# Enterprise Services Today

Real World IT Assets are Mixed-environment

- Acquisitions

- New business initiatives

- Cloud initiatives

Enterprise Service Requirements

- Platform agnostic - *multiple vendors*

- Interaction agnostic – *multiple interfaces*

- Ecosystem breadth– *wide and varied*

- Elastic –*shrink and grow due to business needs*

EDI

Partner A

SOAP

Partner B

Cross-Domain Services

REST

Department C
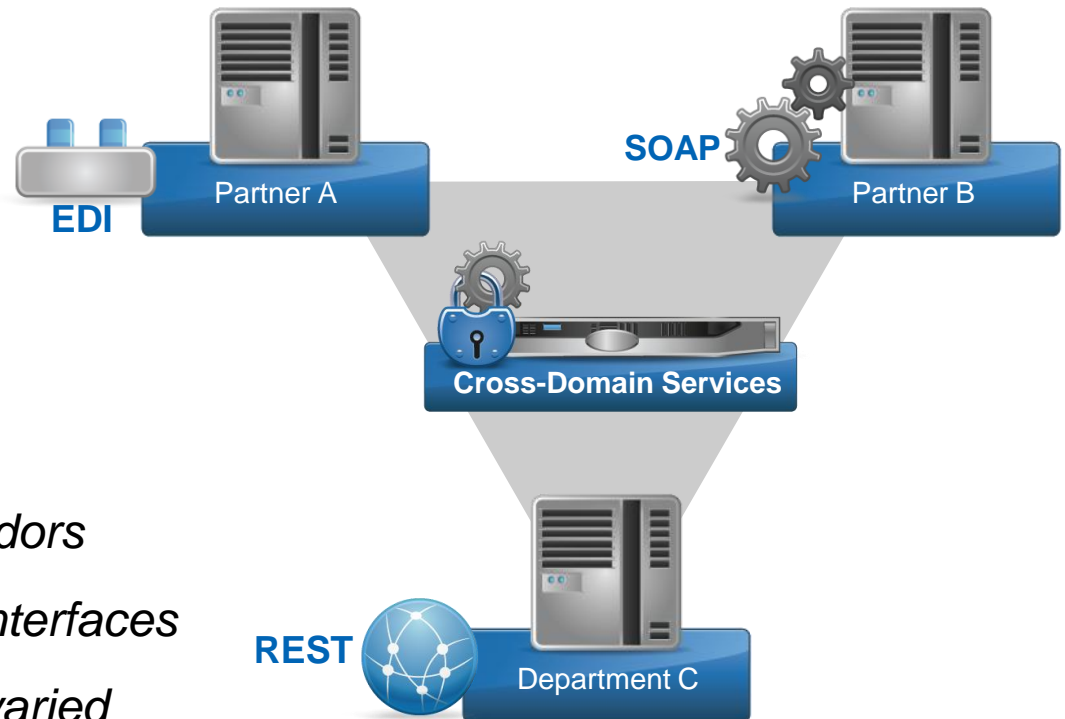
A platform, interface and ecosystem agnostic **service gateway** is used to create scalable business services that cross domains
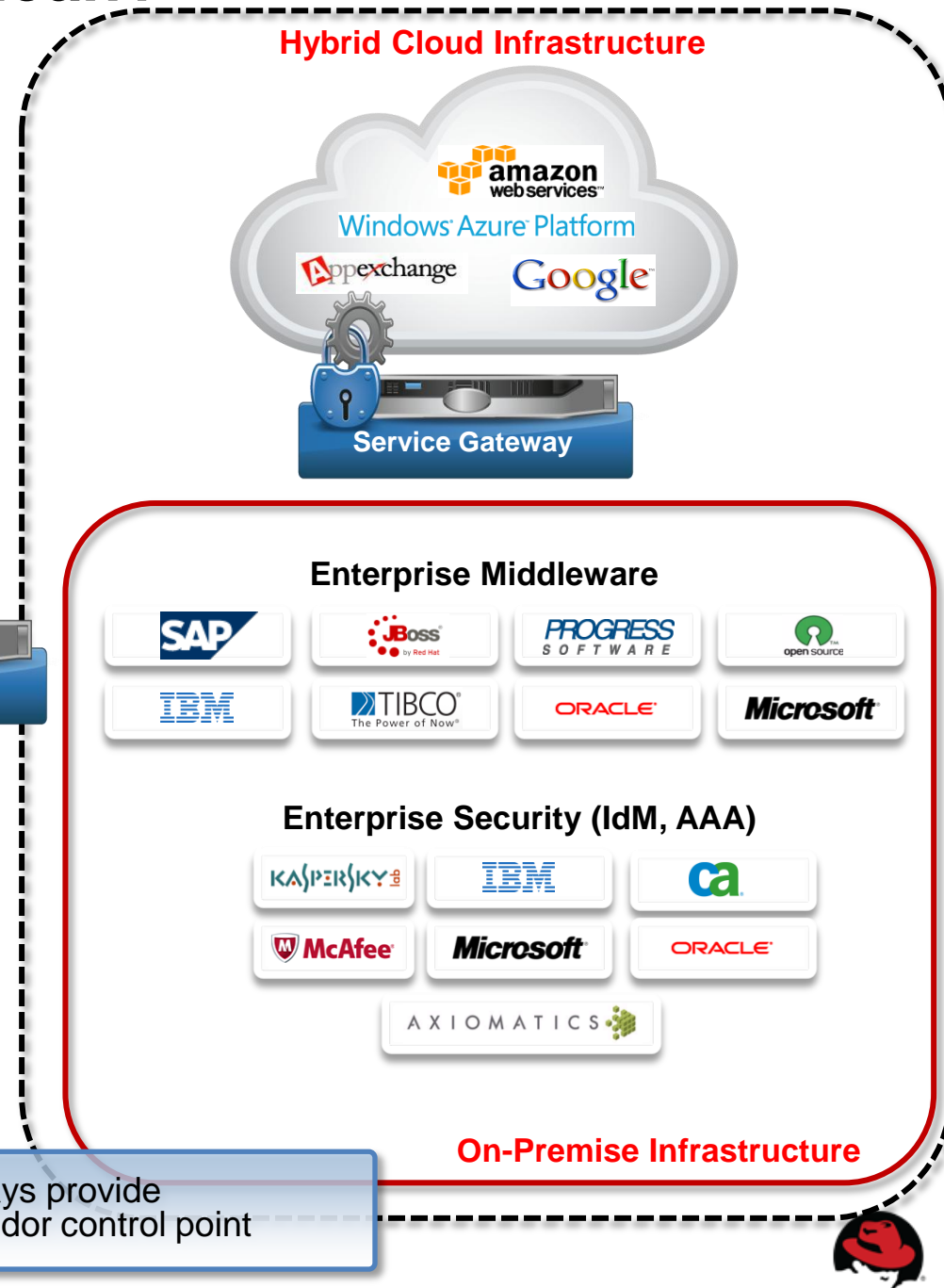
What does Platform Choice Mean?

