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iPaaS & beyond: Red Hat's Integration Roadmap

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June 26, 2015

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Overview of Red Hat Integration Products

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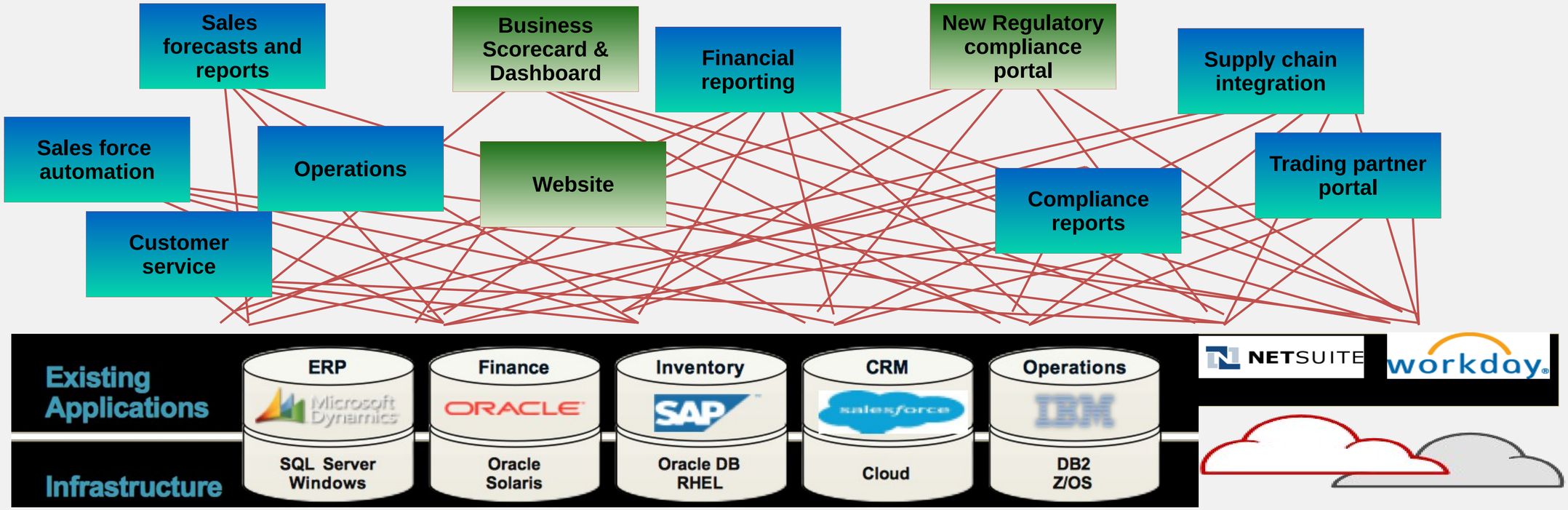
TODAY'S IT LANDSCAPE: COMPLEXITY SPHAGHETTI



New SaaS and Cloud based Applications

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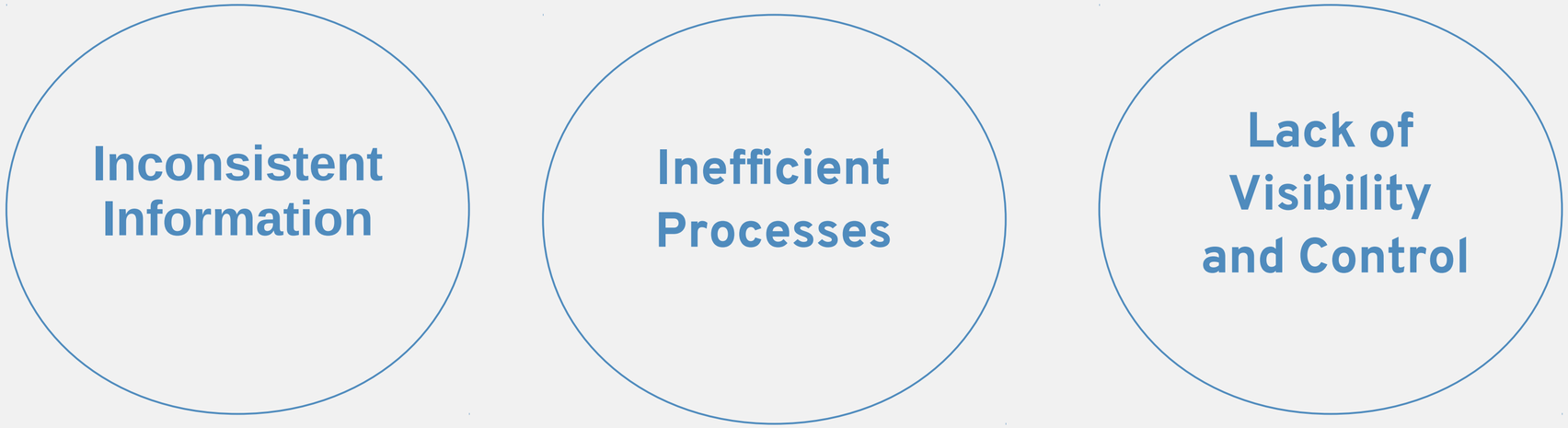
BUSINESS AND IT CHALLENGES



NET RESULT: Lack of productivity, more errors & higher costs

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SOLUTION: COMPREHENSIVE INTEGRATION PLATFORM

– that is –

Lightweight, cost effective, agile, lean

Apps & Data On-premise

ORACLE

SAP

Integrate Everything Everywhere

Apps & Data In the Cloud

facebook

twitter

salesforce

Mobile Clients, Devices & Sensors

JBoss MIDDLEWARE: LIGHTWEIGHT INTEGRATION

ESB Transformations Media routing Integration services	RED HAT® JBOSS® FUSE **RED HAT JBOSS** FUSE **FOR xPaaS**
MESSAGING Message between legacy silos Real-time notifications	RED HAT® JBOSS® A-MQ **RED HAT JBOSS A-MQ** **FOR xPaaS**
DATA VIRTUALIZATION Connect Sources, Compose Data, Consume	RED HAT® JBOSS® DATA VIRTUALIZATION

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WHY JBoss INTEGRATION SOLUTION?

Simple pricing model
Great customer service

No vendor lock-in
Open, extensible, standards-based

Faster time to solution
Simplicity, lightweight enterprise integration patterns

Buy only what you need

Cloud ready and virtualization friendly

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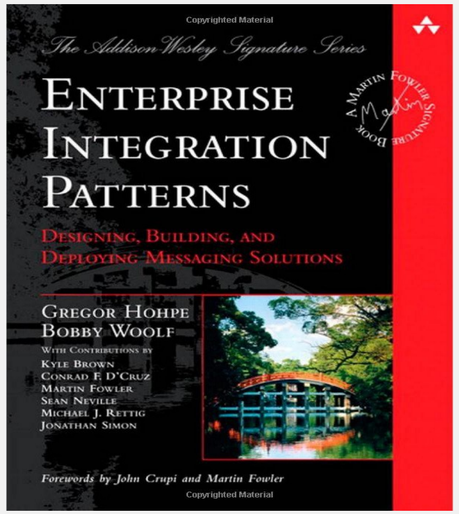
ENTERPRISE INTEGRATION PATTERNS (EIP's) & APACHE CAMEL

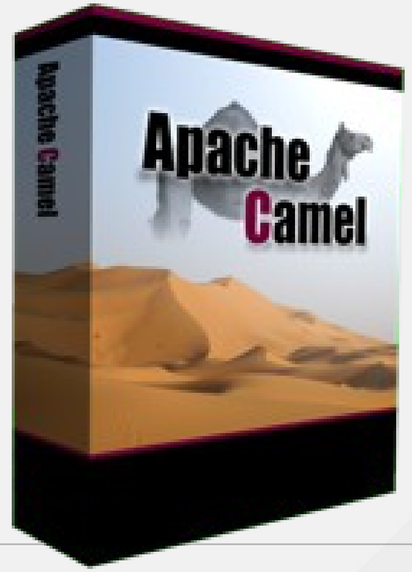
- Commonly used integration patterns to design, develop, accelerate and simplify integration solution development

