Business Events Processing

WebSphere Business Events

Balogh Péter
SOA Architect

WebSphere software

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Event Processing Can Dramatically Improve and Change the Way Businesses Operate

Enables detection of business situations, providing real-time insight and providing earlier and intelligent insight for timely and effective business decisions

Value is in recognizing the significance of an event from a business context

Getting the right information in the right granularity to the right person at the right time

Information Dissemination

Business Monitoring

Quick observation into exceptional business behavior and notification to the appropriate people

Detect
Decide
Respond

Diagnose problems based on symptoms and solve them

Active Diagnostics

Predictive Processing

Mitigate or eliminate predicted events

Service Availability

Real-time business service visibility based on IT events

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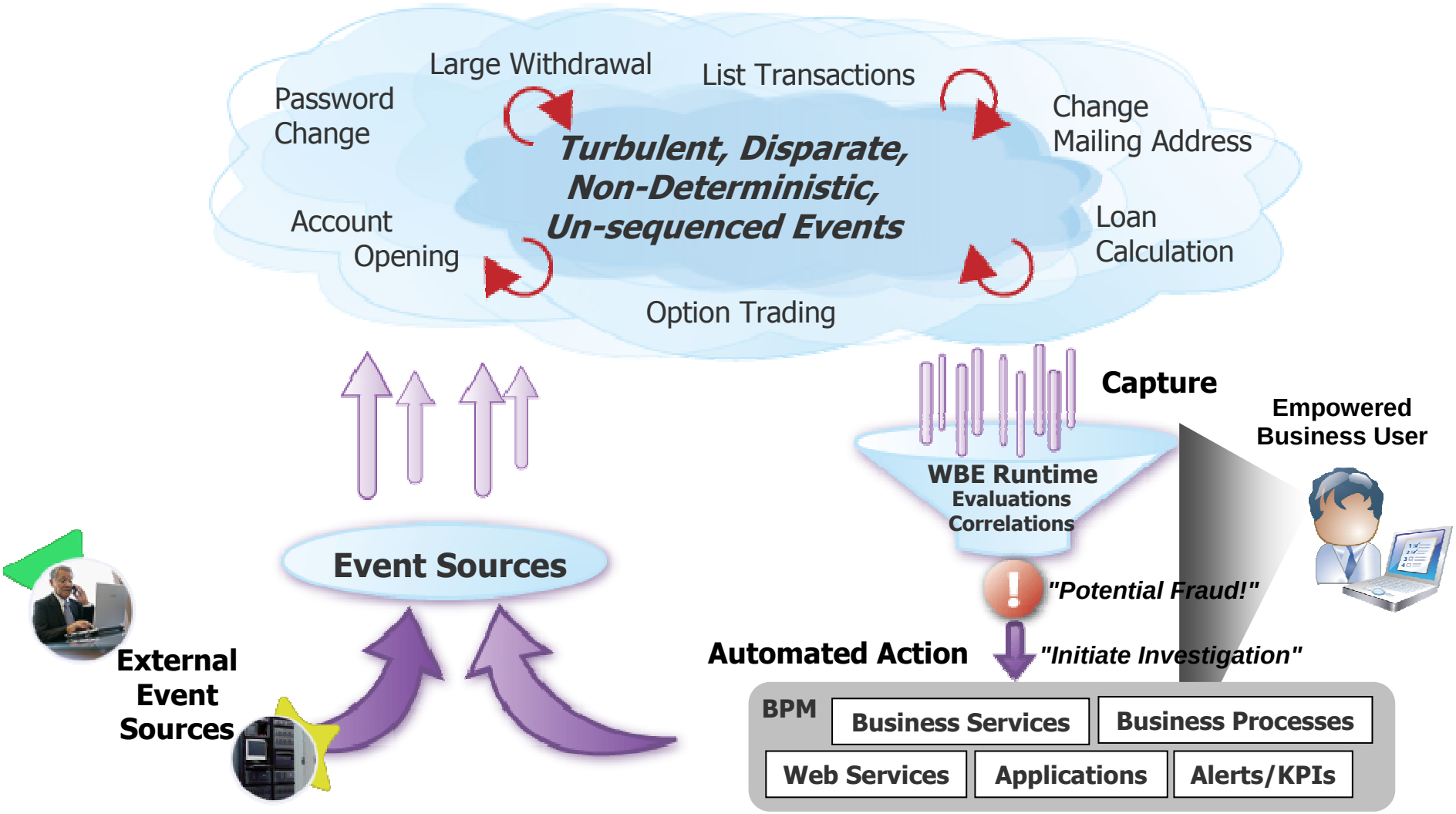
WebSphere Business Events

Correlation of business events from any source, over any time frame



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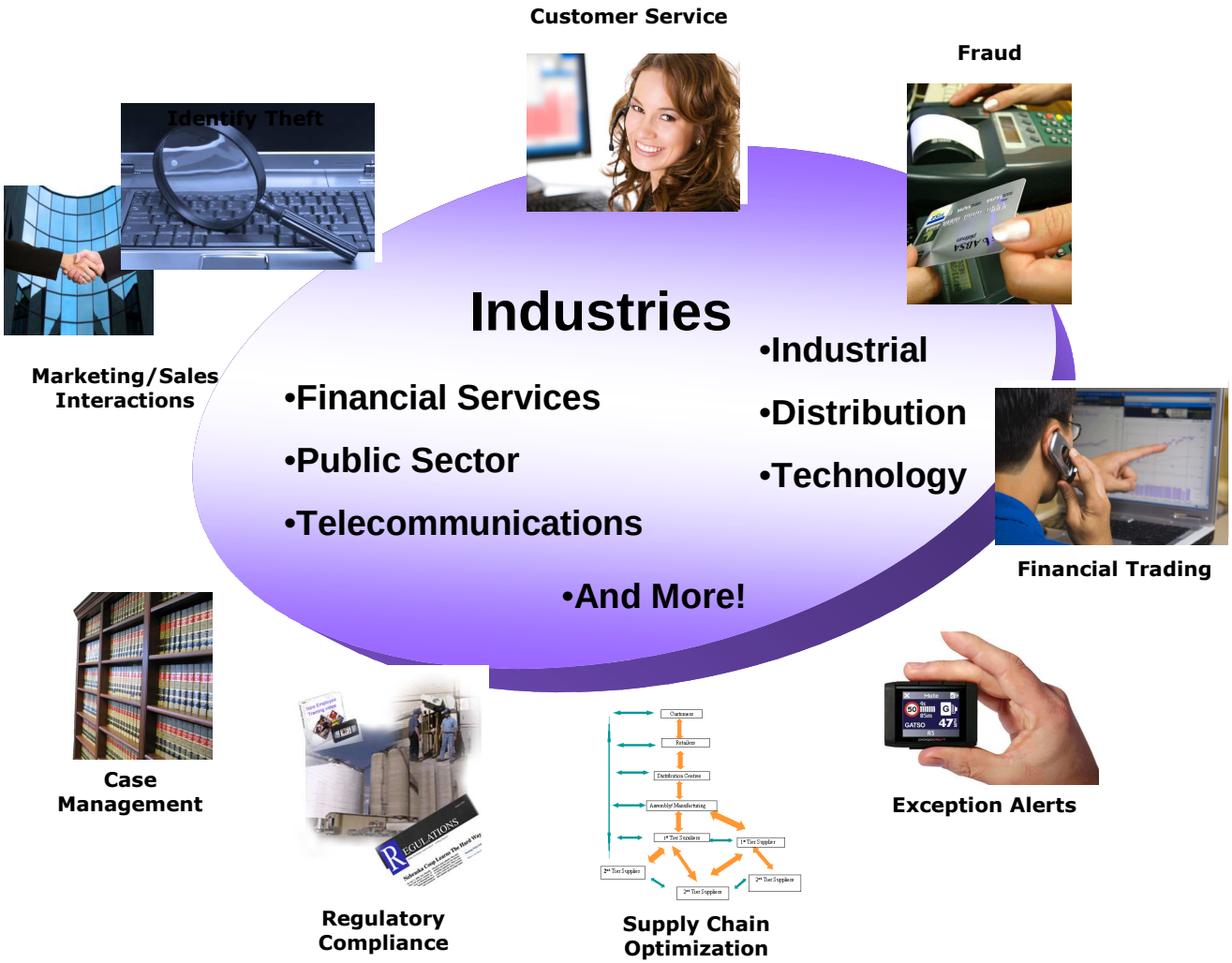
Broad Applicability to Industries and Applications

- ✓ Actionable events and patterns
- ✓ Time and order of events are unpredictable
- ✓ Event processing scenarios (logic) change frequently
- ✓ Business users need to directly manage the event process



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Extending BPM with Business Event Processing (BEP)

