SUMMIT — JBoss WORLD

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JBoss Enterprise SOA Platform

Overview and Roadmap

Ken Johnson, Director – Product Management
Red Hat
06.27.12

Agenda

- Integration Products Introduction

- Recent History

- Trends and Directions

- Announcment: v5.3

- Looking Ahead

- Session References

- Q/A

JBoss SOA/Integration Products

Is Integration important?

Through 2016, companies will continue to spend more of their IT budget on application integration than on building new applications. -- Gartner 2012
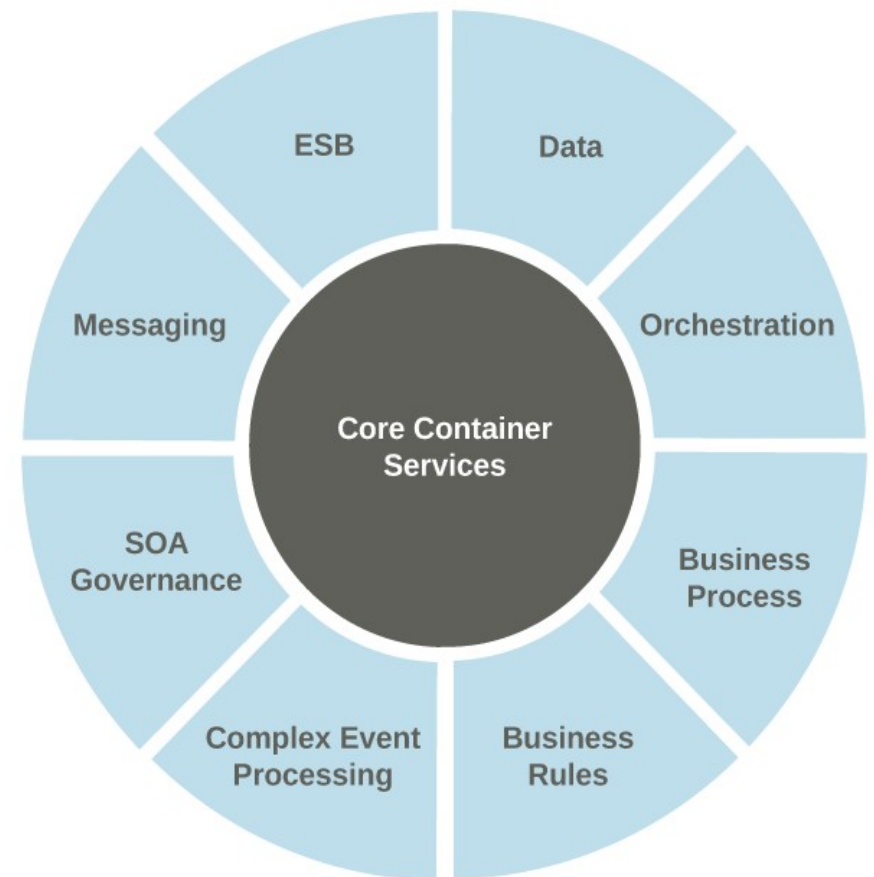
Red Hat Integration Technology Strategy

- Deliver enterprise-class SOA/Integration middleware to enable the Intelligent, Integrated Enterprise

- Work with the open source community and customers to create technologies that:

  - offer significant value-adds to business and IT

  - build upon strong core services and extend with ESB and advanced data, process, messaging, event processing and decision services

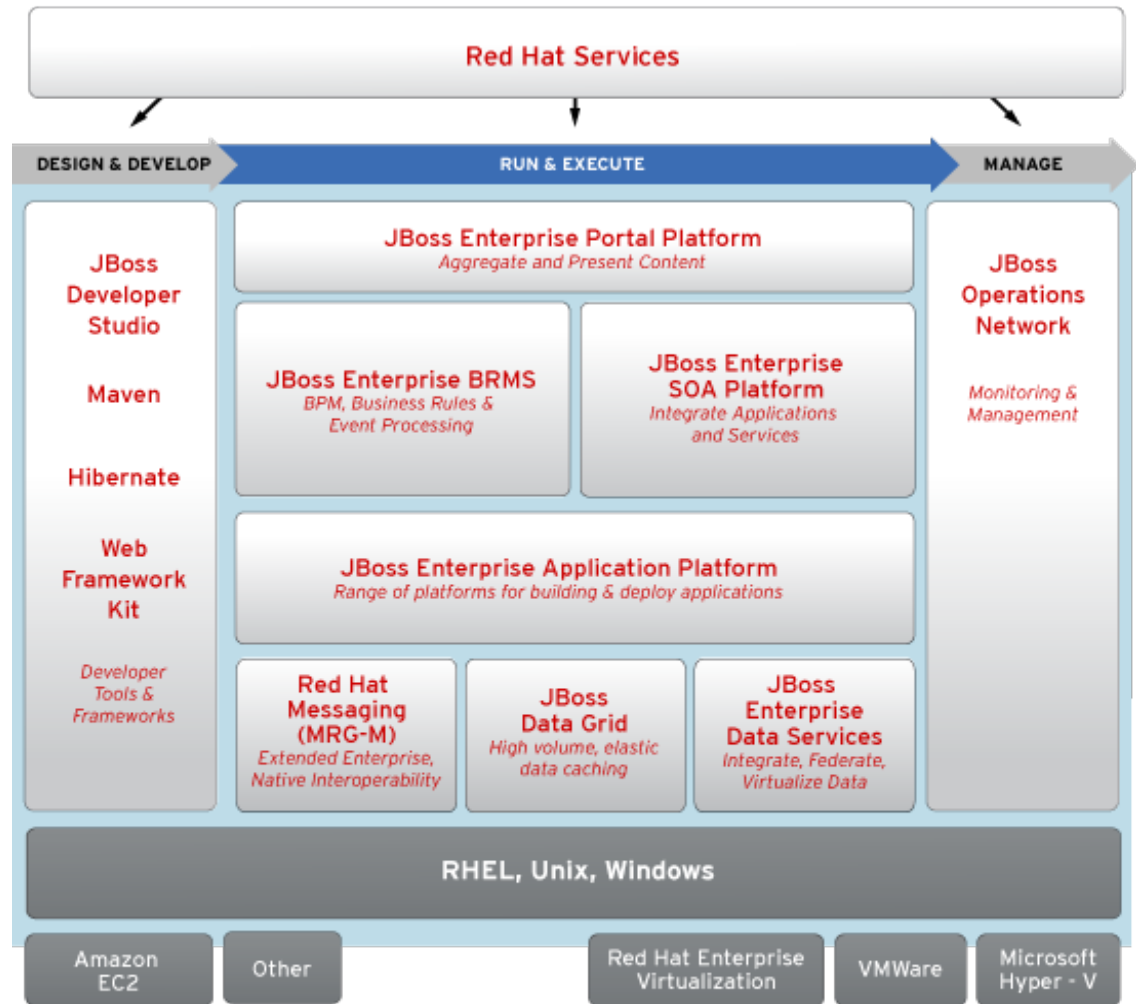- Provide a highly flexible platform portfolio from the highest quality and most innovative components