How do I deploy consistent, secure, reliable services to my customers and partners…

Customer and Partners

Service Gateway

..and do it across different vendor products *and* different datacenter models?

Hybrid Cloud Infrastructure

amazon web services

Windows Azure Platform

Appexchange   Google

Service Gateway

Enterprise Middleware

SAP   JBoss by Red Hat   PROGRESS SOFTWARE   open source

IBM   TIBCO The Power of Now   ORACLE   Microsoft

Enterprise Security (IdM, AAA)

KASPERSKY lab   IBM   ca.

McAfee   Microsoft   ORACLE

AXIOMATICS

On-Premise Infrastructure

Service gateways provide
a scalable, cross-vendor control point

Example: JBoss Enterprise SOA Platform

Light weight, next generation ESB to enterprise integration and process automation

JBoss Enterprise SOA Platform
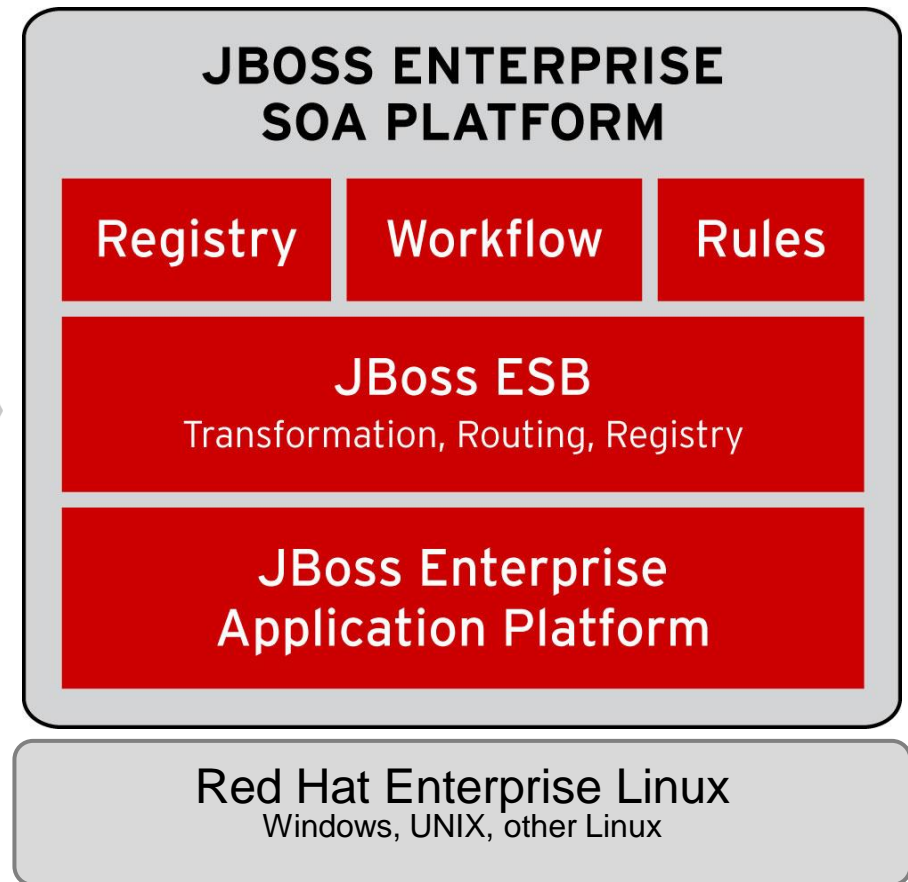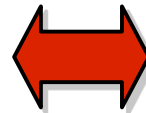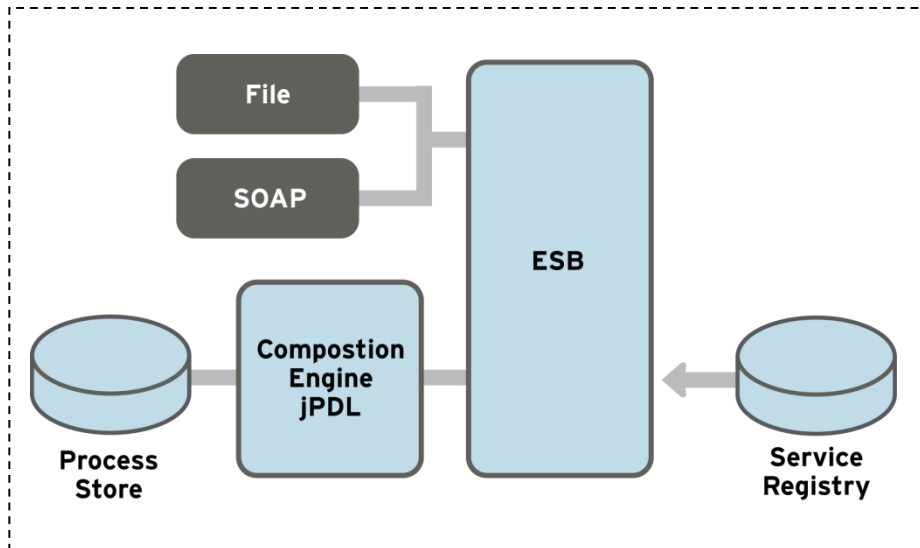
- Light weight footprint

