Smart Steps for Increasing Business Agility with WebSphere

The future runs on System z

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Vice President
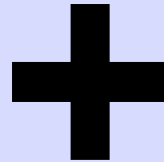
Enterprise Platform SW / SWG

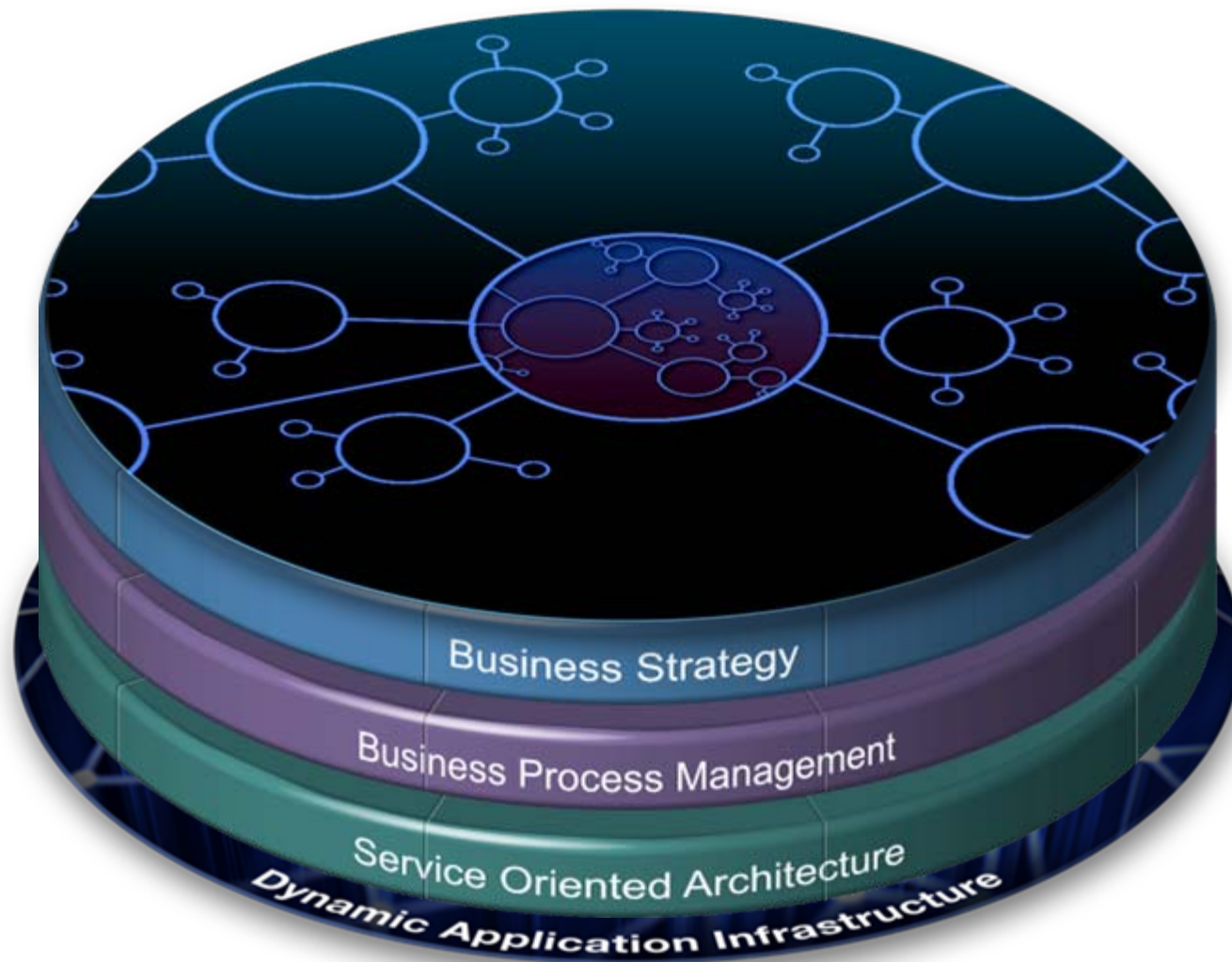# To Survive… To Thrive… To Succeed

Business Agility

to take advantage of new revenue opportunities and address competitive threats

+

Cost Optimization

to slash operational and maintenance expense and maximize efficiency necessary for all economic climates

A dynamic network requires business agility…

…supported by a Dynamic Application Infrastructure

Three ways to drive Agility while Optimizing Costs

Business Needs

Common Buying Scenarios

"Ensure applications consistently deliver on business needs in all situations"

Dynamic Application Infrastructure

"Adapt & respond to dynamic business situations"

SOA Connectivity & Integration

"Quickly respond to changing customer expectations and business demands"

Business Process Management

The power of a Dynamic Application Infrastructure

Modernize Applications

Expand client offerings using existing business data with Web 2.0

Execute High Volume Transactions

Reduce business risks with highly available, secure applications

Capitalize on dynamic situations

Timely insight with low cost situational applications

Manage worldwide operations

Rapidly introduce new capabilities throughout the business with centralized administration

HUK-COBURG

HUK-COBURG
Aus Tradition günstig

Industry Pains

- Need to access more functionality and spread out its data processing load
- Reduce CPU usage to cut operating costs

Smarter Business Outcomes:

- Reduces CPU usage for CICS technology by 400 million instructions per second (MIPS), for savings of $320,000
- Cuts CPU usage in the internal coupling facility by 40%
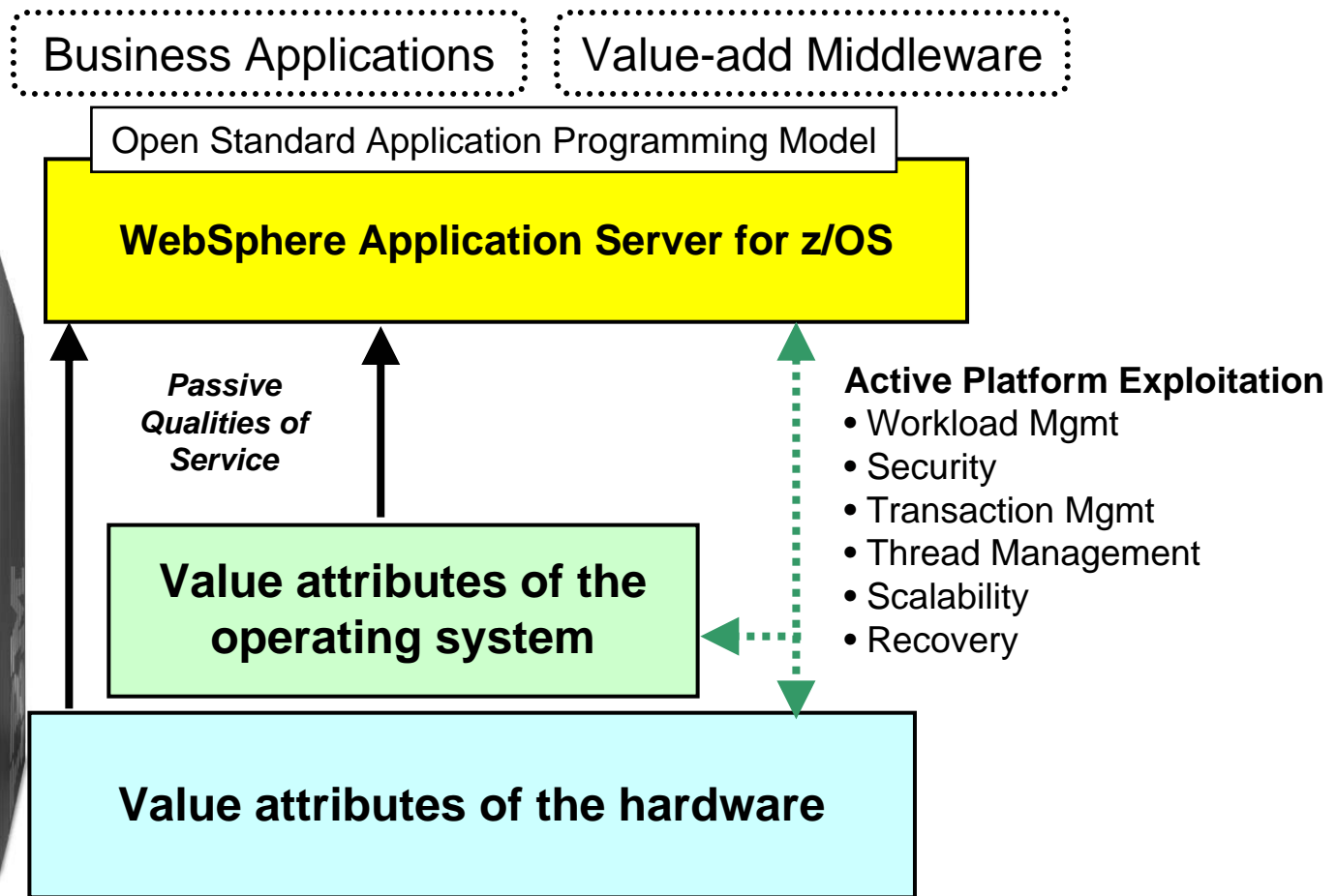- Achieve CPU savings through threadsafe functionality

Why Dynamic Application Infrastructure?

Deliver on business objectives and reduce operating costs

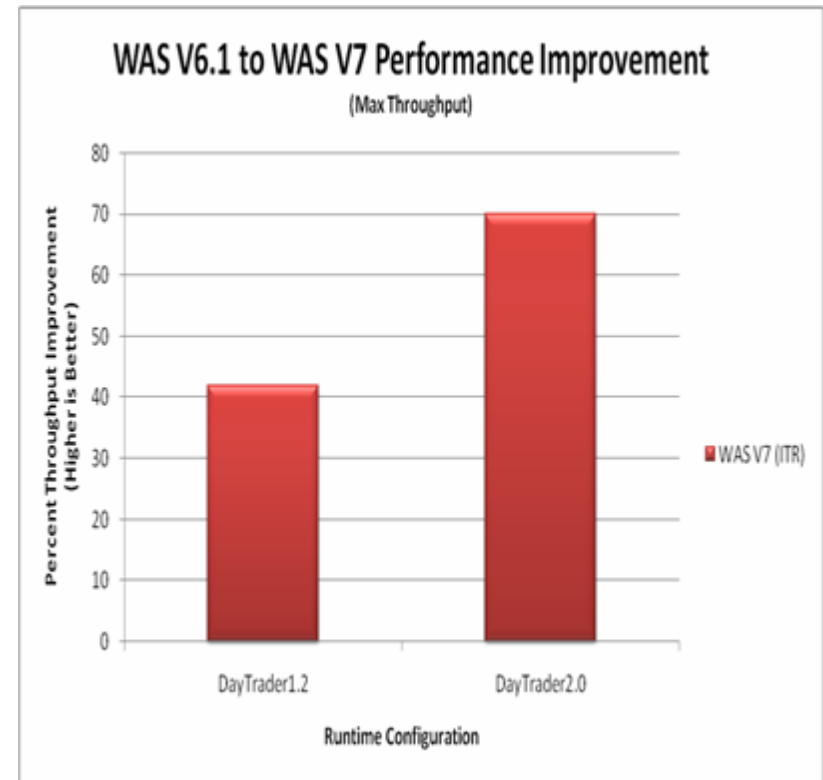# WebSphere Application Server for z/OS Delivers Superior Customer Value

Business Applications	Value-add Middleware

Open Standard Application Programming Model

WebSphere Application Server for z/OS

Passive Qualities of Service

Value attributes of the operating system

Value attributes of the hardware

Active Platform Exploitation
- Workload Mgmt
- Security
- Transaction Mgmt
- Thread Management
- Scalability
- Recovery

z/OS

System z10

WebSphere Application Server for z/OS V7
Leading Edge Performance for Your Business

- **WAS V7 vs V6.1 up to:**
  - 42% faster for legacy apps
  - 47% faster for Web Services
  - 70% faster for Java EE apps

- **z10 EC & WAS V7 outpace z9 EC & WAS V6.1 up to:**
  - 103% faster for legacy apps
  - 128% faster for Java EE apps