ESB

Data

Messaging

Orchestration

Core Container Services

SOA Governance

Business Process

Complex Event Processing

Business Rules

Comprehensive Middleware Portfolio

Core Principles: Enterprise Class – Open Choice – Value

- Cloud & On-premises
- Rock-solid reliability, performance & long-term stability
- Exceptional support
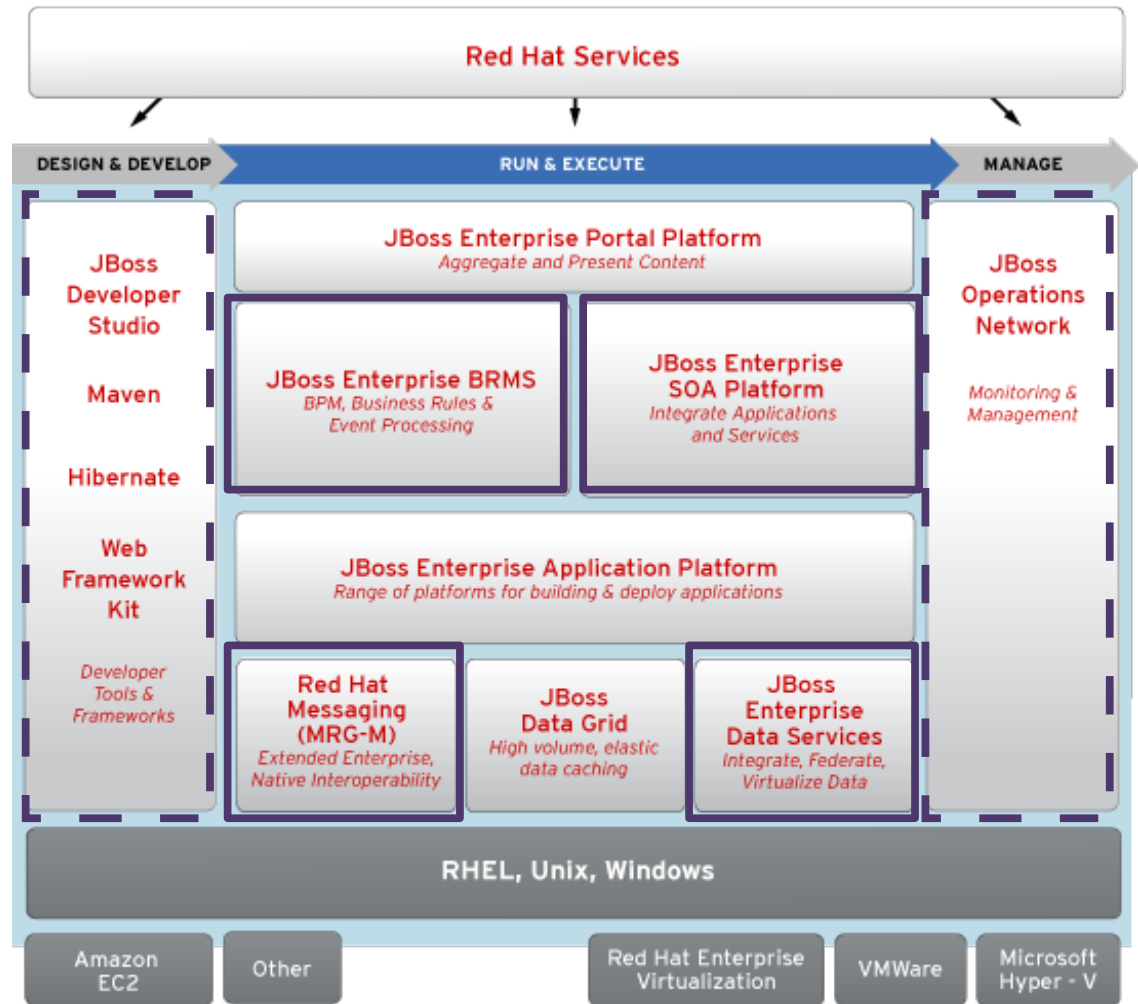
Comprehensive Middleware Portfolio

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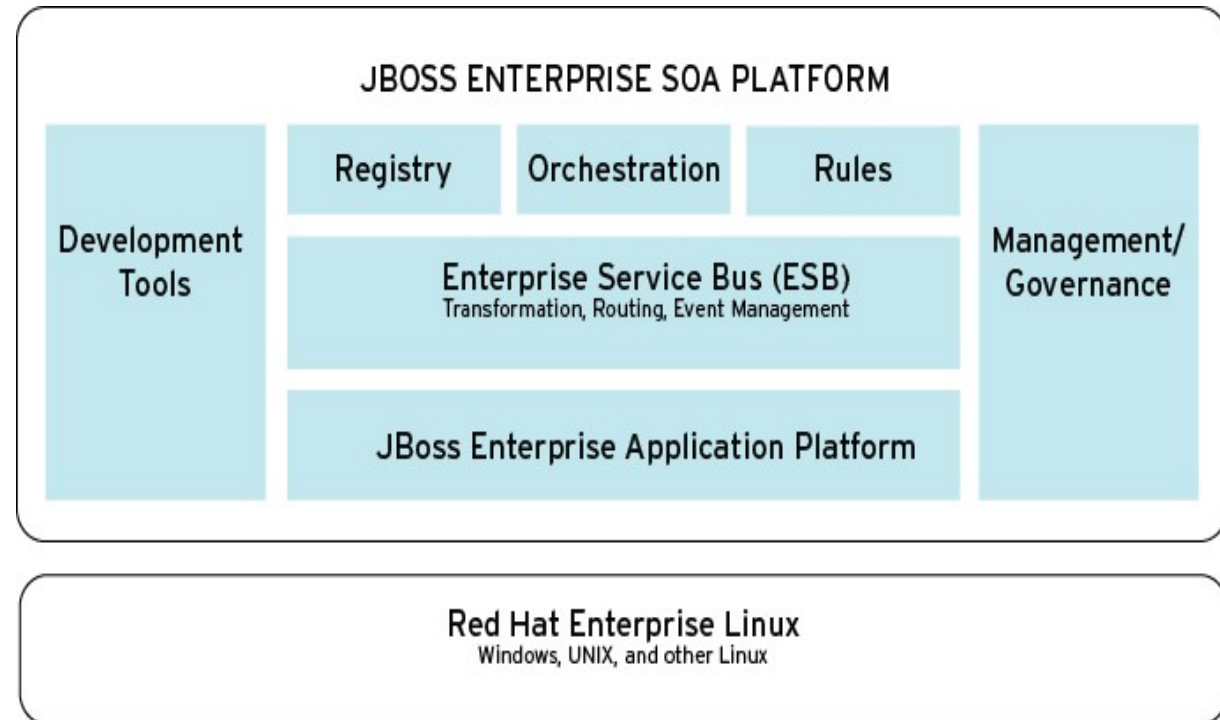- Rock-solid reliability, performance & long-term stability
- Exceptional support

JBoss Enterprise SOA Platform 5

A flexible, standards-based platform
to integrate applications, SOA services,
business events and automate business processes.

- Open Choice Integration
  - Application/EAI
  - Service-oriented
  - Event-driven
  - Messaging
- Workflow
- Service Orchestration
- Intelligent routing
- Registry
- Rock solid enterprise-grade