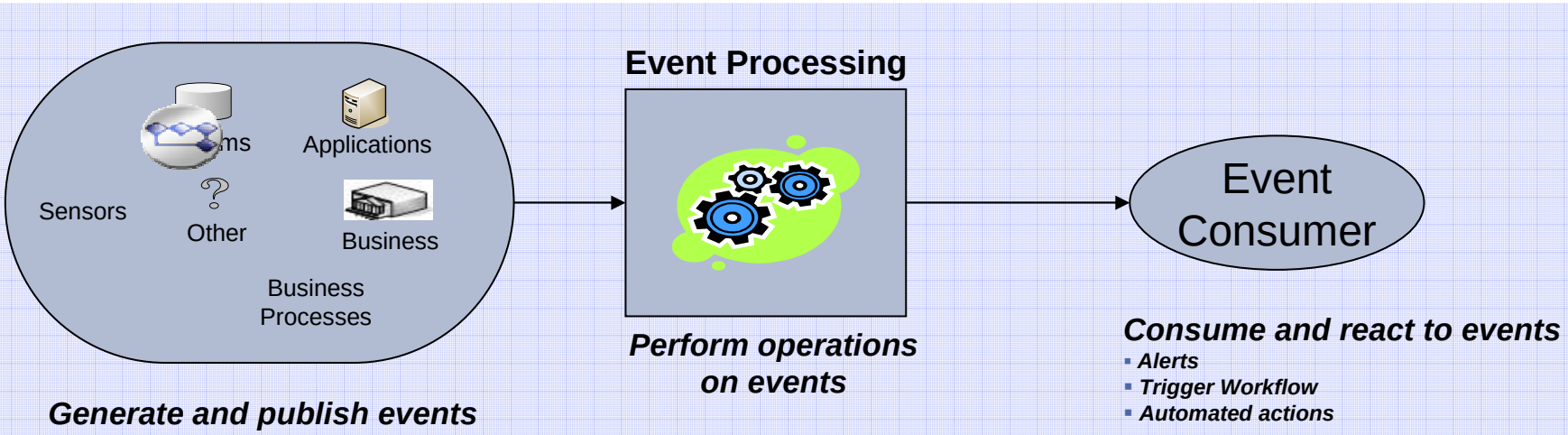
New Capability

Business Event Processing is the ability to…

- Receive or extract events from multiple sources
- Detect “business situations” based on event patterns and data
- Derive new events (i.e. through aggregation, information enrichment, etc.)

Business Event Processing provides two key benefits:

- Earlier and more intelligent insight leading to timely and effective business decisions
- Loose coupling of applications to improve time-to-deployment, flexibility and maintenance



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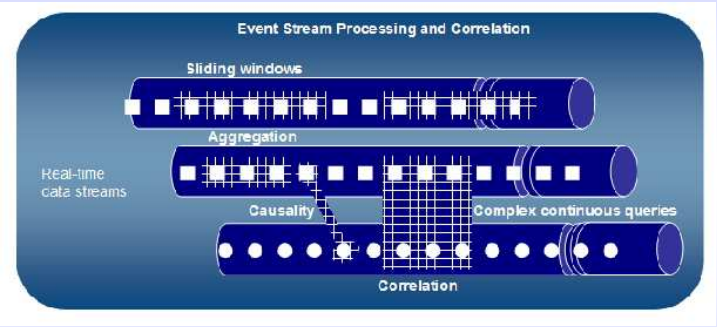
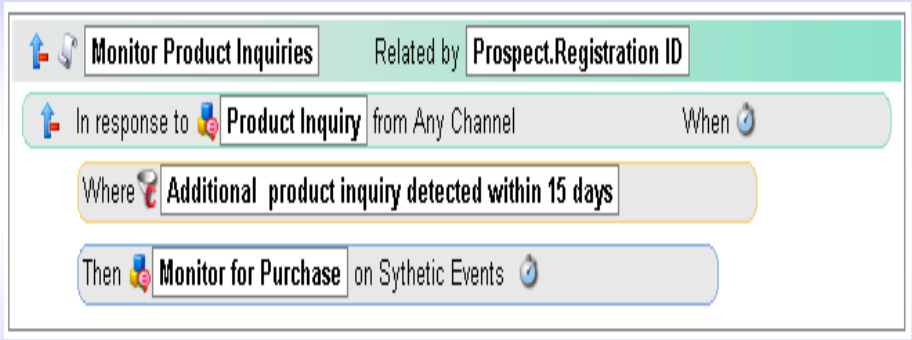
Introducing….

A convergence of power and ease of use

WebSphere Business Events =





Advanced Event Processing + **Business User Interface**

Correlation of business events from any source over any time frame to respond to opportunities and threats, such as fraud detection, up-sell, cross-sell, and more

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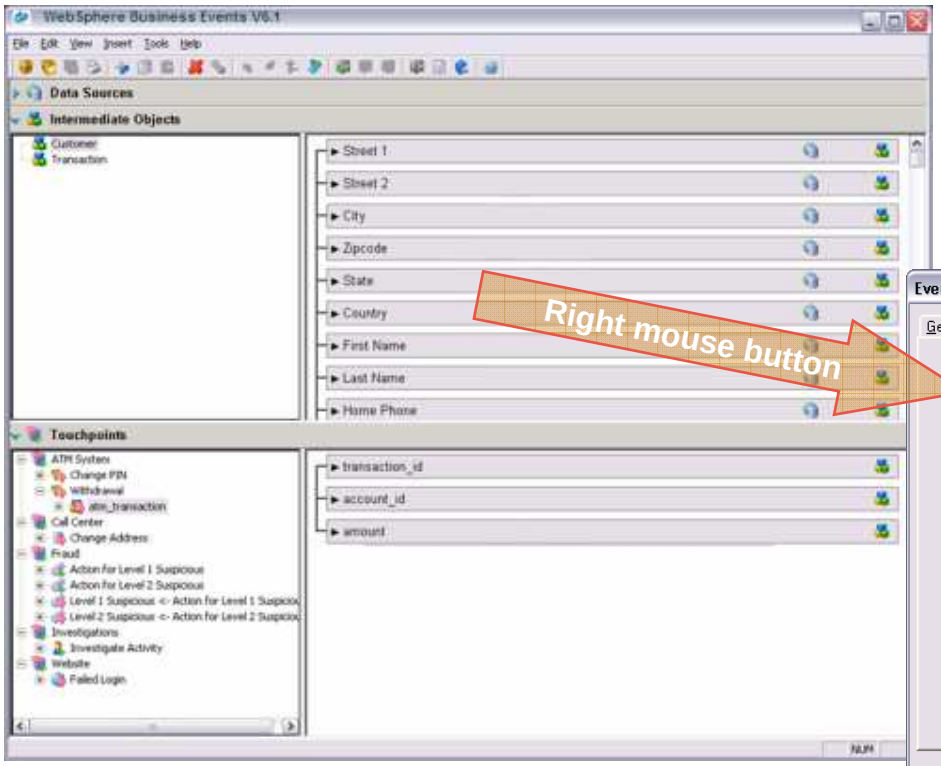
Identify the Building Blocks

Information available for processing – events, actions, properties…

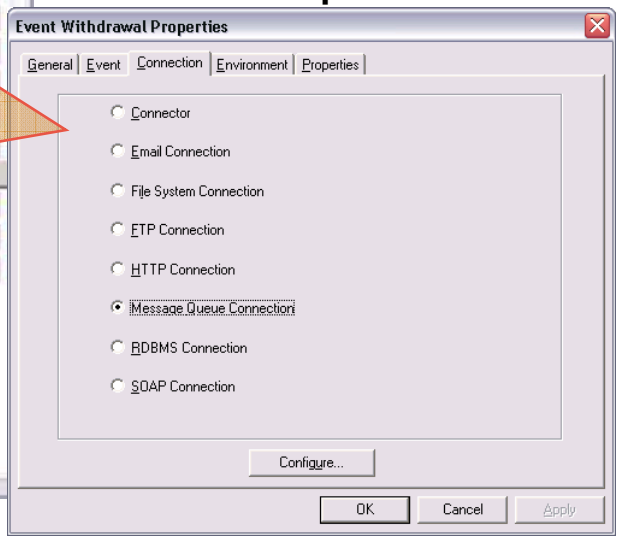
IT Developer

Basic Data Definitions



Right mouse button

Data Properties



IT involvement minimal but necessary

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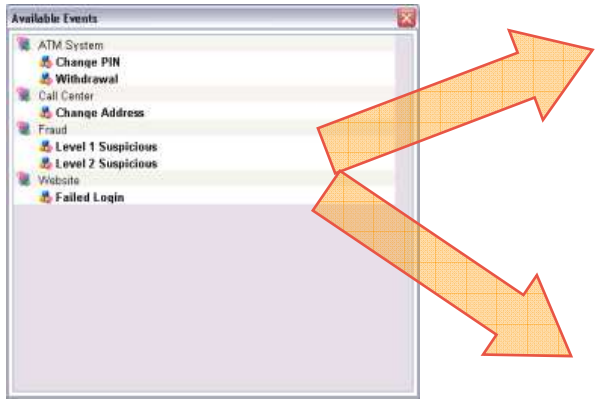
Define Business Interactions

