System z Premier Executive Event

Smart Steps for Increasing Business Agility with WebSphere

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To Survive… To Thrive… To Succeed
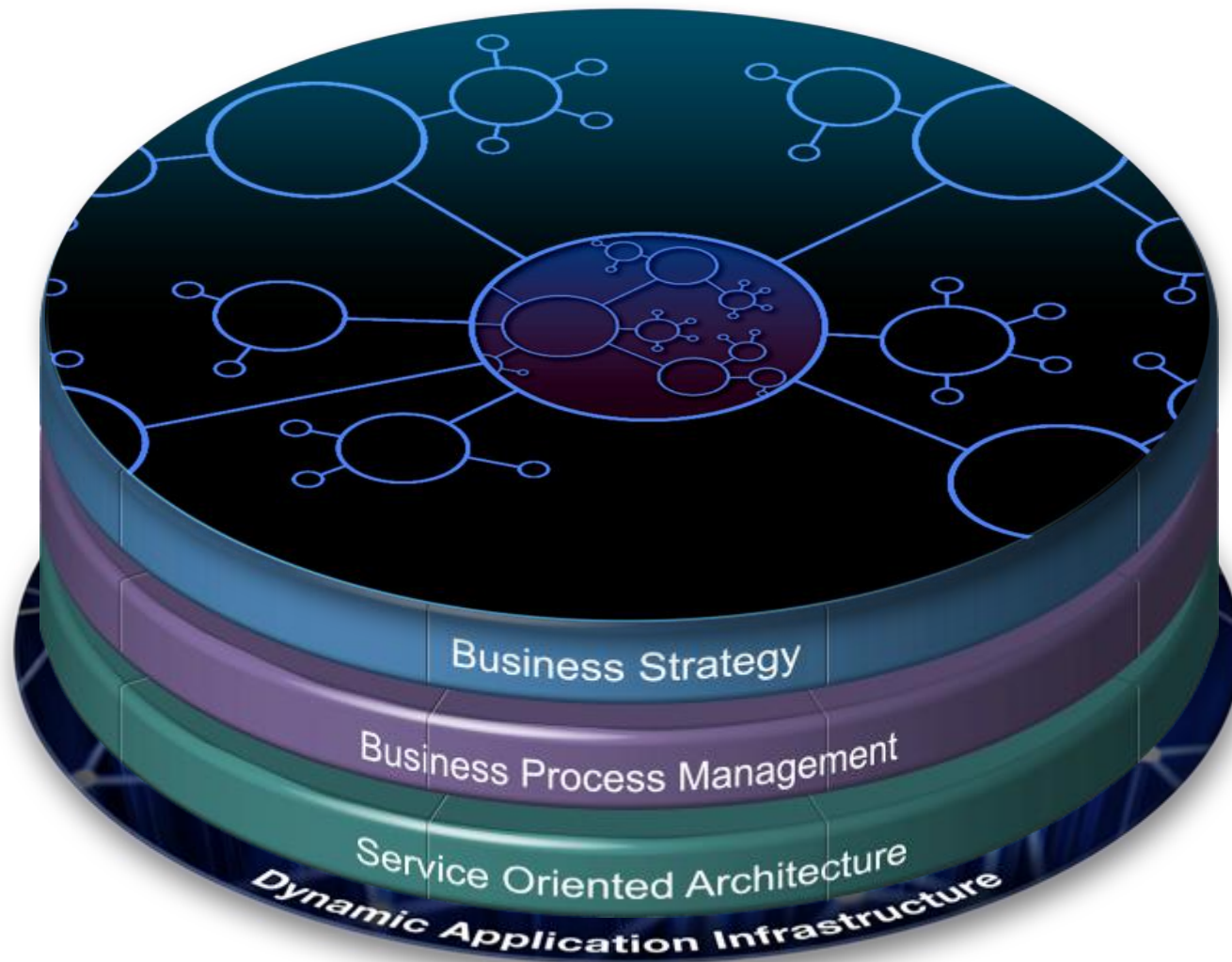
Business Agility

to take advantage of new revenue opportunities and address competitive threats

+
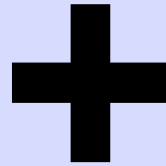
Cost Optimization

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 and respond to dynamic business situations"

SOA Connectivity and 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
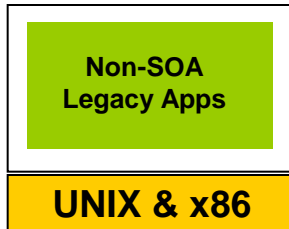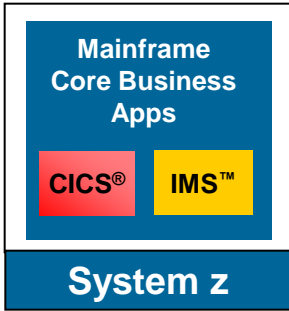
Manage worldwide operations
Rapidly introduce new capabilities throughout the business with centralized administration
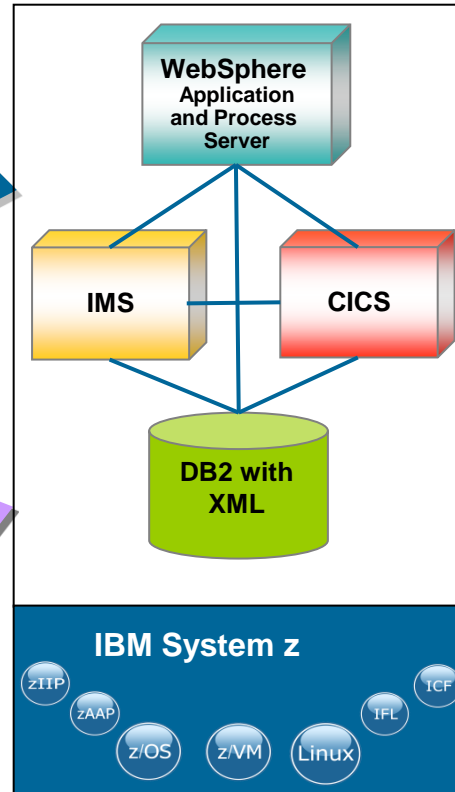
Modernizing the enterprise through SMART SOA

Static Business Assets

Mainframe Core Business Apps

CICS® | IMS™

System z

Non-SOA Legacy Apps

UNIX & x86

Non-IBM Software Stack

natural ADABAS

etc.