WAS V6.1 to WAS V7 Performance Improvement
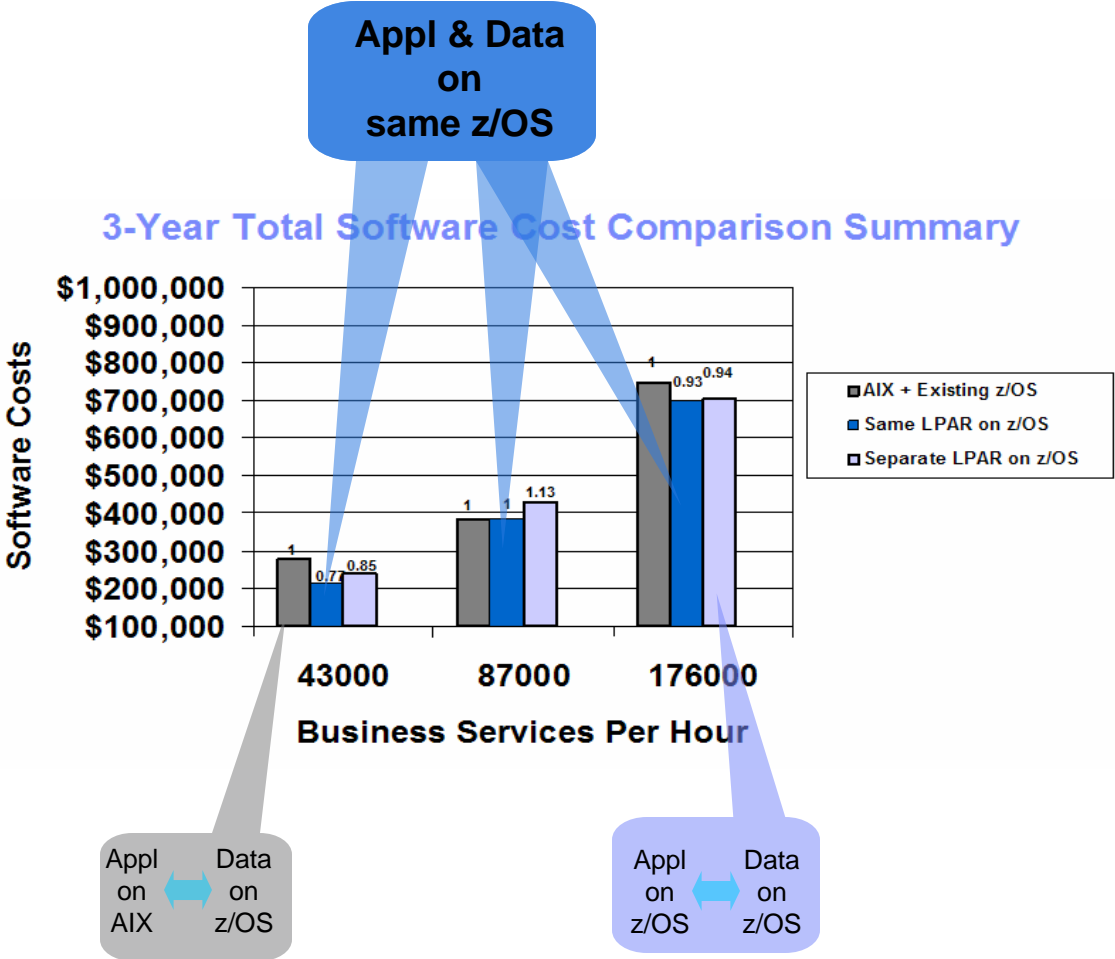(Max Throughput)

* Based on IBM benchmark metrics, 2008.

When location matters, why not z/OS?
Performance Optimization through collocation

- Up to 34% overall CPU savings with WebSphere Application Server and DB2 on the same LPAR

- 52% more throughput when WAS for z/OS is collocated with DB2 in the same LPAR

- 3-year TCO shows WAS and WPS are price neutral when compared to running equivalent workload on distributed servers

Appl & Data on same z/OS

3-Year Total Software Cost Comparison Summary

Software Costs:
- $1,000,000
- $900,000
- $800,000
- $700,000
- $600,000
- $500,000
- $400,000
- $300,000
- $200,000
- $100,000

Business Services Per Hour: 43000, 87000, 176000

Legend:
- ■ AIX + Existing z/OS
- ■ Same LPAR on z/OS
- □ Separate LPAR on z/OS

Values:
- 43000: 1, 0.77, 0.85
- 87000: 1, 1, 1.13
- 176000: 1, 0.93, 0.94

Appl on AIX ⟷ Data on z/OS

Appl on z/OS ⟷ Data on z/OS

Deploying application servers, data sub systems and application sub systems

# BPM on z/OS Performance: Collocation Benefits
Directed studies: Single z/OS LPAR ("local") versus separate z/OS LPAR ("remote")

WPS 6.2.0 z/OS Performance – JDBC Type 2 vs. Type 4
(Down is Good)

DB2 local 28%-38% advantage

JDBC T2 versus T4 z/OS

SOABench HandleClaim Macro2
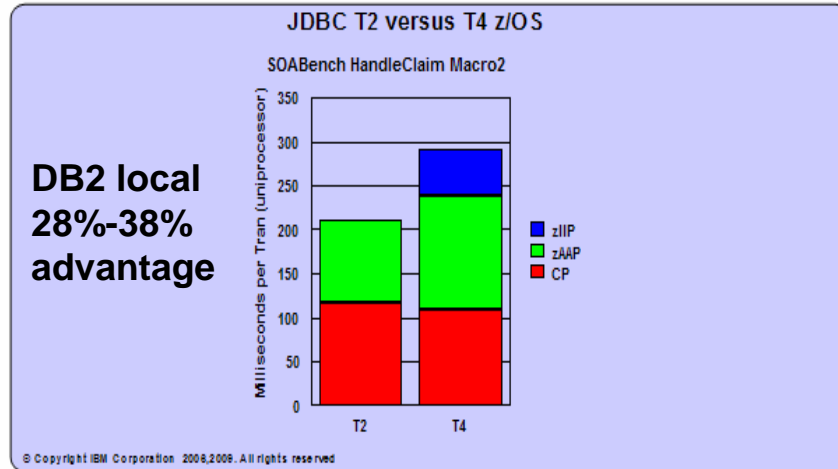
• Raw throughput performance is better with the JDBC Type 2 (Local) connector.
• The JDBC Type 4 connector requires more processor than the Type 2 connector:
  +38% for SOABench Manual Mode (macroflow) and +28% for PVT8.
• Customer cost is about equivalent, there is no cost savings with Type 4.

WPS 6.2.0 z/OS Performance – CTG Local vs. Remote
(Down is Good)

CICS CTG Local/Remote Comparison - z/OS

CICS local: 18% advantage
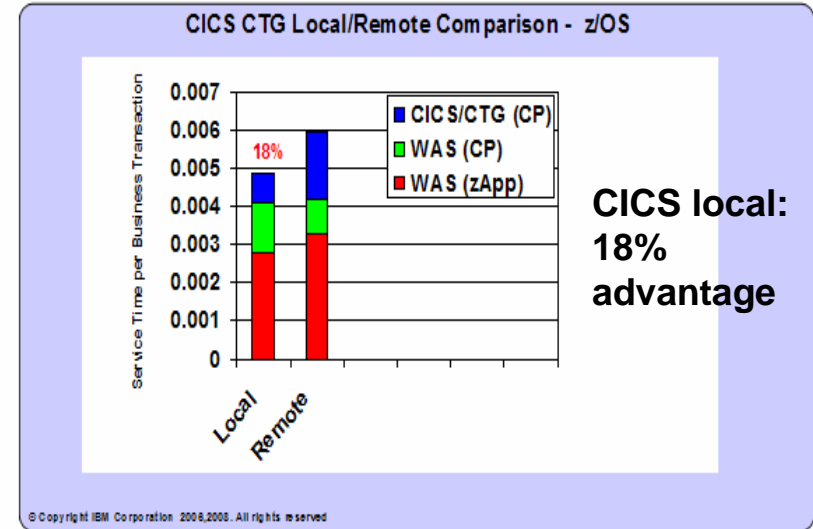
The overall cost per transaction increases by roughly 18% with remote CTG connections
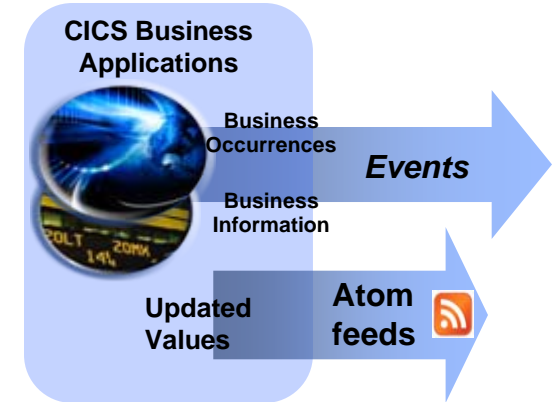
- **DB2 z/OS: JDBC Type 2 (Local) now yields 28%-38% better results than Type 4**