Event processing logic using drop-down, point & click

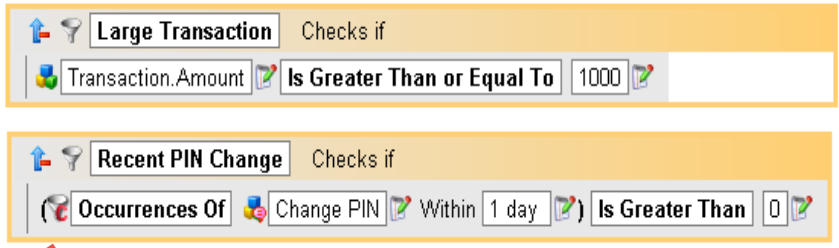
Business User

Business Analyst

Building Blocks



Condition UI



Data Value

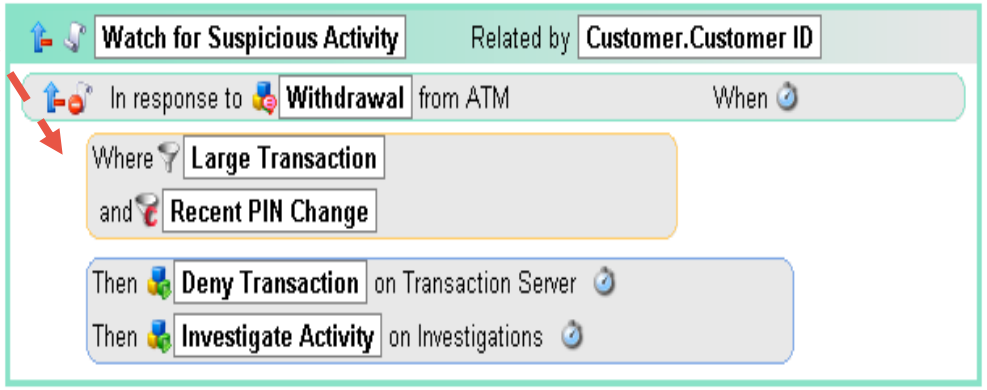
Event Pattern

Interaction UI

Event

Conditions

Actions



With building blocks created, Business takes over

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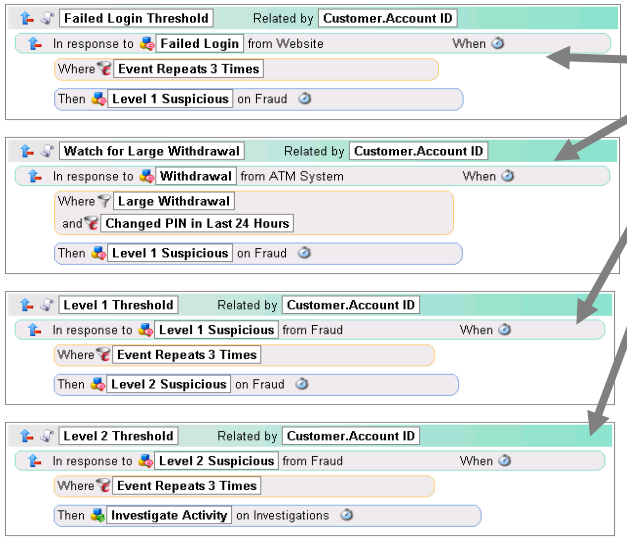
Assemble Event Flows