System z

Modernize

Transform

SMART SOA Foundation

WebSphere Application and Process Server

IMS | CICS

DB2 with XML

IBM System z

zIIP | zAAP | z/OS | z/VM | Linux | IFL | ICF

Extend

Optimized Assets, Skills, and Infrastructure

Revitalize Applications | Empower People | Unify Teams | Optimize Infrastructure

- **Optimize cost**
- **Increase flexibility**
- **Boost productivity**
- **Maximize business agility**

Service

HUK-COBURG
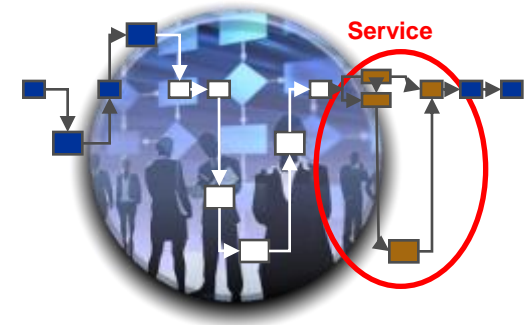
HUK-COBURG
Aus Tradition günstig

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

The right platform for any situation
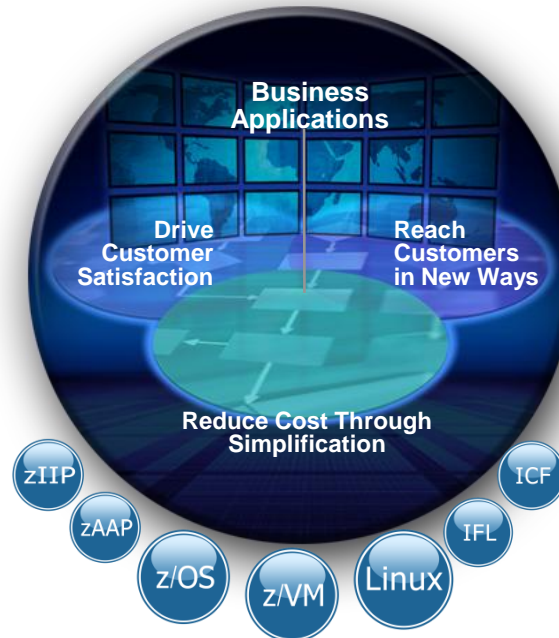# SOA-enabled agile integrated application environment

Modernize and transform your environment

IBM WebSphere Application Server for z/OS

Practical reuse of on-line Java assets in Batch

IBM WebSphere Compute Grid for z/OS

Business Applications

Drive Customer Satisfaction

Reach Customers in New Ways

Reduce Cost Through Simplification

zIIP

zAAP

z/OS

z/VM

Linux

ICF

IFL

IBM CICS Transaction Server and Gateway

Understanding, Optimization and Control

IBM CICS Tools

IBM Problem Determination Tools for z/OS

Combining industry-leading runtimes and z/OS to deliver superior customer value

Business Applications

Value-add Middleware

Open Standard Application Programming Models

**CICS
WebSphere Application Server for z/OS**
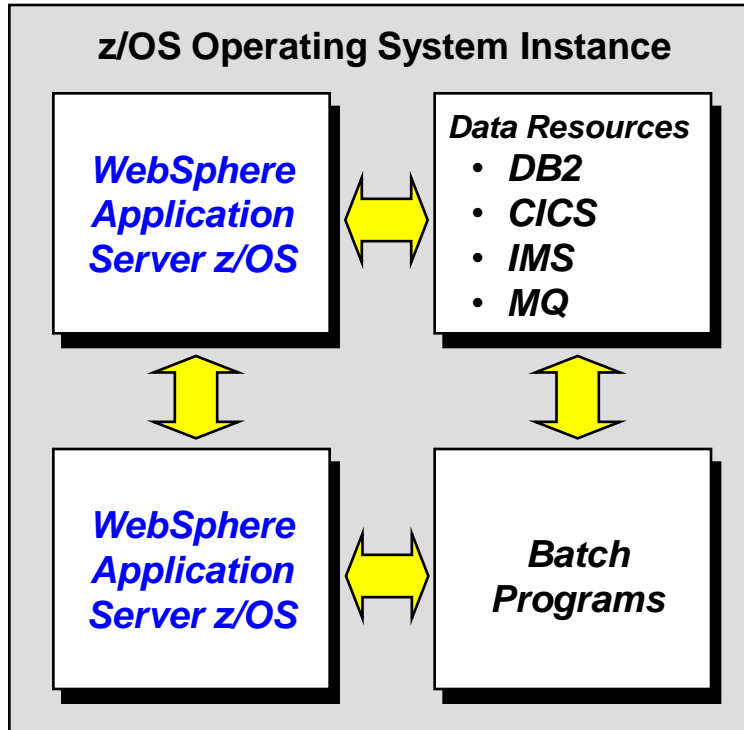
Passive Qualities of Service

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

Value attributes of the operating system

Value attributes of the hardware

Collocation Benefits

z/OS Operating System Instance

WebSphere Application Server z/OS	**Data Resources** • DB2 • CICS • IMS • MQ
WebSphere Application Server z/OS	**Batch Programs**

- ***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**

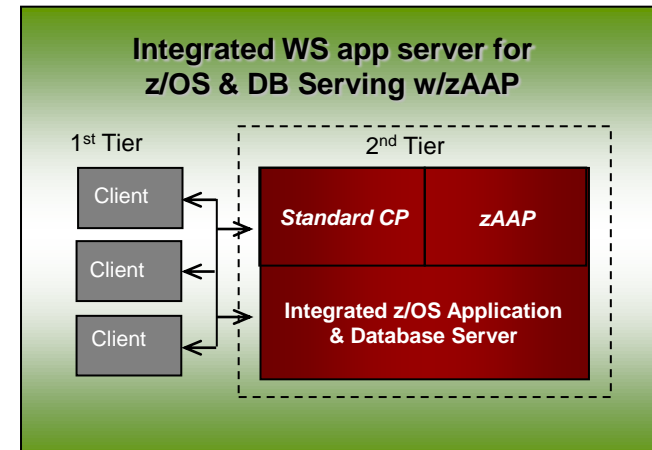*Efficient -- very low overhead so scalability can be addressed*