- EAI, SOA, EDA, workflow, CEP (future)

- Wide range of deployment scenarios – up to large scale integration platform

Extending SOA for Business Growth
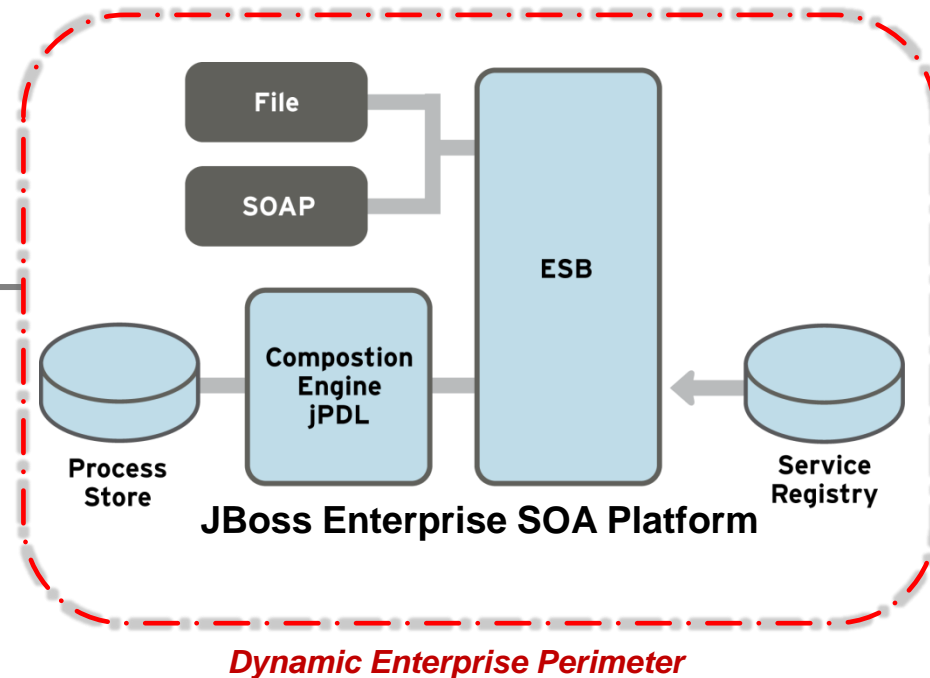
App Types

