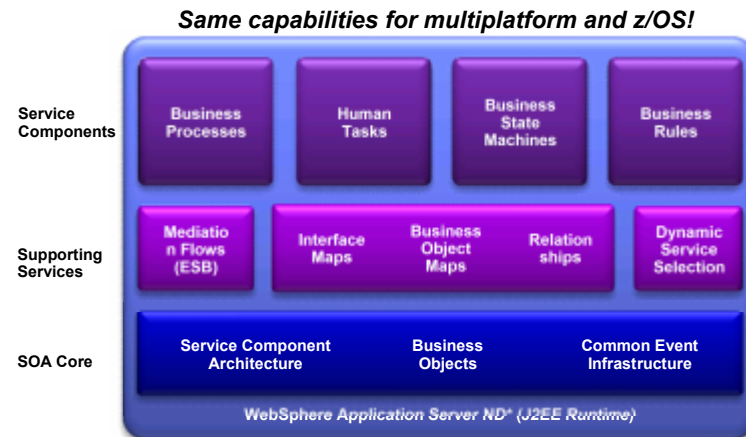


WebSphere Process Server – Overview

- Designed to enable simple and flexible execution of standards-based business process solutions in a SOA
- Designed to orchestrate a business' assets – people, processes and information – to help form highly optimized and effective processes in a single SOA environment
 - Robust process automation, advanced human workflow, business rules, system-to-system and B2B capabilities on a common SOA platform
 - Helps maximize reuse of existing IT assets in an SOA
- Designed to Inherit the robust capabilities and qualities of service provided by WebSphere Application Server
 - Advanced clustering and failover capabilities
 - Single set of administration tools
- Includes an integrated, open standards-based ESB
 - Providing a flexible connectivity infrastructure for integrating applications, data and services
- Designed to enable real-time process modifications
 - Plug-and-play capabilities while system is running
 - Ability to change business rules on the fly
 - Extend human task activities with ad hoc tasks
 - Modify execution of in-flight process instances
- Delivers an out-of-the-box Web 2.0 business user client



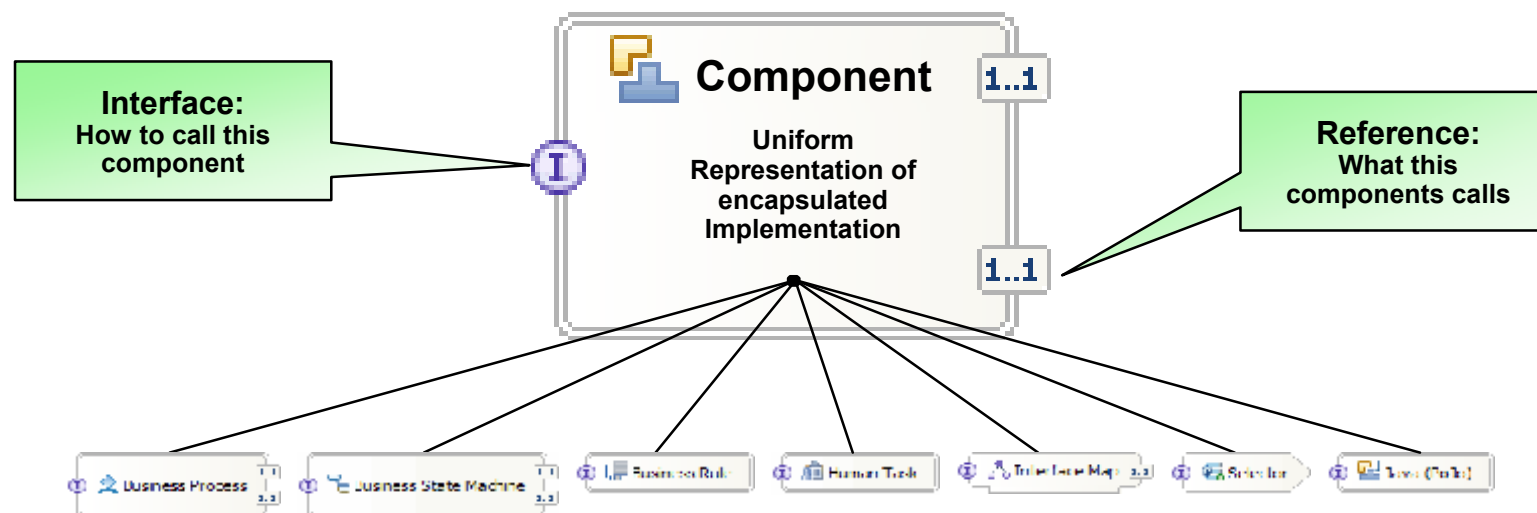
*WPS for z/OS includes WAS for z/OS

Agenda

- Overview
 - Service Component Architecture
 - Common Event Infrastructure
 - Business Processes
 - Human Tasks
 - Business Rules
- Topologies
- Administration
- Performance

Common Invocation Model

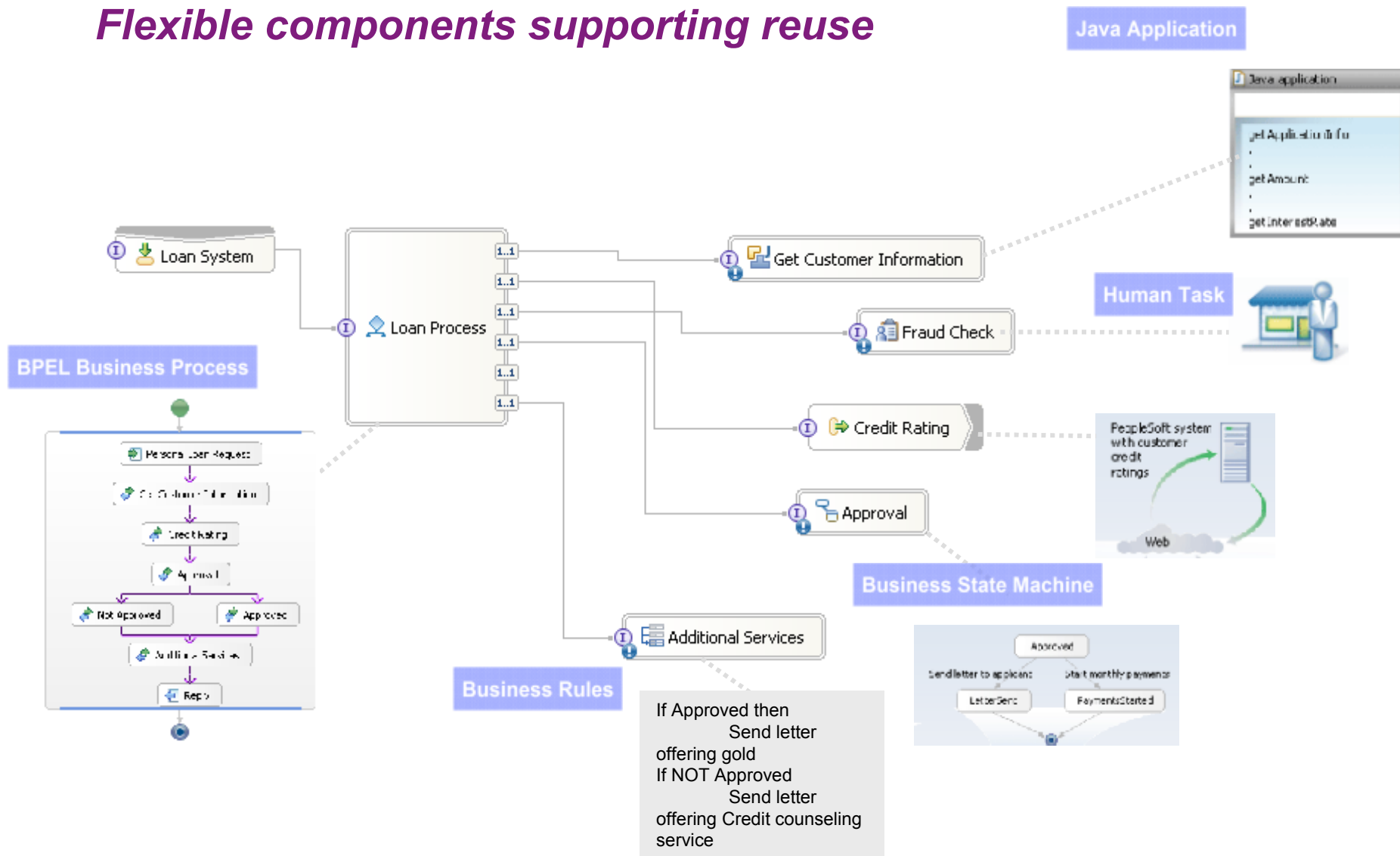
Service Component Architecture



- Encapsulate components for reuse
 - Service Components are wired together to form deployable solutions
 - Business Objects are the data flowing between Service Components
- All components (e.g., services, rules, human interactions) are represented consistently and invoked identically - encapsulation and reuse will reduce development costs
- Increased productivity, reduced cost