JBOSS ENTERPRISE SOA PLATFORM

Development Tools | Registry | Orchestration | Rules | Management/ Governance

Enterprise Service Bus (ESB)
Transformation, Routing, Event Management

JBoss Enterprise Application Platform

Red Hat Enterprise Linux
Windows, UNIX, and other Linux

JBoss Enterprise Data Services Platform 5

Real Time Data Services to Accelerate Superior Business Execution

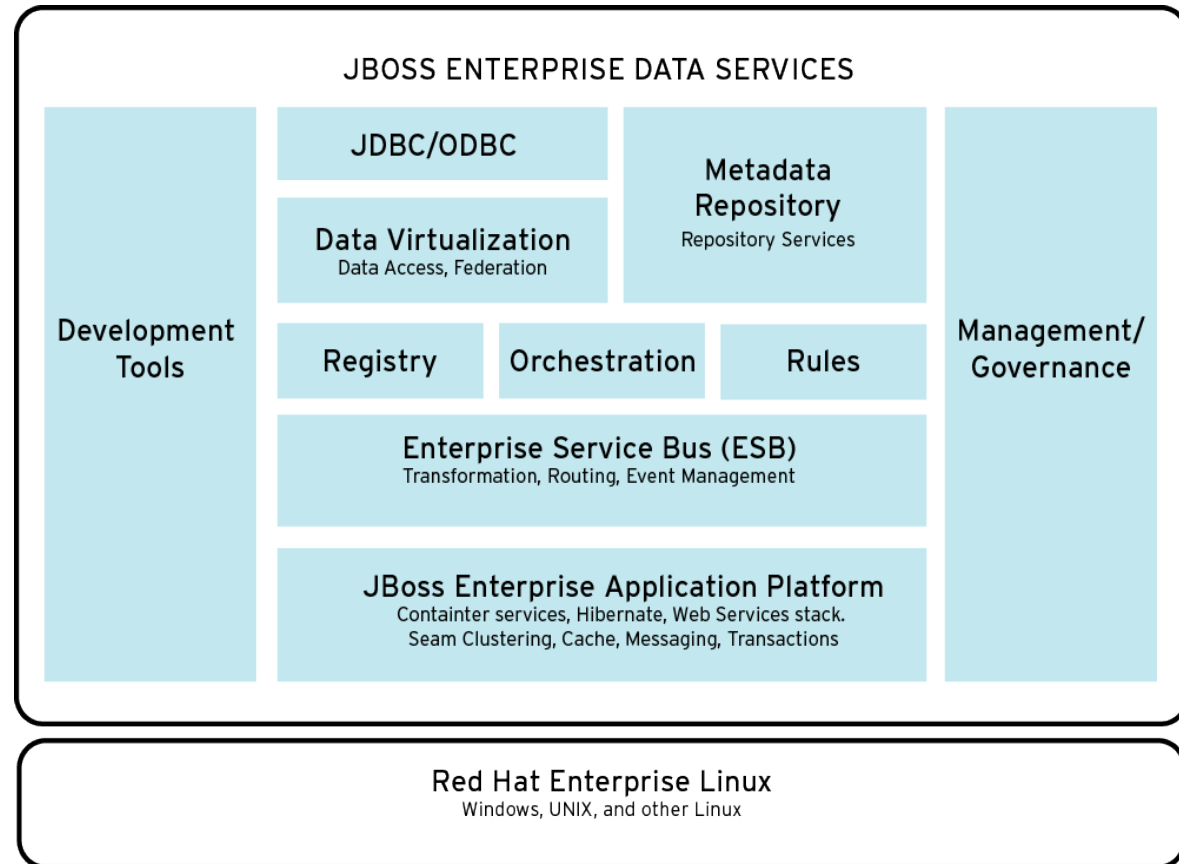**Turns the data you have into the information you need**

Augments and extends SOA Platform to address data access, integration and abstraction.

- Master Data Services
- Data Governance, Compliance
- Reporting/Analytics enablement

Real-time read/write access to heterogeneous data stores

Speeds application development by simplifying access to distributed data

Centralized access control, auditing

JBOSS ENTERPRISE DATA SERVICES

Development Tools

JDBC/ODBC

Metadata Repository
Repository Services

Data Virtualization
Data Access, Federation

Registry Orchestration Rules

Management/ Governance

Enterprise Service Bus (ESB)
Transformation, Routing, Event Management

JBoss Enterprise Application Platform
Containter services, Hibernate, Web Services stack.
Seam Clustering, Cache, Messaging, Transactions

Red Hat Enterprise Linux
Windows, UNIX, and other Linux

JBoss Enterprise BRMS 5

A Single Distribution for Business Rules Management, Business Process Management and Complex Event Processing
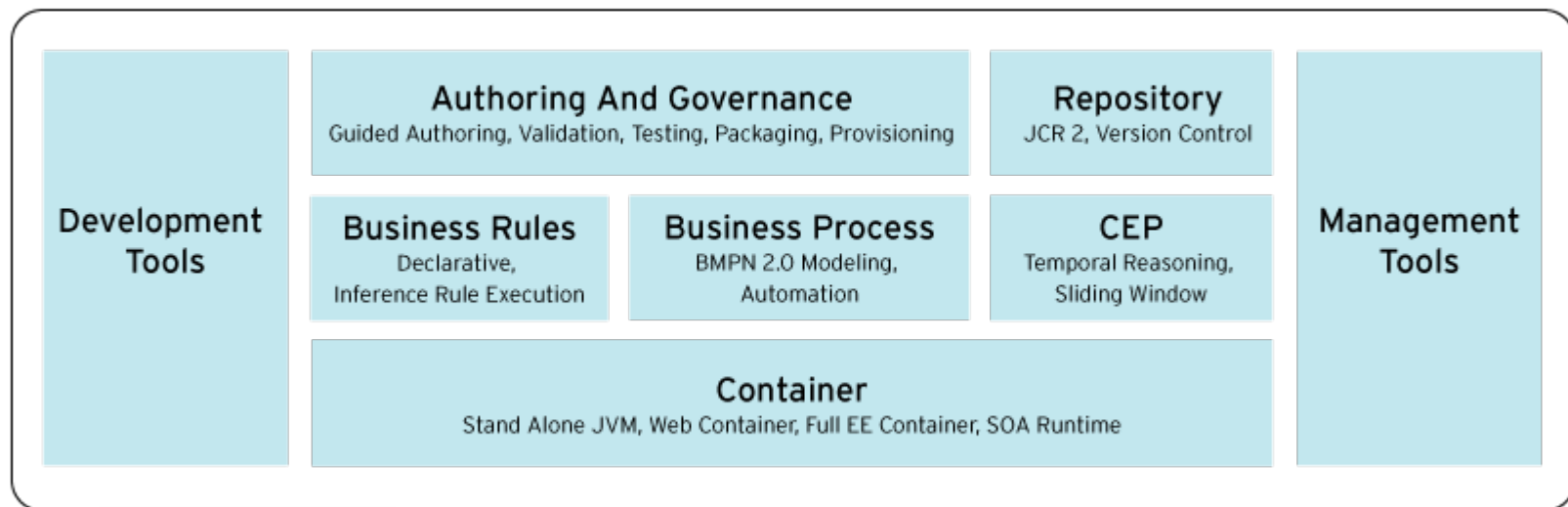
Features

- Highly flexible and customizable
- Tools for business users and developers
- Open, standards-based

Benefits

- Empowers the business to manage critical business logic
- Enables business agility

JBOSS ENTERPRISE BRMS

Development Tools	Authoring And Governance Guided Authoring, Validation, Testing, Packaging, Provisioning		Repository JCR 2, Version Control	Management Tools
	Business Rules Declarative, Inference Rule Execution	Business Process BMPN 2.0 Modeling, Automation	CEP Temporal Reasoning, Sliding Window	
	Container Stand Alone JVM, Web Container, Full EE Container, SOA Runtime			

Recent History – last 12 months

v5.2 – Oct/Nov 2011

Over 25 community releases

Training classes

- ESB, BRMS

Intelligent, Integrated
  Enterprise direction

Work leading up to v5.3

Collaboration with SAP

JBoss ESB Beginners Guide:

Image source:
http://kxrtonline.com/wp-content/uploads/2011/09/stock-photo-glowing-calendar-clip-art-background-38629594.jpg