eGov

Supply Chain

Web 2.0

Cloud

- **Customers, Partners, Agencies, Employees**

- **Authentication and Perimeter Security Concerns**

- **Scalability and Performance Concerns**

- **Audit, Privacy and Data Protection Concerns**

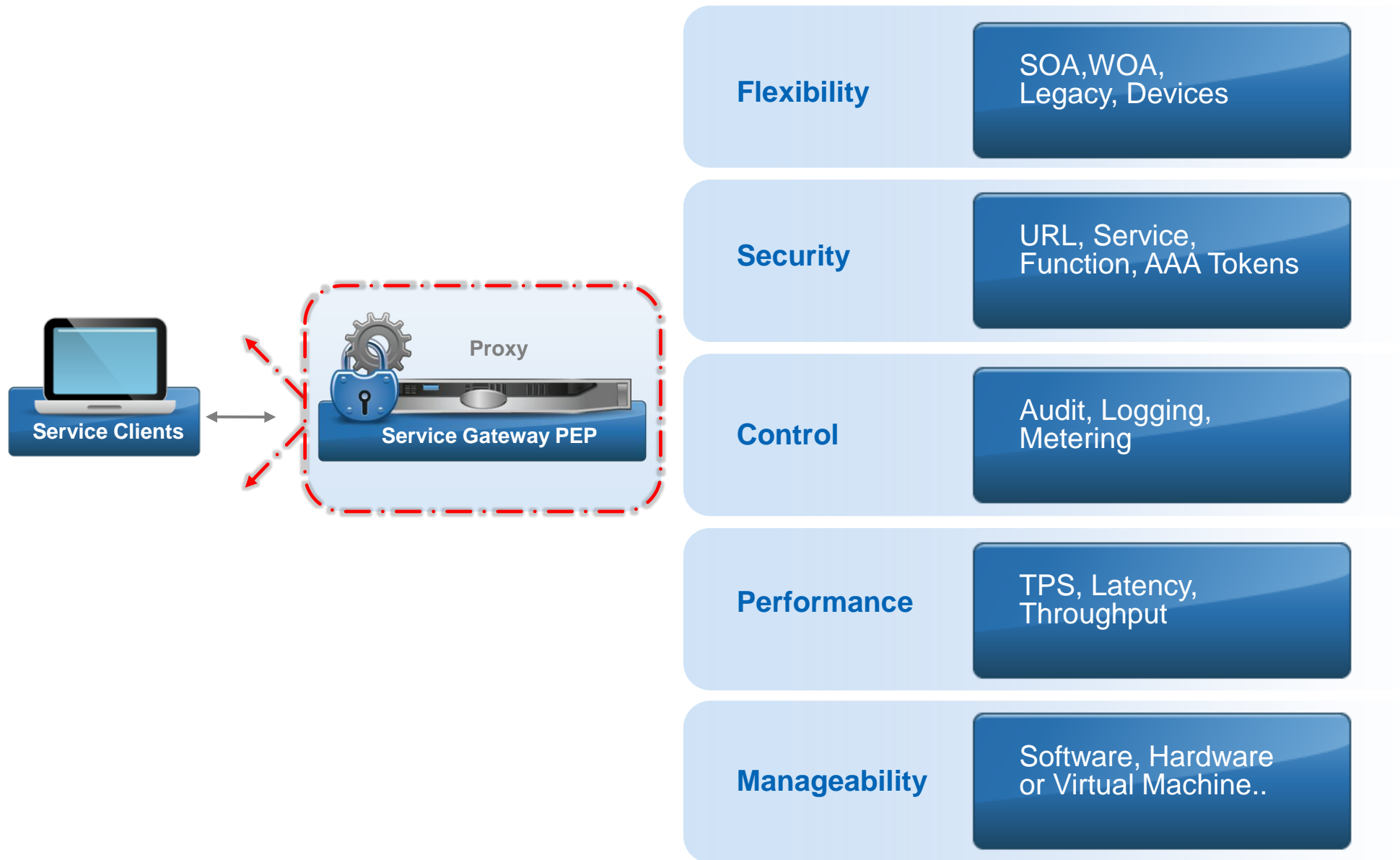- **Mediation of technology across Enterprise silos**

?

File

SOAP

ESB

Compostion Engine jPDL

Process Store

Service Registry

JBoss Enterprise SOA Platform

Dynamic Enterprise Perimeter

Enterprise SOA Must Be Securely
Extended Outside the Enterprise

Why a Service Gateway?

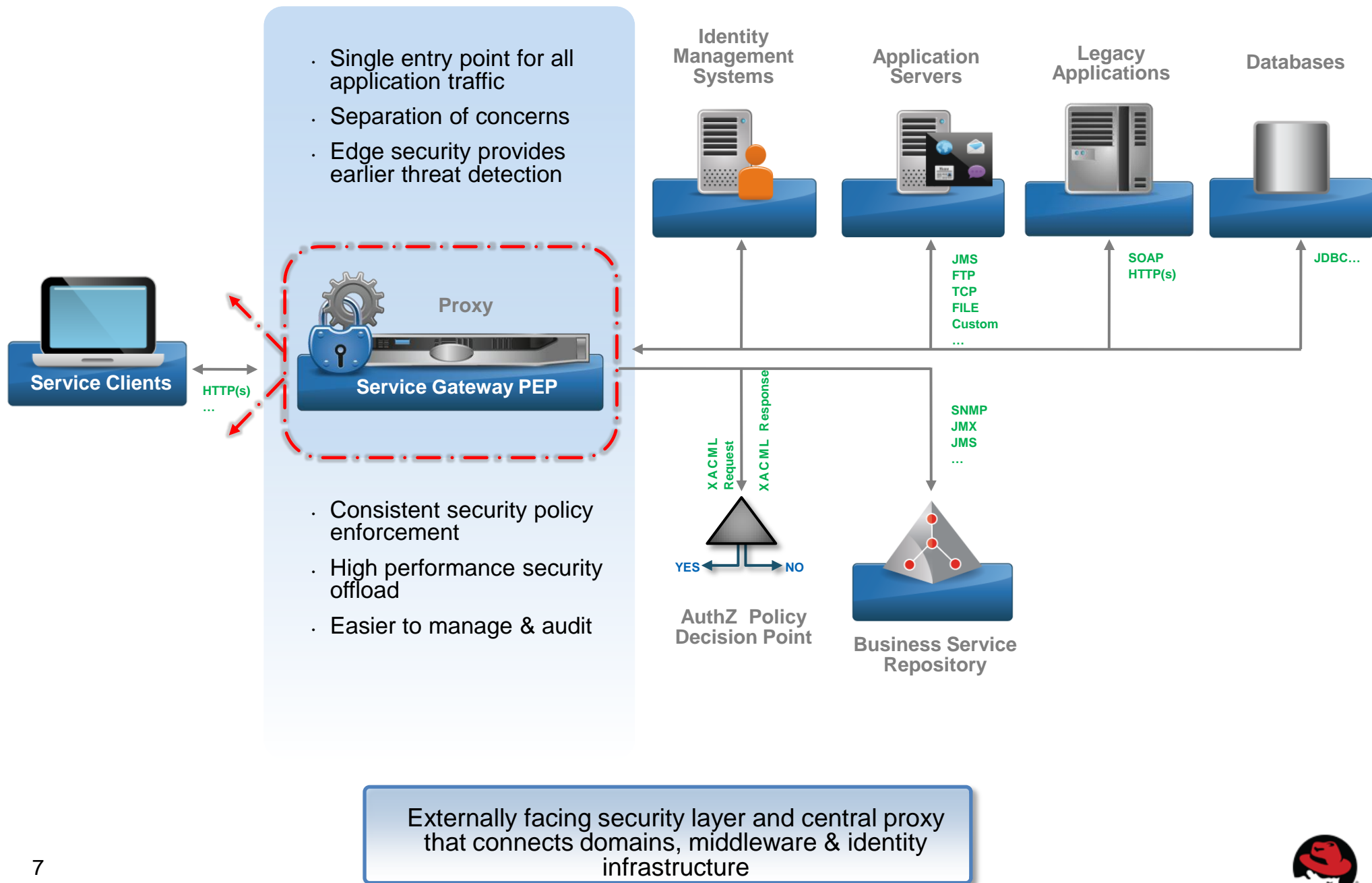|	
Flexibility	SOA, WOA, Legacy, Devices
Security	URL, Service, Function, AAA Tokens
Control	Audit, Logging, Metering
Performance	TPS, Latency, Throughput
Manageability	Software, Hardware or Virtual Machine..