Common Invocation Model

Flexible components supporting reuse

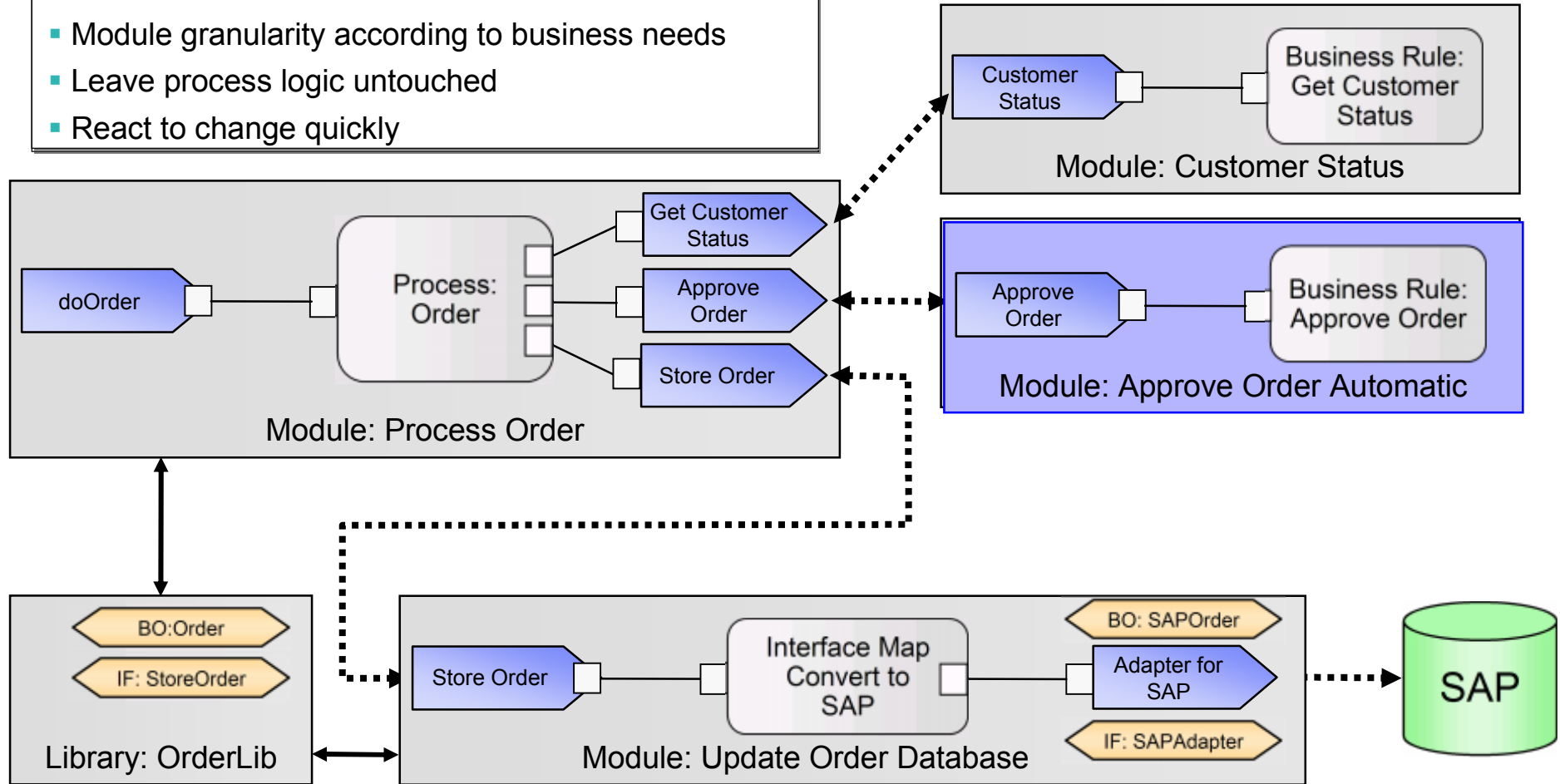


Using Modules for Building Applications

Encapsulation and reuse of functionality

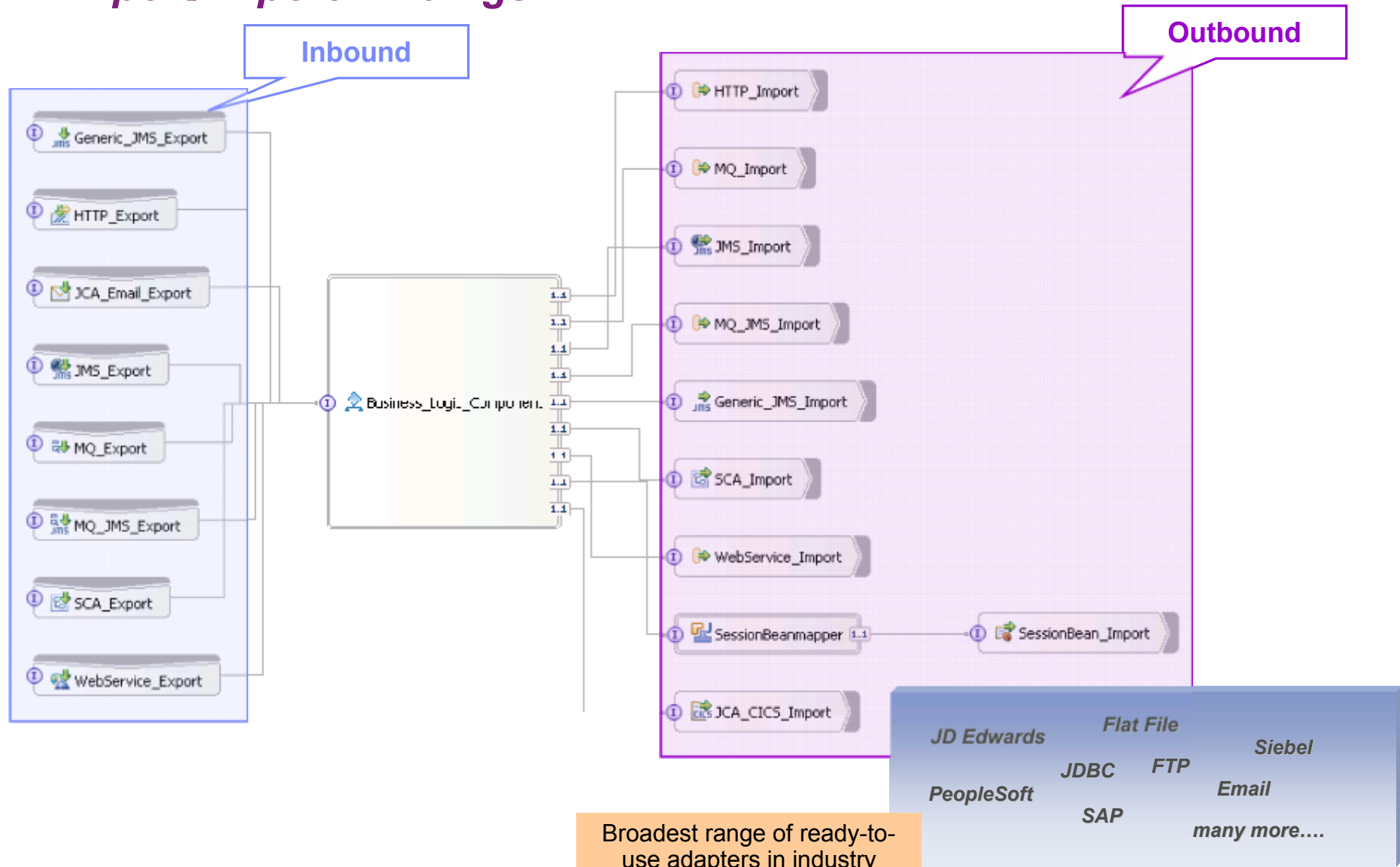
Business Value:

- Module granularity according to business needs
- Leave process logic untouched
- React to change quickly