- **CICS Transaction Gateway (CTG) Local is 18% more efficient than CTG Remote**

- More information
  - WPS z/OS performance report: in the performance library
  - WebSphere z/OS co-location paper: in the techdocs library

CICS is at the heart of smart business

Revitalize Business

"Real-time visibility for smarter decisions and actions"

CICS Business Applications

Business Occurrences

Events

Business Information

Updated Values

Atom feeds

Revitalize Infrastructure

"Greater efficiency and reduced costs"

CICS TS 4.1

Revitalize Applications

"Faster and easier to respond to change"

"CICS is probably the most successful piece of software of all time . . . It is the mainstay of business computing throughout the world . . . Millions of users unknowingly activate CICS every day, and if it were to disappear the world economy would grind to a halt." *Phil Manchester, Personal Computer Magazine*

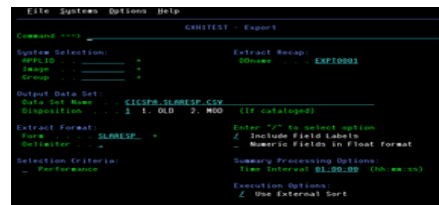# CICS Explorer – The New Face of CICS Transaction Server
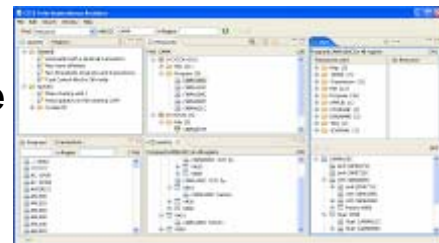*Reduce the need for multiple interfaces*

Before…

Web

ISPF

CICS 3270

Eclipse

Now …

More info and downloads at ibm.com/cics/explorer

Increase productivity with integrated tools

- CICS Performance Analyzer V3.1

- CICS Interdependency Analyzer V3.1

- CICS Configuration Manager V2.1

- CICS Transaction Gateway V7

- OMEGAMON XE for CICS V4.2

- Rational Developer for System z V7.6

http://ibm.com/cics/explorer/download
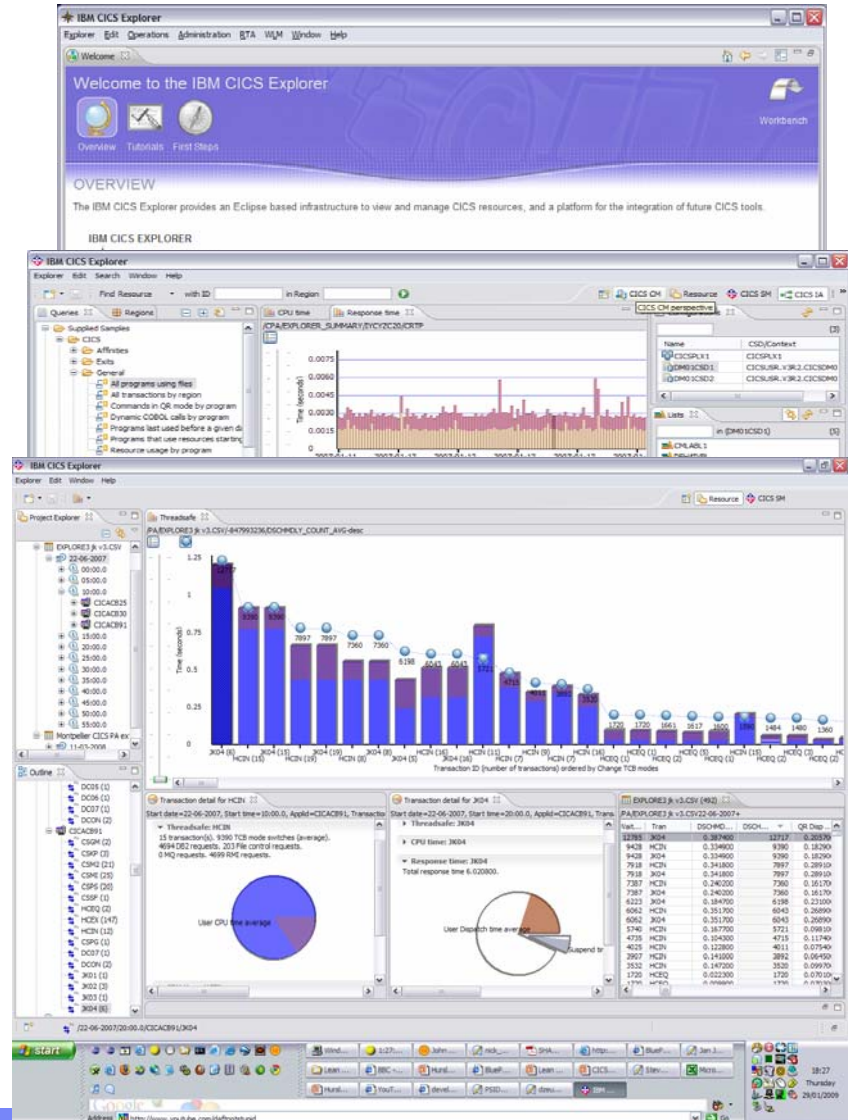
Reuse Business Applications
Enable Agility Required for Smart Business Outcomes

Get More Value from Applications & Expand Business Opportunities

- Service-enable existing packaged and existing apps
- Create new, reusable services
- Extend reusable services to the web
- Consume external reusable services

Benefits

- Extend ROI by reusing prior investments
- Reduce risk and costs by leveraging robust applications
- Speed time to market with faster development cycles