- Apache Camel – most popular EIP implementation

- De-facto standard to build flexible and lightweight integrations

- Large, vibrant and growing ecosystem





Red Hat JBoss Fuse

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What's new in JBoss Fuse 6.2

- Additional Connectivity
  - More than a dozen new connectors in Apache Camel
  - SAP iDocs support added
- Developer Experience Improvements
  - Improvements in the design pallet
  - Visual Debugging in JBDIS
  - Visual Data Mapper
  - Rest DSL
- Better integration with other JBoss Middleware
  - BRMS
  - EAP
  - Switchyard
- Support for Java 8

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JBoss Fuse 6.2 Open Source Components

- Apache Camel 2.15.1
- Apache CXF 3.0.1
- JBoss A-MQ 6.2 (based on Apache ActiveMQ 5.11.2)
- Apache Karaf 2.4
- Fuse Fabric 1.2

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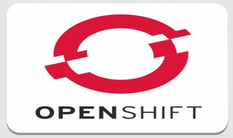
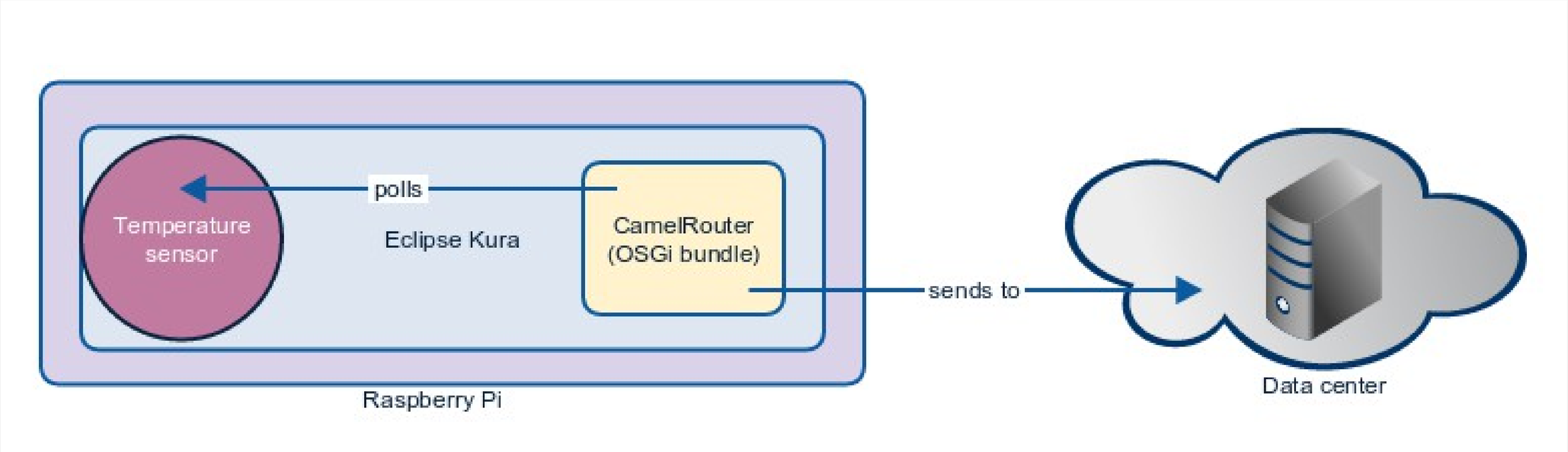
Connectivity – connect API's and unlock information

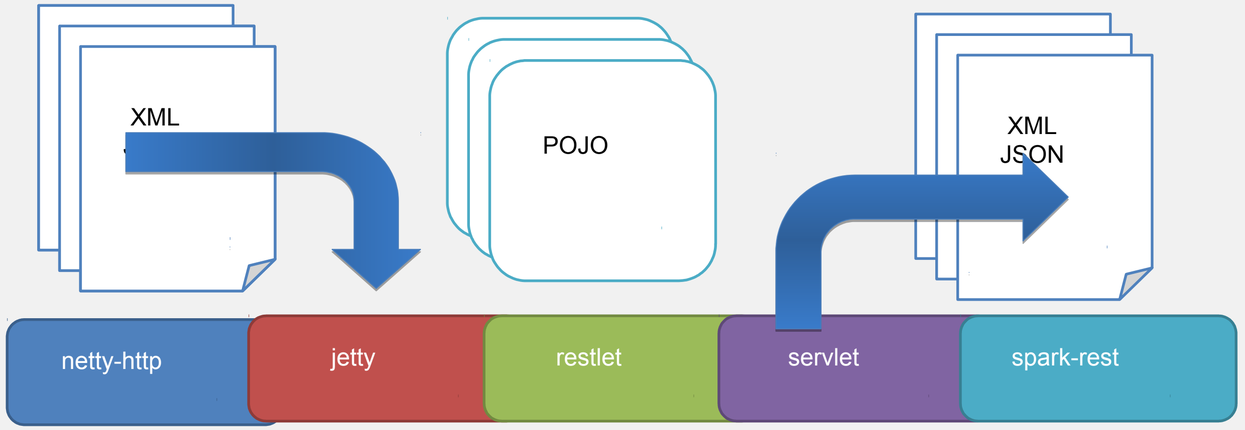
	Provides access to all box.com APIs accessible using box-java-sdk-v2		Aysync HTTP Webscoket Client A websocket based endpoint for communicating with external servers over websockets		Work with NoSQL databases using the Apache Gora Framwork
	Treats Dropbox remotes folders as a producer or consumer of messages		Uses the atmosphere library to support the websocket transport in various servlet containers		Uses the Spark REST java library
	Provides access to the Google Drive file storage service via Google Drive Web APIs		Collects various metrics directly from Camel route		Validate XML Instance documents
	Supports producer and consumer enpoints to communicate with Salesforce		Stramlines network programing over TCP and UDP		HTTP transport with Netty4
	Utilizes Apache Olingo version 2 APIs to interact with Odata 2.0 and 3.0 comliant services		Manage OpenShift applications		Provides access to Gmail via the Google Mail Web API's

Apache Camel-Kura for IoT

- Kura is an OSGi based M2M gateway fromwork dedicated for small devices
- camel-kura provides camel integration between the gateway and enterprise services



Create and share API's - Rest DSL




```
<rest path="/customers/">
  <get uri="/{id}/orders">
    <to uri="direct:customerOrders"/>
  </get>
  <post uri="/neworder">
    <to uri="direct:customerNewOrder"/>
  </post>
</rest>
```