Common Invocation Model

Import/Export Bindings

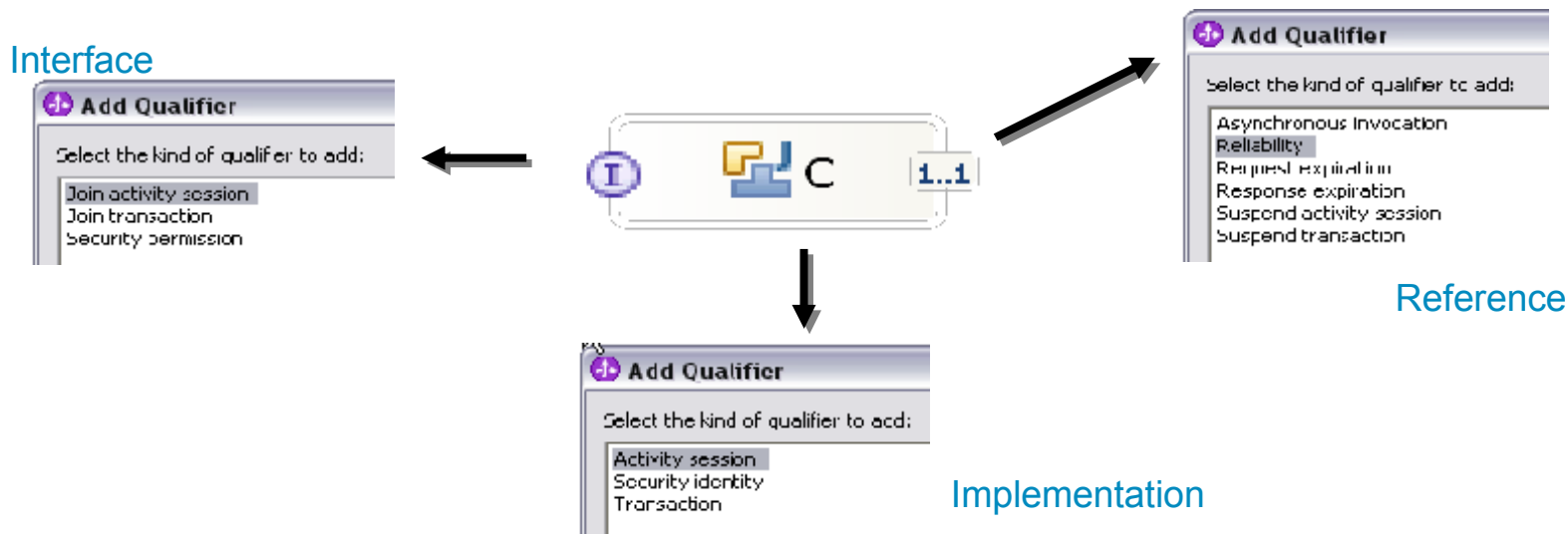


Broadest range of ready-to-use adapters in industry

Common Invocation Model

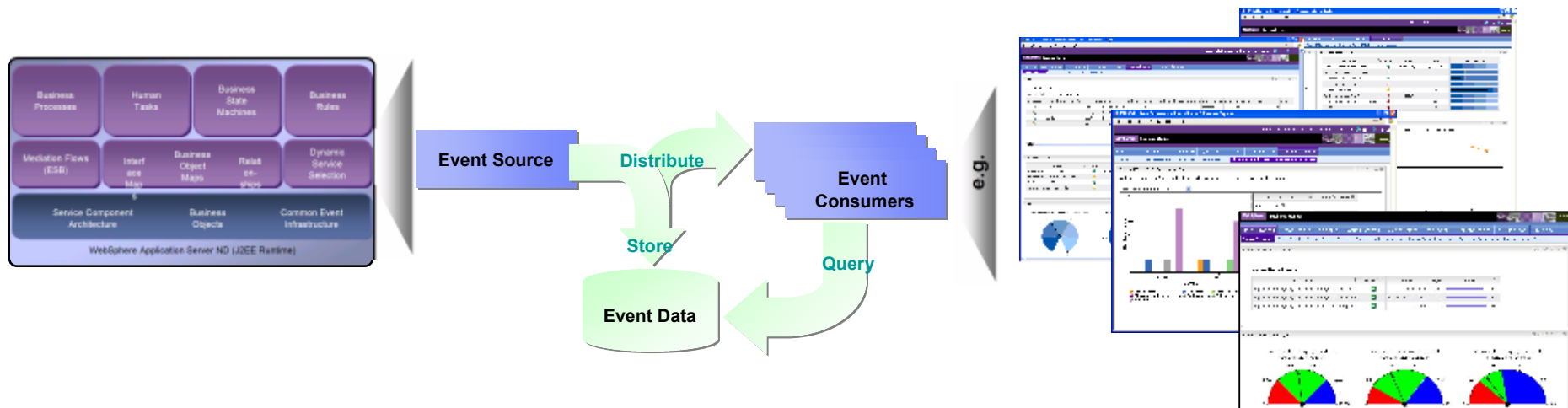
Quality of Service

- Qualifiers provide the ability to specify quality of service requirements from the SCA runtime
- Qualifiers fall into one of the following categories
 - Transaction
 - Security
 - Asynchronous Reliability
- Qualifier can be specified on component references, interfaces, and implementations



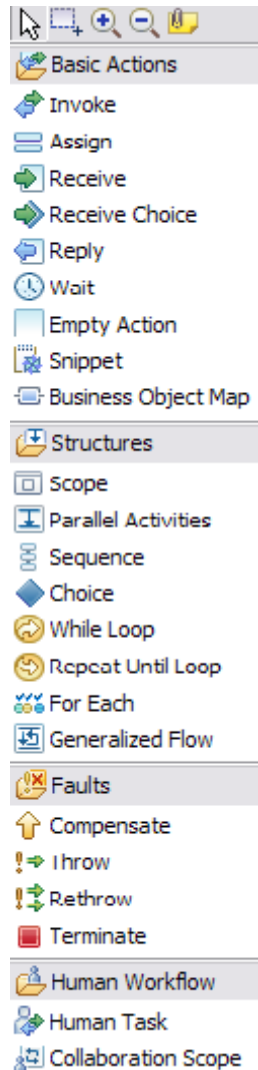
Common Event Infrastructure (CEI) *Recording Business Events*

Based on standardized
Common Base Event (CBE)



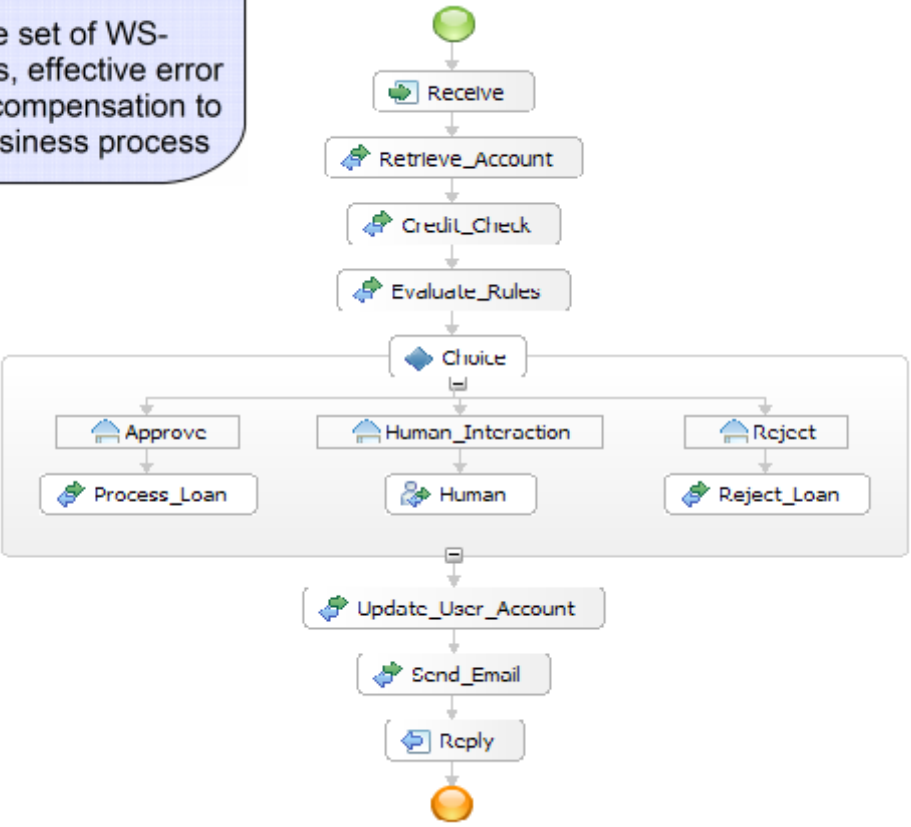
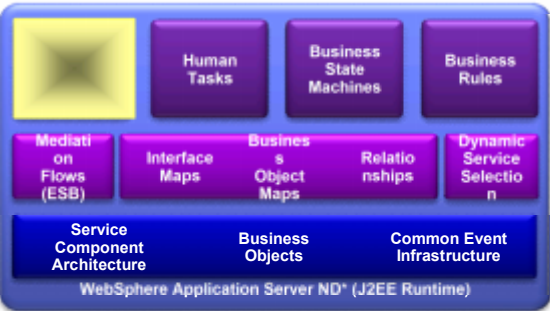
- An Event occurs when something significant happens in the system
 - e.g. an application processes a new order, or a failure occurs in a critical part of the system
- All event objects containing the business data are passed to the event infrastructure
 - e.g. Tracking the progress of a business process, audit trails
- Common way to publish events from multiple sources end-to-end
- Allows other applications or administration tools to easily consume business events
- Business Events can be modeled and passed to business dashboards provided by WebSphere Business Monitor

Business Process Engine



Simple and flexible execution of standards-based business processes

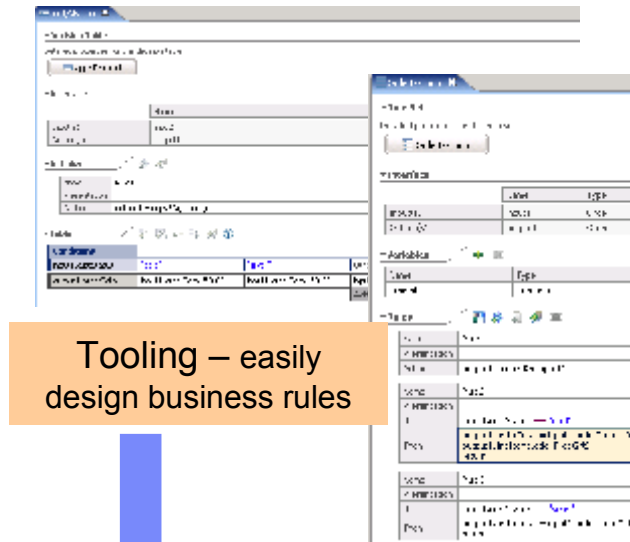
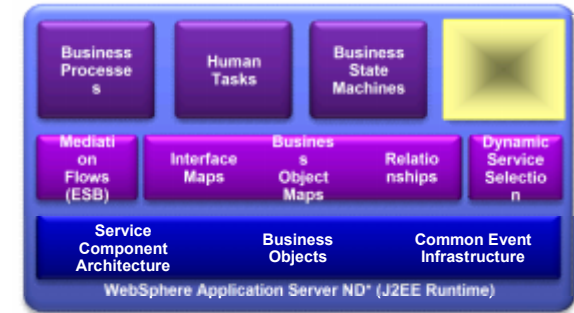
- Leverage large set of WS-BPEL activities, effective error handling and compensation to define your business process



Business Rules

Externalize Business Logic for Flexibility

- Business Rules add value to your business
 - Expose process decision points as dynamic business parameters
 - Consistency across the business – e.g. all application access same business rule
- Ease of Use
 - Real-time business change - Adjust business rules on the fly through web interface
 - Audit & staging concept
- Choice between WPS built-in Rules Engine and ILOG JRules



Tooling – easily design business rules



Runtime – add / change business rules on the fly

AddressmentES - Project

Edit Mode: CreditAssessmentES - Project

Save | Cancel | Messages: []

General Information

Last Published: 21-Jun-2005 13:03:00 GMT | Status: Original

Description: []