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

Fast -- for very high volume workloads

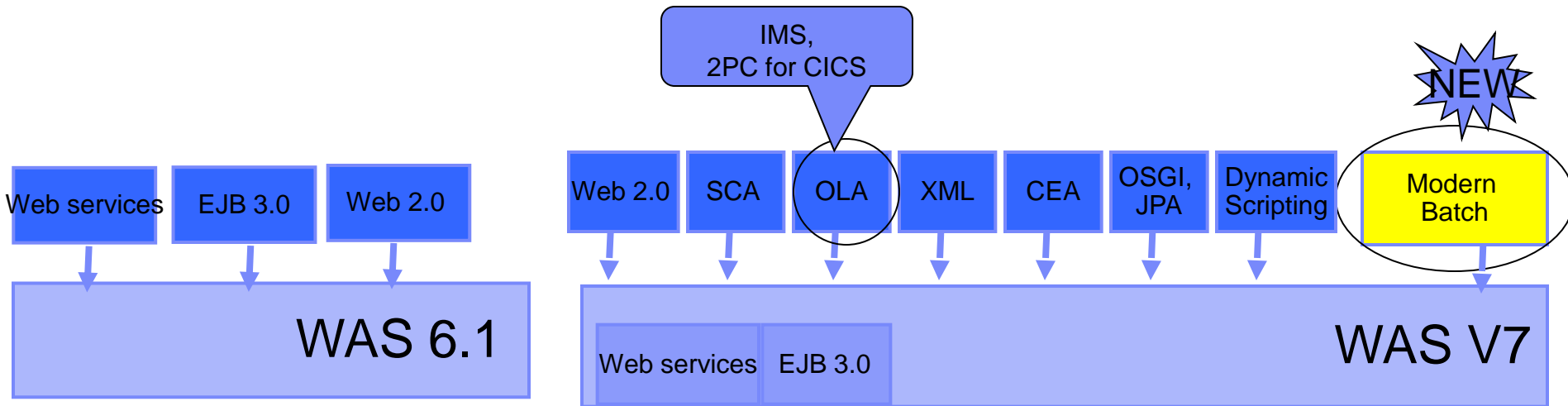# WebSphere Application Server for z/OS V7

- **Reduced cost of ownership and enhanced agility**
  - Common code and industry standards (JEE, Web Services, etc.)
  - zAAP enabled for low cost Java application deployment collocated with mission critical data

- **Innovation that matters**
  - Feature Packs for ongoing functional enhancements

- **The unique value of WAS for z/OS and its active platform optimization and exploitation**
  - Replicated Server cluster architecture leveraging shared data for scale and availability
  - Native OS support: RRS, RACF, zWLM, SMF, ARM, Parallel Sysplex
  - Optimization features designed to provide performance, security and data interaction, including FRCA, thread hang recovery, etc.
  - Collocation advantages when connecting to traditional mainframe subsystems – CICS, IMS, DB2
  - Other "Hidden Gems" documented in White Paper (WP101138) on Techdocs at www.ibm.com/support/techdocs

Integrated WS app server for z/OS & DB Serving w/zAAP

1st Tier	2nd Tier	
Client	Standard CP	zAAP
Client	Integrated z/OS Application & Database Server	
Client		

Innovation that Matters – Feature Packs

Revolutionizing the way customers consume application server technology now and in the future

IMS, 2PC for CICS

NEW

Web services	EJB 3.0	Web 2.0

WAS 6.1

Web 2.0	SCA	OLA	XML	CEA	OSGI, JPA	Dynamic Scripting	Modern Batch

WAS V7

Web services	EJB 3.0

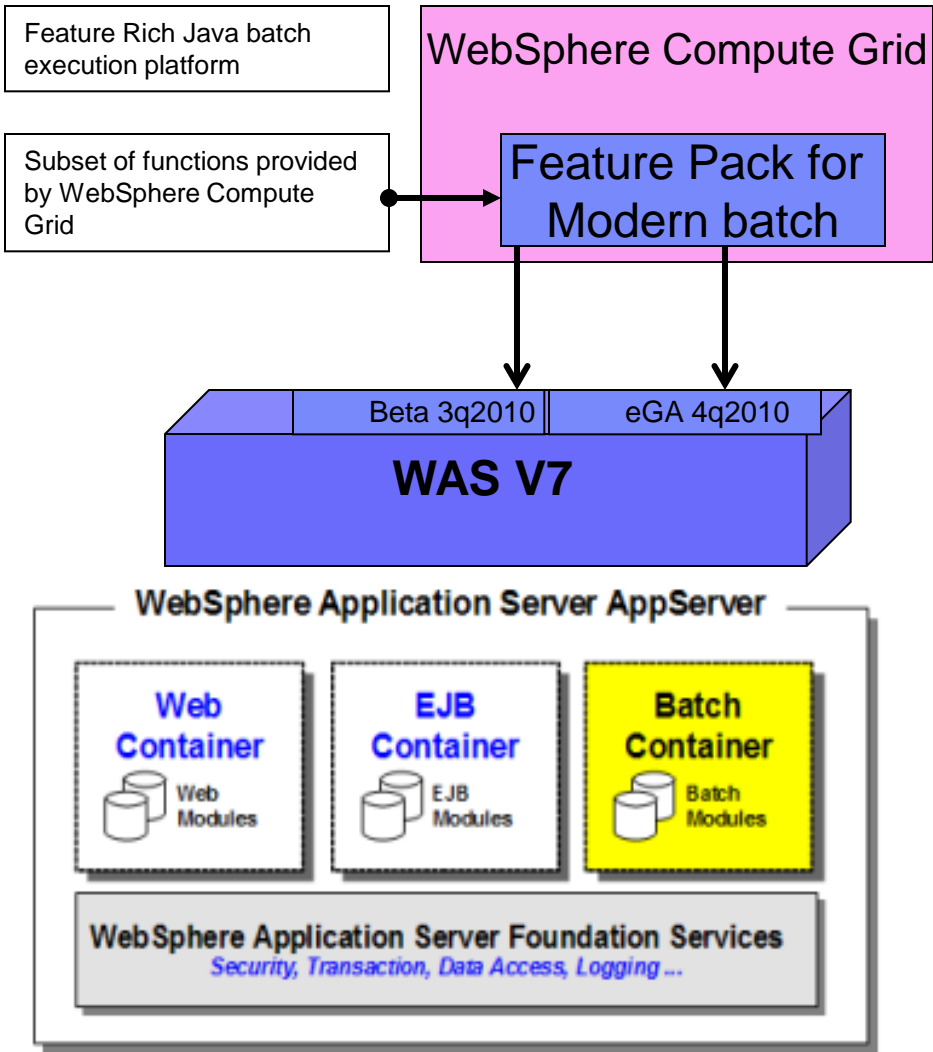**1.** Choose the application server technology you need.