Trends and Directions
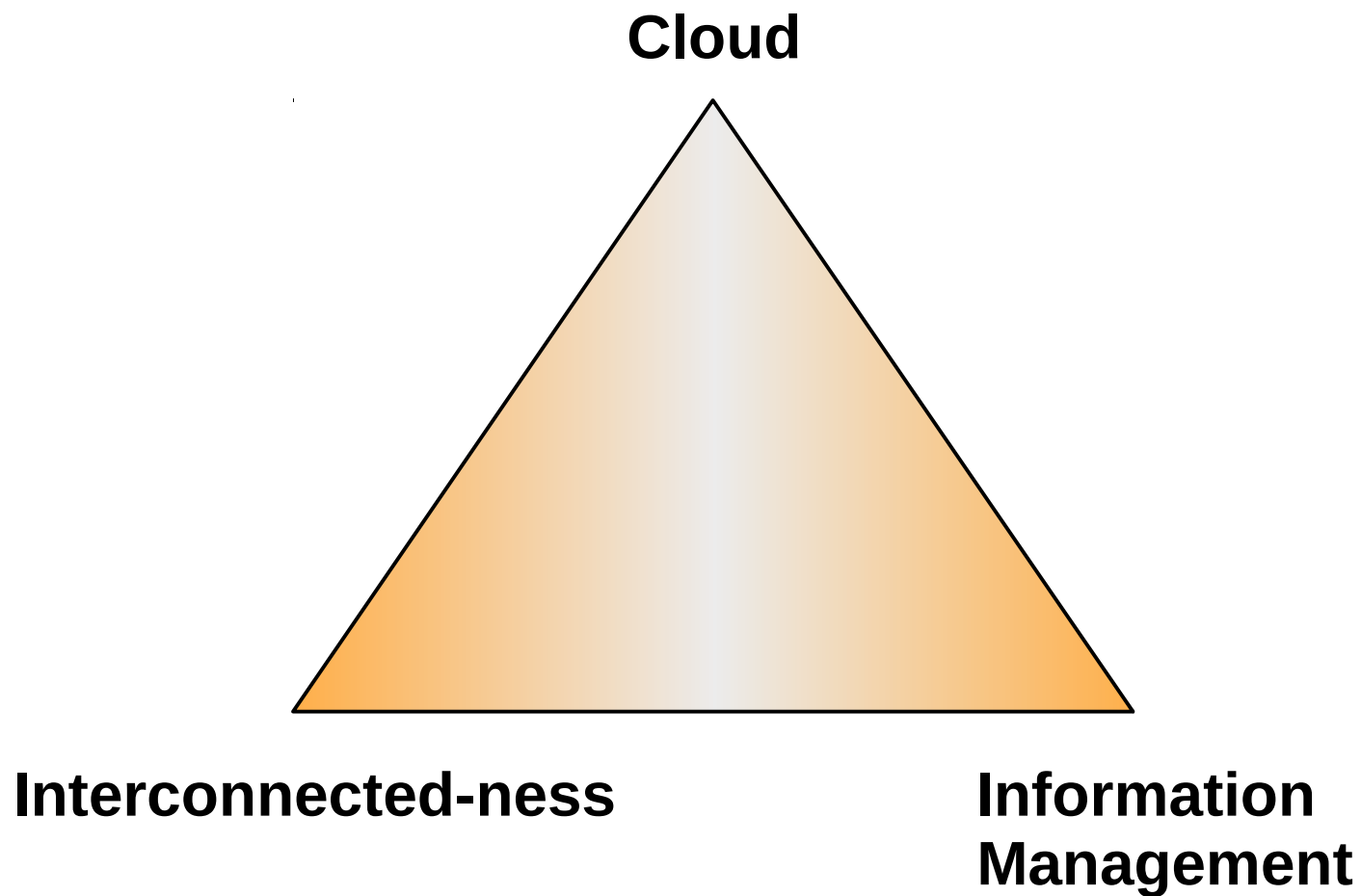
Changes underway

Cloud

Interconnected-ness

Information Management

Changes underway

Cloud

IaaS, SaaS, PaaS, iPaaS, as-a-service; pubilc, private hybrid;
Elasticity; security; location-independence; on-demand; self-service;
Open APIs; flexibility; multi-tennancy;
Shifts in responsibility and influence; new cost models;
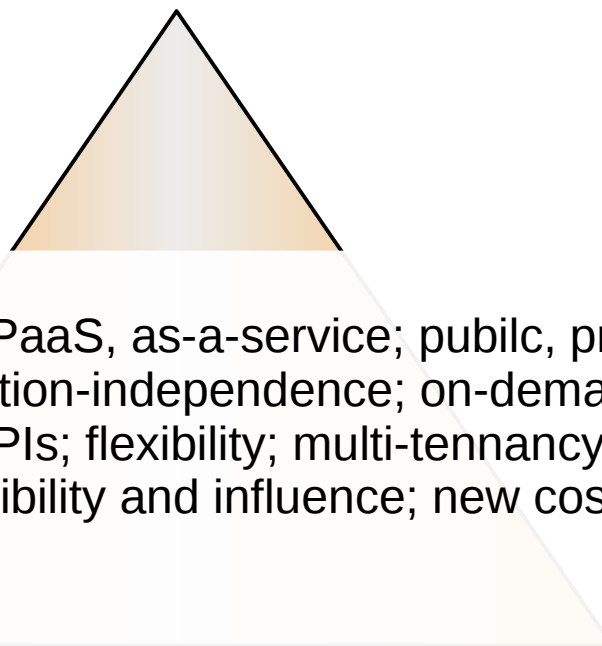
Cloud drives/needs:
• Service Orientation
• Open APIs, REST
• Varied deployment environments
• Lightweight, scalable

Changes underway

Beyond integrated applications, internet-of-things (sensors, devices, kiosks, embedded systems, ...). Things expect to be connected. Service interfaces, public APIs; Generating and exposing information; Everything a producer and consumer of information.
Mobile; Social, internet-of-people.

Interconnected-ness drives/needs:
• Open/Public APIs, REST
• Varied interfaces for different participants
• Systems must handle many/varied data and events

Interconnected-ness

Information
Management

Changes underway

Big Data, NoSQL, NewSQL, DataGrids;
Real-time decisions; analytics; Hadoop; MapReduce, Data Marts;
Increasing data volumes; structured/unstructured; storage; logs, click-traffic,
location data, status data;
Cloud-based and Interconnected systems producing and consuming more
and varied information.

Information Management drives/needs:
• Polyglot data management and
integration
• Hybrid storage models
• Analytics
• Real-time information processing

**Information
Management**

Integration Needs

- Service Orientation

- Open/Public APIs, REST

- Variety of deployment environments

  - Lightweight, scalable

- Varied interfaces for different participants

- Systems must handle many/varied data and events

- Polyglot data management and integration

- Hybrid storage models

- Analytics, Real-time information processing

Announcement: v5.3

SOA Platform, BRMS Platform, EDS Platform

JBoss SOA-EDSP-BRMS 5.3 Announcement Summary

- Intelligent, Integrated Enterprise

  - Winning business execution

- JBoss Enterprise SOA Platform 5.3 - July

  - Bridge to Camel – integration development productivity

- JBoss Enterprise Data Services Platform 5.3 - July

  - Apache Hive tech preview - big data integration

- JBoss Enterprise BRMS 5.3 with jBPM v5 - June

  - Unified process, rules, event processing

Introducing JBoss Enterprise BRMS 5.3

A Single Distribution for Business Rules Management, Business Process Management and Complex Event Processing

Features

- Highly flexible and customizable
- Tools for business users and developers
- Open, standards-based

Benefits

- Empowers the business to manage critical business logic
- Enables business agility