Expose restful endpoint with parameter

Expose restful endpoint

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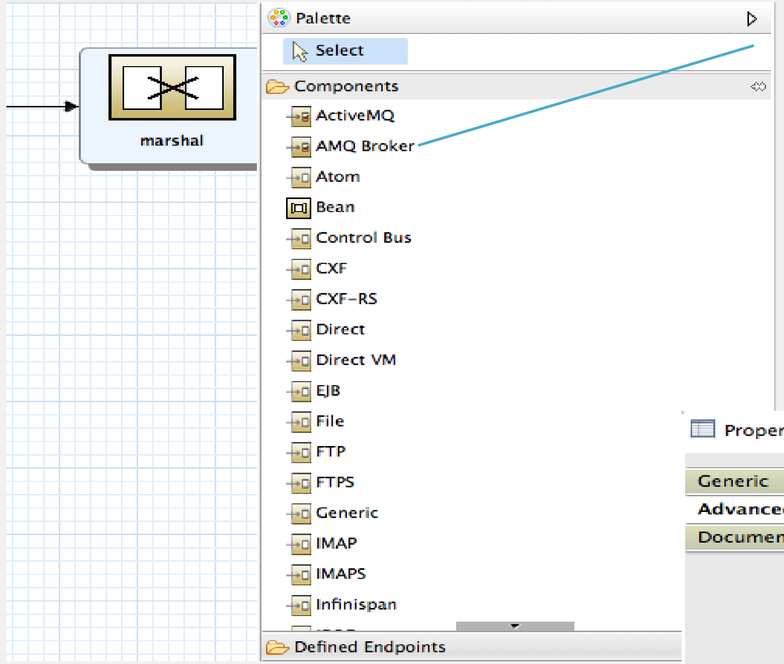
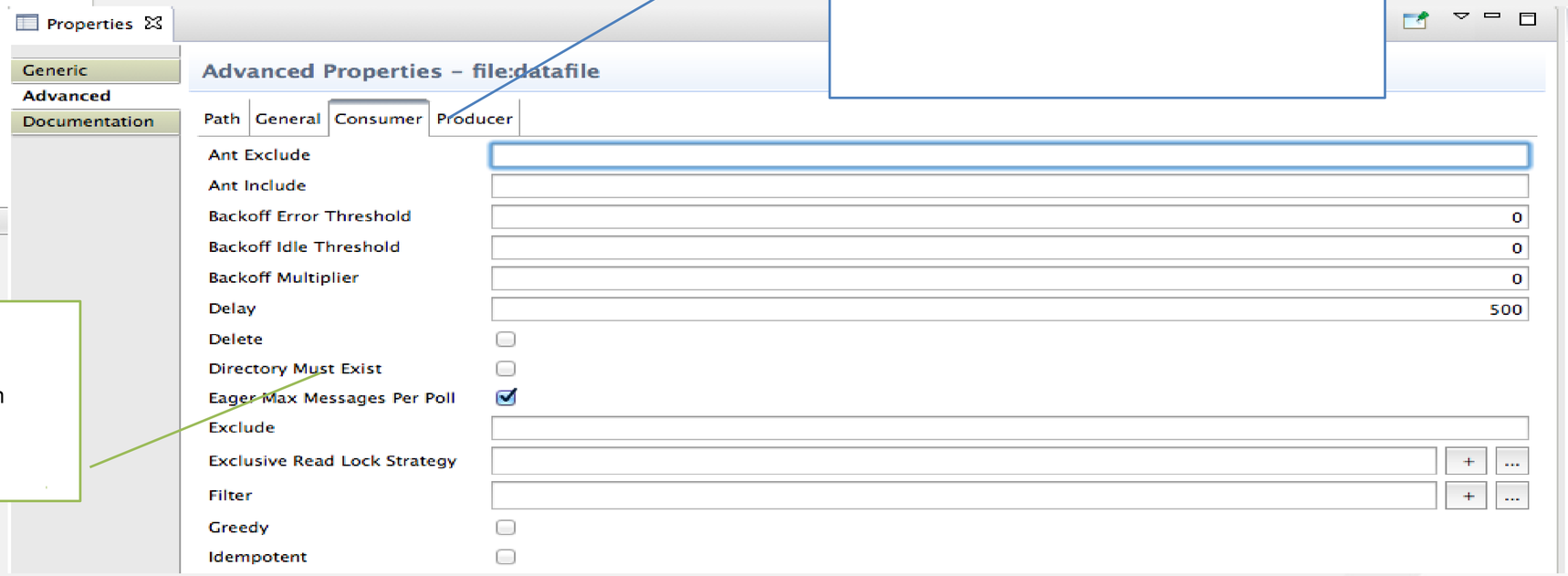
Tooling improvements for better usability



New Built-in Camel components
Easy drag and drop

Consumer/Producer

Provides consumer and producer configuration



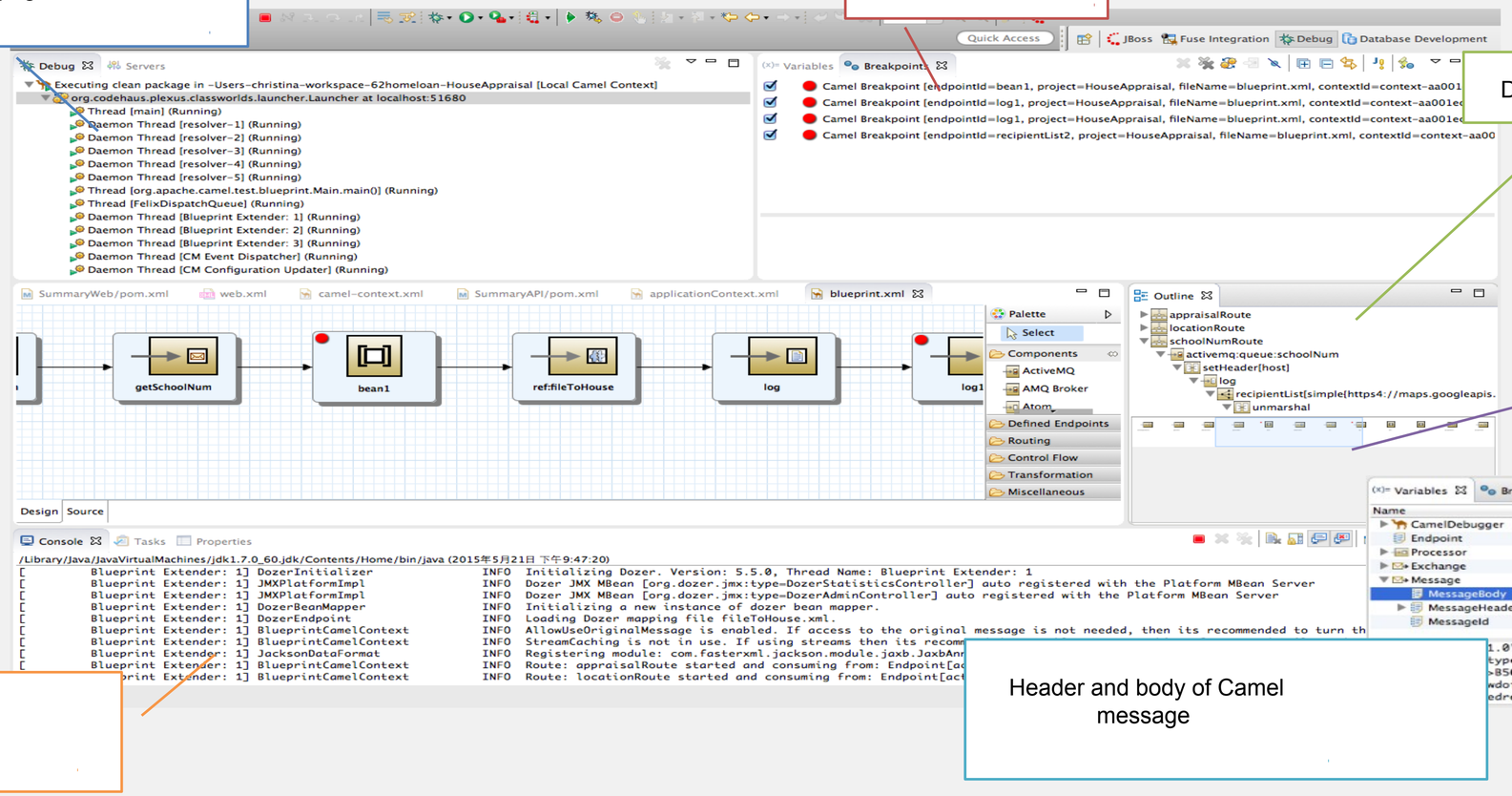
Built-in Properties

Help on configuration settings.

Debugging & Tracing for more productive platform

Displays the stack frame for the suspended threads for each target you are debugging.