2. Install additional functionality on core WAS 7

3. Build the Application Server you want without waiting for new releases.

As new technology evolves, so does WAS – get the technology you need now without waiting for a new release!

Jumpstart "Batch" Development and Deployment

Feature Rich Java batch execution platform

Subset of functions provided by WebSphere Compute Grid

WebSphere Compute Grid

Feature Pack for Modern batch

| Beta 3q2010 | eGA 4q2010 |

WAS V7

WebSphere Application Server AppServer

| Web Container — Web Modules | EJB Container — EJB Modules | Batch Container — Batch Modules |

WebSphere Application Server Foundation Services
Security, Transaction, Data Access, Logging ...

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

Value proposition
-   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

Achieving maximum performance through currency

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

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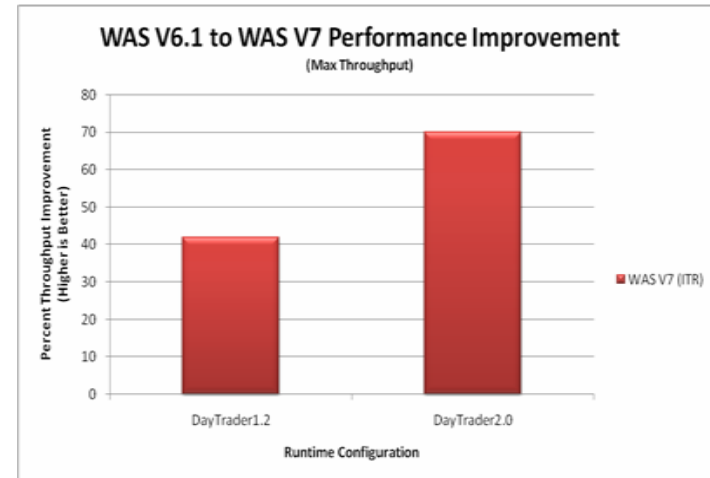(Max Throughput)

Compilers
- *z/OS XL C/C++ v1.11*
  - Improved a customer application ~20%
  - Enhanced system programming capabilities
  - Supporting latest Middleware and tools

Hardware
- Generation to generation price / performance gains
- Unique value of specialty engines
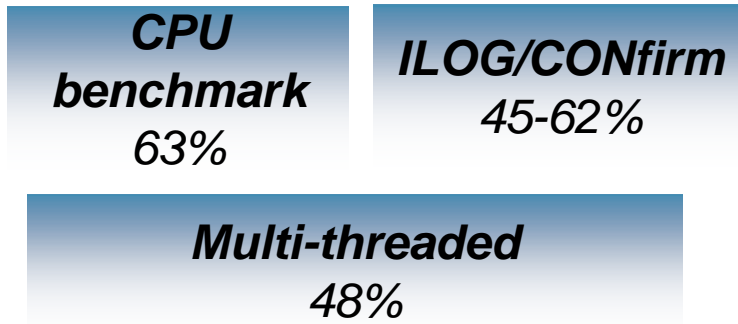- Ability to reduce energy costs by up to 80%

Java and WAS Performance with zEnterprise

Java6SR8

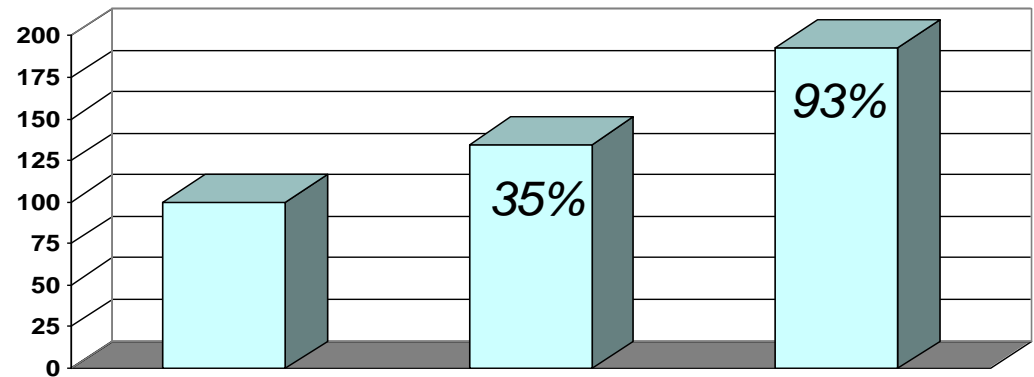World class per-thread performance yields outstanding results:

CPU benchmark *63%*
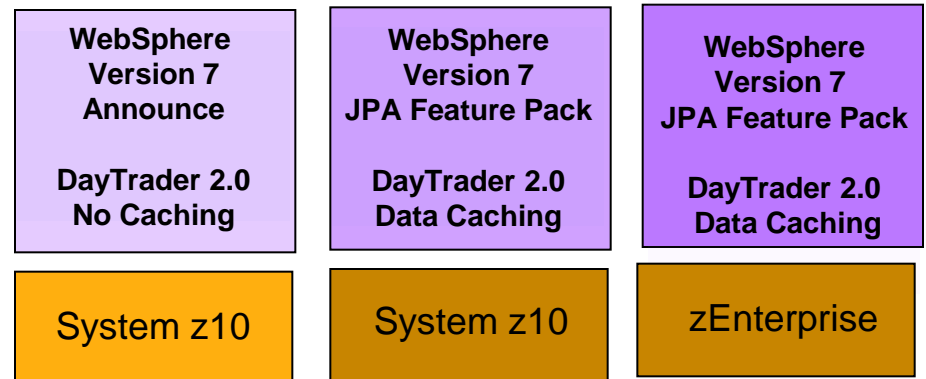
ILOG/CONfirm *45-62%*