Proxy

Service Clients

Service Gateway PEP

Low overhead. Simplified SOA Infrastructure to deploy & secure purpose built services

What is a Service Gateway?
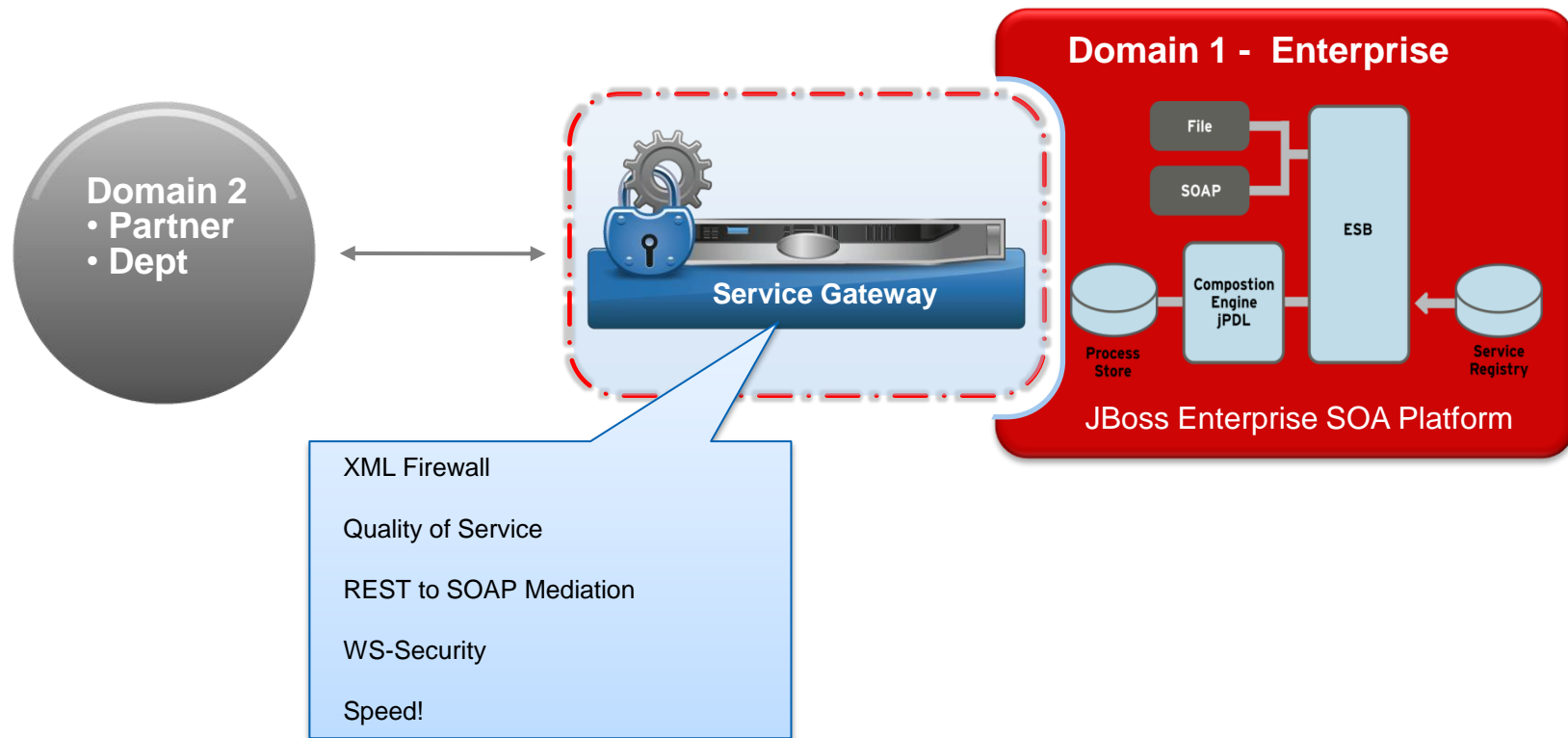
- Single entry point for all application traffic
- Separation of concerns
- Edge security provides earlier threat detection

Identity Management Systems

Application Servers

Legacy Applications

Databases

Proxy

Service Clients

HTTP(s) ...

Service Gateway PEP

JMS
FTP
TCP
FILE
Custom
...

SOAP
HTTP(s)

JDBC...

XACML Request

XACML Response

SNMP
JMX
JMS
...