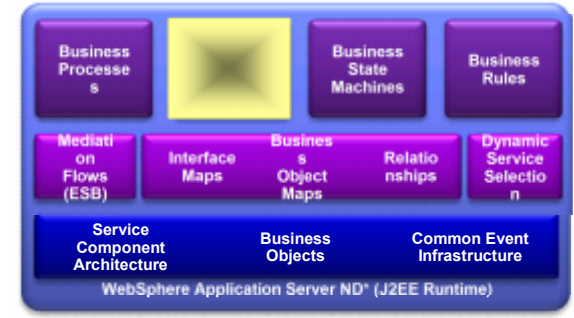
Rules

New Function Information

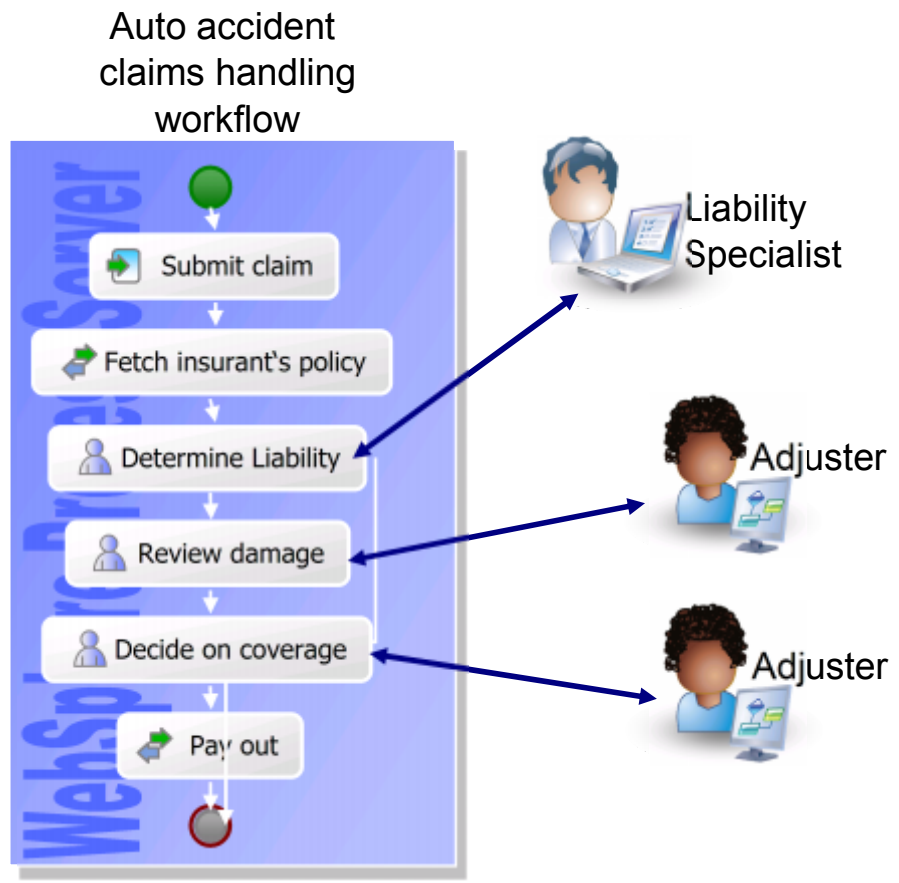
| Name | Rule | Action |
|-------|--|----------------|
| Rule1 | Set initial value. This should be the first rule. | [] |
| Rule2 | For Country [usa] an account is able if [income] requires credit score greater or equal to [min]. | [] [] Delete |
| Rule3 | For Country [usa] and [income] greater than [min] requires credit score greater or equal to [min]. | [] [] Delete |
| Rule4 | Group of 2 first rules. All complete rules create some before this. | [] [] |
| Rule5 | One of the final rules. It is a state rules should come before this. | [] |

Human Workflow

Integrate your workforce



- Include people into automated business processes
 - Exception handling for automated process steps
 - Manual review and approvals
 - Legal regulations, compliance and policy fulfillment
- Improve overall workforce productivity end-to-end
- Simplify task execution, including support for rich collaboration



Human Workflow

Rich work assignment capabilities

You want to ...

- Assign work to end users in a flexible and dynamic way
 - “Assign the right task to the right person at the right time”
- Control which work and how much work is assigned to end users



- Based on your pre-existing staff directory, e.g. LDAP
- Work is assigned based on user roles or organizational attributes
 - Credit risk assessment must be done by user in role „Credit risk expert“
 - Travel approval must be done by manager of the applicant
- Use runtime business data as assignment criterion to dynamically decide who will receive work
 - Support requests from customer ACME are assigned directly to this customer’s client rep
- Many work assignment patterns supported
 - E.g. 4-eyes principle
- Work can be assigned to individuals or to groups
 - All group members work on a shared work list
 - Or every end user works on his/her individual work list
- If users are absent, work can be automatically re-directed to their substitutes

Human Workflow

Flexible user clients



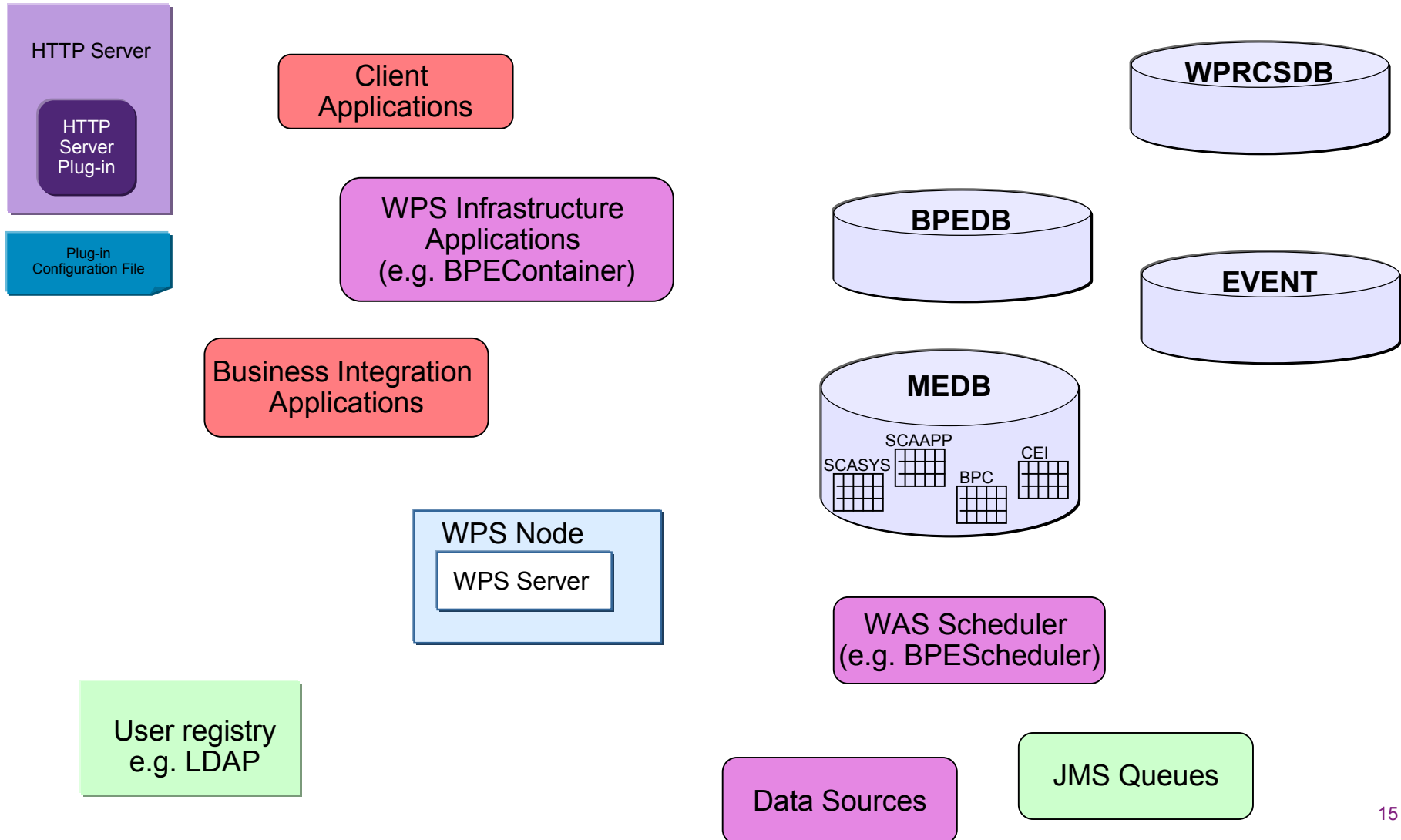
- WPS provides client offerings that can be used by end users to:
 - View and filter lists of assignments
 - Select work to perform and complete it
 - Escalate, prioritize, transfer, follow-up on or reject work
 - View statistical data on processes and activities
- Flexible User Clients supporting JSP, Forms or WebSphere Portal Server can be customized to meet many different usage scenarios. Generated with just one click!
- Web Services interface enables additional workflow client platforms, including .NET, C/C++
- ... and of course: Business Space