Drag & drop to visualize relationship between Interactions

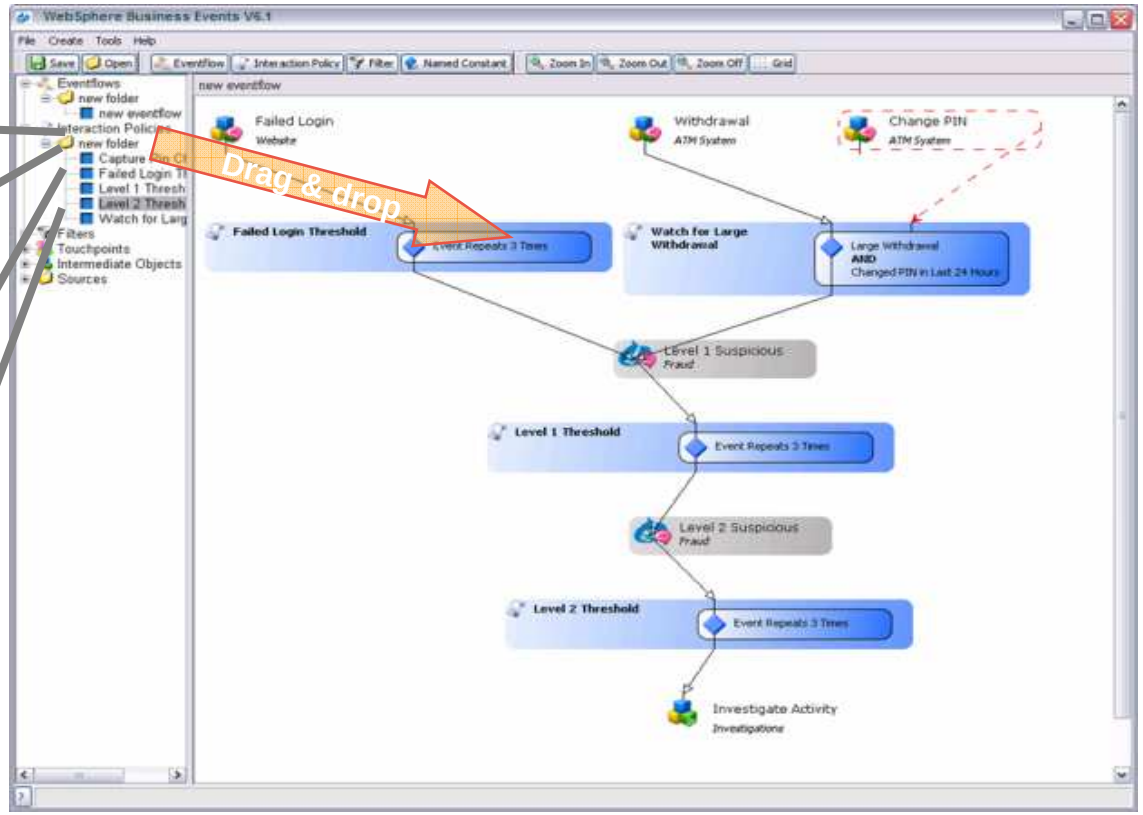
Business User

Business Analyst

Interactions



Event Flow



With event logic defined, Business maps out the event flow

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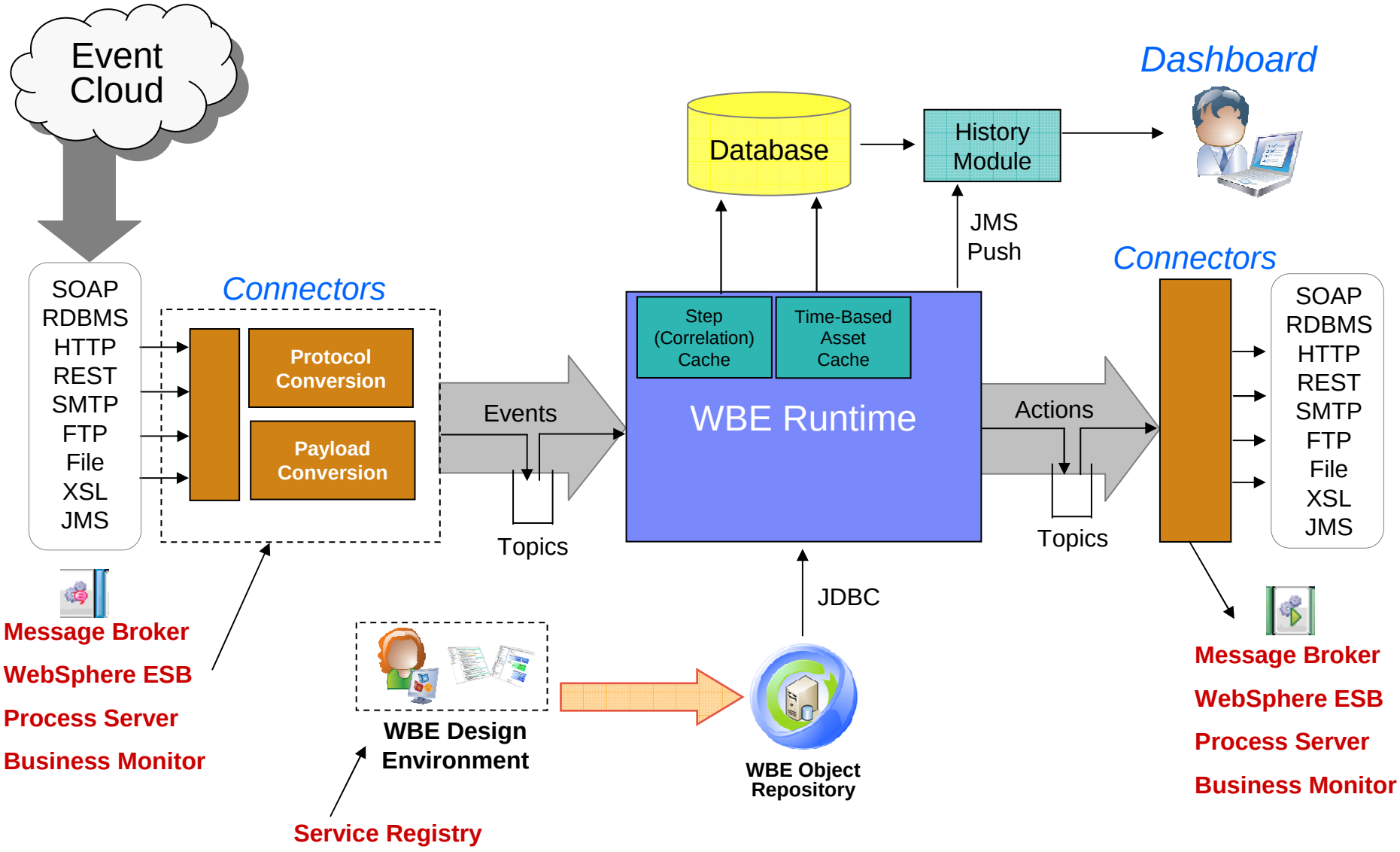
WebSphere Business Events Architecture



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Thank You

Questions ?

WebSphere software

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Announcing - AptSoft Acquisition

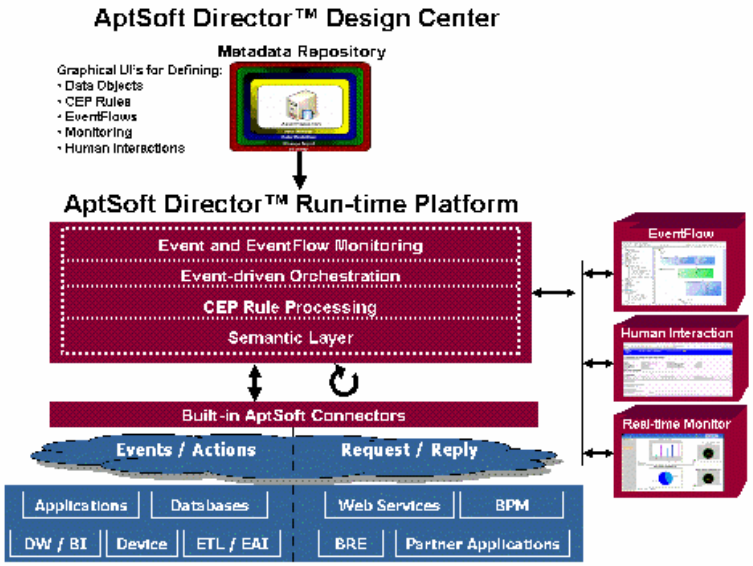
Business Overview: Private, founded in 2002 by Frank Chisholm the CEO. The company provides a Complex Event Processing (CEP) design and execution platform to help companies implement a new class of event-driven applications as part of a service oriented architecture (SOA).

Location: Headquartered in Burlington, MA

Key Products / Technology:

- AptSoft Director for CEP
- AptSoft Director Design Center
- AptSoft Director Run-time Platform

Customers: 19



AptSoft will add to IBM's rich portfolio of event-driven technologies. AptSoft provides intuitive business-user tools to define, implement, and manage events-driven applications. Aptsoft's products will be incorporated into IBM WebSphere as part of the overall Business Process Management portfolio.

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WebSphere Business Events - Timeline

- Announcement April 1, 2008
- Launch at IMPACT April 6, 2008
- Sales & Tech Sales Enablement starting April 20, 2008
- Product eGA May 31, 2008
  - Fast Start Sales Program – Focused on any deals that have 2Q close potential

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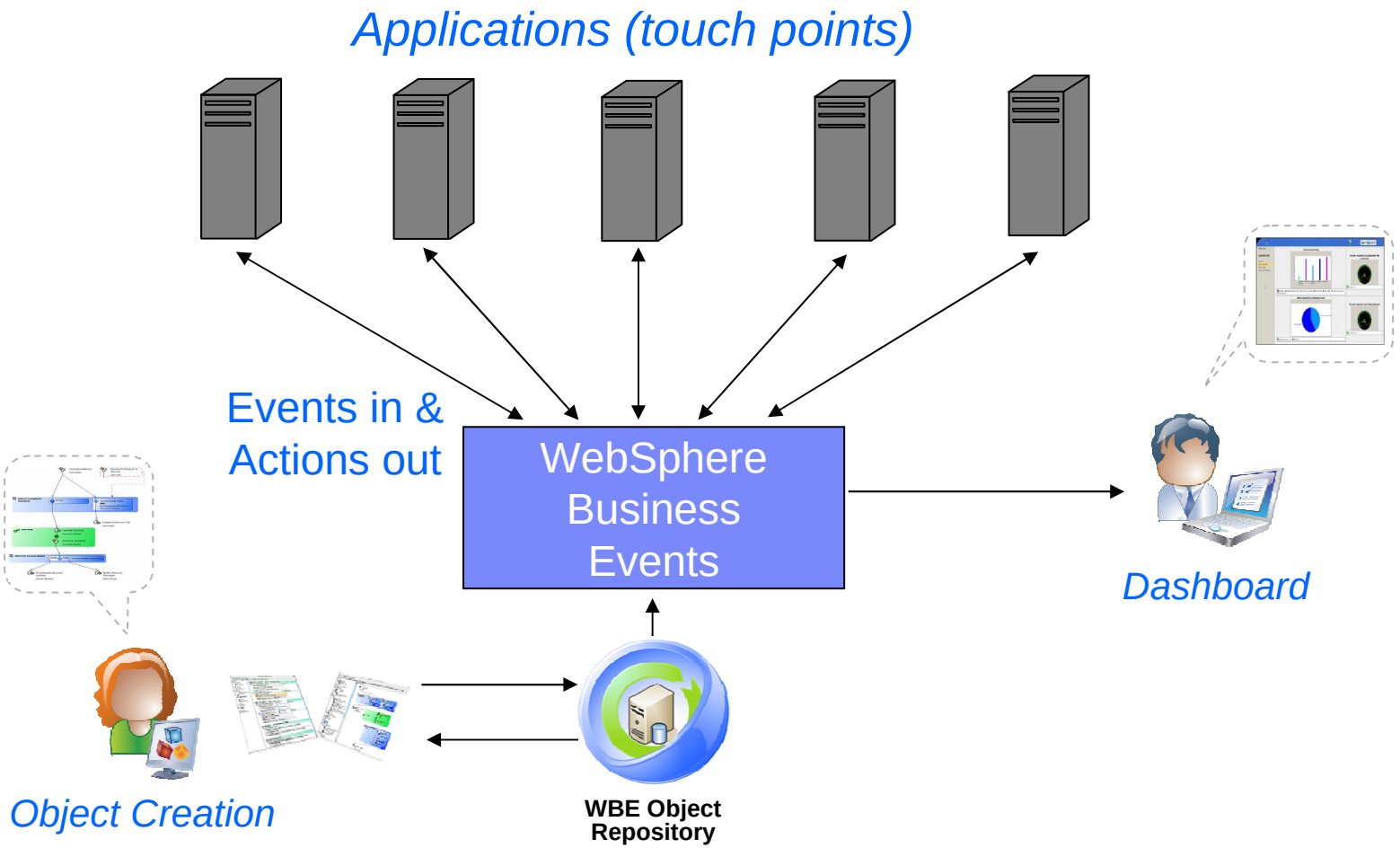
WebSphere Business Events



An external system or application that sends Events and/or receives actions from WebSphere Business Events is referred to as a "Touch point".