Lists all the breakpoints you currently have set in your workspace



Display camel outlines

Entire Camel route diagram and show what current step is

Log

Header and body of Camel message

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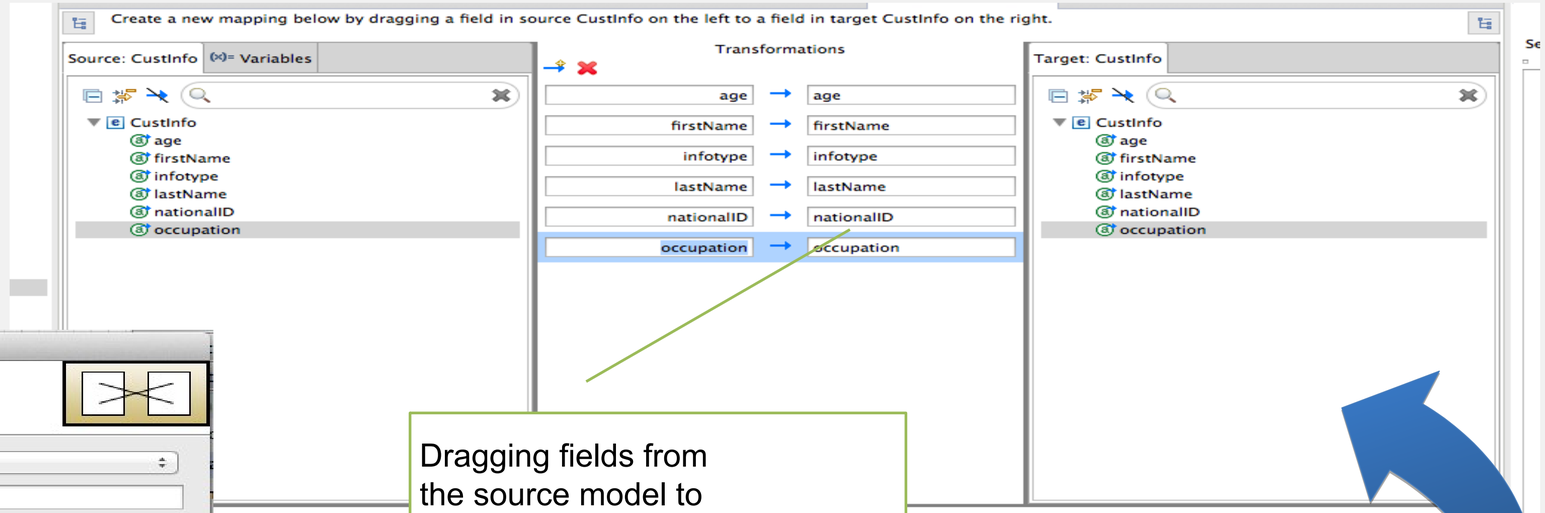
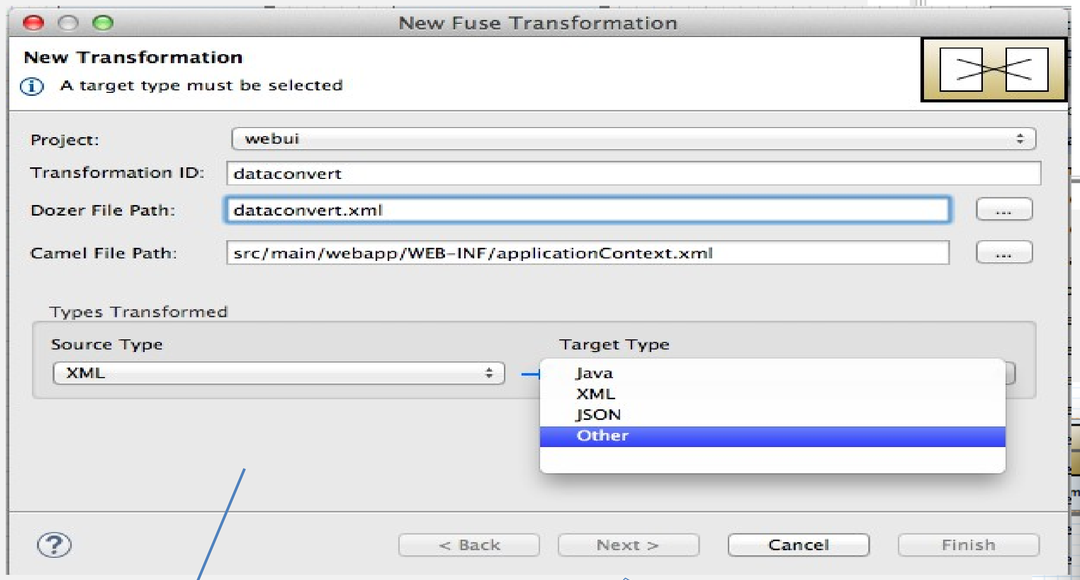
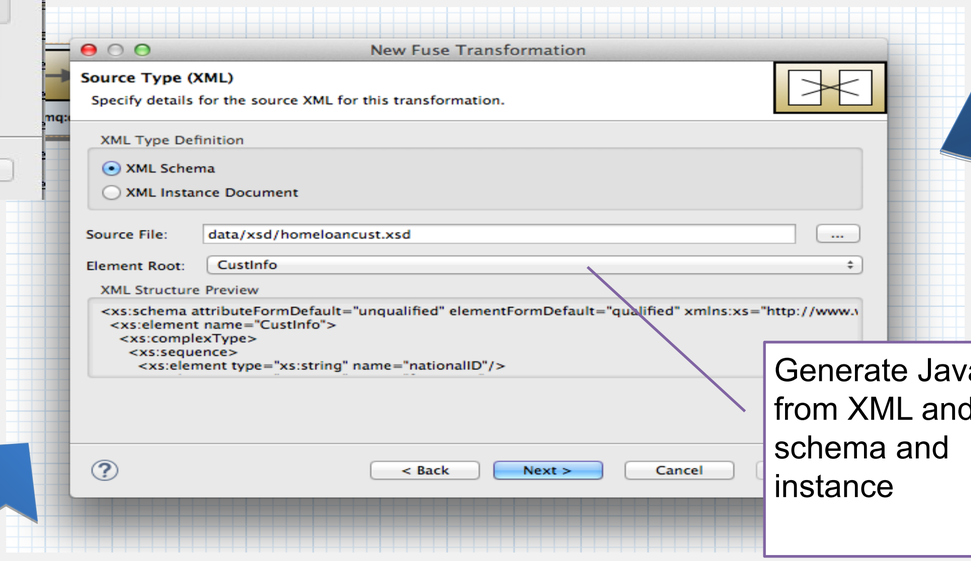
Visual Data Mapper



Dragging fields from the source model to the target model



Mapping between Java, XML, JSON and open for customization



Generate Java base from XML and JSON schema and instance

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JBoss Middleware Interoperability

- JBoss Integration Pack
  - BRMS on Karaf
  - SwitchYard on Karaf (tech – preview)
  - Fuse (camel) on EAP (tech – preview)

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Future Releases

- JBoss Fuse 6.2.1
  - Brings Fuse on EAP and Switchyard to fully supported
  - Data Mapper tooling is fully supported
  - Customer bug fixes