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WebSphere Process Server

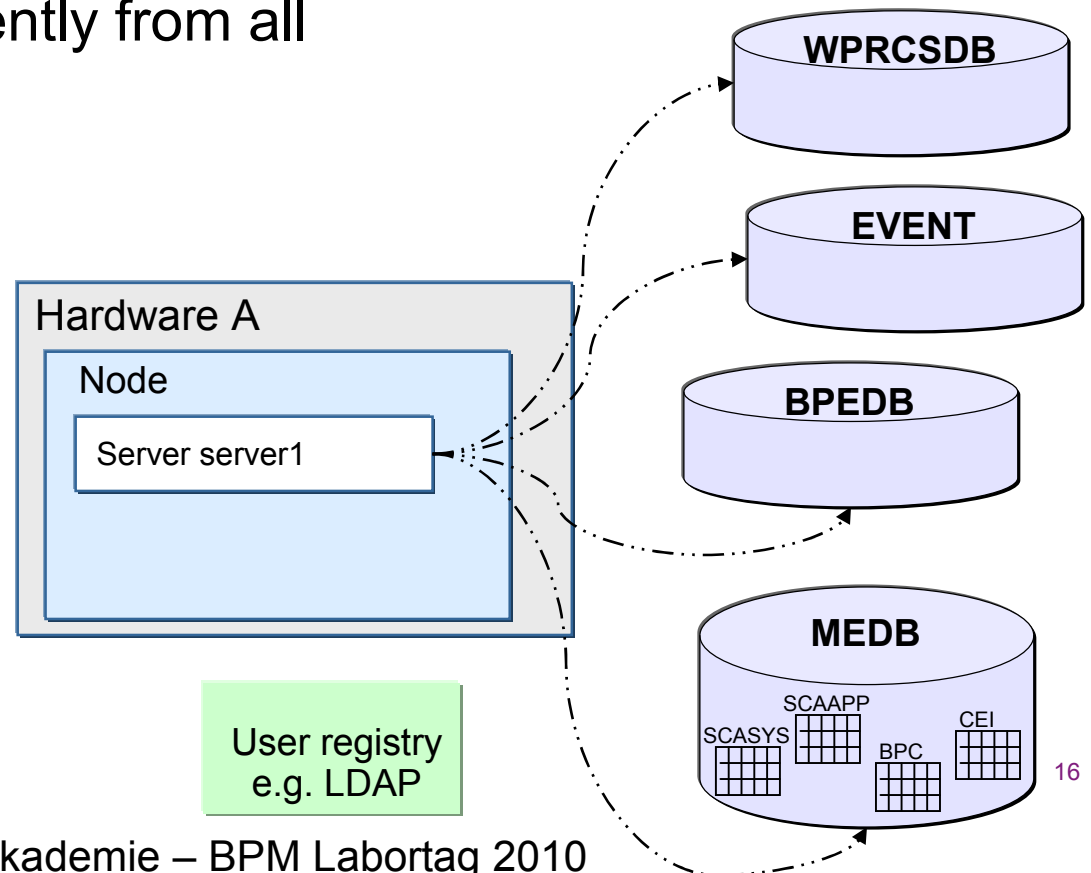
From an infrastructure perspective



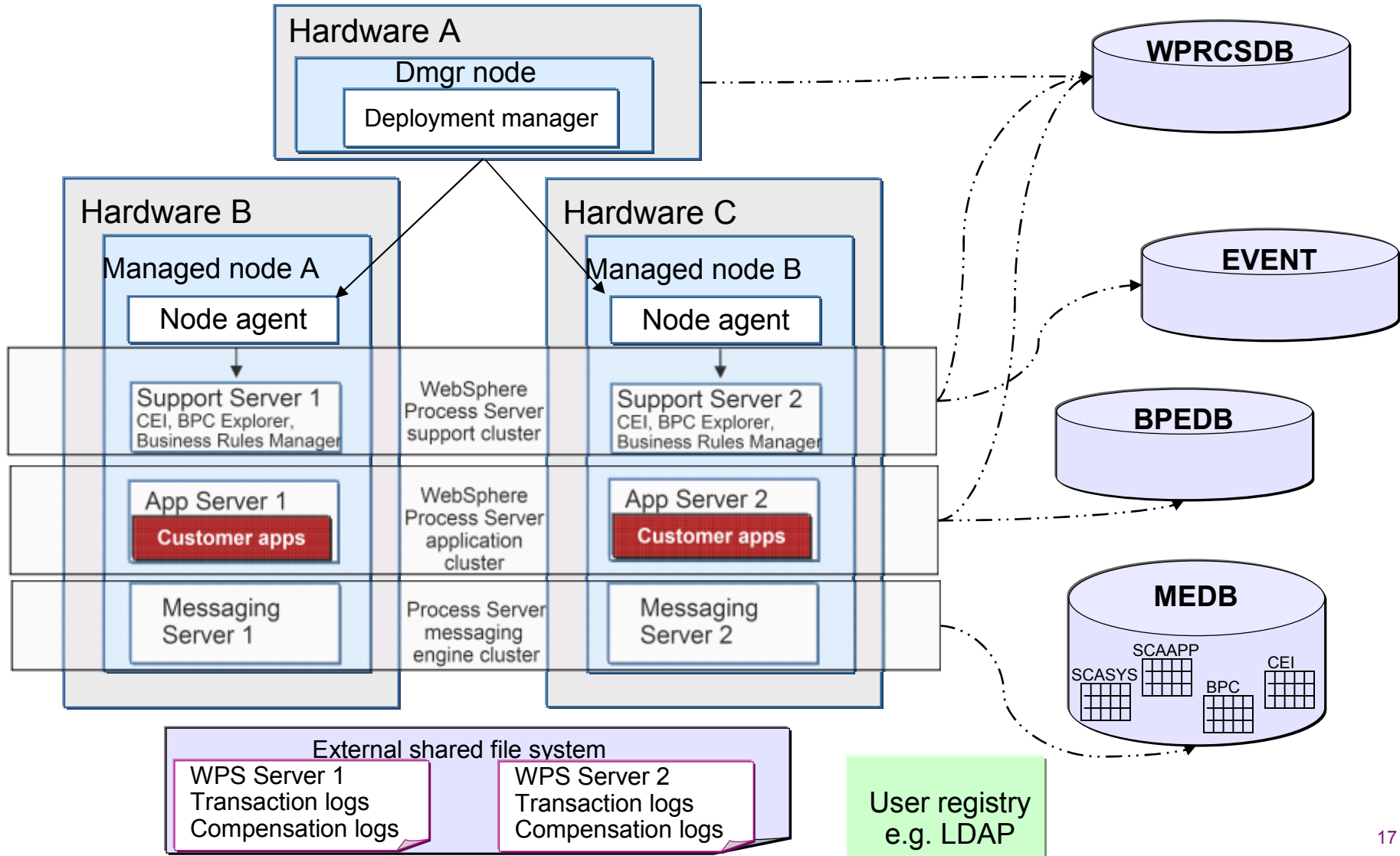
WebSphere Process Server

Stand-alone server

- A **stand-alone server** profile has its own administrative console
- Each stand-alone server is fully operational and is managed independently from all other servers.
- A stand-alone server does NOT provide
 - Scalability
 - High Availability