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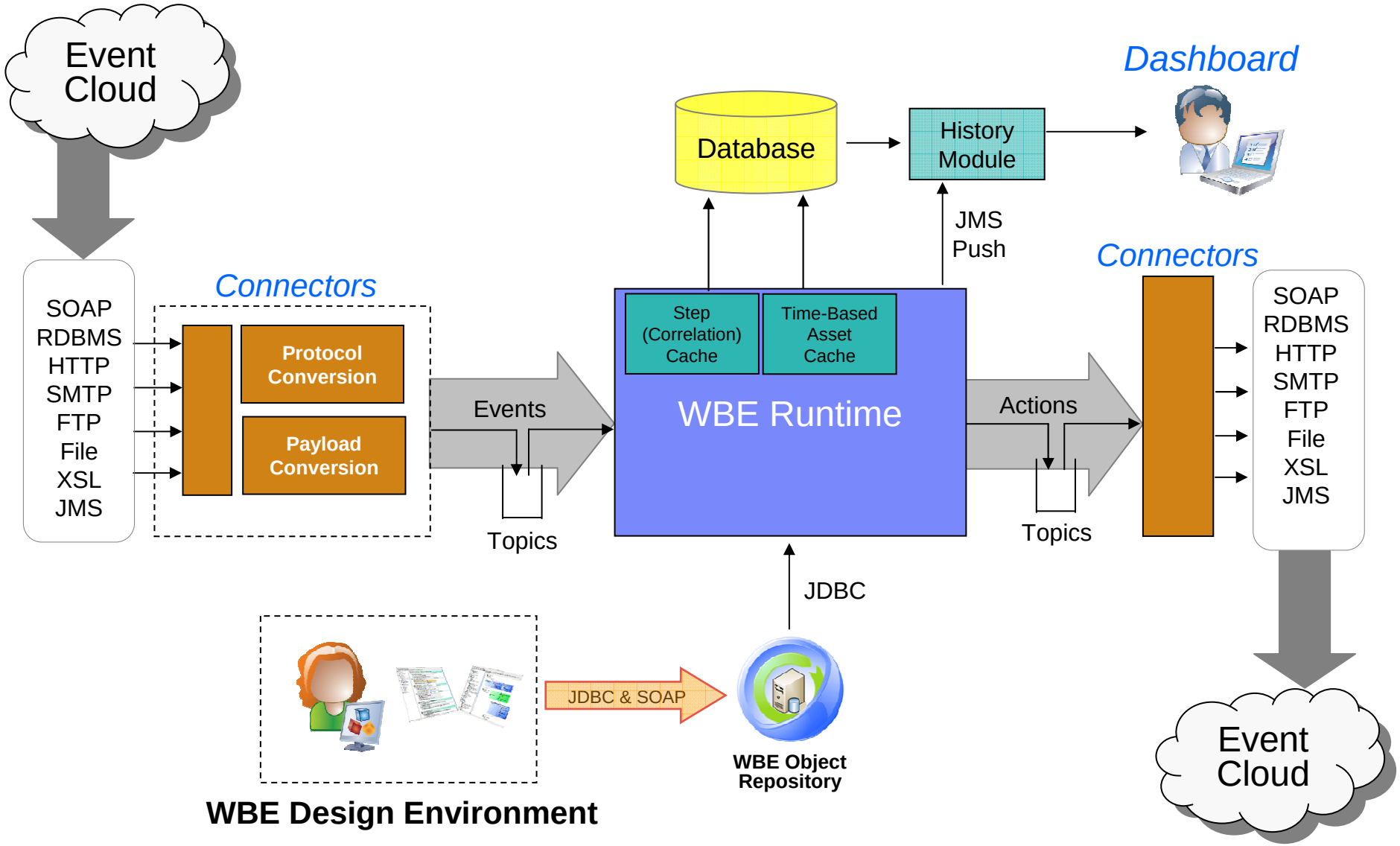
WebSphere Business Events v 6.1 Architecture



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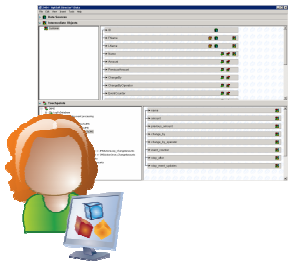
WebSphere Business Events Components

WBE: Data



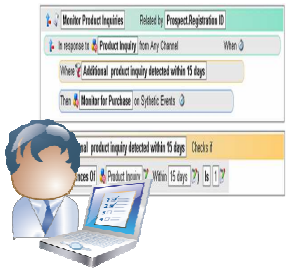
MFC Windows Application

Defines :
- BEP objects
- Events & Actions
- Intermediate Objects
- Data sources

Full check-in & Check-out

SOAP
Objects

WBE: Design



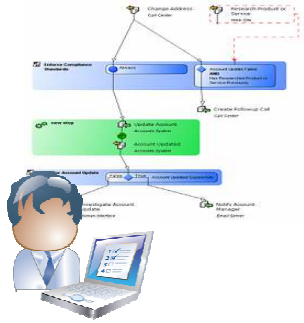
Java Swing Application

Defines :
- CEP rules, interactions and Filters

Full check-in & Check-out

JDBC
Policies

WBE Event Flow



Java Swing Application

Shared UI with Policy

Defines :
- Workflow objects, Steps and EventFlows

JDBC
EventFlows

REPOSITORY

startup
JDBC

WBE Runtime

Runtime
HTTP

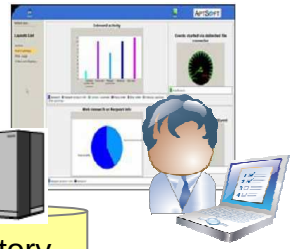
startup
HTTP

HTTP

WBE: Dashboard

Browser Based (JSP)

Defines :
- Charts, layouts, alerts and thresholds



History

WBE: User Console

Browser based (JSP)
- Customizable look & feel
- XSL style sheets

WBE: Administration

Browser based (JSP)

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WebSphere Business Events V6.1 (2Q08)
(AptSoft Bluewash)

Base Content

Existing AptSoft Capability

Open source remediation

Certified to run on WAS ND, WAS CE, and uses these app servers out of the box

Install package

- including simple install for download

- setup and usage script for the free download with heavy UCD input

- SEL enabled installer

Bluewash splash screens, copyright statements etc

Connector support for integration to WebSphere Business Monitor

AptSoft documentation migrated to InfoCenter

ITLM enabled

Removal of existing AptSoft Licence Keys

Migration

Aptsoft customers will be able to migrate with no changes to their apps
Seamless compatibility with future release

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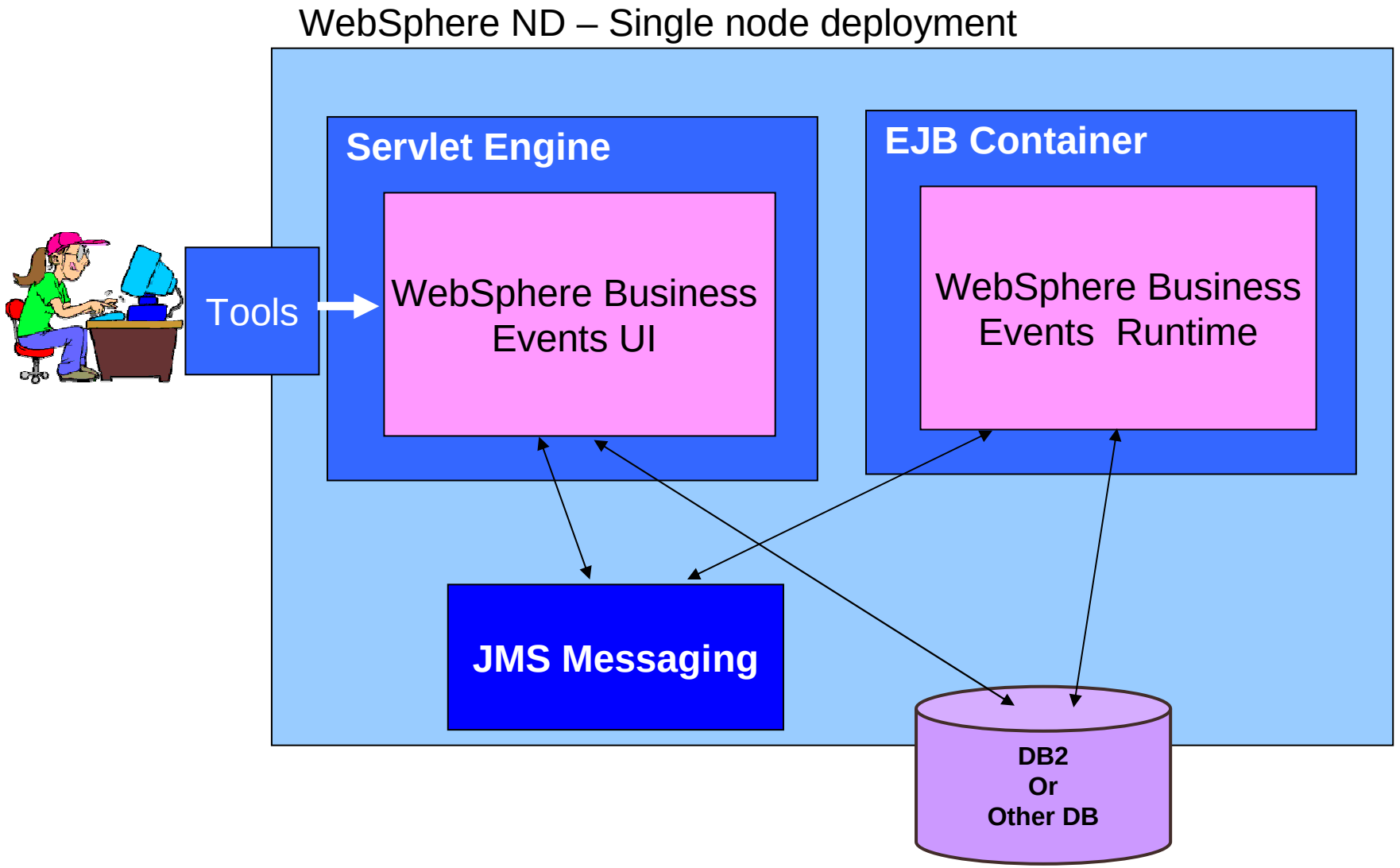
WebSphere Business Events 6.1 Runtime