Large Packaged Apps

Small Packaged Apps

Homegrown Apps

Java

COBOL

email

z/TPF

CICS

IMS
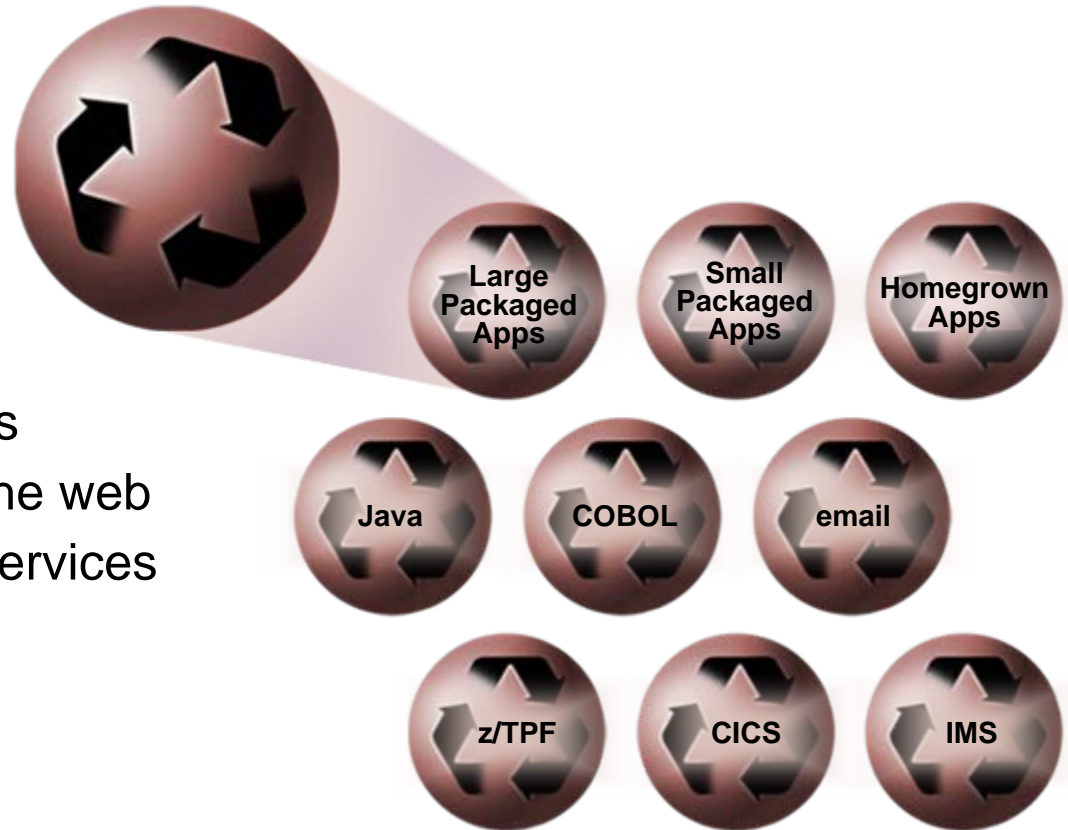
An edge in the market – SOA Connectivity & Integration

Confirmed Flight Booking

Lower process disruptions with reliable data movement

Central Airport Checkpoint

Create new revenue-generating services from current core business applications

Routing Bank Transactions

Adapt business faster by easily connecting services & apps

Centralized Information Source

Reduce cost & duplication by leveraging existing assets

Ball State University

Industry Pains

- The need to streamline administrative systems and ensure integrity

Smarter Business Outcomes:

- SOA with Enterprise Service Bus to connect siloed applications without hand-coding individual API calls
- Resolve name and address discrepancies in 10 months, as opposed to several years

Why SOA Connectivity & Integration?

Communication between decoupled back and front ends, choosing the destination for a message, and transforming it into the correct format

Agility and savings begin with Integration
The Enterprise Service Bus (ESB)

Connects everything
to everything

Transforms between
different data formats

Distributes
Business events

ESB

Converts between
different transport
protocols

Matches & routes
communications between
services
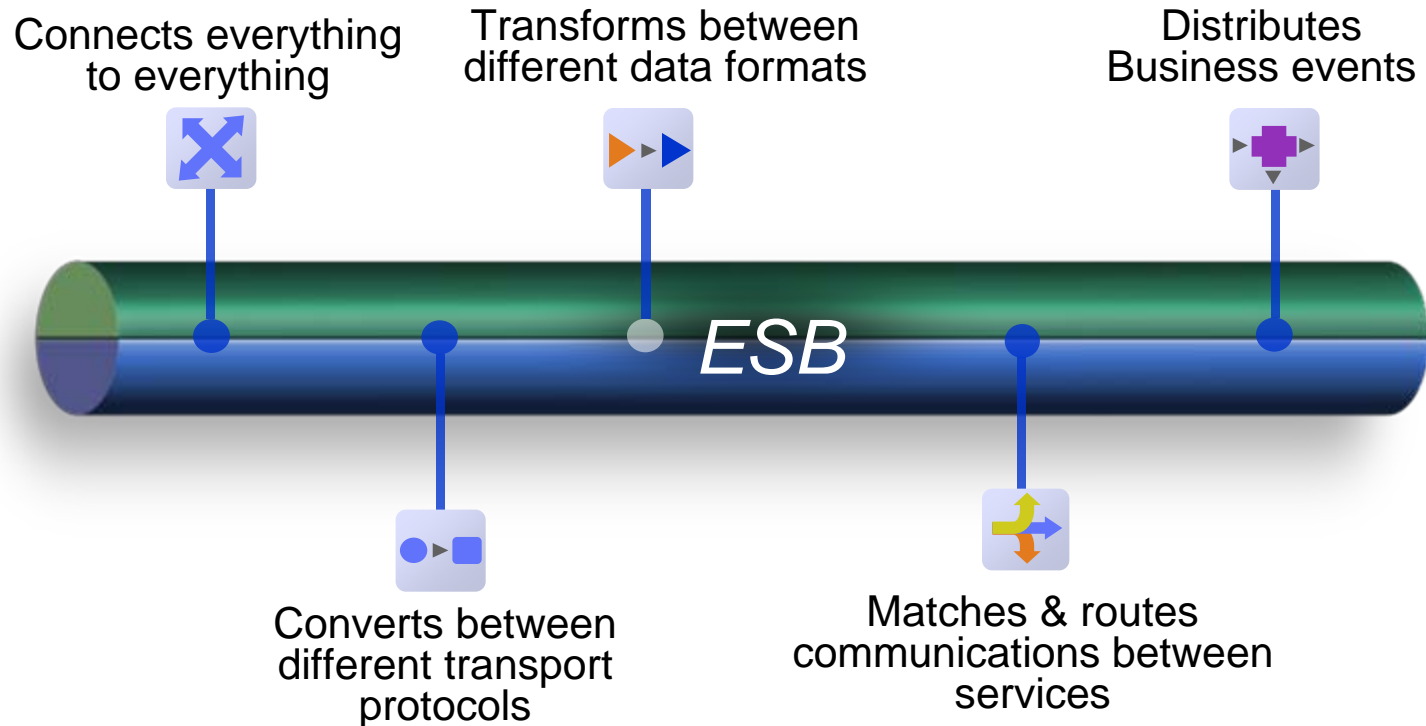
Optimize Costs by: *Integrating new customers and partners up to 80%
faster, Improving performance more than 10x - with lower costs, and
Achieving full ROI within as few as 6 months*

**IBM WebSphere
Message Broker for z/OS**

**IBM WebSphere
Enterprise Service Bus**

**IBM WebSphere
MQ for z/OS**

Service Visibility & Governance

- **Trust**: Publish & find Your Services to extend business applications

- **Manage** & govern your ESB messaging & services

- **Secure**: Ensure consistent policy enforcement

IBM WebSphere MQ File Transfer Edition for z/OS

IBM WebSphere Service Registry & Repository for z/OS

Governance for File Transfers
WebSphere MQ File Transfer Edition

- Most data moves from application to application using file transfers
  - Lowest common denominator for Integration