WebSphere Process Server Network Deployment – Golden Topology

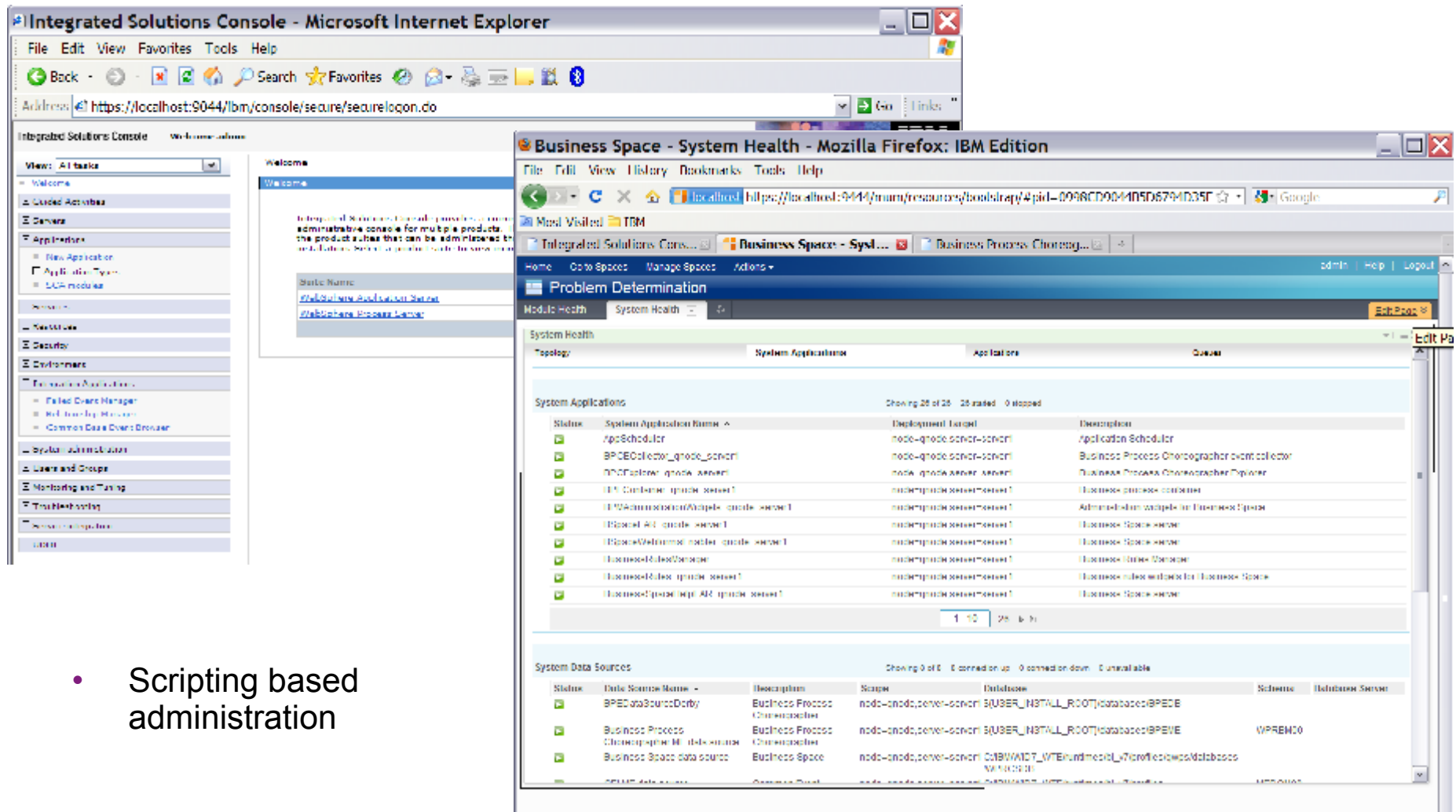


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Administration Tools

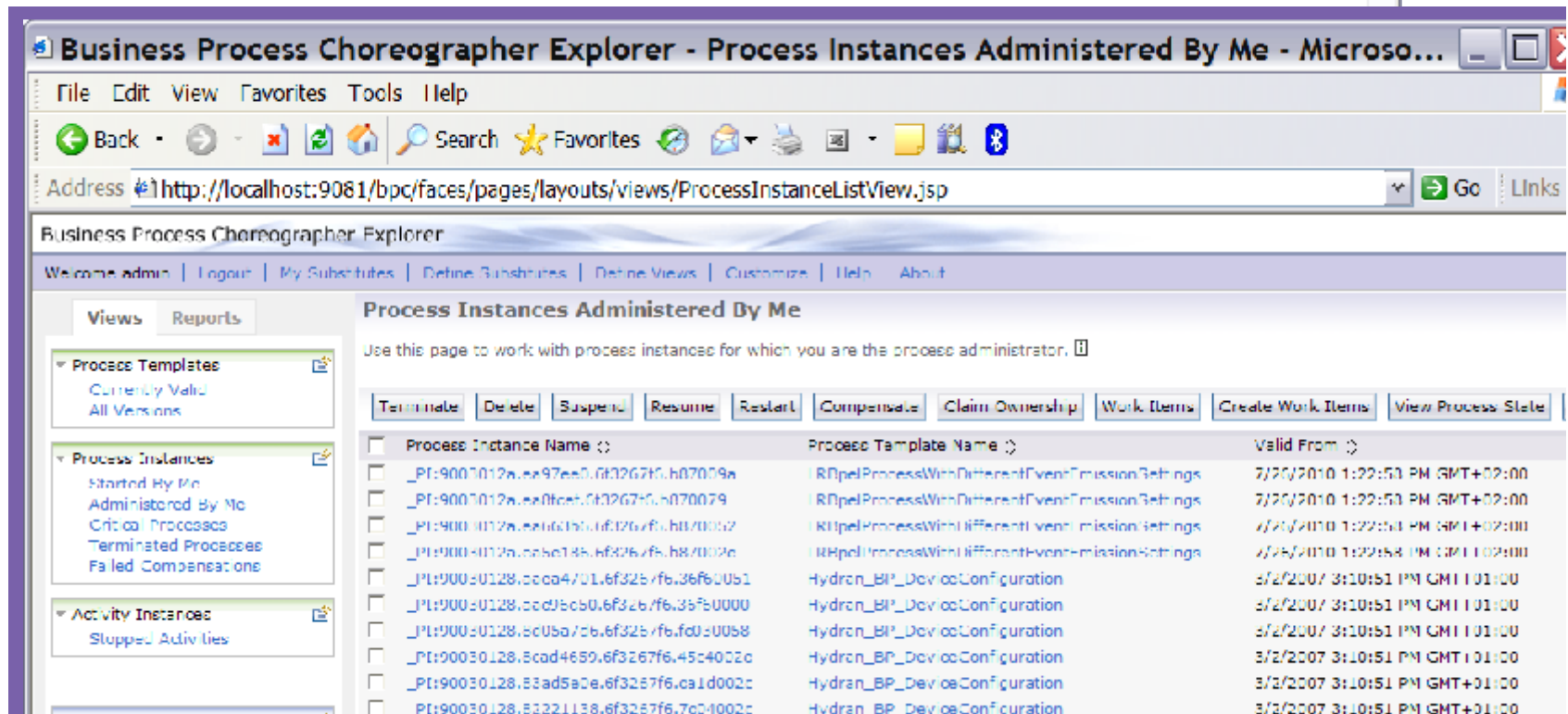
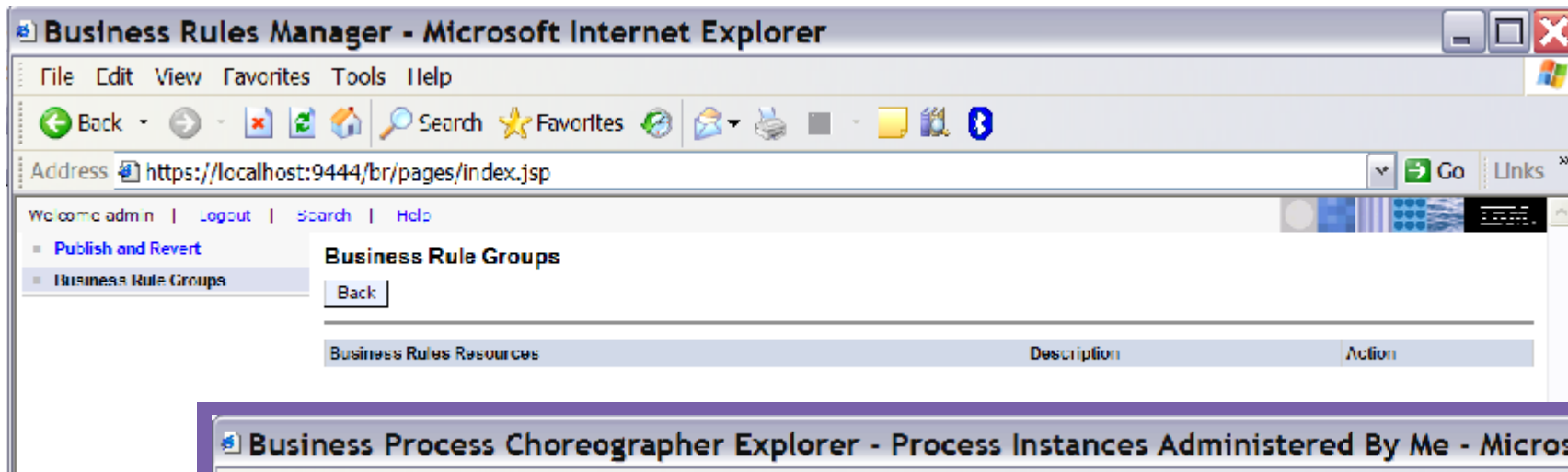
- GUI based administration



- Scripting based administration

Administration

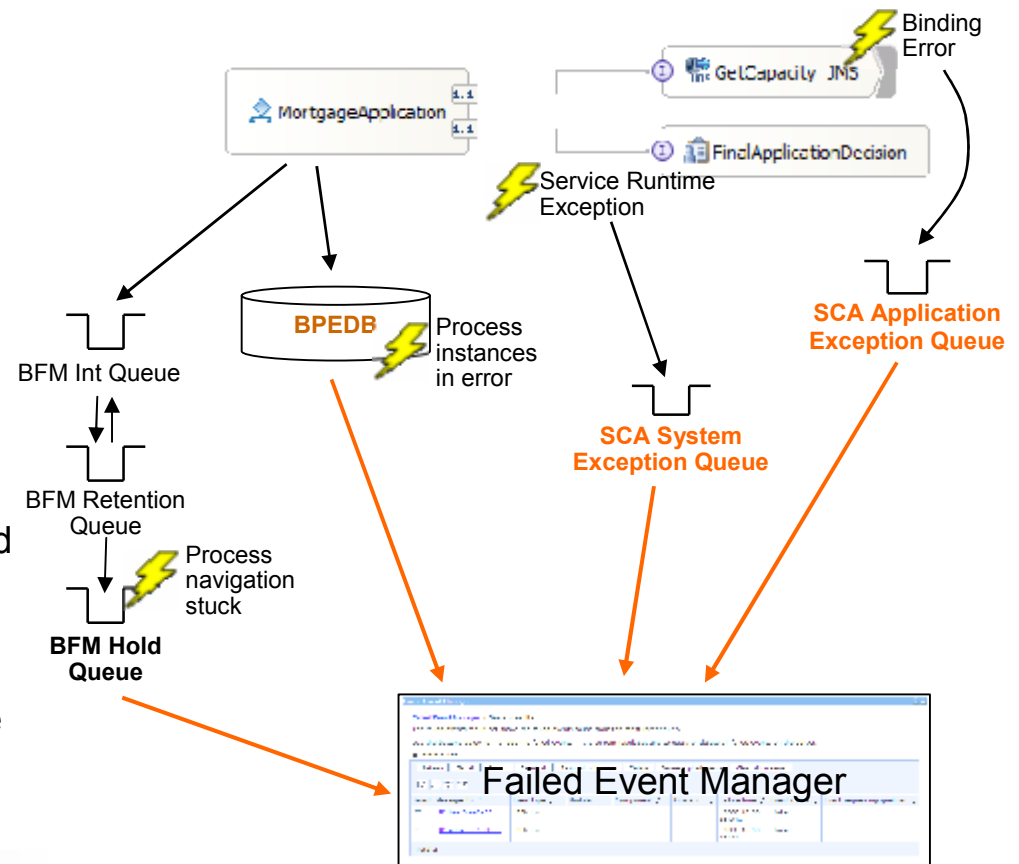
Business Rules, Processes and Human Tasks



Administration

Failed Event Manager - handle failed events in the system

- Single point to exploit failed events for end-to-end scenarios, including errors in
 - SCA asynchronous invocations
 - JMS Bindings
 - Business Process infrastructure
 - Long running business processes
 - STOPPED activities
 - TERMINATED and FAILED process instances
 - Replay messages directly from the Failed Event Manager
 - Additional information about the context like PIID and process template name are displayed



Benefits

- One stop shop for runtime failures

Administration

Failed Event Manager - handle failed events in the system

The screenshot shows the IBM Integrated Solutions Console interface in a Microsoft Internet Explorer browser window. The address bar shows the URL: <https://localhost:9044/ibm/console/secure/securelogin.do>. The page title is "Integrated Solutions Console - Welcome admin".

The main content area displays the "Failed Event Manager" section. It includes a search bar and a table of failed events. The table has the following columns: Select, Event ID, Event type, Module, Component, Operation, Failure time, Event status, and Event qualifier.