- JBoss Fuse 7.0
  - Integrate with Fabric8 v2
  - JBoss A-MQ 7

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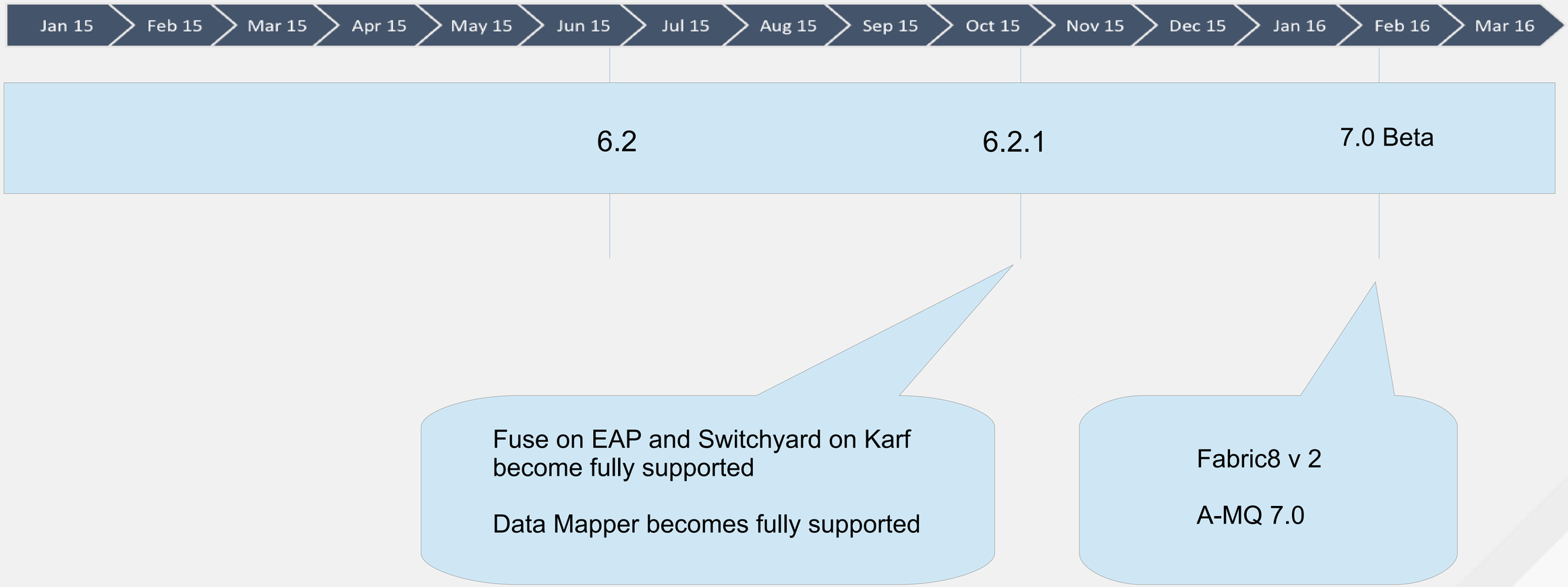
JBoss Fuse Product Timeline



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Red Hat JBoss A-MQ

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What's New in JBoss A-MQ 6.2?

- AMQP 1.0 Reactive API Clients
  - Python (wrappers around proton-C)
  - .Net (based on amqp.net Lite)
  - JMS (based on proton-J)

- AMQP C++ Client (MRG Messaging)

- Role-based Access Control

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JBoss A-MQ 6.2 Open Source Components

- Apache ActiveMQ 5.11.2
- Apache Camel 2.15.1

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Red Hat Messaging: future direction

- Continue to consolidate to a single messaging product – JBoss A-MQ, consisting of three components
  - A-MQ Clients
    - Ubiquitous access for common platforms and programming languages
  - A-MQ Broker
    - Full-featured, high performance enterprise message broker
    - Full featured, HA through replication and failover
  - A-MQ Interconnect
    - Large-scale, secure, reliable, and management message networks

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JBoss A-MQ Clients

- Client release cycle not linked to broker release cycle
  - Current
    - AMQP 1.0 clients for JMS, Python, and .Net (based on proton-j and proton-c
    - MRG 3.2 AMQP 1.0 C++ Client
  - Under development
    - AMQP Client C++ based on proton-c
    - Node.js
  - Future
    - Ruby, perl, MQTT, COAP

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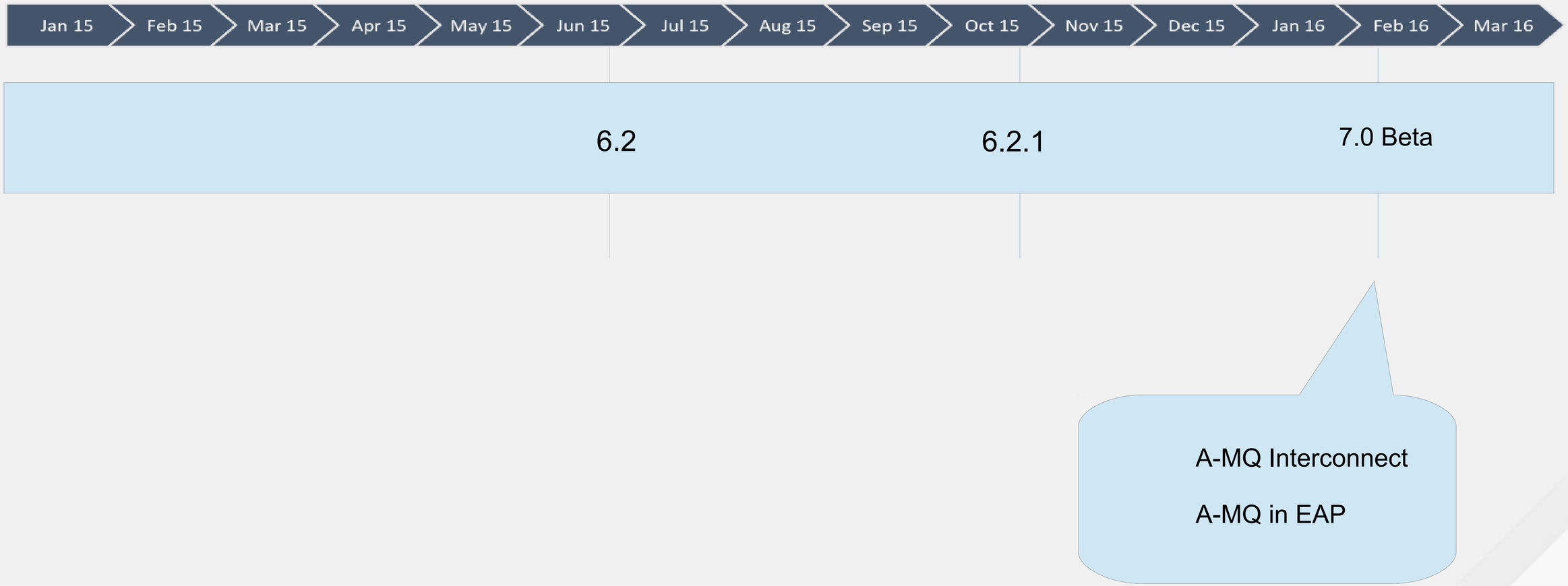
JBoss A-MQ Product Timeline



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Red Hat JBoss Fuse on OpenShift – private iPaaS

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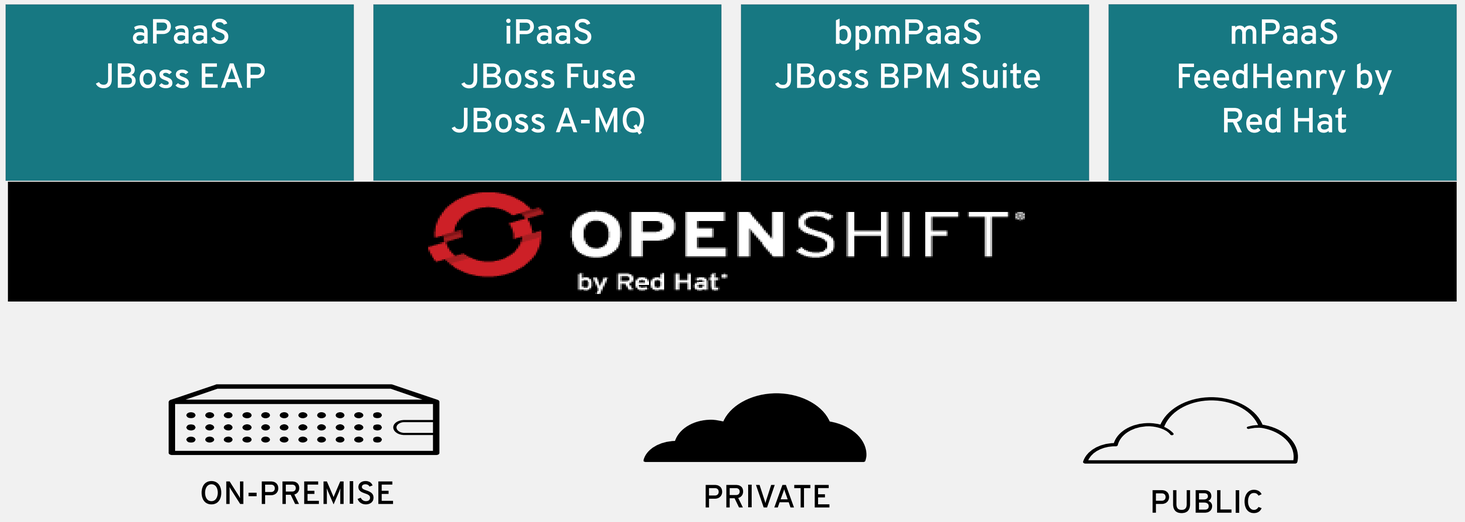
Private iPaaS announced in November 2014