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Overall Release Objectives Summary

Theme	To be addressed by:	Intended change / enhancement
1. First release of broad-based initiative to lay claim to the Business Event Processing space ▪ *Extend existing leadership in Event Processing, SOA and BPM to the Business Events Processing (BEP) space.*	*Bluewash of AptSoft acquisition under the WebSphere Brand*	▪ *Existing AptSoft Capability* ▪ *Open source remediation* ▪ *Certified on WAS CE and ND* ▪ *Branding* ▪ *Documentation using InfoCenter*
2. WebSphere Business Monitor able to consume and react to events emitted by WBE	*WebSphere Business Events and WebSphere Business Monitor interoperate*	▪ *WBE Connector support for WBM*
3. Free restricted trial version for LoB to try Business Event Processing	*Free self extracting downloadable SDK for non-production use*	▪ *Imbed WAS CE and Derby* ▪ *Includes setup/usage script*
4. Interoperability with WebSphere Message Broker & WebSphere ESB	*Collateral to inform customers on how-to*	▪ *Testing* ▪ *No product change required*

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Offering Plan Content – WebSphere Business Events v6.2

Base Content Themes

Update acquired code to IBM standards
- First Class SWG offering
- Improve product quality

Integrate with the BPM&C stack
- Extend SOE to align with Affinity Products
- Support consistent binding with Affinity Products
- Integration with WESB and WMB
- Tighter integration with WebSphere Business Monitor
- Usage of WSRR to retrieve shared WebSphere portfolio artifacts

Ability to scale up and out
- Clustering support for HA
- Support for horizontal scalability
- Define and document supported installations
- Create and document performance metrics

Extend reach
- Integration with WebSphere eXtreme Scale
- Packaging and installation support of WebSphere deployments
- Exploitation of WAS ND

Competitive and differentiating functionality with LoB focus
- Automatic data sharing across events

“WBE eXtreme Scale” (New PID)
- Bundle WBE V6.2, WXS V6.1 (separate installs)
- Sense presence of WXS and exploit
- Improved persistence
- Programming interface for preprocessing payload of events

Extended Content

(stretch goals and ‘agile’ items subject to reprioritization)

Update acquired code to IBM standards
- Accessibility (size for final priority decision)
- BiDi support – Hebrew and Arabic
- Transactional behaviour

Integrate with the BPM&C stack
- Integration with ESB tools
- HP-UX, Vista (clients)
- Usage of WSRR for versioning and lifecycle management

Extend Reach
- Embeddable component for eWAS (Sceptre)
- Complete integration with WAS ND

Competitive and differentiating functionality with LoB focus
- Event flow enhancements
- Synchronous support
- Runtime data garbage collection
- Active termination
- Adjusting the execution of an application

Migration

Backward compatibility for artifacts to WBE v6.1 and AptSoft v4.5

Seamless technical upgrade from WBE v6.1

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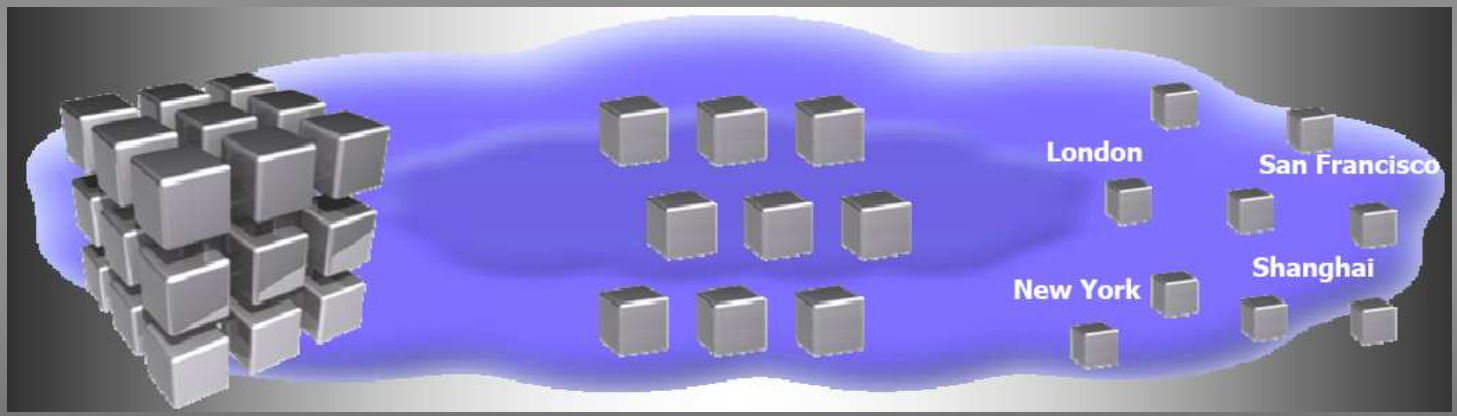
New – WebSphere Business Events eXtreme Scale
Correlate without Coding, Scale without Limitations

Designed to Provide:

- Unparalleled speed and real-time correlation at the fingertips of the business user
- Capability for processing massive cloud of raw events, including:



Cache for extreme speed and access

Optimal distribution across multiple servers

Scalability across across geographies

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IBM Powers Events on the Mainframe

Providing Business Event Processing to nearly 3,000 CICS users

New and Enhanced!

Event Sources

CICS Business Logic

Channel Containing Event Details

Conversion

CICS SupportPac

Event Agent

Protocol Conversion

Payload Conversion

CICS TS

Format for WBE Consumption

Business Action

WebSphere Business Events

Designed to achieve visibility, business agility, governance and fraud recognition

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Product Roadmap

WebSphere Business Events v6.2
- Distributed platforms
  - zLinux
- Improved Stack Integration (WMB, WESB, WAS, BAM, WPS, WSRR & WBSF)
- Globalisation
  - QoS – High throughput, Scaling and HA
  - **eXtreme Scale bundle PID**

WebSphere Business Events Trial 6.2
(Downloadable Trial)

WebSphere Business Events v6.2.1
- zOS,
  - CICS Support (Europa)
  - eWAS Component

WebSphere Business Events v7
WebSphere Business Events v7 zOS
- Distributed platforms and zOS
- QoS - High throughput Low latency

WebSphere Business Events 6.1
(AptSoft Bluewash)
WebSphere Business Events SDK 6.1
(Downloadable Trial)

WebSphere Business Events 6.1.0.1
APARS

1Q 08
2Q 08
3Q 08
4Q 08
1Q 09
2Q 09
3Q 09
4Q 09

AptSoft announce
IBM is leader in Events!!
AptSoft bolsters IBM's arsenal

Pulse 2008

IMPACT 2008
BPM and business value of Events (existing capabilities)
AptSoft Bluewash announce (WBE)
Channel enablement

Fall Launch 2008
- Announce of Event Processing offerings
- Channel enablement
- IBM Event Processing Conference

IMPACT 2009

Fall Launch 2009
Event Processing!!