YES   NO

AuthZ Policy Decision Point

Business Service Repository

- Consistent security policy enforcement
- High performance security offload
- Easier to manage & audit

Externally facing security layer and central proxy that connects domains, middleware & identity infrastructure

Service Gateway…From the Data Center to the Cloud

Blue = Virtualized Internal Data Center
Grey = External/Cloud

Point of Entry for Private, Public, Hybrid Environments
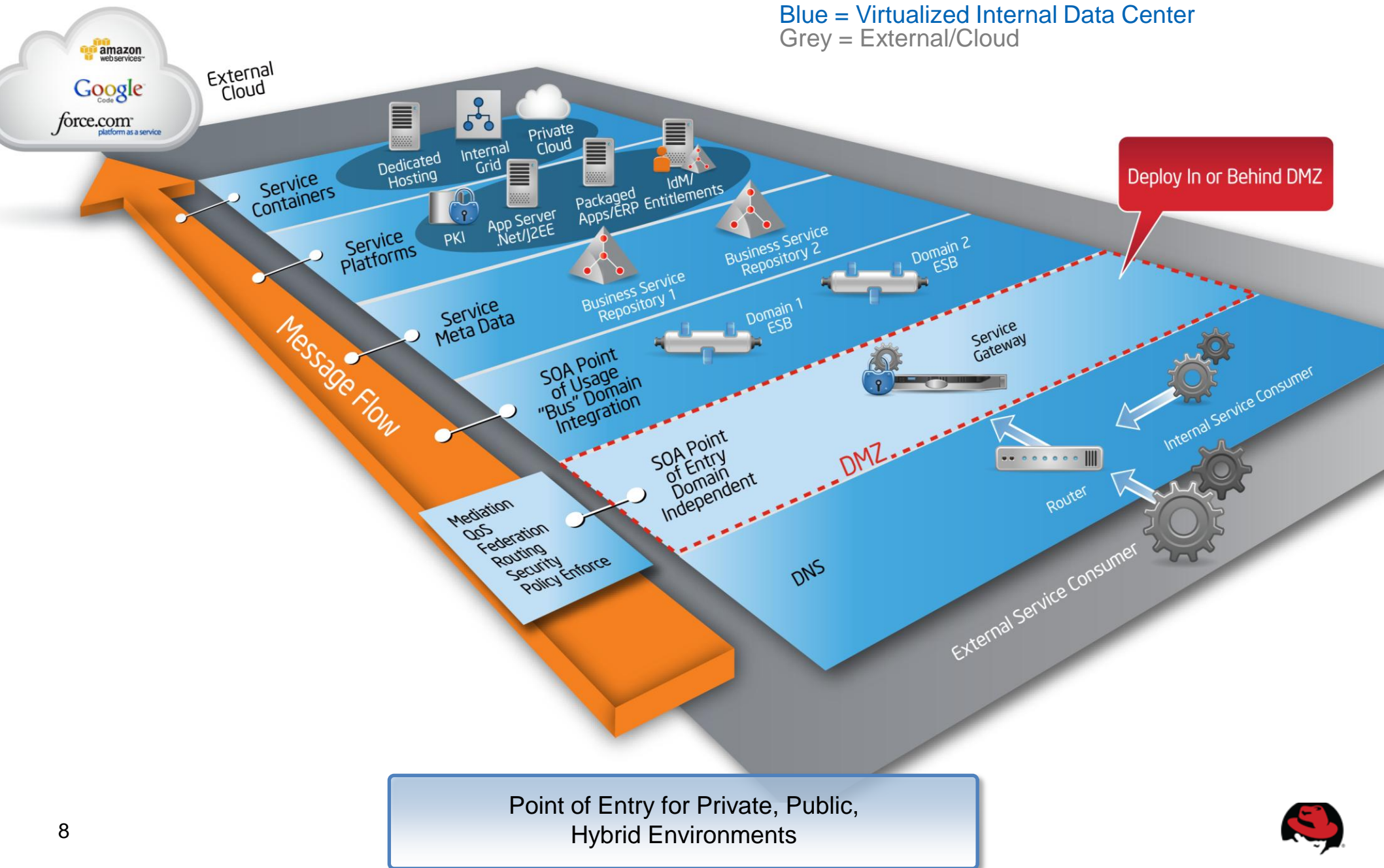
Usage Model #1: Inter-domain or Edge Gateway

Domain 1 - Enterprise

File

SOAP

ESB

Compostion Engine jPDL

Process Store

Service Registry

JBoss Enterprise SOA Platform

Domain 2
• Partner
• Dept

Service Gateway

XML Firewall

Quality of Service
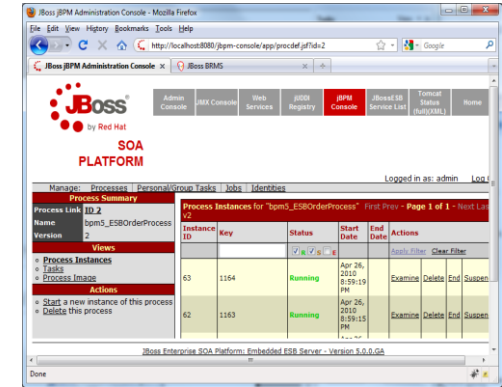
REST to SOAP Mediation

WS-Security

Speed!