Red Hat JBoss Fuse for xPaaS & Red Hat JBoss A-MQ for xPaaS

- Integration and messaging services in the cloud
- Based on the foundation of award winning OpenShift Enterprise



Red Hat JBoss Data Virtualization

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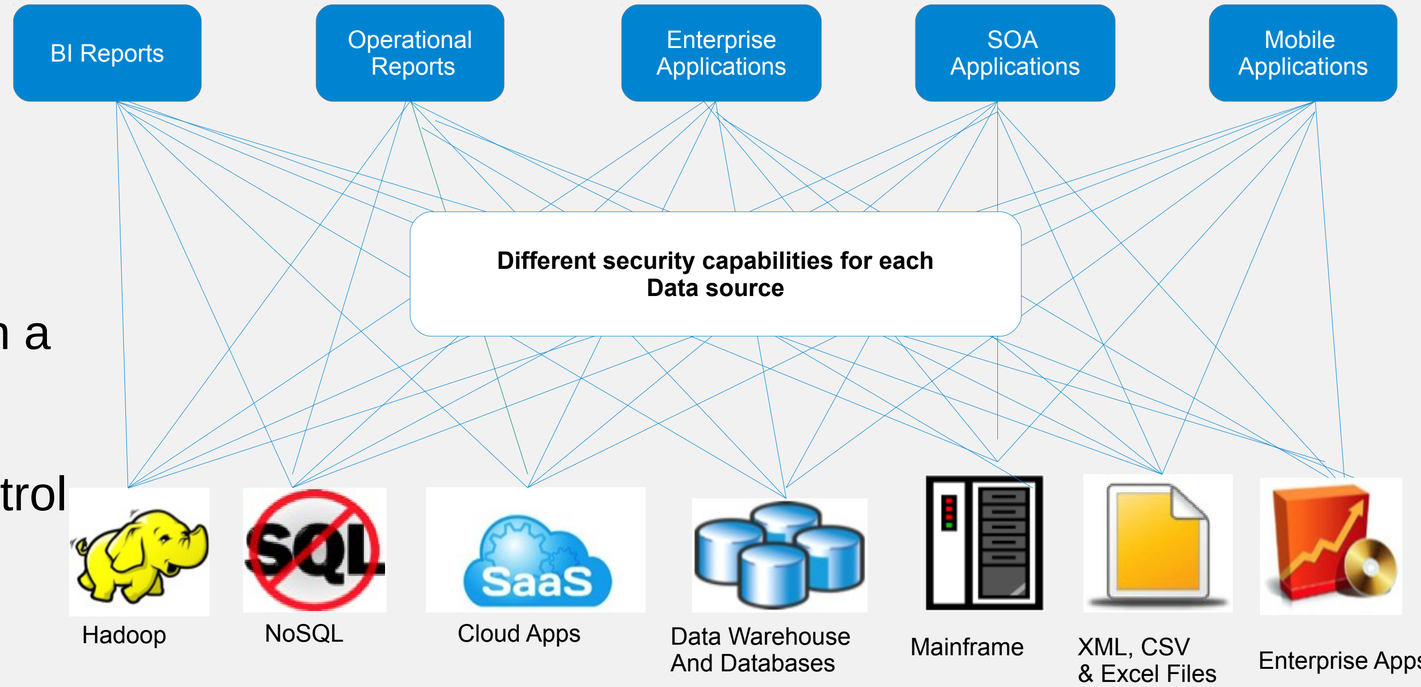
Data Control Challenges Getting Bigger with Big Data, Cloud and Mobile

- Security capabilities are tightly coupled to data sources
- Extracting and moving data adds risk
- Every project solves data access in a different way
- Inconsistent and decentralized control of data



Constant Change

How to align?

Siloed & Complex

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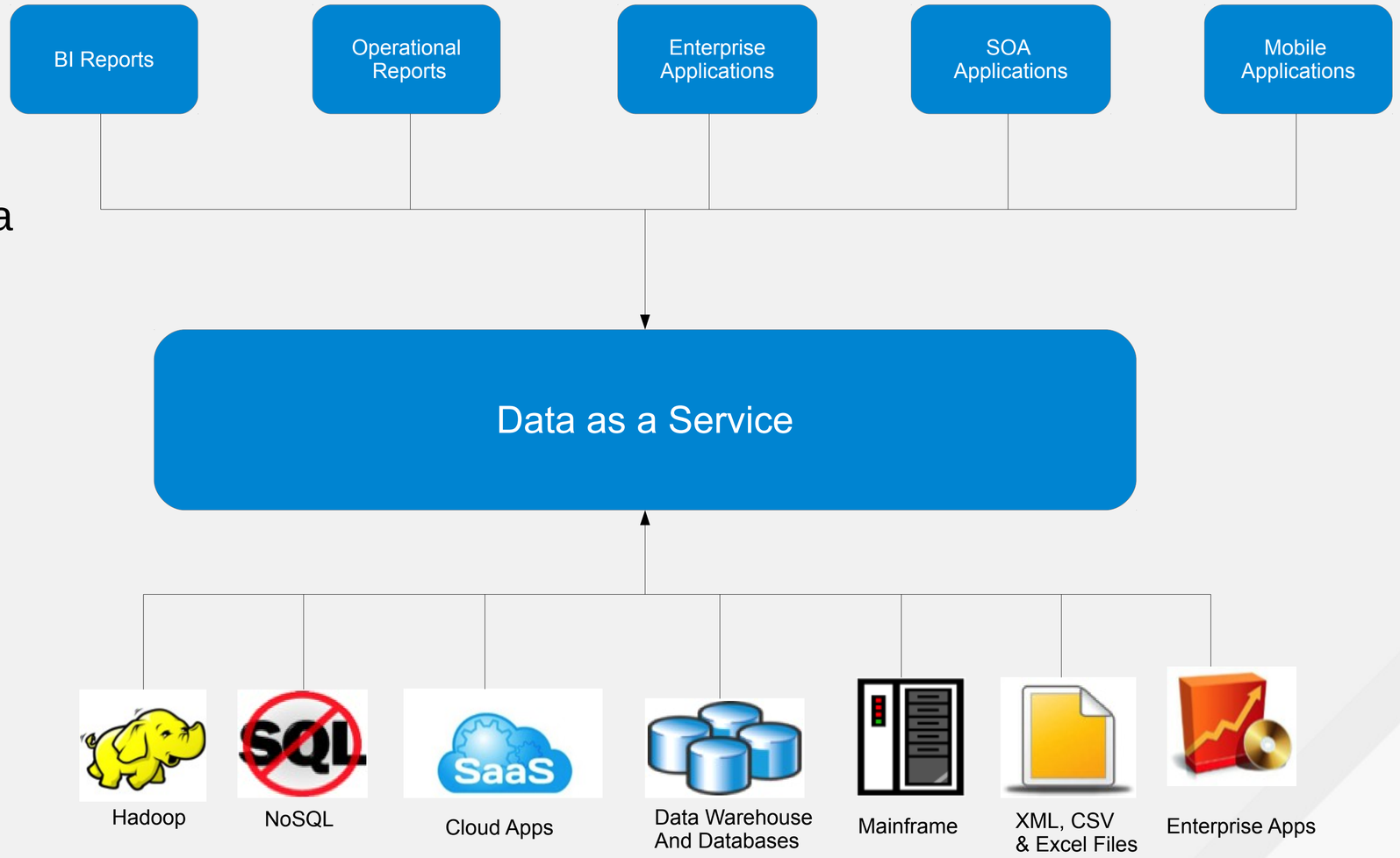
Desired State

Data as a Service

- Standards based interface
- Single view of disparate source data
- Single point of access/integration
- Re-use of data

But you cannot achieve this by writing more application code...