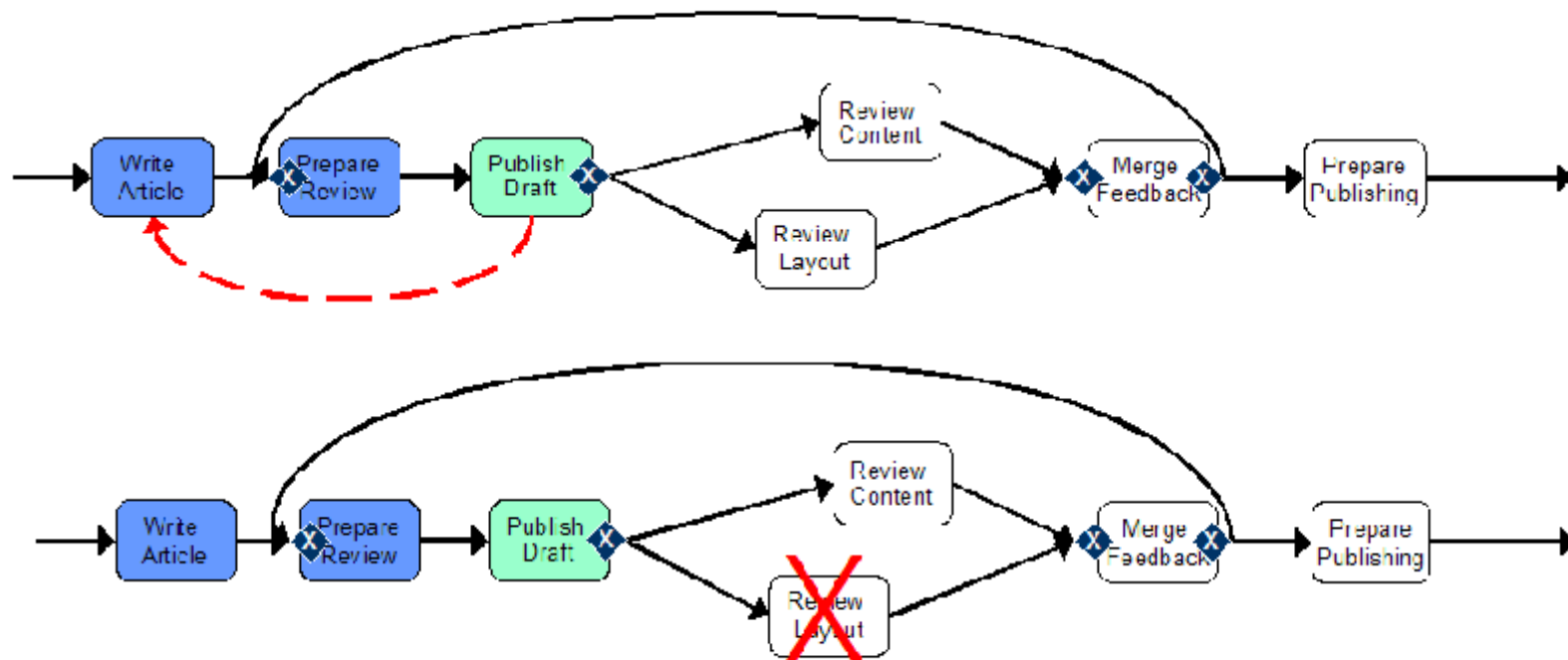
| Select | Event ID | Event type | Module | Component | Operation | Failure time | Event status | Event qualifier |
|--------------------------|-------------------------------------|------------|--------------|------------|------------|--------------------|--------------|-----------------|
| <input type="checkbox"/> | ID:652f2ed/ef027... | BPMHold | | | | 2010-07-26 14:12.. | failed | |
| <input type="checkbox"/> | ID:aa2b2c1c5ade7... | JMC | M70202CallEr | JMCImport1 | operation1 | 2010-05-10 17:25.. | failed | |
| <input type="checkbox"/> | ID:b3f723dbfd9fc... | BPMHold | | | | 2010-07-26 14:16.. | failed | |
| <input type="checkbox"/> | ID:c110e0a304d1c... | DFMHold | | | | 2010-07-26 14:16.. | failed | |
| <input type="checkbox"/> | ID:d41f56832019... | IMS | M73202CallEr | IMSImport1 | operation1 | 2010-07-18 17:25.. | failed | |
| <input type="checkbox"/> | ID:f1fd1c2b13c8b... | BPMHold | | | | 2010-07-26 14:14.. | failed | |

Total 6

Administration

Dynamic modifications of in-flight business processes

- Enables solution administrators to override the navigation of a process
 - Jump forward and backward between activities within a running process
 - Skip activities within a process
 - Incorporate process relevant data changes in-flight
- Out-of-the-box support for dynamic modifications in graphical process widget via BPC Explorer for solution administrators

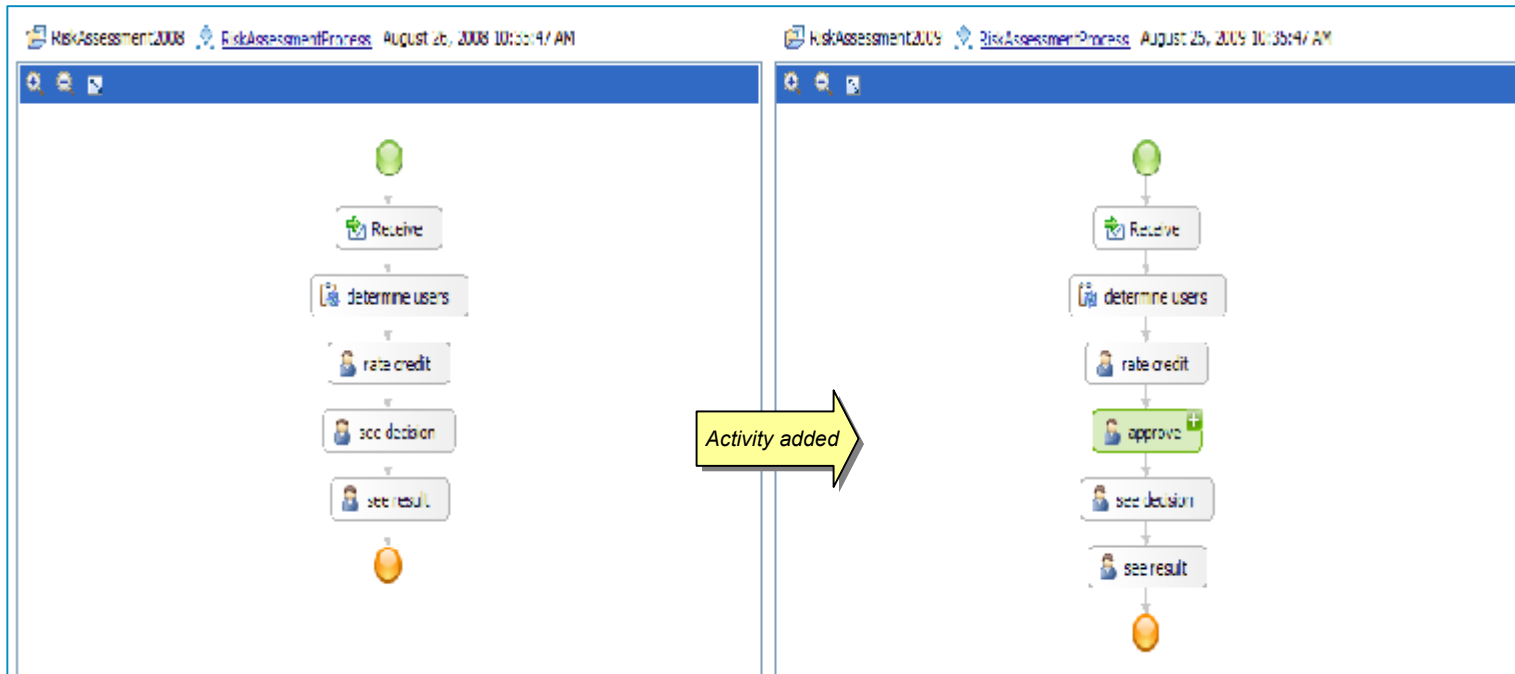


Administration

Process Instance Migration



- Create a new version of a process model and migrate existing running process instances to the new version
- Scenarios:
 - Bug in a business process
 - Functional evolution of a business process
 - Compliance change that has to be reflected in a business process and running instances



Basic Procedure

Step 1 - Create a new process version in WebSphere Integration Developer

Step 2 - Migrate running process instances from previous version to new version at runtime.

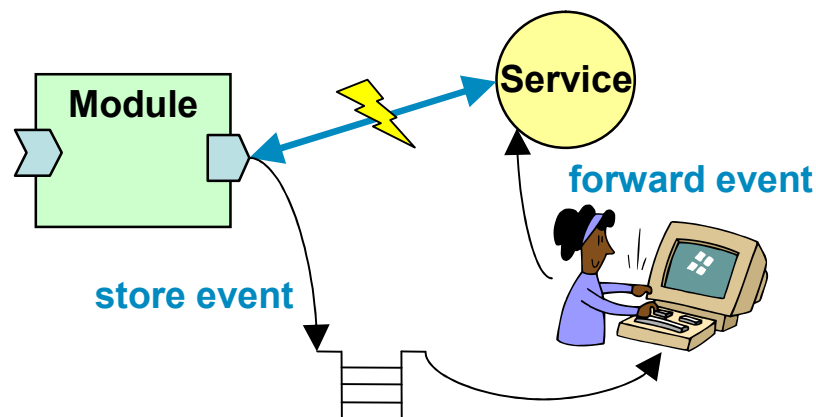


Store and Forward

Handling unexpected service down scenario

How does it work?

- Automatically detect service down based on runtime exception specifications
 - Modeled in WID as qualifier on interface/operation
- Works on all imports and asynchronous hops
- Failed event manager shows events that activates store-forward
- Admin widgets that can manage store-forward points



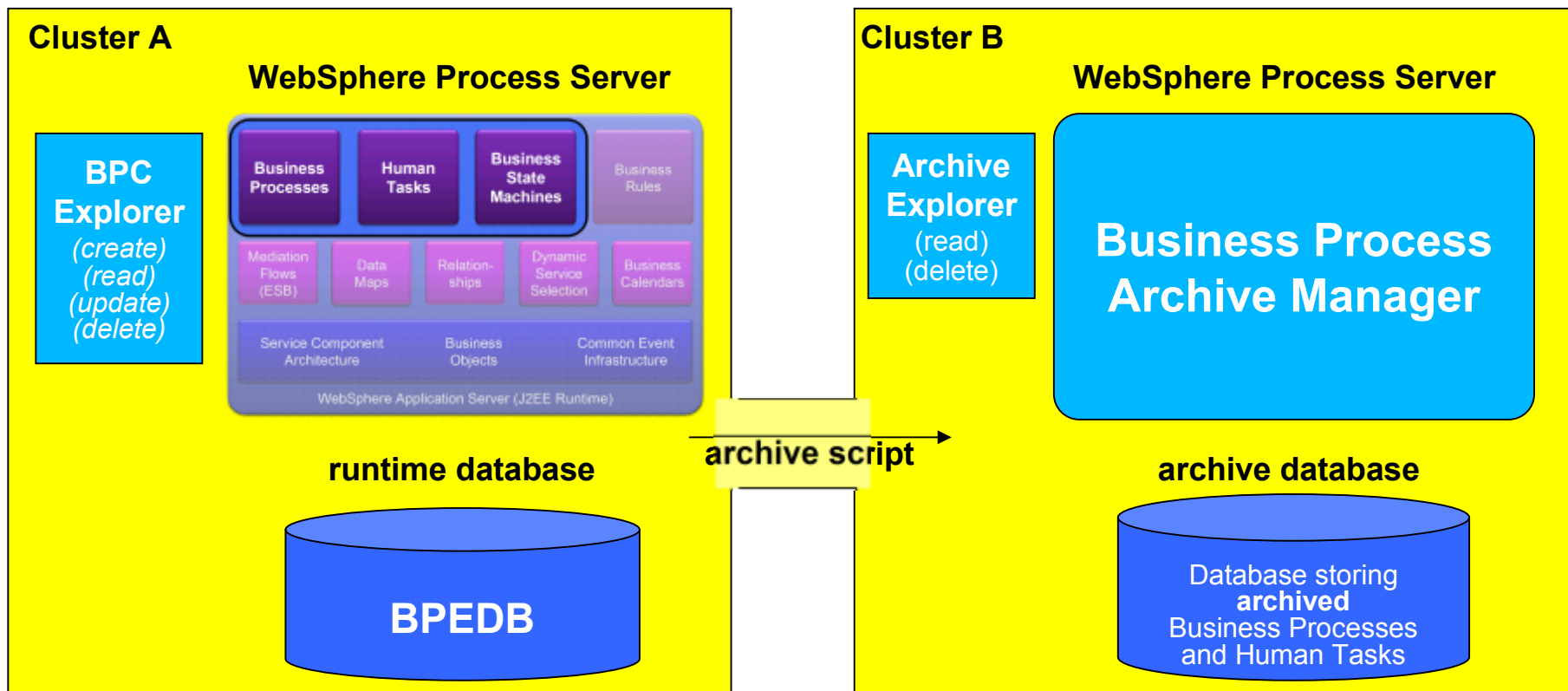
- Target service is unavailable
- Import receives an exception
- Import retries based on retry configuration
- If all the retries fail, failed event is generated at the last asynchronous component which could be the import or some other component before the import
- If store and forward qualifier is setup on this asynchronous component, then the store and forward service will compare this exception with the qualifier configuration.
- If the configuration matches, the store is activated on this component
- Subsequent messages sent to this component will be stored
- Once the target service is available, the messages can be forwarded
- The failed event that triggered the store has to be resubmitted separately