- Provide the visibility & manageability to move key business data reliably & securely
  - Inside and outside the Enterprise

Reducing Costs

- Lower maintenance upkeep by 15%-25%

- 50% to 70% reduction in file management cost

IBM WebSphere MQ File Transfer Edition

- Builds upon MQ's proven transport

- Delivers robust solution for Managed File Transfer

- Purpose-built to integrate with IBM's SOA portfolio

Easy to use   Manageable

Scalable   Low Cost

Enhanced!
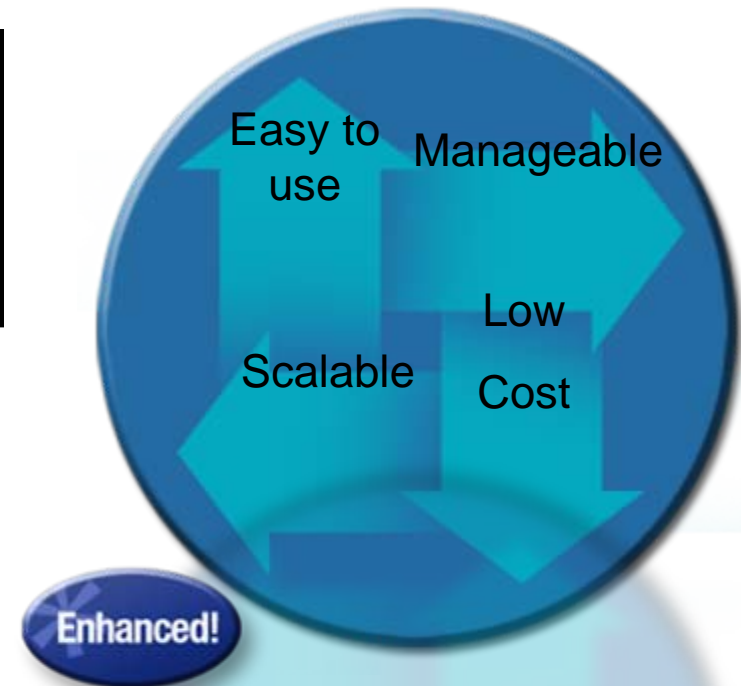
When to use System z for SOA Connectivity & Integration?

Virtualization
- High resource utilization
- Massive consolidation and simplification

Performance
- Improvements when co-locating with z/OS data

WebSphere ESB

Efficient growth
- Pay for what you use

Business critical workloads
- Automated recovery from failures
- Dynamic workload balancing

The power of Business Process Management

Supply Chain Management

Automatically adjust forecasts and shipments to increase accuracy and reduce costs

Retail Inventory

Detect and respond to inventory changes in real-time to meet customer demands

Telecom Services

Quickly deliver more compelling and profitable service bundles to increase customer retention

Insurance Claims Processing

Improve productivity and customer satisfaction by automatically routing claims to the right knowledge worker

"*European Bank*"

European Bank

Industry Pains

- The market for home loans has been transformed by a new breed of independent mortgage brokers who now account for 40 percent of the market
- To respond to this marketplace change they needed a channel to reach these brokers

Smarter Business Outcomes:

- Mortgage application processed in just hours compared with 2-3 days taken by competitors; independent mortgage broker channel now accounts for substantial portion of their business after only 6 months, far exceeding expectations; new channel added without significantly increasing staff levels

Why Dynamic Business Processes?

WebSphere Process Server improved the reuse and efficiency of service components to reach the independent mortgage broker market
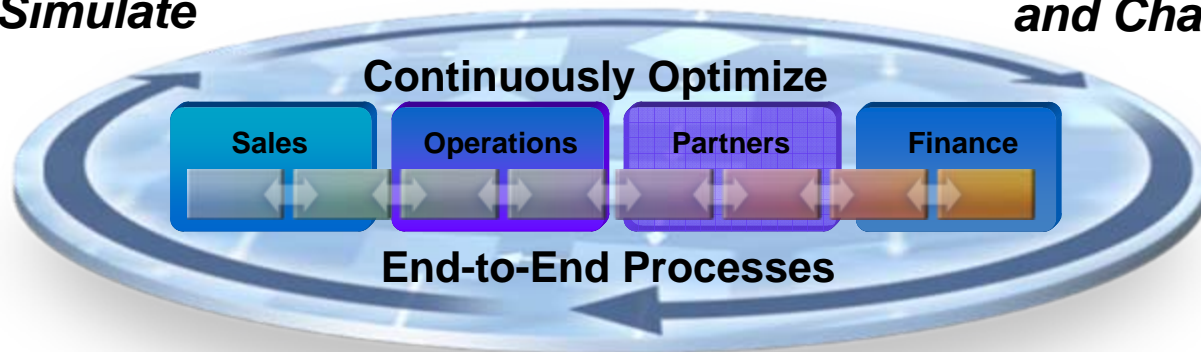
Process Automation
Improves operating efficiency and reduce costs

Model and Simulate

Rapidly Deploy and Change

Continuously Optimize

| Sales | Operations | Partners | Finance |

End-to-End Processes

Monitor, Predict and Act

Streamline business activities

Lower Costs

IBM WebSphere Process Server for z/OS

Complement and extend existing applications

Reduce cycle time

IBM WebSphere Business Monitor

Leverages reusable process components

Easier to Manage

IBM WebSphere Business Modeler

Insight contained in business events all around us

What is a Business Event? An action that has occurred, or the absence of it occurring, which has relevance to the business

Nearly **4 Trillion** RFID events are emitted each day

Large companies can experience up to **800 Billion** business events (shipments, weather, customer contacts, delays) daily