Enables build out of dynamic apps with abstracted delivery to consumers, partners, employees

SOA Platform Demonstration Overview
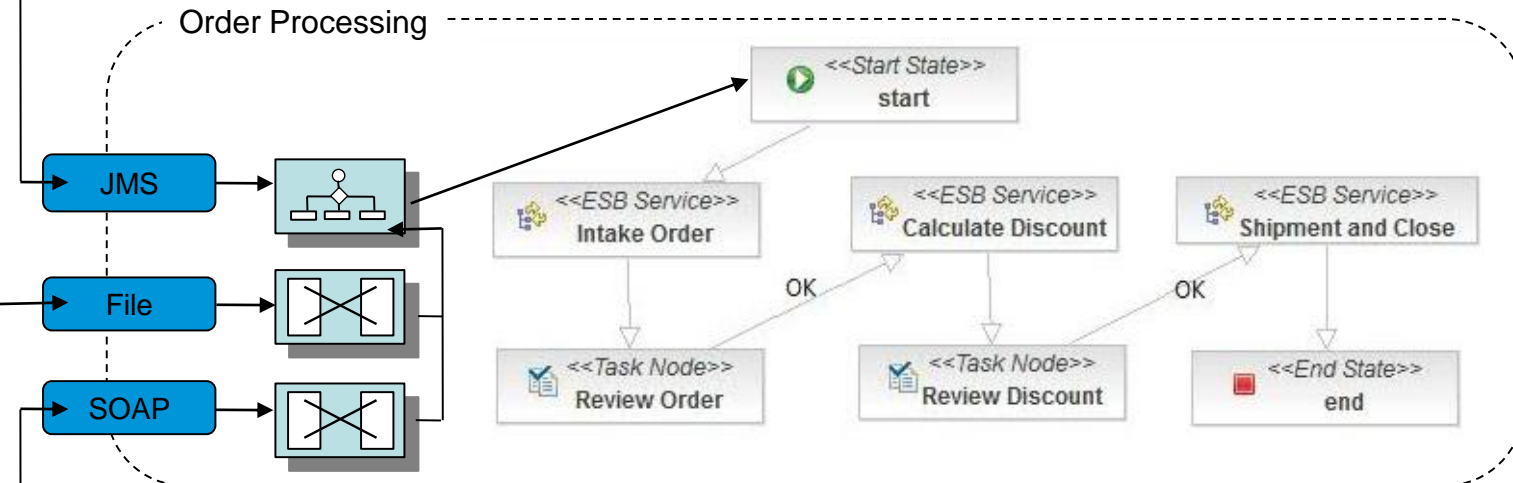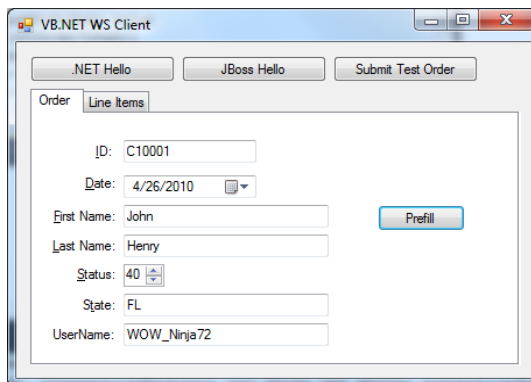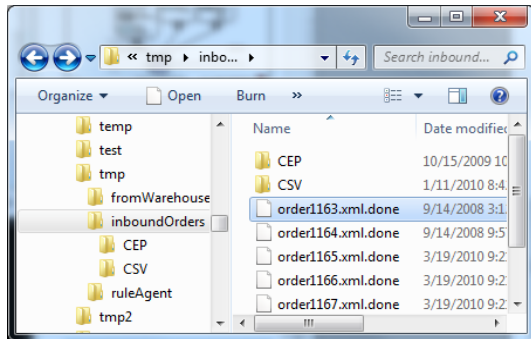
jBPM Admin
Console
Approve
Reject