Administration

Archiving of Business Processes and Human Tasks

- Moves data of completed business processes and tasks into a separate database, the archive database.
 - Only the snapshot at the end of the lifetime of business processes or human tasks is archived.
- Improved Performance: Queries against the runtime database don't have to evaluate 'historic' data, once it isn't kept in the runtime database anymore.



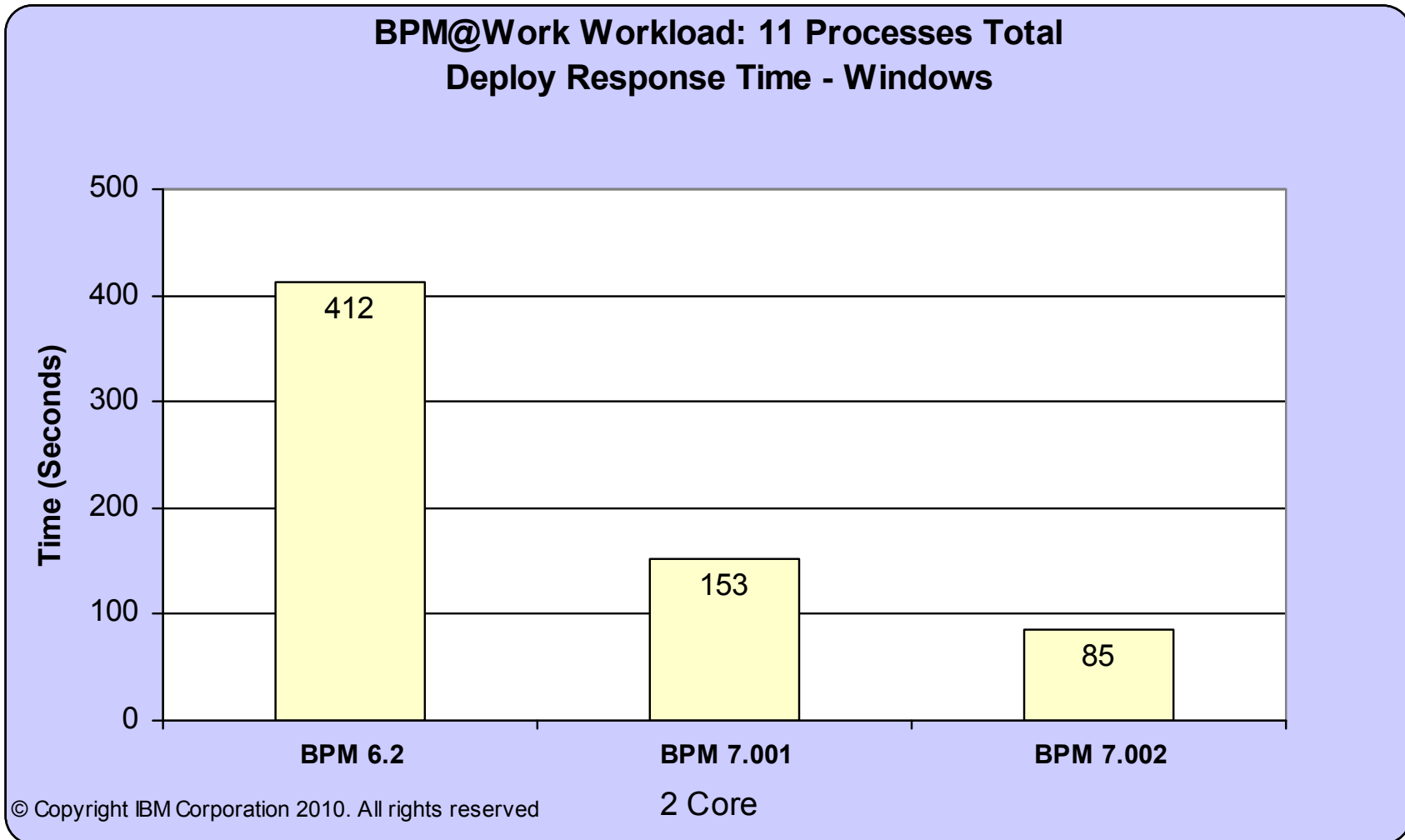
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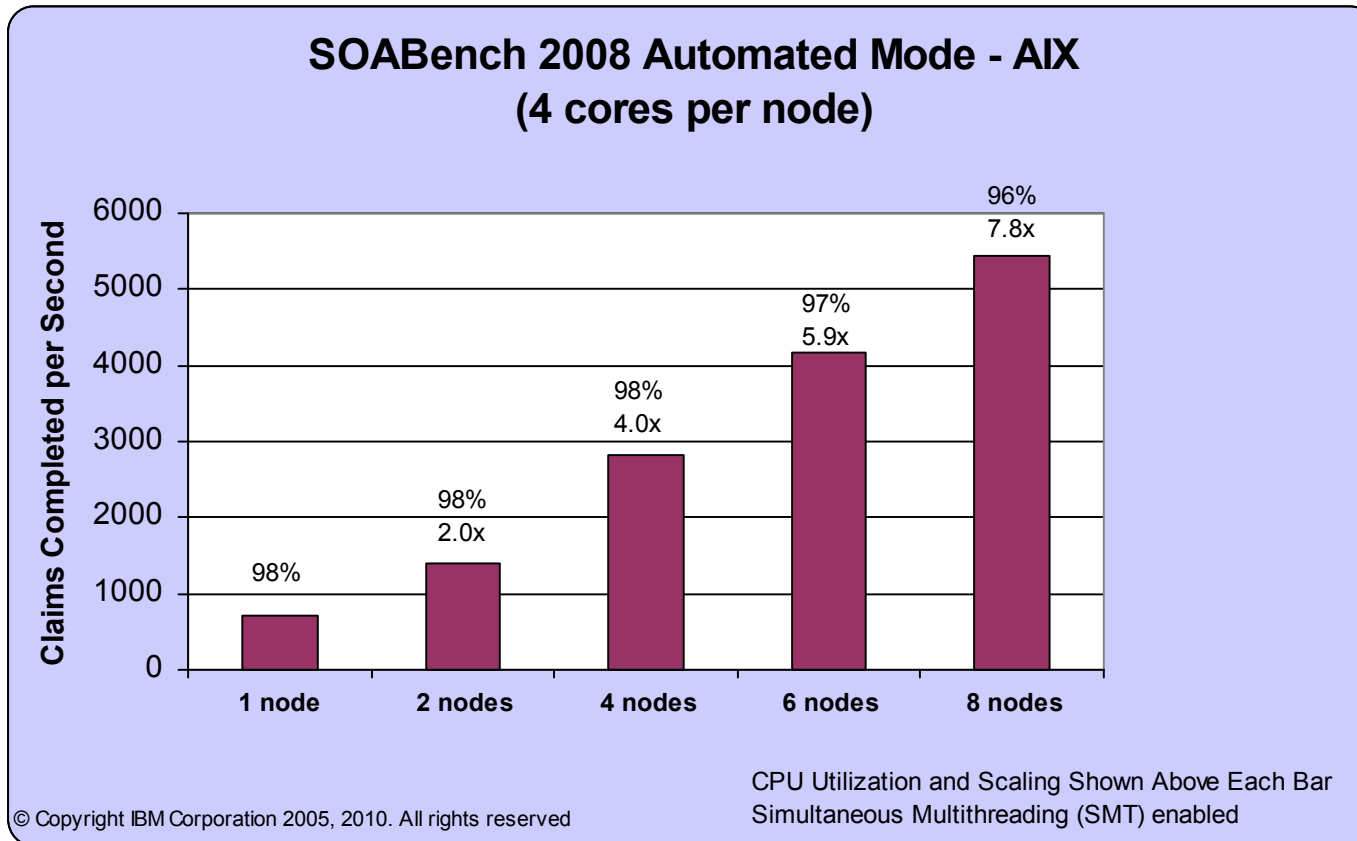
WebSphere Process Server Performance Overview

- WAS v7
 - Includes numerous BPM-driven enhancements in WAS v7007
- Native SCA Container
 - Improved deployment performance
- and many analysis-driven algorithmic improvements

Deploy Response Time



WPS Clustering on AIX – Microflow



- Near-linear horizontal scaling of 7.8x on an 8 node cluster (32 cores total) processing **5,400 insurance claims per second** on Power6 hardware (= 19.4 million per hour)

WebSphere Process Server

Summary

- Scalable, Reliable and Secure Platform with wide range of platform support
 - Based on WebSphere Application Server
- Your single integrated runtime for all SOA based process automation
 - BPEL business processes
 - Business State Machines, Business Rules and more value-add features
 - Powerful Human Workflow
- Rapid process changes ensures business agility
 - Reuse existing services
 - Process Server allows to change business processes dynamically



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