➢ ***Improvements beyond Bolero Concept***

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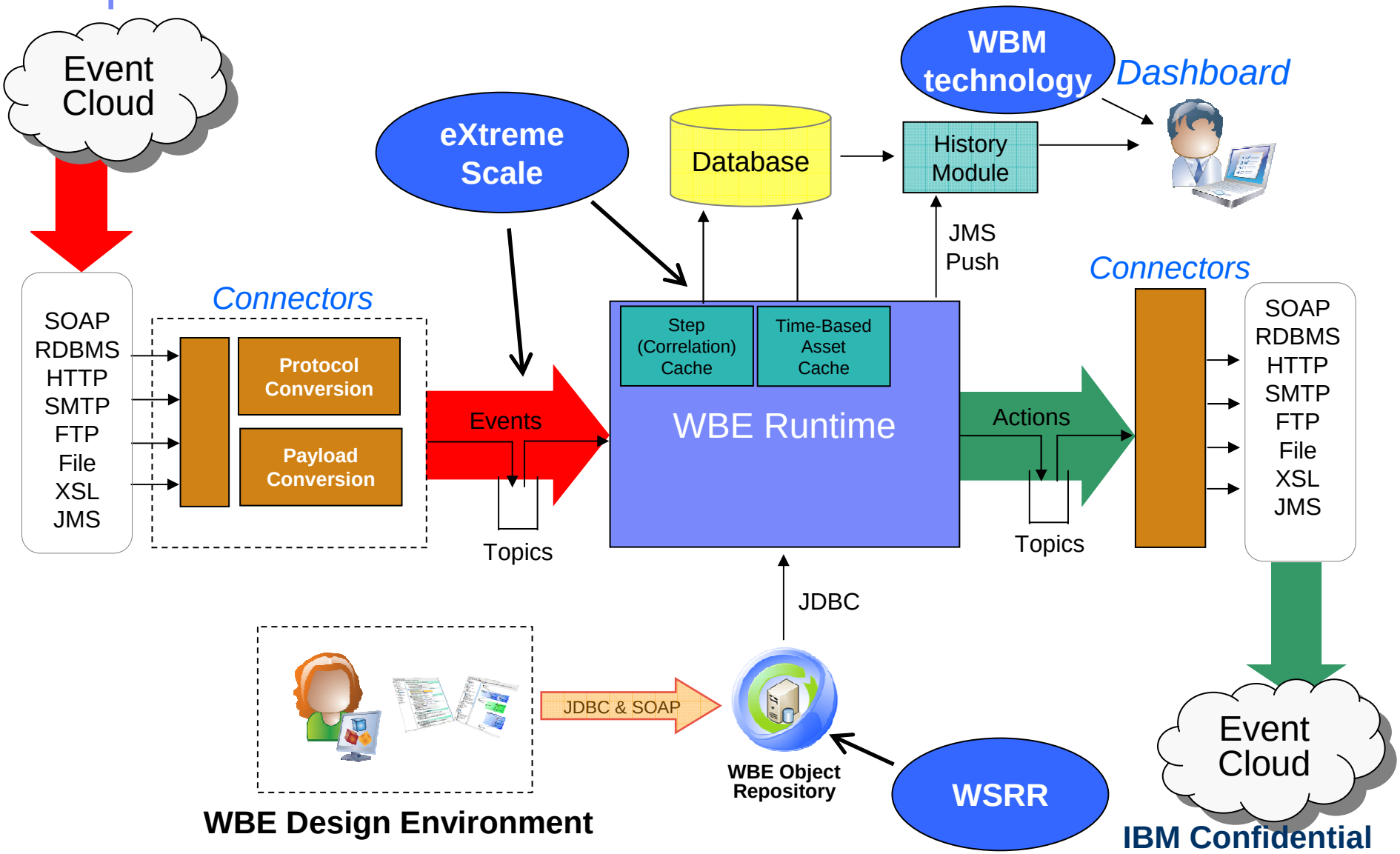
Proposed v6.x Architecture



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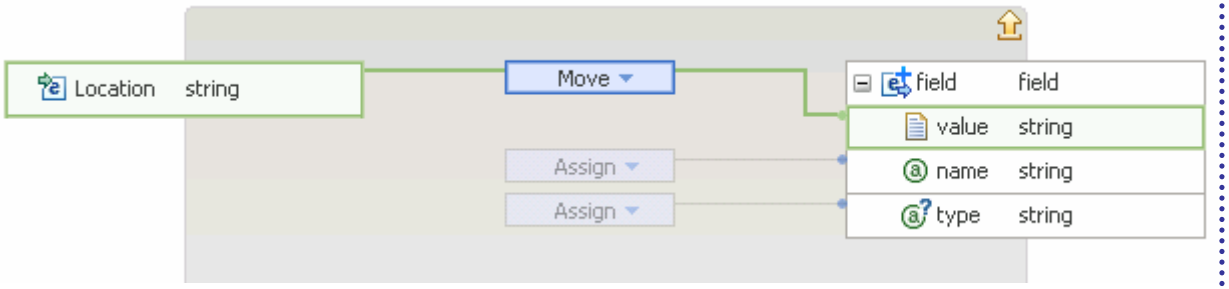
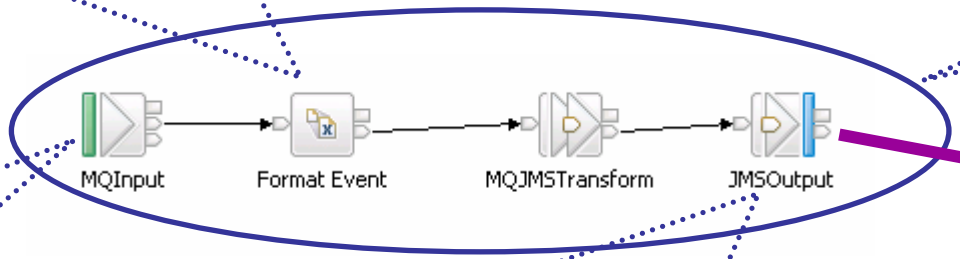
Interoperability with Enterprise Service Bus today

Transformation to WBE format – e.g XSLT, ESQL, Java

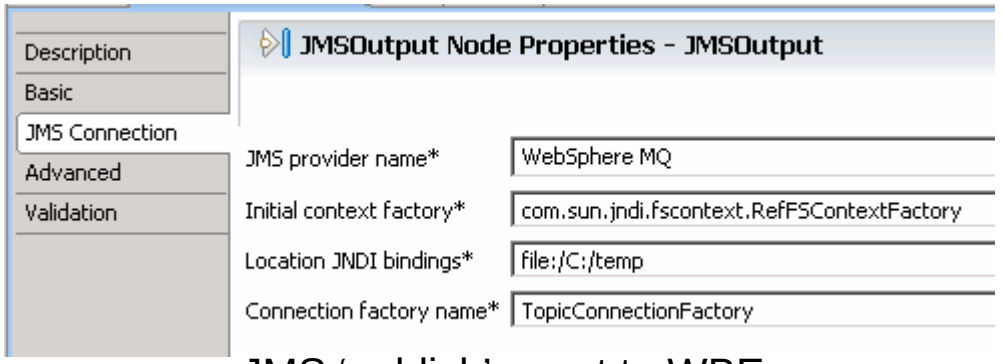


WMB message flow



Incoming message 'event'

JMS messaging to WBE server



JMS 'publish' event to WBE

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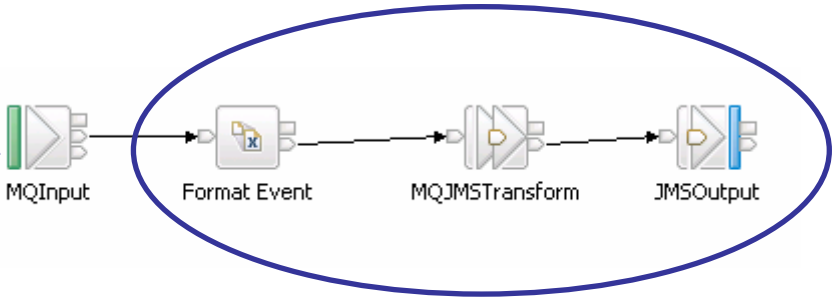
Mediation primitives for WBE

Incoming message 'event'



Event Emitter

Replace with 'Event Emitter' primitive

- Removes need for JMS configuration
- Reformats the message into format for WebSphere Business Events

Also 'Action Listener' input node for receiving 'action' messages from WebSphere Business Events

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WebSphere Business Events future releases