Over **190 Billion** emails are sent daily

Capture mainframe events
for smarter business outcomes

CICS Event Sources
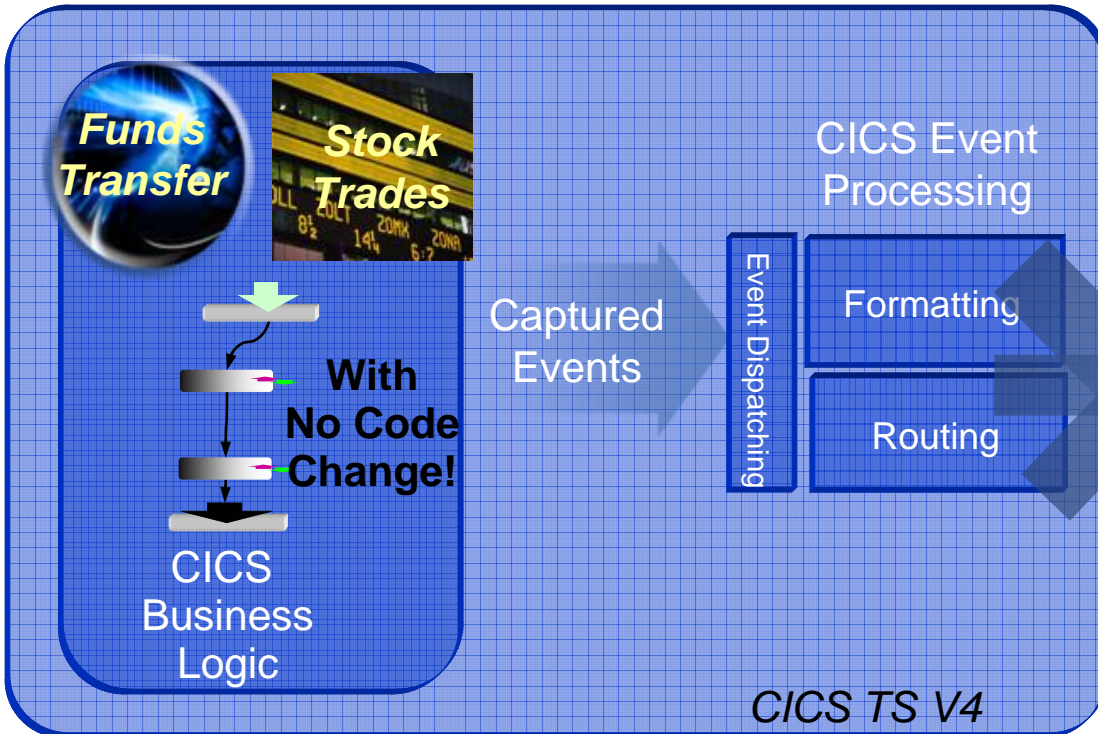
Detect fraud and take action

Funds Transfer

Stock Trades

With No Code Change!

CICS Business Logic

Captured Events

Event Dispatching

CICS Event Processing

Formatting

Routing

CICS TS V4

WebSphere Business Monitor

WebSphere Business Events

CICS Transactions

Applications

Databases

Business Processes
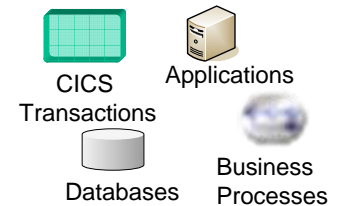
Other Event Consumers

Smarter Schools Transform Insight into Action

A large university makes processes explicit and understood

What's Smart

- Modeling and documenting existing business processes to identify areas for improvement

- Leveraging BPM to collaborate with process stakeholders across departments

- Deliver business agility for proven and trusted traditional System z applications
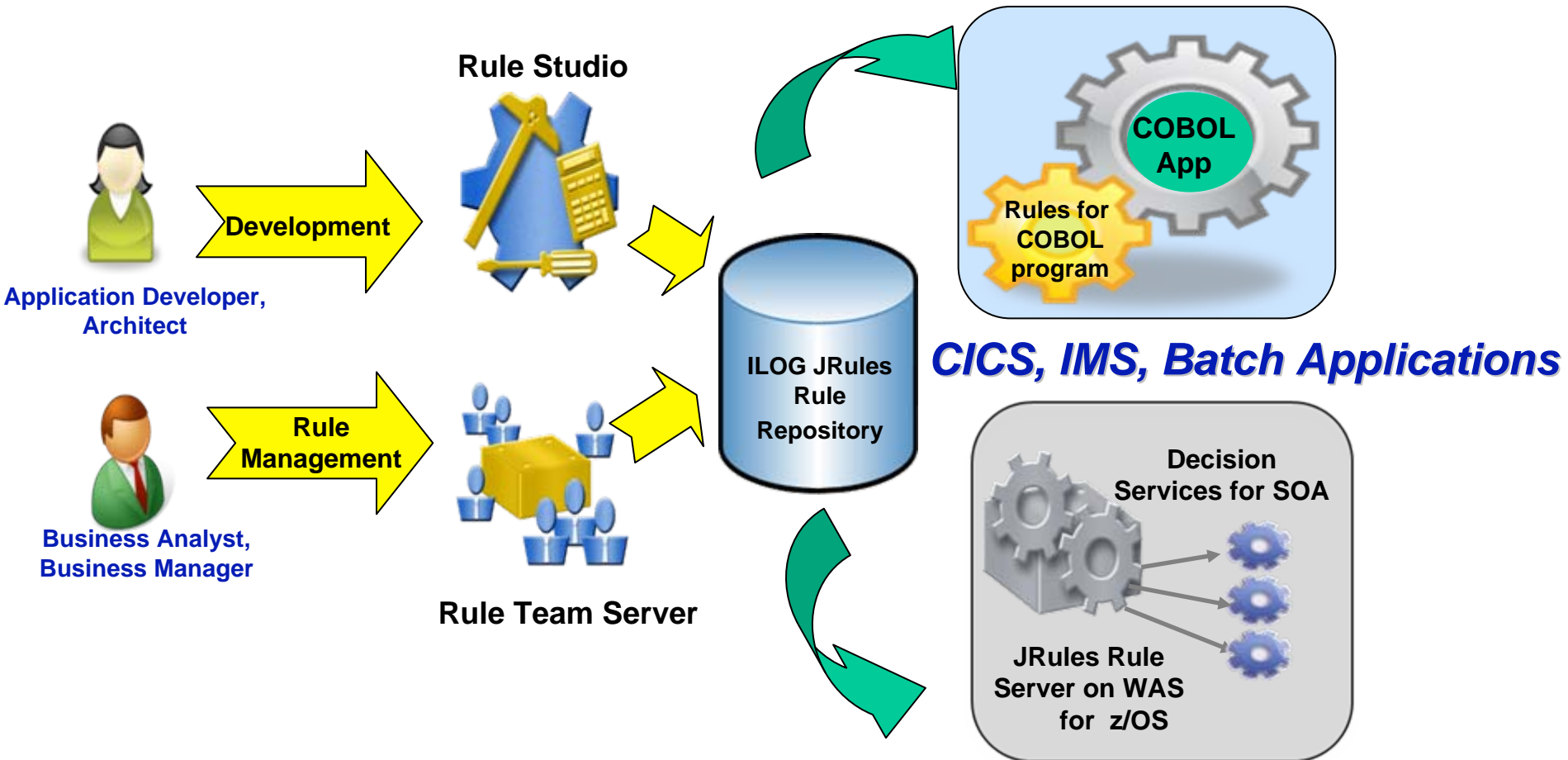
Smarter Outcomes