Multi-threaded *48%*

Extensive hardware and software collaboration delivers deep platform synergy

- New out-of-order pipeline design
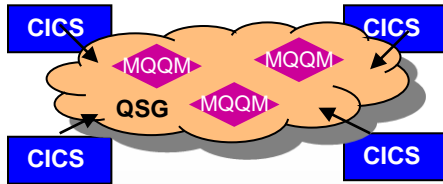- 70+ instructions
- Java runtime environment general optimizations

WebSphere V7

System z10 Announce	Uplevel Software	zEnterprise Hardware

93%

35%

Chart y-axis values: 0, 25, 50, 75, 100, 125, 150, 175, 200

WebSphere Version 7 Announce DayTrader 2.0 No Caching	WebSphere Version 7 JPA Feature Pack DayTrader 2.0 Data Caching	WebSphere Version 7 JPA Feature Pack DayTrader 2.0 Data Caching
System z10	System z10	zEnterprise

CICS is at the heart of smart business

Revitalize Business

"Real-time visibility for smarter decisions and actions"

Integrated Tool Solutions
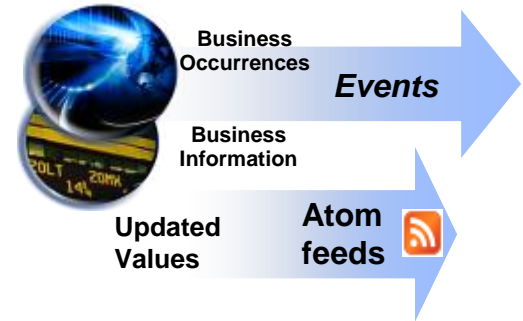
CICS TS · CICS TOOLS
CICS EXPLORER
PD TOOLS · RATIONAL TOOLS

CICS · **CICS**
MQQM · MQQM
QSG · MQQM
CICS · **CICS**

Tighter MQ Integration

CICS TS 4.1

Event source for Dynamic Business Networks

CICS Business Applications

Business Occurrences → *Events*

Business Information

Updated Values → **Atom feeds**

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 Explorer – The new face of CICS Transaction Server
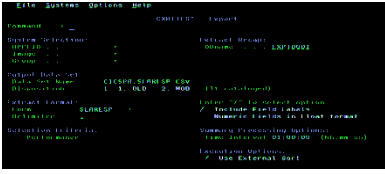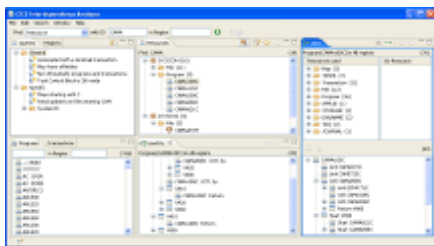
Reduce the need for multiple interfaces

Before...

Now ...

Web

ISPF

CICS 3270

Eclipse

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 V8

- OMEGAMON XE for CICS V4.2

- Rational Developer for System z V7.6

http://ibm.com/cics/explorer/download

Accelerating return on your CICS investments
IBM CICS Deployment Assistant for z/OS

