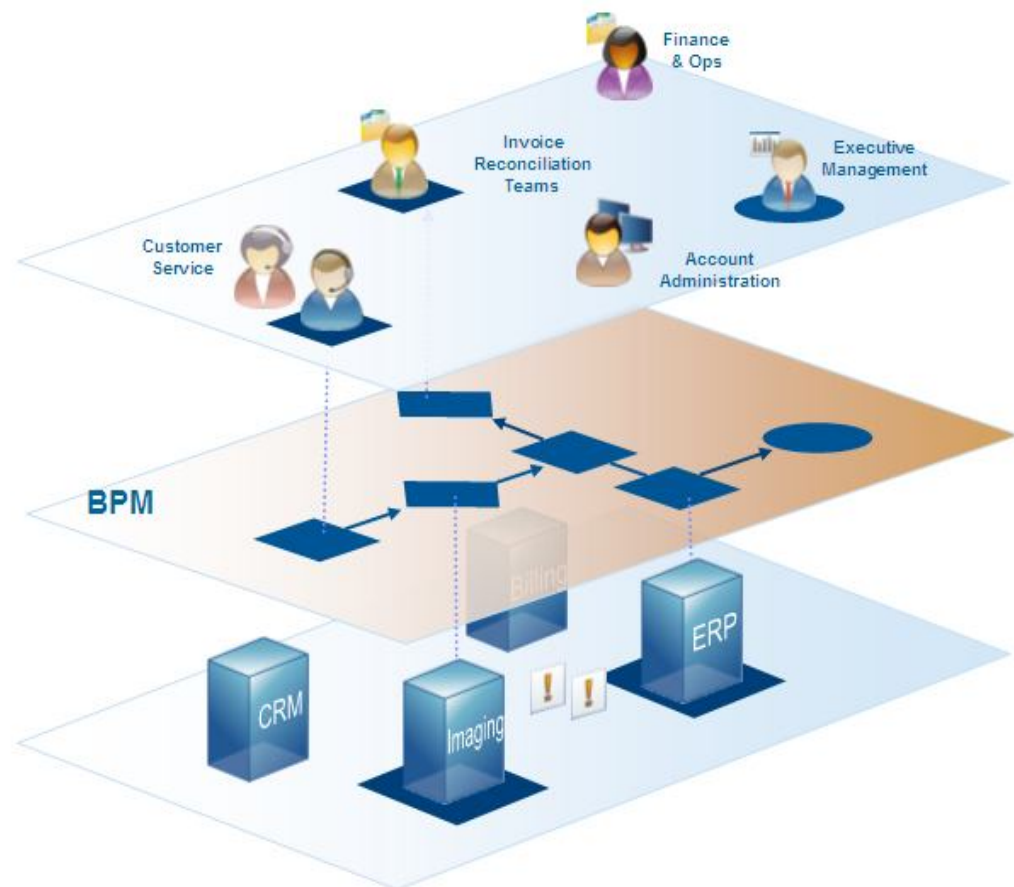
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Smarter Computing means extracting maximum business value from existing assets

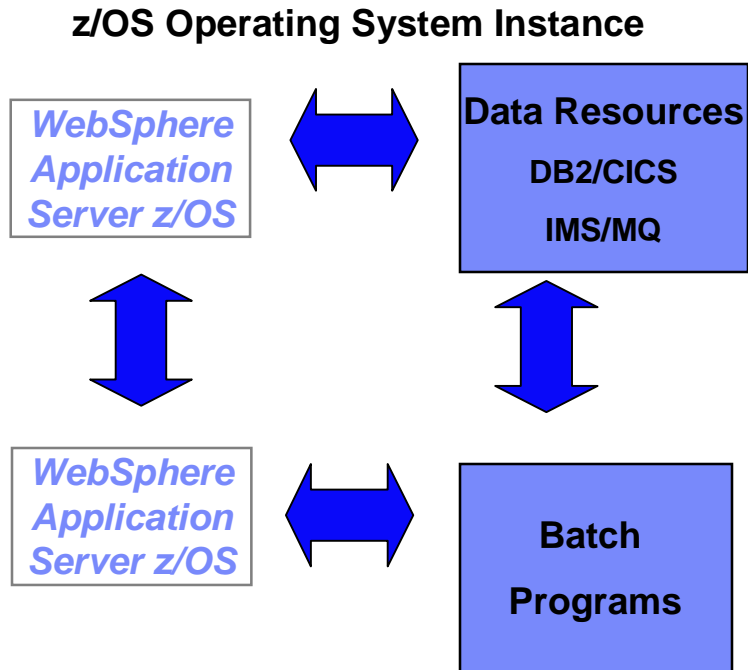


Business Process Management facilitates automatic prioritization and routing of work requests

- Reduces manual interaction
- Guides users through decisions
- Standardizes resolution across geographies
- Leverages existing systems and data
- Monitors for business events and initiates actions
- Real-time visibility and process control



Consolidate workload via collocation in the zEnterprise for faster, streamlined performance



- Extremely fast data transfer
- Tightly controlled by z/OS authorization processes
- Eliminate need to serialize and deserialize data and objects
- Eliminate need for encryption overhead
- Propagate several forms of user identity

Efficient -- very low overhead so scalability can be addressed

Secure -- no network, can't be sniffed or hacked

Fast -- for very high volume workloads