JBOSS ENTERPRISE BRMS

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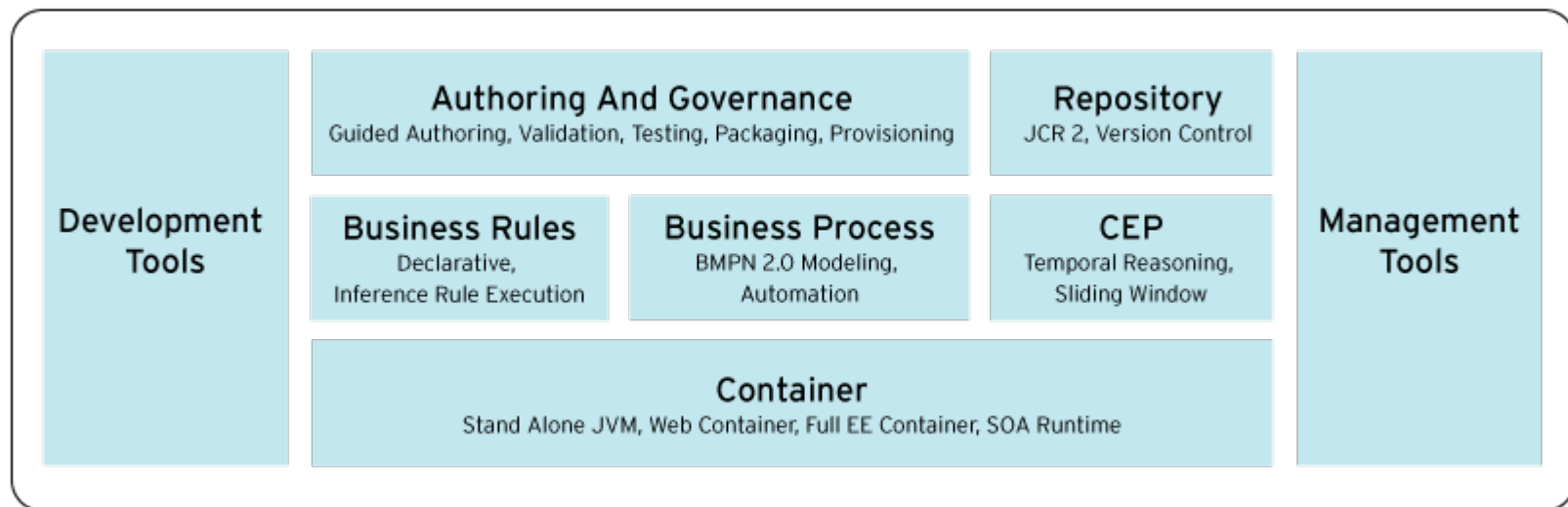
Choice of Tools

Business User Friendly – Web Based

Developer Friendly – IDE Based
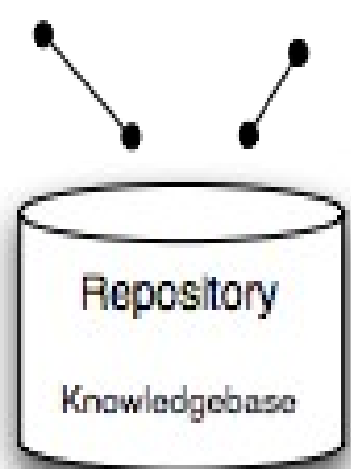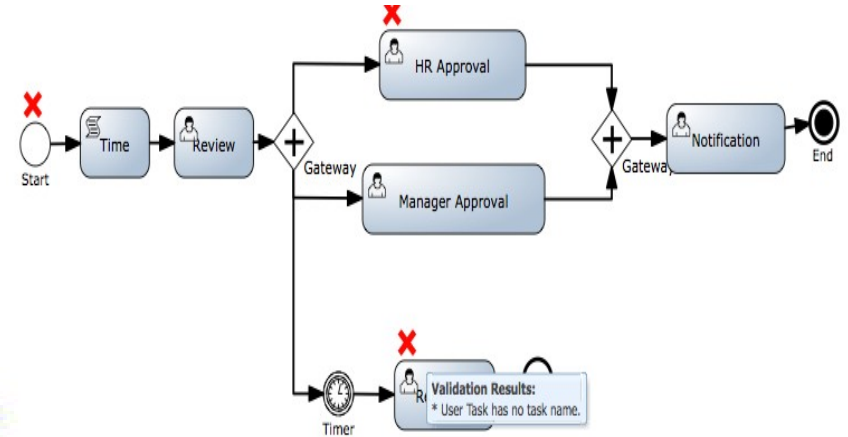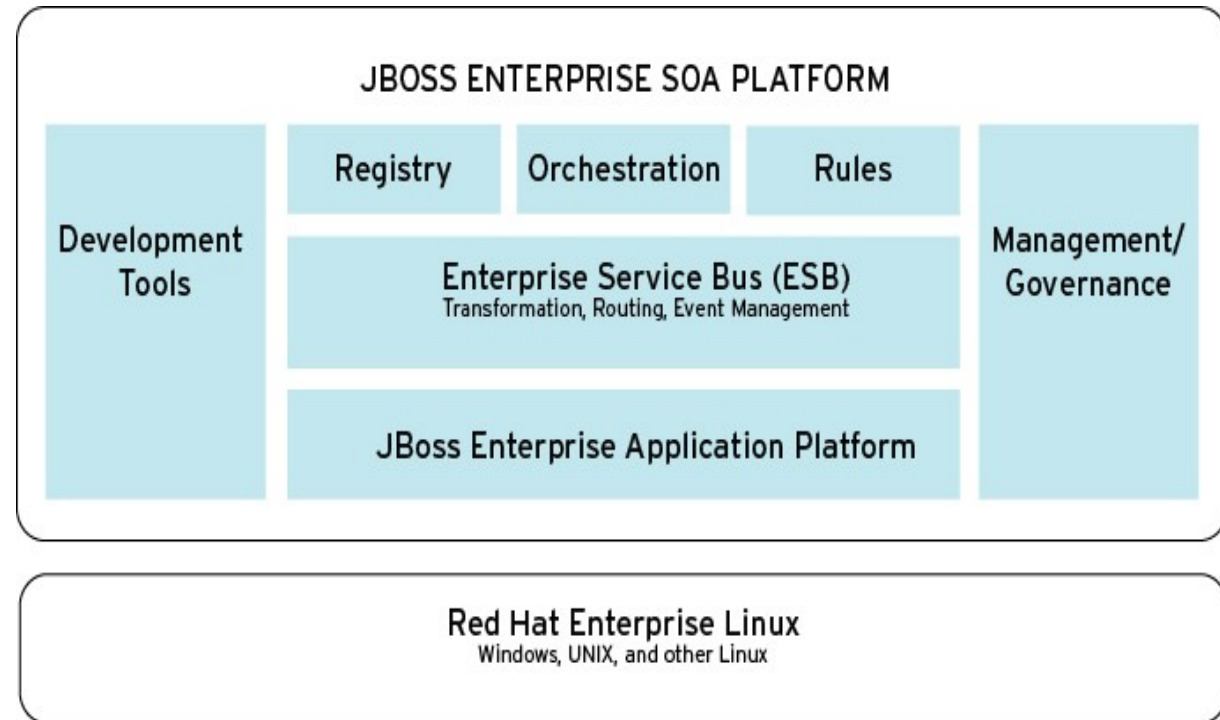
New! Business Process Runtime

JBoss Enterprise SOA Platform 5.3

- Open Choice Integration
  - Application/EAI
  - Service-oriented
  - Event-driven
  - Messaging
- Workflow
- Service Orchestration
- Intelligent routing
- Registry
- Rock solid enterprise-grade

New in version 5.3:
✔ **Apache Camel Gateway**
✔ **HornetQ JMS messaging certification**
✔ **Additional BRMS integration (BPMN2-based orchestration)**
✔ **ESB monitoring enhancements**
✔ **JBoss Developer Studio v5.0**
✔ **Component updates**

JBOSS ENTERPRISE SOA PLATFORM

Development Tools

Registry | Orchestration | Rules

Enterprise Service Bus (ESB)
Transformation, Routing, Event Management

JBoss Enterprise Application Platform

Management/ Governance

Red Hat Enterprise Linux
Windows, UNIX, and other Linux

Overview of Key Changes

Camel Gateway

- What is Camel? – Enterprise Integration Patterns (EIP) framework.

    - Lightweight, developer friendly, vibrant community

- Gateway based on Camel Core.