- New Deployment perspective integrates with CICS Explorer

- Discover and View CICS system Topology Model

- Automated creation, deployment, customization, and control of CICS regions

- Edit files, submit JCL, view output

- Simplify tasks, save time, and reduce risk

- More info at http:
ibm.com/software/htp/cics/deployment/
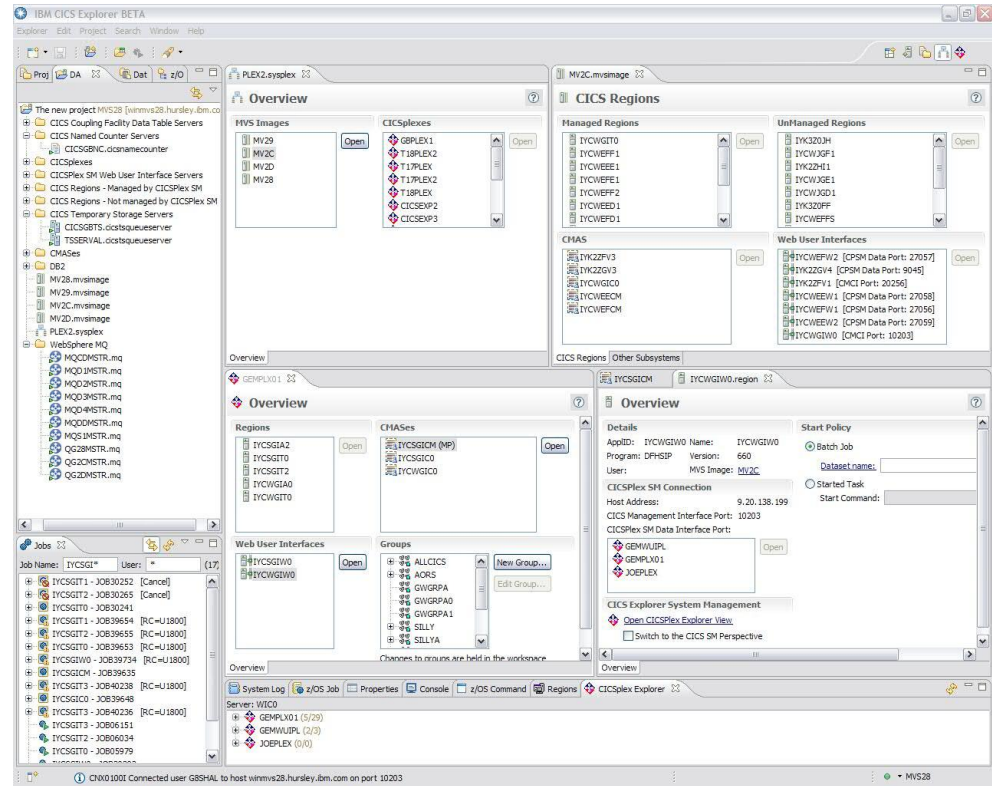
  – Features and benefits, data sheet, announcement letter …
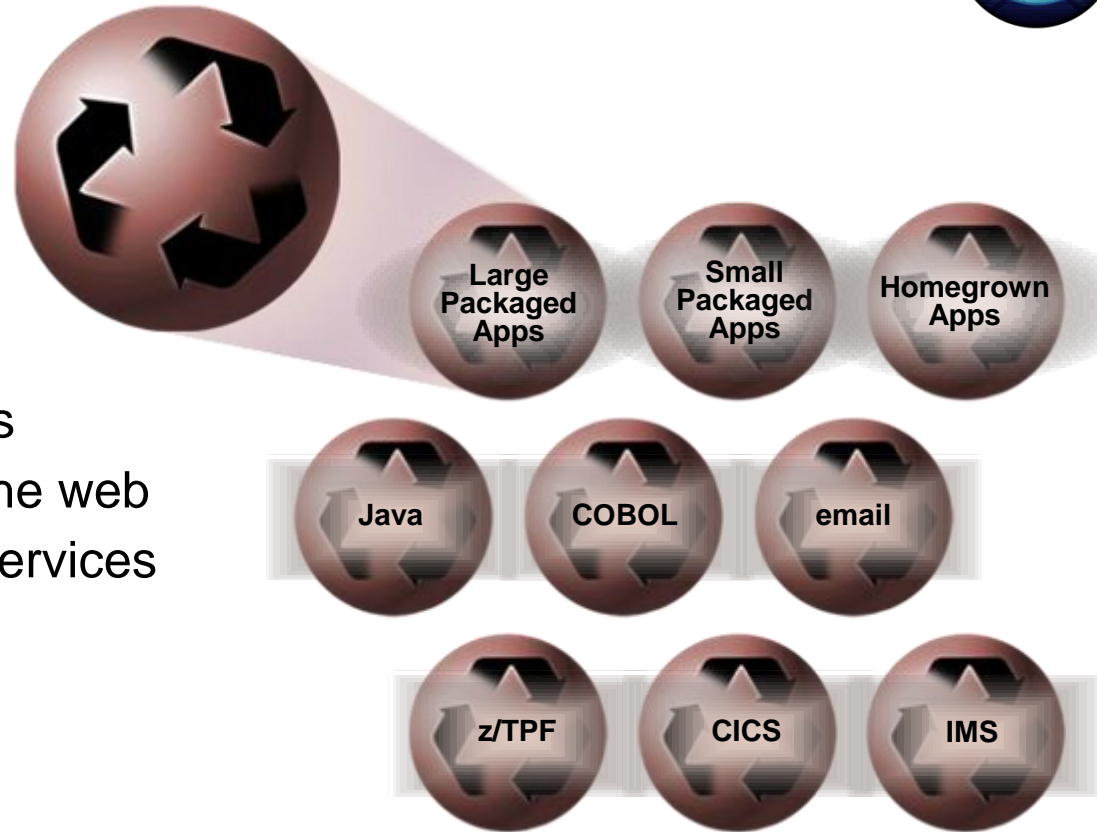
Reuse business applications
-- *Enable agility required for smart business outcomes*

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

Large Packaged Apps

Small Packaged Apps

Homegrown Apps

Java

COBOL

email

z/TPF

CICS

IMS

Benefits

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

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 and respond to dynamic business situations"

SOA Connectivity and Integration

"Quickly respond to changing customer expectations and business demands"

Business Process Management

An edge in the market – SOA Connectivity and 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 and duplication by leveraging existing assets**

Highmark, US health insurer

Industry Pains

- Develop IT system dexterity to serve a new business model: packaged services tailored to customers' individual insurance requirements

Smarter Business Outcomes:

- Replace rigid point-to-point integration with flexible SOA framework

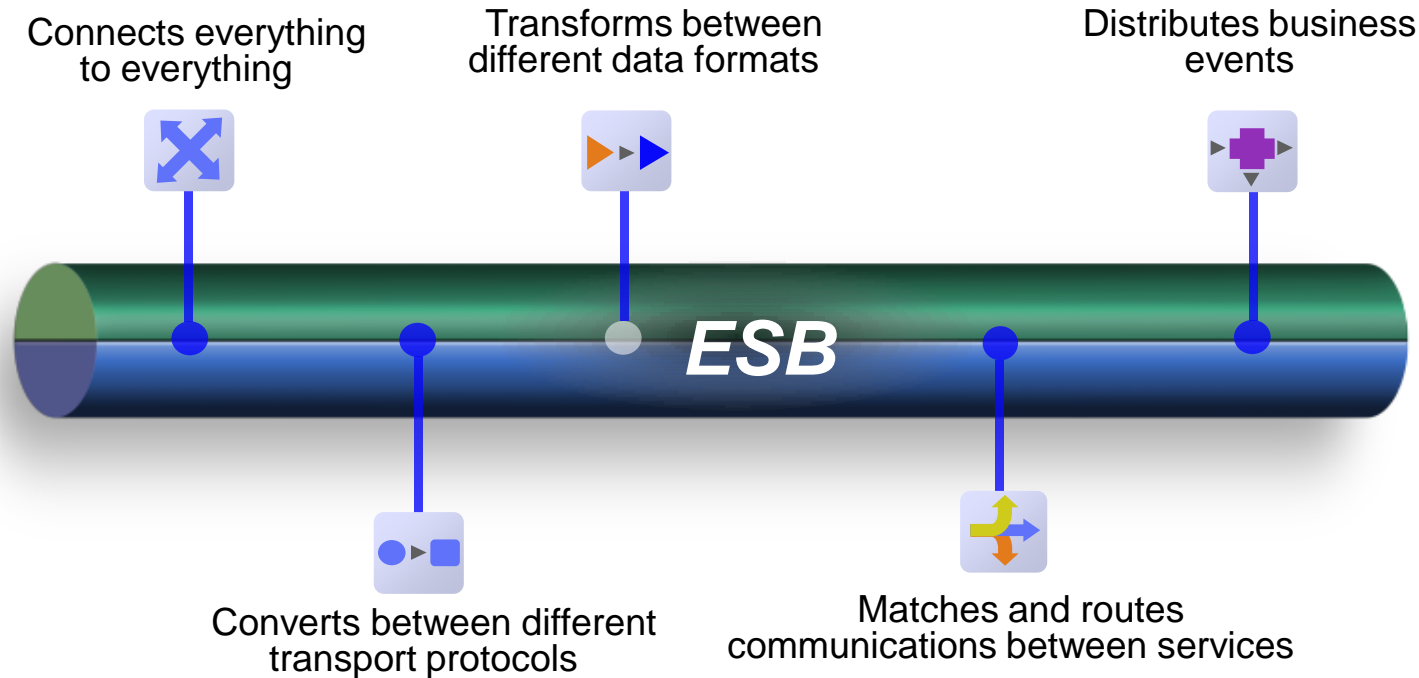- "Simplify integration between platforms to speed up and lower cost of new consumer service development

