

WHAT IS ESB?

ENTERPRISE SERVICE BUS

- Fundamentally an architecture
- Set of rules and principles for integrating numerous applications together

CORE CONCEPT

Integrate different applications by putting a communication bus between them and then enable each application to talk to the bus

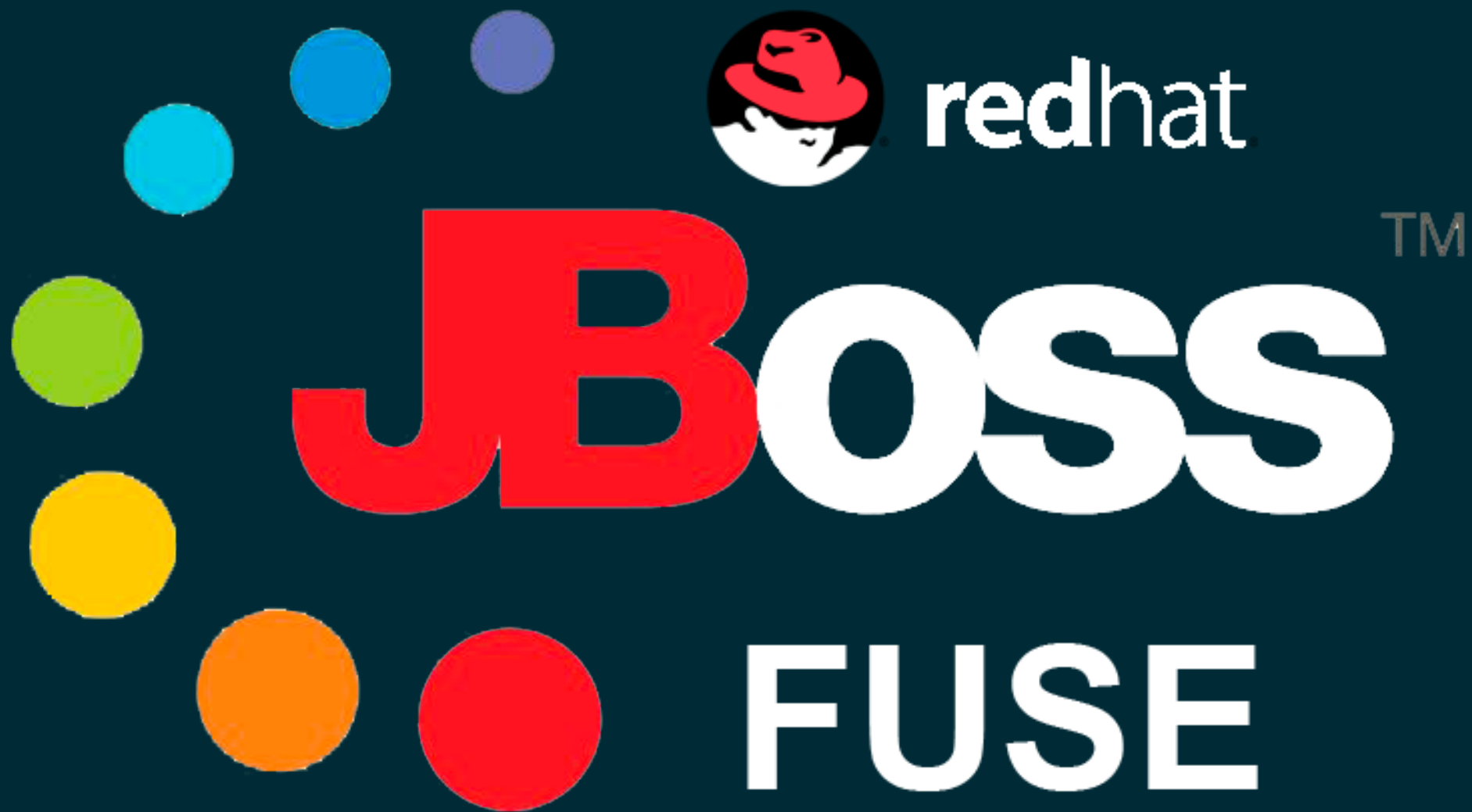
This decouples systems from each other

IMPLEMENTATION

- Usually achieved using a messaging server like JMS or AMQP
- The data that travels on the bus is a canonical format and is almost always XML
- There is an "adapter" between the application and the bus that marshals data between the two parties

INTEGRATION CORE PRINCIPLES

- Orchestration
- Transformation
- Transportation
- Mediation
- Non-functional consistency



More than an enterprise service bus

Lightweight open source integration platform based on
Apache ServiceMix

Available on premise or in the cloud

FEATURES AND BENEFITS

APACHE ACTIVEMQ

A fast, open source message broker that supports JMS as well as clients written in other languages like C and Python

APACHE CAMEL

An open source framework that provides implementations of tried and true EIPS (Enterprise Integration Patterns). This allows developers to leverage pre-existing solutions to frequently encountered coding challenges related to enterprise integration

APACHE CFX

An open source web services framework, which provides for communication using various standards such as JAX-WS and JAX-RS, HTTP and FTP, as well as different formats like JSON, XML, CSV, etc

APACHE KARAF

An OSGI runtime container for deploying applications

FABRIC8

An orchestration tool for large middleware
deployments

muleESB™ 

Java-based enterprise service bus
open source and like most ESBs, allows for the
integration of systems via JMS, Web Services, HTTP,
JDBC, and more

FEATURES AND BENEFITS

AMQP

Advanced Message Queuing Protocol

Support is based on the RabbitMQ Java Client

ROUTERS

MuleSoft uses routers to split, combine, reorder, evaluate, and broadcast messages

ANYPOINT CONNECTORS

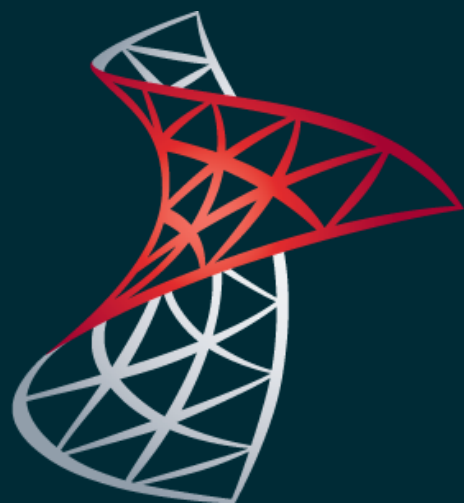
Pre-built protocol, database, transport, and database connectors. You can also build your own if needed

MULE RUNTIME ENGINE

The heart of the MuleSoft Anypoint platform.
Deployable in the cloud or on premise

MULE RUNTIME MANAGER

Allows for the deployment, monitoring, and troubleshooting of Mule instances



Microsoft®

BizTalk® Server

Biztalk is Microsoft's Inter-Organizational Middleware
System basically an ESB

Allows developers to write their integration pieces in
Visual Studio

FEATURES AND BENEFITS

MSMQ

Microsoft Message Queuing

First released in 1997, this message queue implementation is still available for installation on current versions of Windows Server

ROUTING

Message/routing specifications are implemented through XML, but generally this XML is generated using graphical tools

ADAPTERS

BizTalk has a variety of built-in adapters. As expected, has great adapter support for Microsoft technologies such as the various WCF protocols

BIZTALK SERVER

BizTalk requires IIS (Internet Information Services) for various functionality such as HTTP, SOAP, SSL and more. Typically, this is deployed on Windows Server

BIZTALK SERVER ADMINISTRATION CONSOLE

This is a MMC (Microsoft Management Console) that allows for extensive configuration and management of the server