Continuing focus on Business-user tools

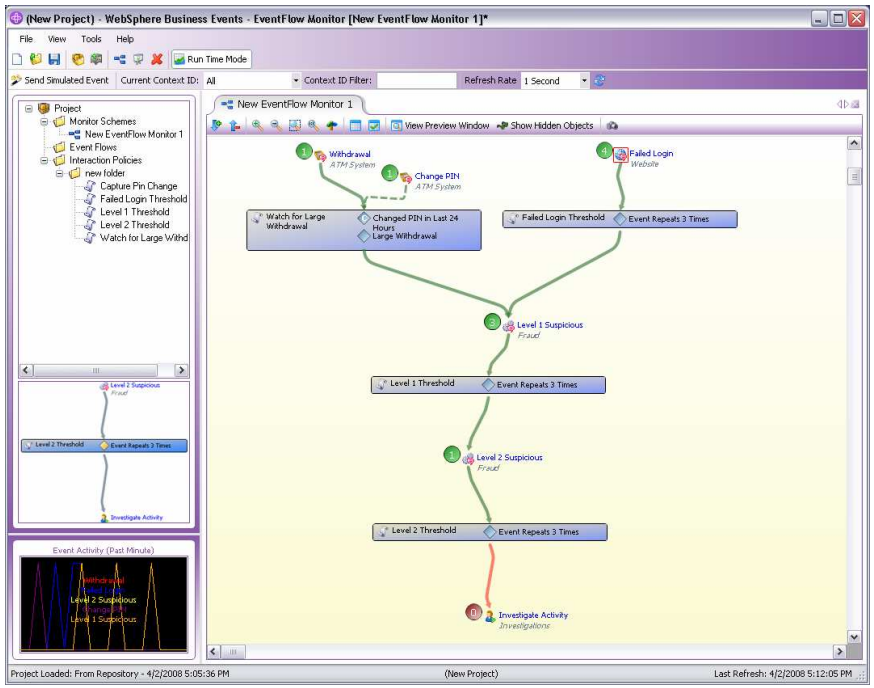
- Event flow simulator for test
- Event flow monitor for test and production

Advanced Event Processing rules

- Cross-event data
- Context termination

Increasing Qualities of Service

- Enhanced scalability and transactionality
- Increased throughput
- Improved debugging



Further integration with the WebSphere family

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Direction, Priorities, Focus – Today and Tomorrow

Sources & Connections

- Broadest spectrum of sources and connections
- **Connections:** Direct JMS, WebSphere ESBs, WBE connectors etc.
- **Sources:** BPM, RFID, CICS based mainframe events

Future

- Smart pattern detection (based on events warehouse)
- Support unstructured events voice and video
- Extend support to the z/OS platform

Volume & Scale

- Massive event volumes and Linear scalability
- High QoS
- In-memory management Supports terabytes of data; Thousands of servers

Future

- Ever-expanding "event cloud"
  - Enhanced cache
  - Higher availability
  - Distributed event processing
- Ever-decreasing latencies via streaming interfaces

Business User

- Codeless, graphical business user tooling
- Detect actionable patterns
- Correspond to "business situations"

Future

- Enhanced simulations
- Industry focus
- Predict and pre-empt
  - Historical analysis,
  - Predictive analytics,
  - Impact analysis

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Business Event Processing – Direction

Agile Event Processing

Business user can extract events from multiple channels, detect actionable patterns that correspond to “business situations” and drive automated action

Integrated with:

- WebSphere Business Monitor
- WebSphere Process Server
- WebSphere Business Services Fabric
- WebSphere Message Broker
- WebSphere ESB

Key Customer Benefits:

- Allows earlier and more intelligent insight leading to timely and effective response
- Empowers the business user to manage the business event process
- Provides connectivity to the widest range of business events across the enterprise

Scalable Event Processing

Ever-expanding “event cloud”

- Enhanced cache for LRU events
- High availability
- Adapters and connectivity

Determinism

- Realtime JVM

Topology

- Distributed event processing (e.g., at the edges)

Ever-decreasing latencies

- Streaming interface

Business Events + IT Events

Key Customer Benefits:

- Start small with Business Event Processing and scale without discontinuity
- Even more intelligent insight

Intelligent Event Processing

Event warehouse

- Keep track of actionable events for future mining, using same tools

Smart advice

- Track of event flows and subsequent actions

Unstructured events

- Voice, Video

Pattern recognition

- Mine event warehouse to discover interaction patterns

Predict and pre-empt

- Historical analysis
- Predictive analytics
- Impact analysis

Key Customer Benefits:

- Action based on empirical evidence
- Identify potential problems before they occur and act immediately to pre-empt
- Assess business impact based on historical data of event

Today **2010** **2012**

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Summary

- Business Event Processing:
  - *Distilling disparate events into actionable patterns to predict and respond to new opportunities and threats*
  - *Enhances BPM and SOA*
- WebSphere Business Events
  - *Codeless, graphical authoring tools*
  - *Detect, evaluate and react to business events in real time*
- Interoperation and integration across WebSphere and SWG portfolio

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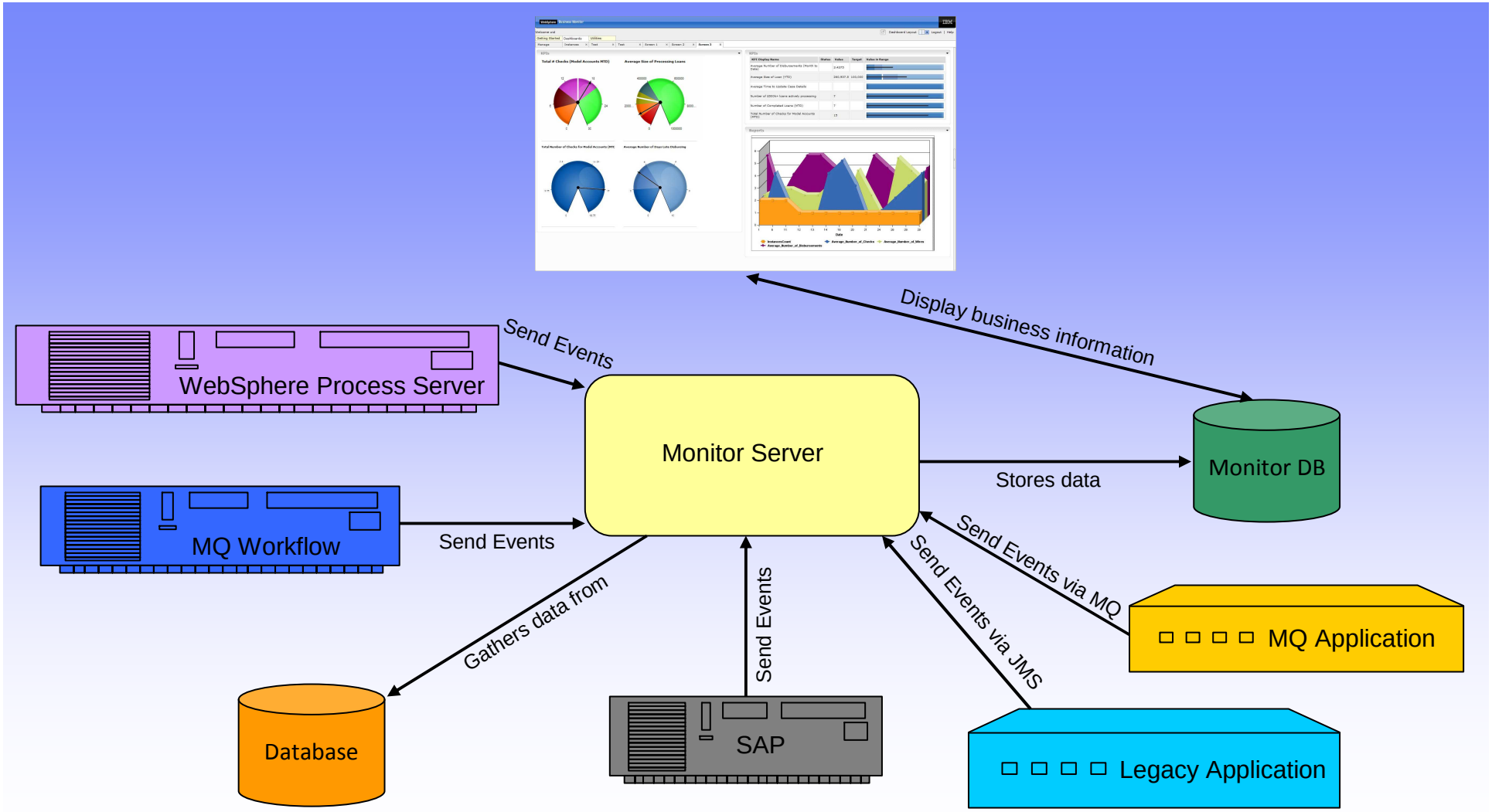
How does Monitor accomplish this?



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