Why SOA Connectivity and Integration?

Use WebSphere Message Broker to create an ESB between various applications as part of SOA implementation

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 and 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 and governance

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

- **Manage** and govern your ESB messaging and 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
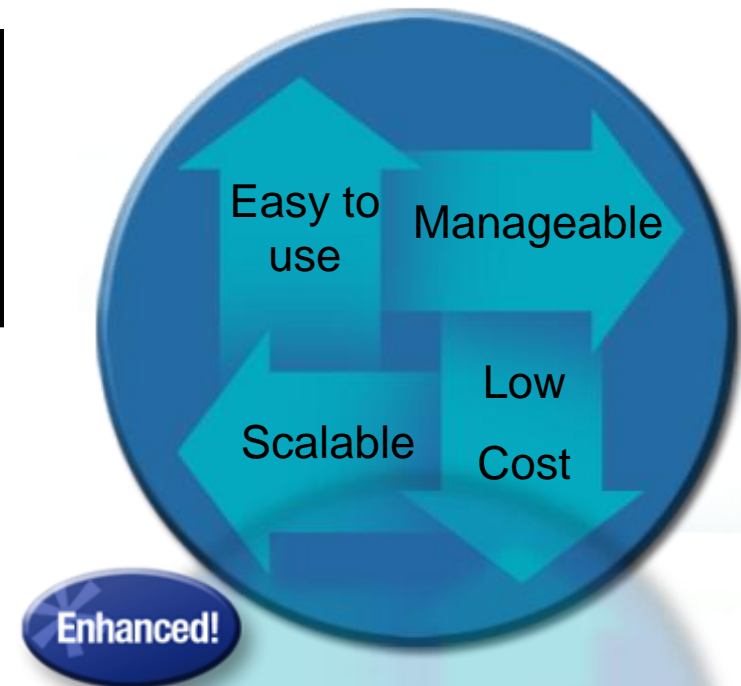
Easy to use

Manageable

Low Cost

Scalable

Enhanced!

Three ways to drive agility while optimizing costs

Business Needs

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Dynamic Application Infrastructure

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SOA Connectivity and Integration

"Quickly respond to changing customer expectations and business demands"

Business Process Management

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

Ball State University

Industry Pains

- The need to create an end-to-end Web-based registration system for 20,000 students

Smarter Business Outcomes:

- SOA with BPM bridges siloes between .NET and mainframe

- Near real-time information regarding availability and requirements of courses yields greater revnue from successful enrollments and higher user satisfaction

Why Dynamic Business Processes?

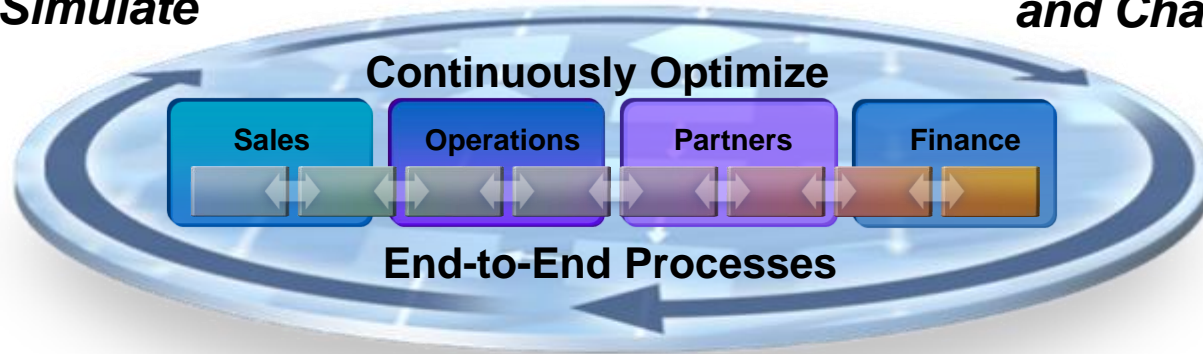With WebSphere Business Modeler and Process Server, there is no application or information that cannot be reached.