- Camel has large and growing set of components (analogous to adapters)

- With SOA 5.3 Camel extends the reach of the ESB in SOA Platform.

Overview of Key Changes

ESB Monitoring Enhancements

- Service Interceptors

  - Hook into BAM or event processing. Invoked at: Service Instantiation, Start, End, Failure

  - Provide information about message content and service config.

- RecordRoute

  - Track history of message through a set of services

  - Configurable on a Service-basis or Message-basis

- Dynamic Service Listener thread config

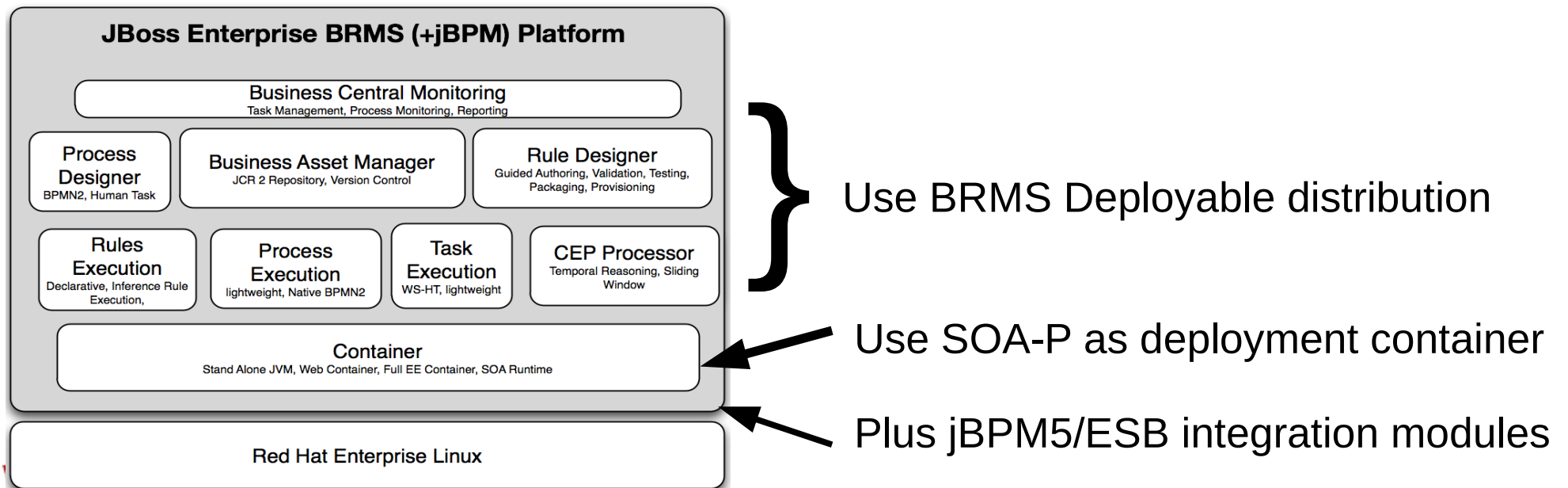 - Enables customized throttling at the service level

Overview of Key Changes

JBPM 5 integration with ESB

- JBPM 3 (legacy) remains the workflow engine in SOA 5.3

- JBPM 5 (new) is delivered with BRMS 5.3

- Integration supported when both products installed together

JBoss Enterprise BRMS (+jBPM) Platform

Business Central Monitoring
Task Management, Process Monitoring, Reporting

Process Designer
BPMN2, Human Task

Business Asset Manager
JCR 2 Repository, Version Control

Rule Designer
Guided Authoring, Validation, Testing, Packaging, Provisioning

Rules Execution
Declarative, Inference Rule Execution,

Process Execution
lightweight, Native BPMN2

Task Execution
WS-HT, lightweight

CEP Processor
Temporal Reasoning, Sliding Window

Container
Stand Alone JVM, Web Container, Full EE Container, SOA Runtime

Red Hat Enterprise Linux

Use BRMS Deployable distribution

Use SOA-P as deployment container

Plus jBPM5/ESB integration modules

JBoss Enterprise Data Services Platform 5.3

Turns the data you have into the information you need

Augments and extends SOA Platform to address data access, integration and abstraction.

• Master Data Services

• Data Governance, Compliance

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New in version 5.3:
✔ **Additional data sources: Greenplum, Apache Hive, PostgreSQL 9**
✔ **Source-specific enhancements: Salesforce.com; Fixed-width files**
✔ **Performance optimizations: off-heap buffering**
✔ **Tooling/usability upgrades: Guides, cheatsheets, XML and REST-based sources**
✔ **JBoss Developer Studio v5.0**
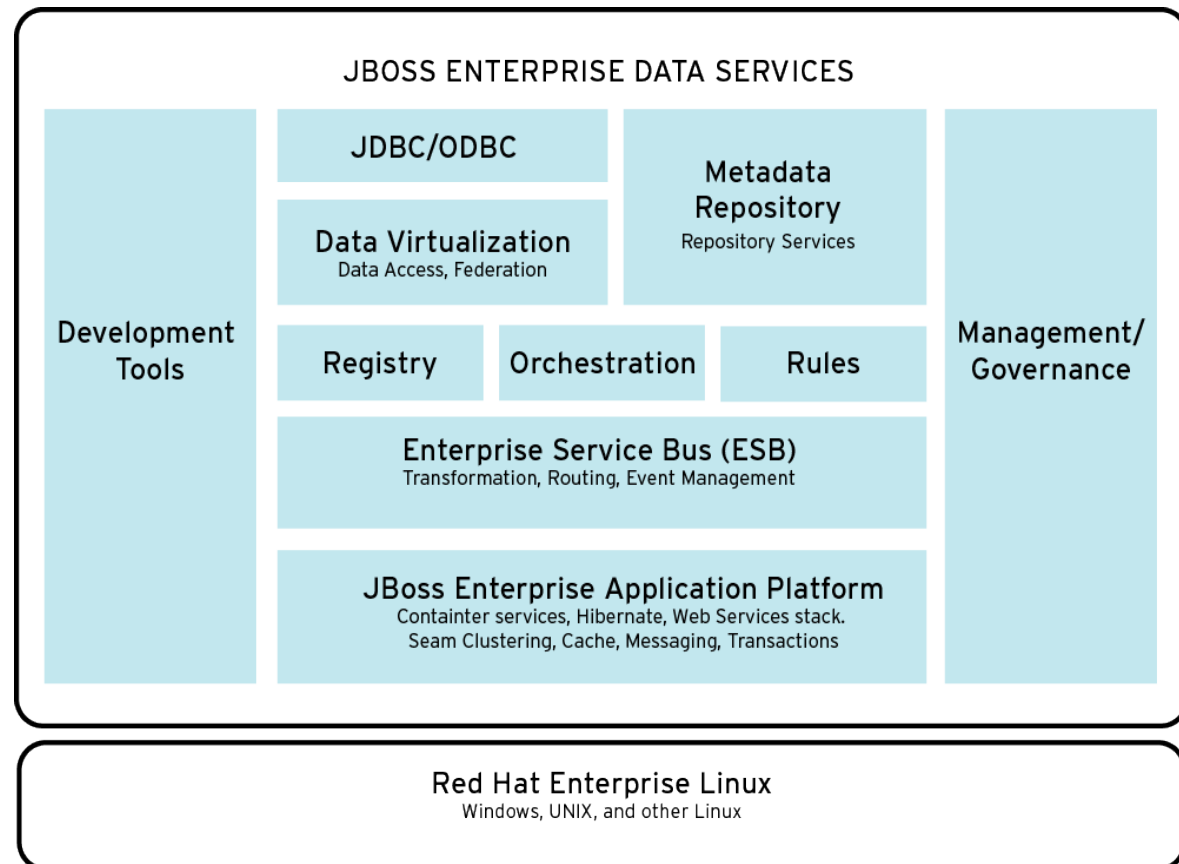
What's New In EDS – Apache Hive

- Hive is a "data warehouse" system for Hadoop that facilitates easy data summarization, ad-hoc queries, and the analysis of large datasets stored in Hadoop compatible file systems.