Data Sources
Siloed & Complex

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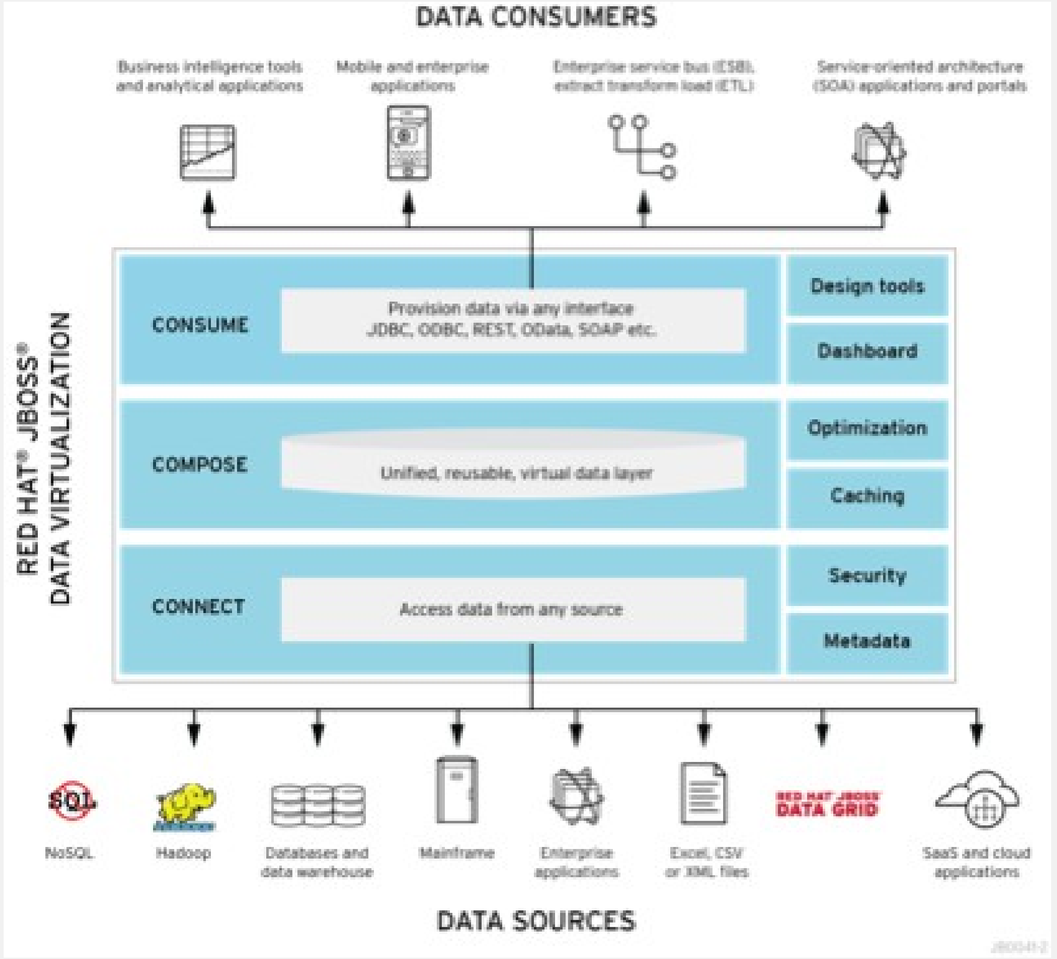
Data Supply and Data Integration Solution

Data virtualization sits in front of multiple different data sources and

- Allows them to be treated as a single source
- Delivers the desired data
- In the required form
- At the right time
- To any application and/or user

Think Virtual Machine for Data



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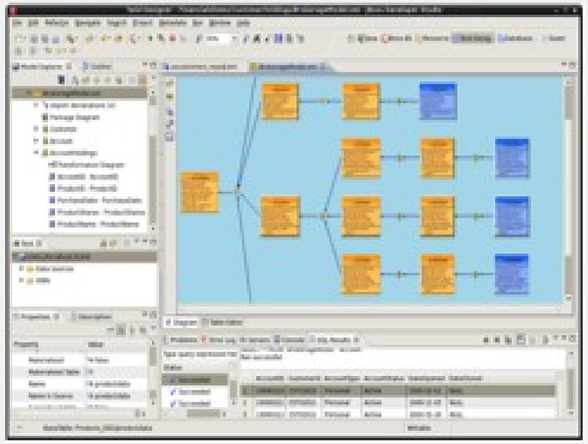
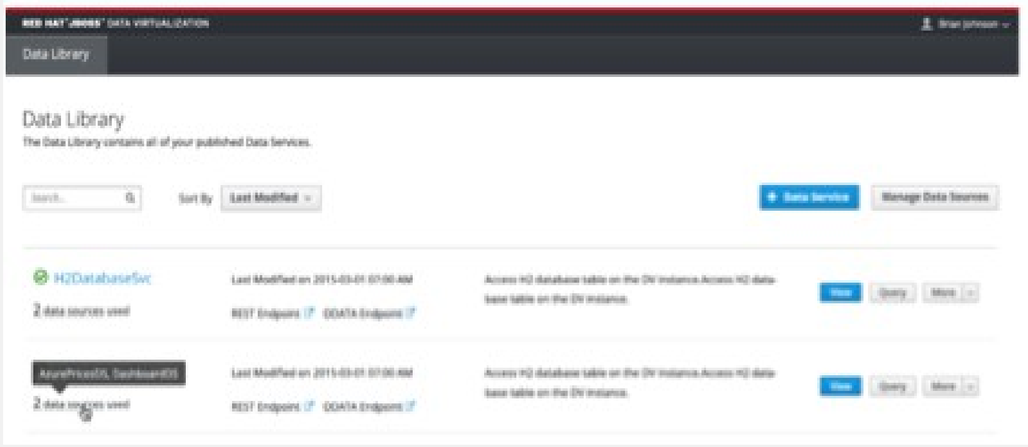
Fit for purpose tooling

Business Dashboard
Quickly visualize your data



Data Virtualization Designer
Model Driven Development



Lightweight WebUI with data services library (Dev Preview)

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JBoss Data Virtualization
Key Business Values

Increase ROA	•Improved utilization of data assets •Derive more value from existing investments •Complements existing systems
Boost Agility	•Faster, less costly than batch data movement •Data virtualization provides loose coupling
Improve Productivity	•Better/faster than hand coding •Right data at the right time to the right people •Decision support, BI with a complete view of information
Better Information Control	•Powerful security, Auditing, Data Firewall •Avoid data silo proliferation •Central data access and policy, Compliance