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

Complement and extend existing applications

Leverages reusable process components

Lower Costs

Reduce cycle time

Easier to Manage

IBM WebSphere Process Server for z/OS

IBM WebSphere Business Monitor

IBM WebSphere Business Modeler

Business events all around us: How to take action

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
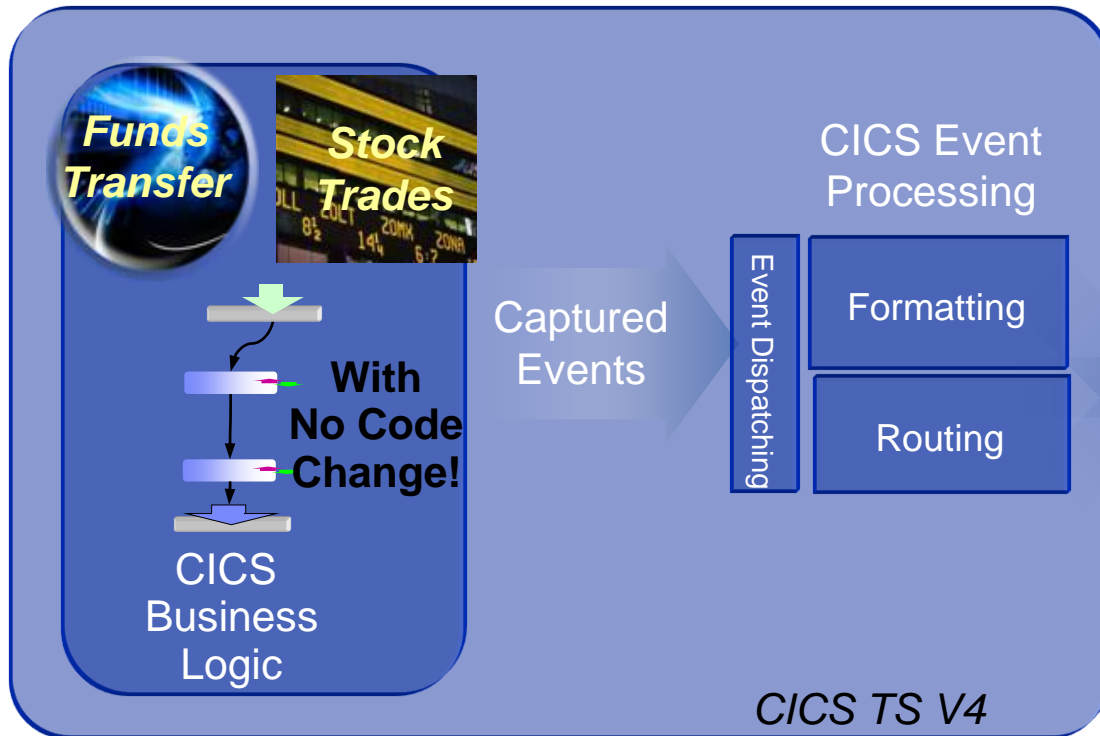
Over **190 Billion** emails are sent daily

Capture mainframe events
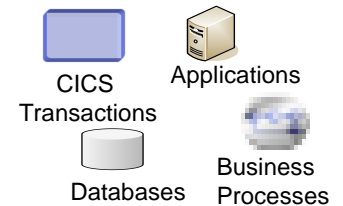## for smarter business outcomes

CICS Event Sources

Detect fraud and take action

WebSphere Business Monitor

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 Events

CICS Transactions

Applications

Databases

Business Processes

Other Event Consumers

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
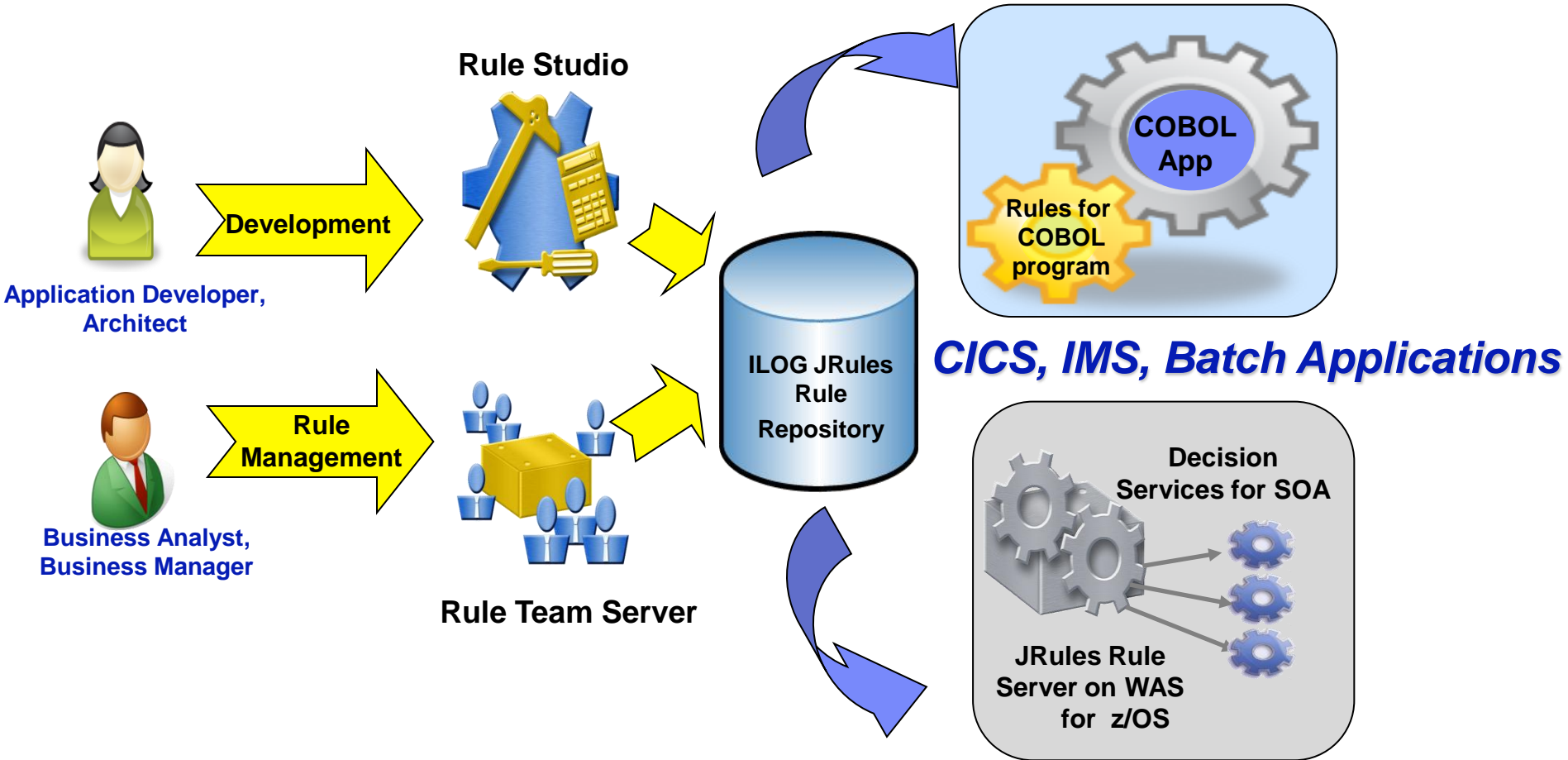
Benefits of a Dynamic Application Infrastructure on System z

- 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

Let's Build a Smarter Planet on System z