- Reduced new application development from 1 – 2 months to several days

- Improved user satisfaction by increasing success rate of online registration

- Reduced enrollment time from 3 days to instantaneous

ILOG Business Rule Management Solutions on System z

Option 1: ILOG Rules for COBOL

Rule Studio

Development

Application Developer, Architect

Rule Management

Business Analyst, Business Manager

Rule Team Server

ILOG JRules Rule Repository

COBOL App

Rules for COBOL program

CICS, IMS, Batch Applications

Decision Services for SOA

JRules Rule Server on WAS for z/OS

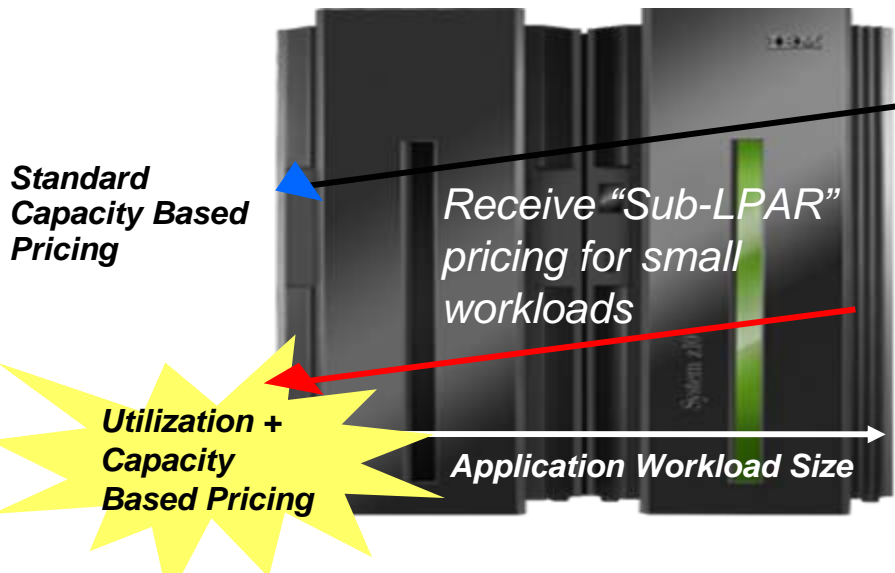**Option 2: JRules Rule Execution Server on z/OS or Linux on System z**

Benefits of a Dynamic Application Infrastructure on System z

- Integration with Existing Assets

- High performance

- Server consolidation

- Dynamic scalability

- 99.999% Availability

- Exploitation of Java/J2EE

- Uninterrupted support

- Low TCO of applications

- Performance Optimization through collocation
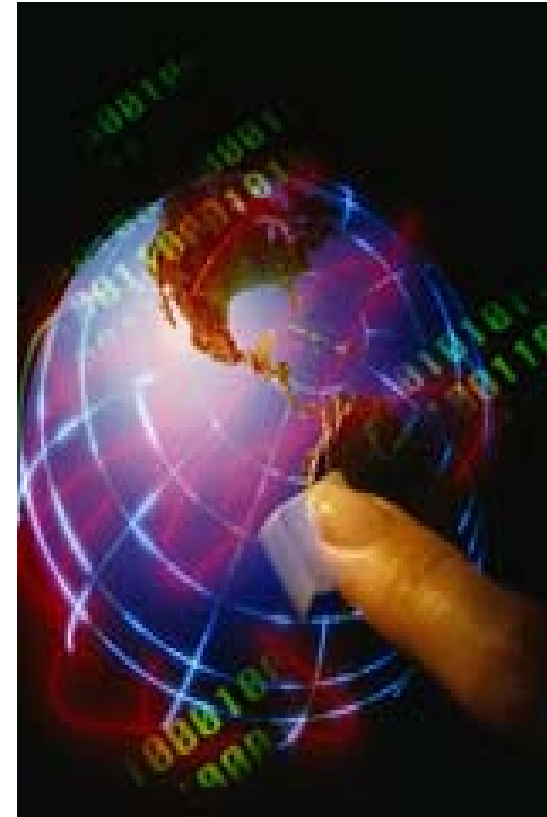
WebSphere Application Server on z/OS
New options to lower the cost for emerging workloads

Standard Capacity Based Pricing

Receive "Sub-LPAR" pricing for small workloads

Utilization + Capacity Based Pricing

Application Workload Size

Cost $

Standard capacity based pricing

Solution Edition pricing

Alternative Platform pricing

IBM System z10 EC - Old Price

IBM System z10 EC - SE Price

HP rx8640

■ HW, SW Acquisition Cost ■ Cost of Operation (Energy, Floorspace, Admin)

- **Getting Started Sub-capacity Pricing**
  - Start and grow your projects on z/OS
  - Improve alignment of software use & charges
  - Change LPAR capacity without changing software charges

- **System z Solution Editions for WebSphere and Application Development**
  - Modern platform for mission critical workloads
  - Designed to be affordable
  - Secure, reliable, scalable
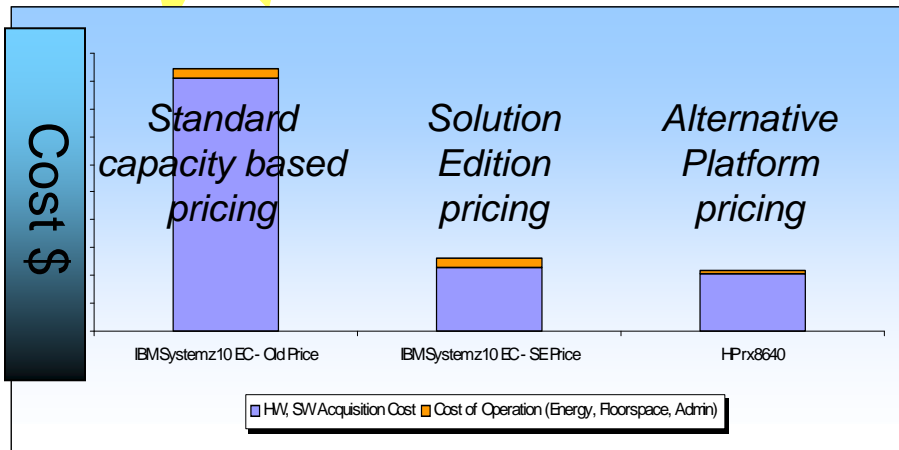
Impact 2010 HIGHLIGHTS

Impact 2010 - The Premier Conference for Business and IT Leaders
Discover new innovative ways to work smarter and achieve business agility now. Impact 2010 provides a unique setting to bring company executives and technologists together at a single event providing a unique opportunity for them to discover how to align business objectives with IT, interact with technology and business leaders and experts from around the world and ultimately optimize their business performance and results.

A new Business Program that will focus on:
- **optimizing business processes**
- **improving decision management**
- **empowering the changing workforce, and globalization**

An enhanced Smart SOA and BPM Technology Program:
- **Dedicated with tailored workshops and hands on labs**

A bigger focus on your industry!
- **300+ industry leading experts on site**

A new Interactive Symposium
- **Bringing LOB and IT together in consultative sessions**

A new Product Technology Center offering:
- **Open labs, tech zones, and product demos**

A new and improved Track structure with:
- **200+ client speakers,50 Birds of a Feather sessions, & free certification testing**

A state-of-the art Solution Showcase Center!

Join us in Las Vegas
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Let's Build a Smarter Planet on System z