- Hive provides:

  - a mechanism to project relational structure onto this data and query the data using a SQL-like language called HiveQL

  - JDBC driver

    - not compliant: no DatabaseMetadata, limited DDL

- EDS provides:

  - Hive Translator (Tech Preview) – model Hive structure in EDS, query via SQL

What's New In EDS – Other Changes

- Server-side query timeouts

  - Both per VDB and server wide query-timeout

- Performance enhancements

  - MemoryBufferSpace controls buffer/cache memory

  - Option to allocate memoryBufferSpace OFF heap for large RAM scenarios.

- Salesforce.com data source

  - Aggregate support – GROUP BY, ORDER BY

  - Listing on SF.com AppExchange

Data Services Designer – Guides View

Categorized Action Menu

Guides / Status

Modeling Actions...

Action Sets

Execute selected action

Consume SOAP Web Service

- Create Teiid Model Project
- Create Web Services (SOAP) connection
- Generate relational models from WSDL
- Preview Data
- Create VDB
- Execute VDB

Description

Create an ODA Web Services connection profile

Cheat Sheets

Categorized Action Menu items

- Manage Model Projects
- Define Models
- Manage Connections
- Model Data Sources
- Consume a SOAP Web Service
- Manage VDBs
- Teiid Server
- Test
- Teiid Cheat Sheets

Model Data Sources submenu
- Create source model from DDL file
- Create source model from local flat file source
- Create source model for JDBC data source
- Create source model from Salesforce data source
- Consume Web Service WSDL
- Create source model from XML file source
- Preview Data

Co...

- C...
- M...
- M...
- Model Local XML File Sou...
- Model Remote XML File S...
- Teiid Server

Cheat Sheets

Cheat sheets for Teiid Designer use cases

- Create Model from JDBC Source
- Create Model from Flat File Source
- Consume a SOAP Web Service
- Create Model from XML Local File Source
- Create Model from XML Remote Source
- Create multi-source VDB
- Create and test a VDB

Create New Teiid Model Project

Follow the steps below to create a Teiid Model Project

Launch New Teiid Model Project Wizard

1) Specify unique project name
2) Click **Next >** twice to get to **Model Project Options** page
3) Check folders you wish the wizard to create in your project
4) Click **Finish**

- Create New Flat File Source Connection
- Create Source From Flat File Connection
- Test Flat File Data
- Create VDB
- Test VDB
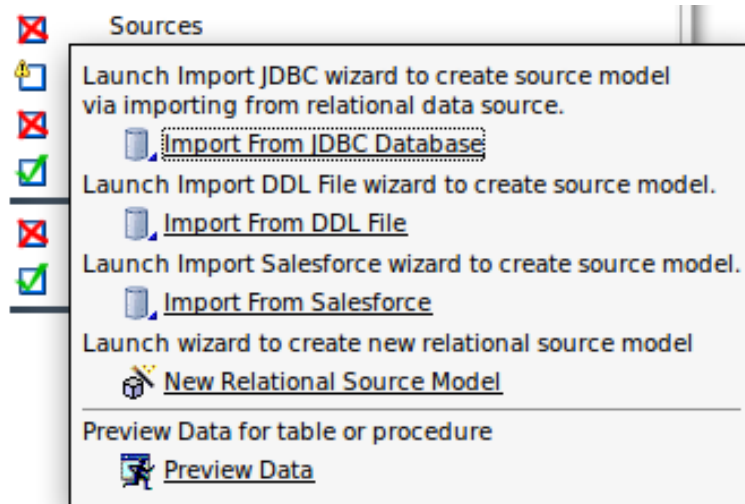
Designer – Project Status View
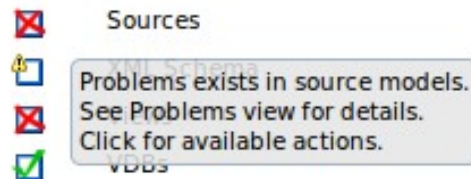
Click for applicable actions
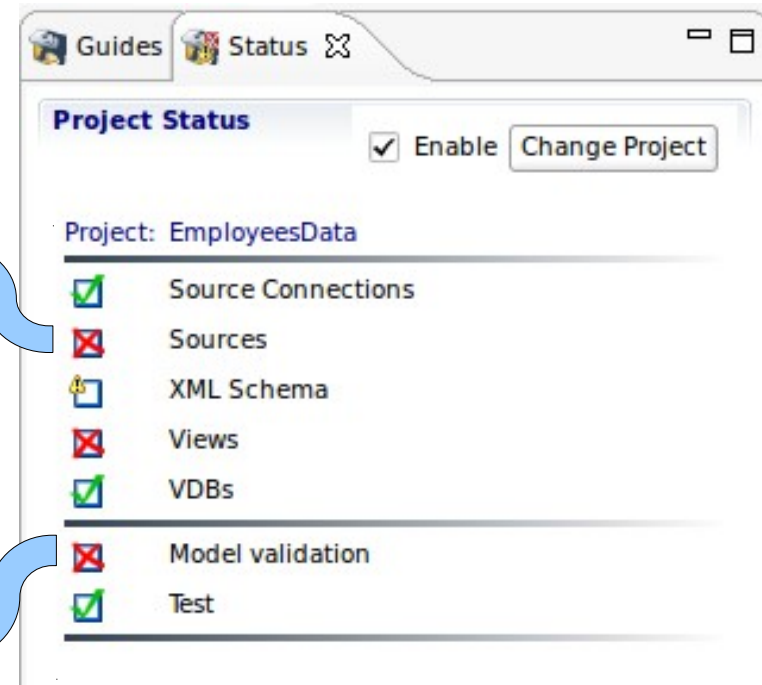
Hover for status summary
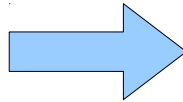
Consume SOAP WS – Source Definition

WSDL Source Connection Profile
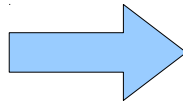
Select Port Default Serivce Mode

Select Operations
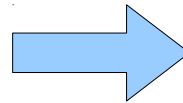
Consume SOAP WS – Procedure Definition

Choose Operation
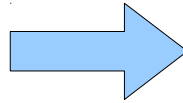
Request and Response Procedure Definition

Define Input Elements And Output Columns

Choose Operation

Looking Ahead – SOA Platform

Support Lifecycles

Standard Product Life Cycle

A Standard Product Life Cycle of five years applies to most JBoss products. The Standard Product Life Cycle is also composed of two phases, Full Support and Maintenance Support. Extensions beyond the fifth year ("Extended Life Support") are available under a separate subscription, scope of coverage, and SLA.