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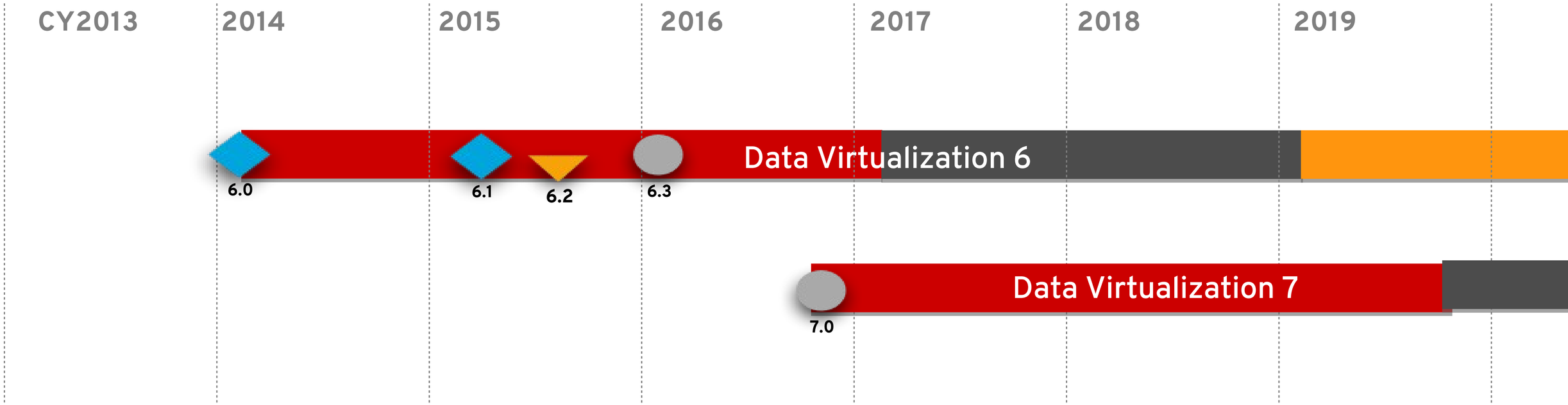
JBOSS DATA VIRTUALIZATION ROADMAP

Subject to Change



6.1 (Released: Mar/CY15)

- MongoDB, Solr,Cloudera Impala, Cassandra (TP)
- Audit log dashboard
- EAP 6.3, JDG 6.4 support,
- Java 8
- RHEL 7, Azul JVM
- Easier custom translator creation
- Web UI - Develper preview

6.2 (Target Aug/CY15)

- EAP 6.4 support
- Enhanced Kerberos support
- Key RFEs

6.3 and beyond

- Cassandra, SAP HANA, HBase, Accumulo, SaaS
- OpenShift v3 support
- Lightweight WebUI
- OData v4 with Olingo
- Embeddable runtime

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What's new in JDV 6.1

Big Data

- Full connectivity support for:
  - MongoDB
  - Cloudera Impala
  - Apache Solr
  - JDG read/write
- Tech Preview
  - Cassandra

Cloud

- Dev Preview on OpenShift with new WebUI
- Amazon EC2
- Google Compute Engine
- SFDC Bulk API

Deployment and Development Productivity

- Security audit log dashboard
- Simplified custom translator
- EAP 6.3
- Java 8
- RHEL 7 support
  - MariaDB
- Azul JVM support
- Fuse OData Connector

Red Hat JBoss Fuse

JDV 6.2 –September

Quick release to primarily support EAP 6.4

- EAP 6.4
- Teiid Designer usability improvements
- Kerberos Passthrough for Oracle and MS SQL
- Technical preview:
  - –SAP HANA
  - –HBase
  - –Informix

Under consideration for JDV 6.3

Big Data

- Cassandra
- SAP HANA
- Apace HBase
- Apache Spark
- Accumulo
- HP Vertica
- Tableau
- Solr as a consumer

Cloud

- Full support on OpenShift
  - Simplified web tooling
  - Autoscaling
- FeedHenry node.js integration
- Amazon RDS
- Amazon RedShift

Deployment Productivity

- Odata v4 with Olingo
- Teiid Designer usability improvements
- Embeddable runtime
- IBM Informix
- Oracle Coherence

Red Hat JBoss Fuse Service Works

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FSW strategy overview

- Consolidate Fuse and Fuse Service Works into single product offering
- Product/technical changes:
  1. Consistent integration functionality across runtime containers
  2. Cleanly separate products
  3. Update/rework Governance technologies
- Support lifecycle extension

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FSW transition strategy - detail

- **Support lifecycle extension**
  - Fuse 6.x support lifecycle extended to align with published FSW lifecycle.
  - **Existing** Fuse 6 and A-MQ 6 Support Lifecycle
    - Full Support: Apr 2013 – Mar 2016
    - Maintenance: Apr 2016 – Mar 2018
    - Extended Lifecycle Support: N/A
  - **New, extended** Fuse 6 and A-MQ 6 Support Lifecycle
    - Full Support: Apr 2013 – Jan 2017
    - Maintenance: Feb 2017 – Jan 2019
    - Extended Lifecycle Support: Feb 2019 - Jan 2022

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iPaaS and beyond

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iPaaS

Integration Platform as a Service (iPaaS) is a suite of cloud services enabling development, execution and governance of integration flows connecting any combination of on premises and cloud-based processes, services, applications and data within individual or across multiple organizations.

- Gartner

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iPaaS

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- Gartner

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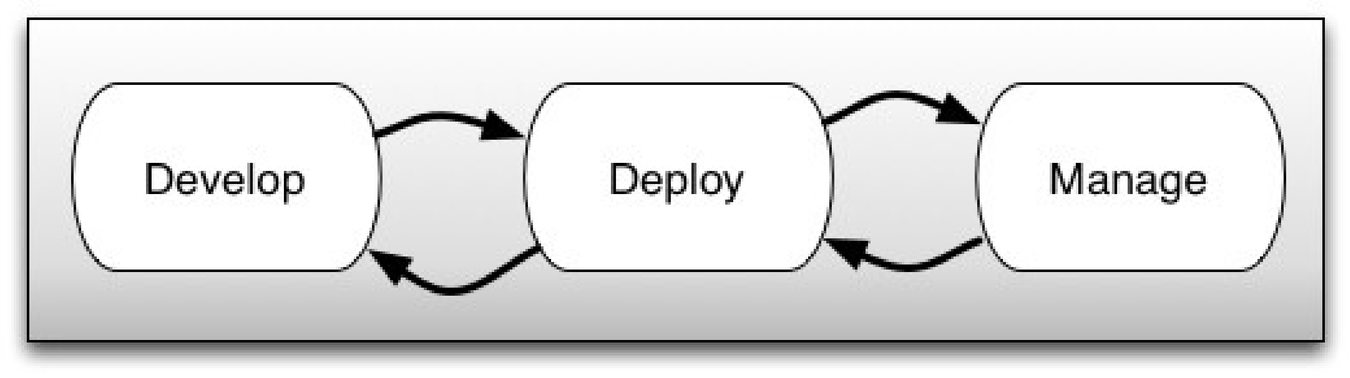
iPaaS Touchpoints



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Develop

Core Integration Technology

Works *In* vs. Works *With*

On-Premise / Off-Premise Fidelity

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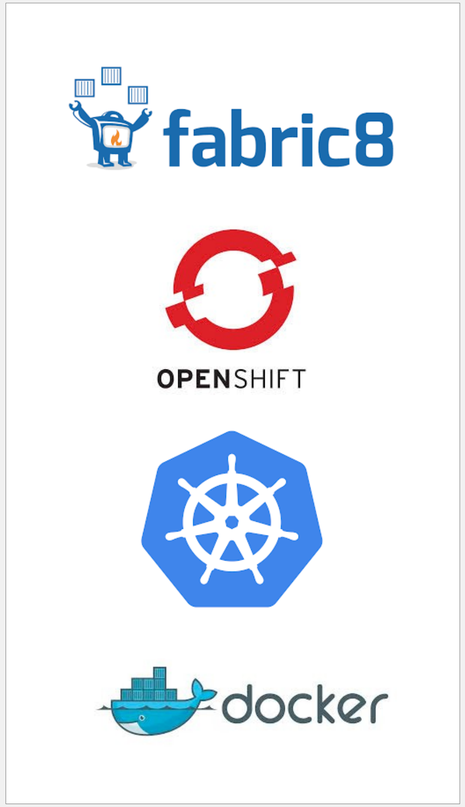
Deploy

Containers

Provisioning

Continuous Integration / Delivery



Manage

Operational Visibility

Monitoring

Dynamic Scaling

APIs

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LEARN. NETWORK.
EXPERIENCE OPEN SOURCE.

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