Standard Product Life Cycle

Phase 1 Full Support (3 years)			Phase 2 Maintenance Support (2 years)		Phase 3 Extended Life Support (3 years)		
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8

JBoss Enterprise SOA Platform

			Full Support		Maintenance Support	
Family	GA	Life Cycle	Start	End	Start	End
5.x	Feb 2010	Standard	Feb 2010	Feb 2013	Mar 2013	May 2015
4.3	Oct 2008	Standard	Oct 2008	Oct 2011	Nov 2011	Oct 2013

JBoss SOA Platform Roadmap

CY2009	2010	2011	2012	2013	2014	2015

SOA-P 5

5.0　　5.1　　5.2　　5.3

ESB (SOA)-P 6

6.0
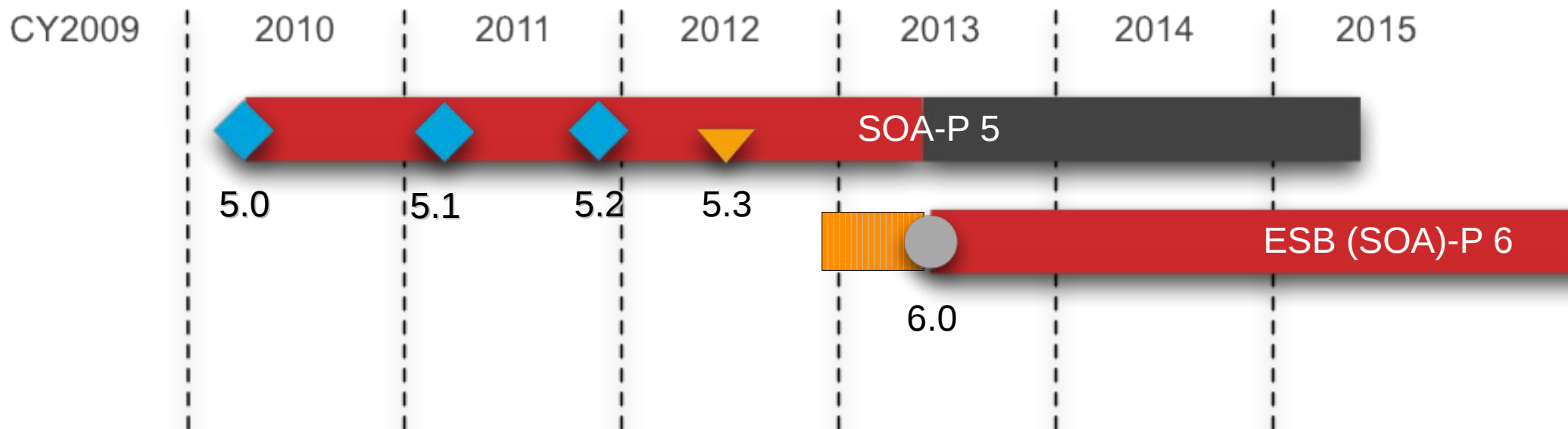
Post-SOA-P 5.3 (Target:Q3/CY12)
- Java 1.7 support
- Additional certifications

ESB/SOA 6.0 (Target : Q2/CY13)
- ESB Revision
- Add repository, expand governance
- Lightweight deployment/ EAP 6
- Additional tooling

Changes v5 -> v6: Themes

Ease of use

- Simplified programming model
- Improved developer tooling
- More support for standards and de-facto standards

Services

- Focus on services and service contracts
- Service composition model

Governance

- Service contracts, declarative validation and transformation
- Explicit service dependencies
- Design-time repository

Interoperability

- Continued interop among JBoss integration products
- Broader connectivity

Lightweight

- Based on EAP 6 – rapid startup, highly-configurable footprint
- Suitable for distributed, cloud-based deployments

SOA v5 -> ESB v6

JBoss SOA Platform 5.3

Dev Studio | BPEL / jBPM 3 | Rules Engine | JON
| JBoss ESB |
UDDI | JBoss EAP 5 |

JBoss ESB Platform v6

Dev Studio + | BPEL | Rules Engine | JON
| SwitchYard |
UDDI | JBoss EAP 6 |
Repo |
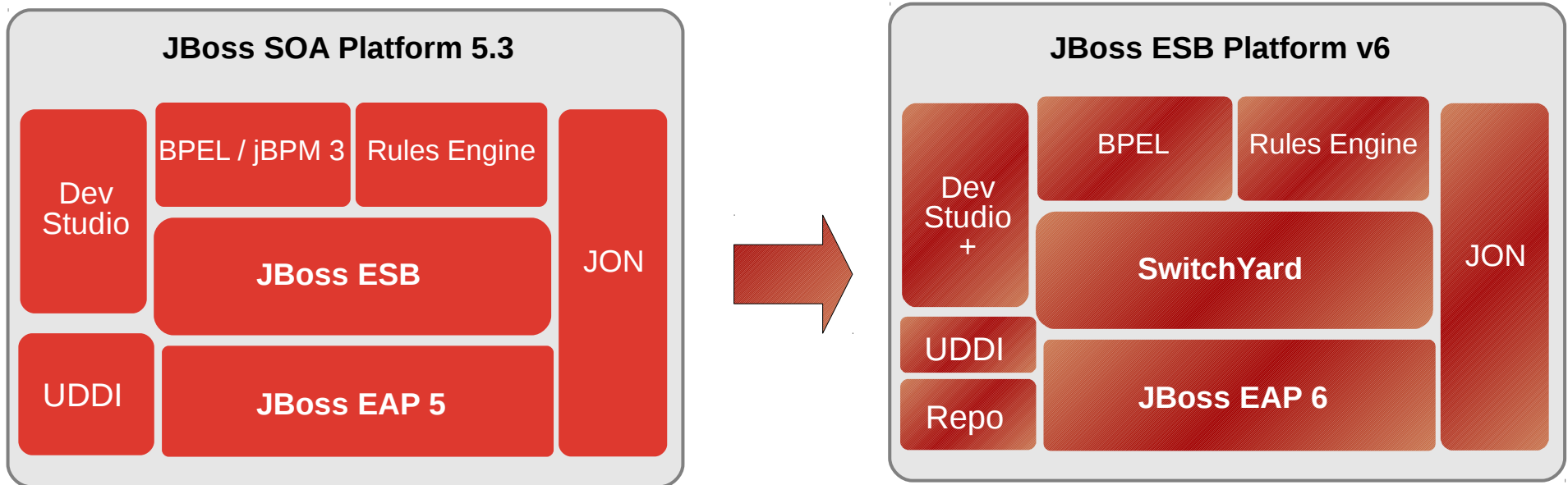
- JBoss ESB -> SwitchYard

- EAP 5 base -> EAP 6 base

- JBPM 3 retired. JBPM 5 part of BRMS

- New/More Tooling

Changes v5 -> v6: JBoss ESB -> SwitchYard

Transition? Yes. Complete reset? No.

- esb.xml vs. switchyard.xml – Change. SCA-oriented.

- Low-level APIs

- Greater use of Apache Camel

- Many improvements

Continuity

- Same community/engineering team

- Protocols/transports, BPEL, Business Rules, jBPM 5 integration, Smooks, XSLT, HornetQ, CXF web services

- Interop between v5 and v6

Participation in Standards Efforts

SpecSOA
http://www.spec.org/soa

Objective: develop a standard method for comparing performance of enterprise infrastructural components that provide Service Oriented Application (SOA) architectural concepts such as Enterprise Service Bus (ESB), and Business Process Choreography (BPC), and Web Services.

S-RAMP (OASIS SOA Repository Artifact Model and Protocol)
http://s-ramp.org
http://github.com/governance

Objective: define common data model and APIs to store and manage SOA artifacts throughout their lifecycle.

Summary and Wrap-up

Key Takeaways

- Integration portfolio – integrated and expanding

- Lots new in v5.3

  - Intelligent, Integrated Enterprise

  - Features to tackle your integration challenges

- More on the way in v6

Sessions to Consider

BOF: SOA Platform	Wed 1:20
What's the Big Deal about AMQP for Business Messaging?	Wed 2:30
BOF: EDS Platform	Wed 3:40
JBoss Enterprise BRMS: Combining the Power of Business Rules & Business Processes	Wed 3:40
The Power of Data Virtualization	Wed 4:50
Build an Intelligent, Integrated Enterprise with Red Hat & JBoss Enterprise Middleware	Thu 10:40
Real World Perspectives Panel: Integrate	Thu 3:40
BOF: BRMS Platform	Thu 3:40
JBoss Enterprise Middleware & Big Data	Thu 3:40
SOA at Scale with SwitchYard	Thu 4:50

Q/A

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