Order Processing

JMS
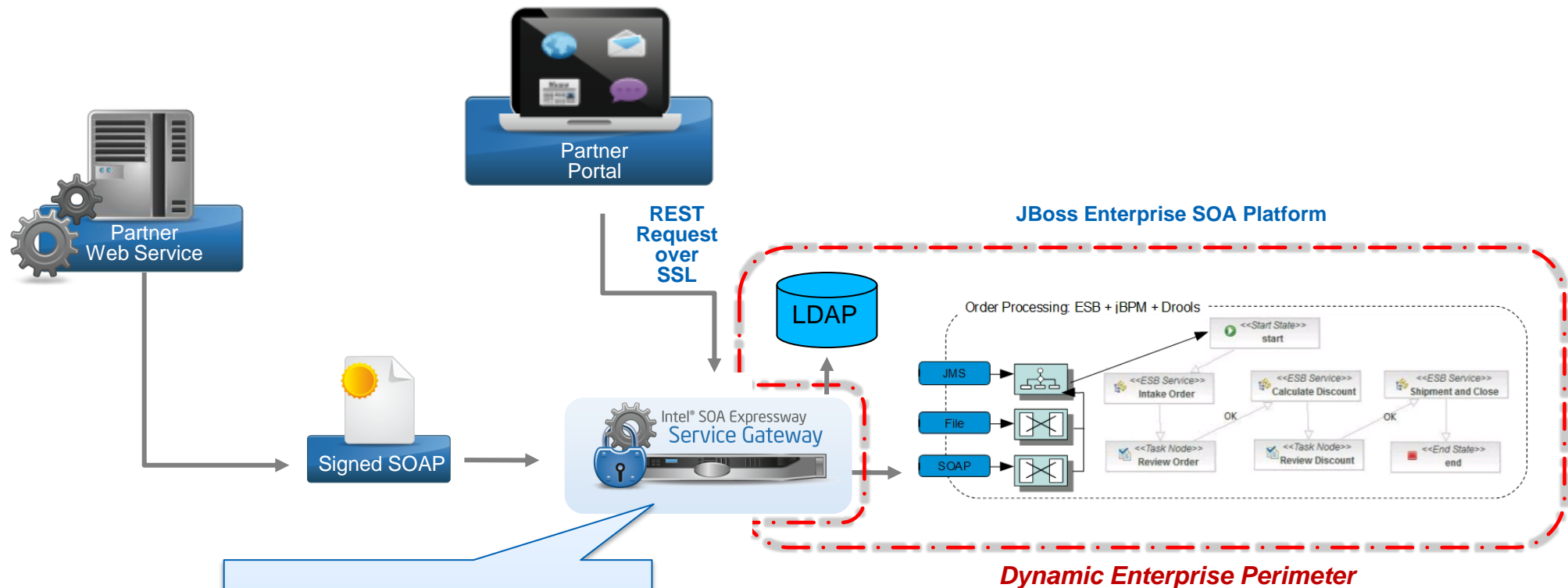
File

SOAP

BRMS

VB.NET
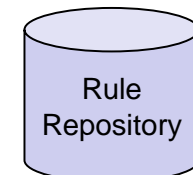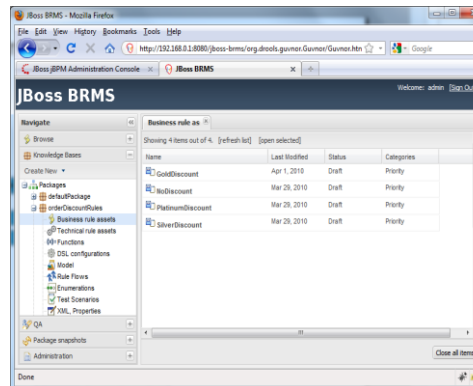
Rule
Repository

Priority
Discount
Rules

AtomPub Feed
for
New Orders

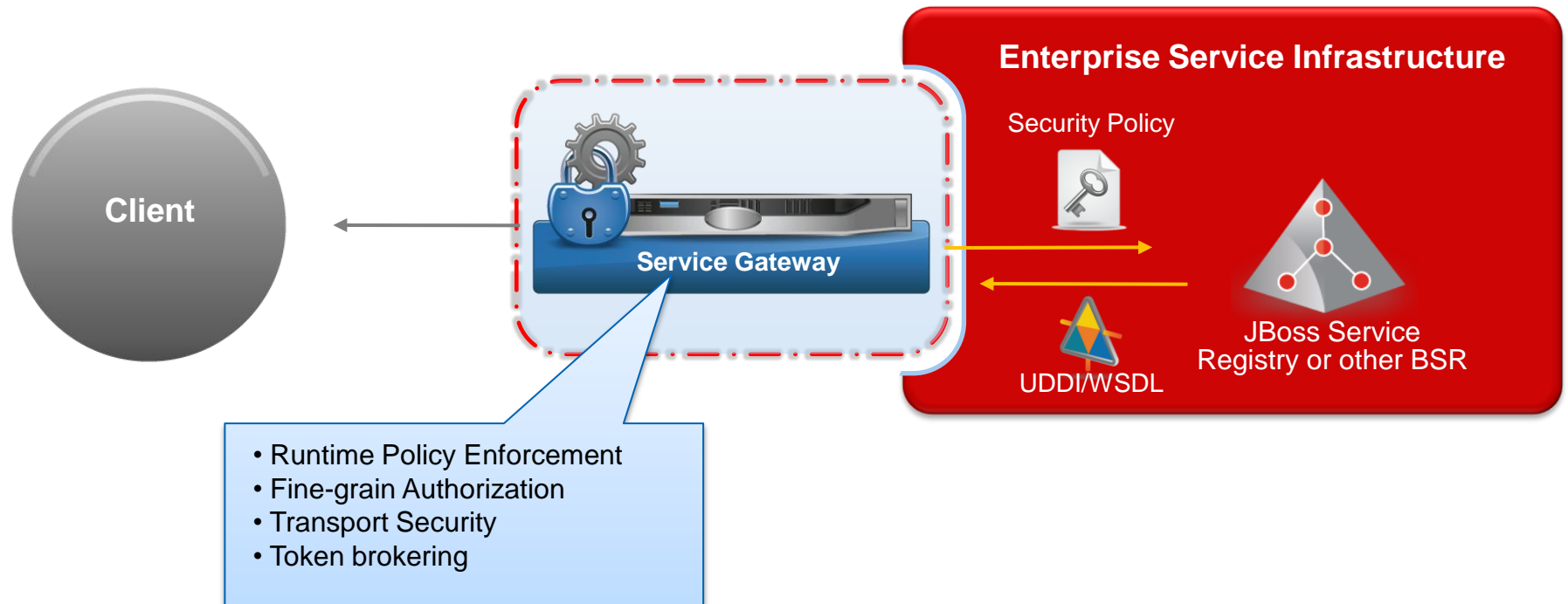# SOA Expressway and JBoss Enterprise SOA Platform

- SOAP Firewalling
- DoS Protection
- Runtime Policy Enforcement
- REST to SOAP Mediation
- Authentication
- Throttling, Auditing and Logging
- Separation of Concerns
- Massive Scalability

SOA Expressway securely exposes JBoss SOA 5 to business partners of all types

Usage Model #2: Runtime Governance

Client

Service Gateway

Enterprise Service Infrastructure

Security Policy

UDDI/WSDL

JBoss Service Registry or other BSR

- Runtime Policy Enforcement
- Fine-grain Authorization
- Transport Security
- Token brokering

Simplified service lifecycle management and complex policy enforcement

Usage Model #3: Cloud Gateway

- Security Token Service
- Cloud API Security & Brokering
- Enforce Distributed Authorization
- Governance, Metering, Compliance

Enterprise

IdM and App Infrastructure

Service Gateway

STS

Cloud

Private, Public, Hybrid

Session Cookie

SAML Token
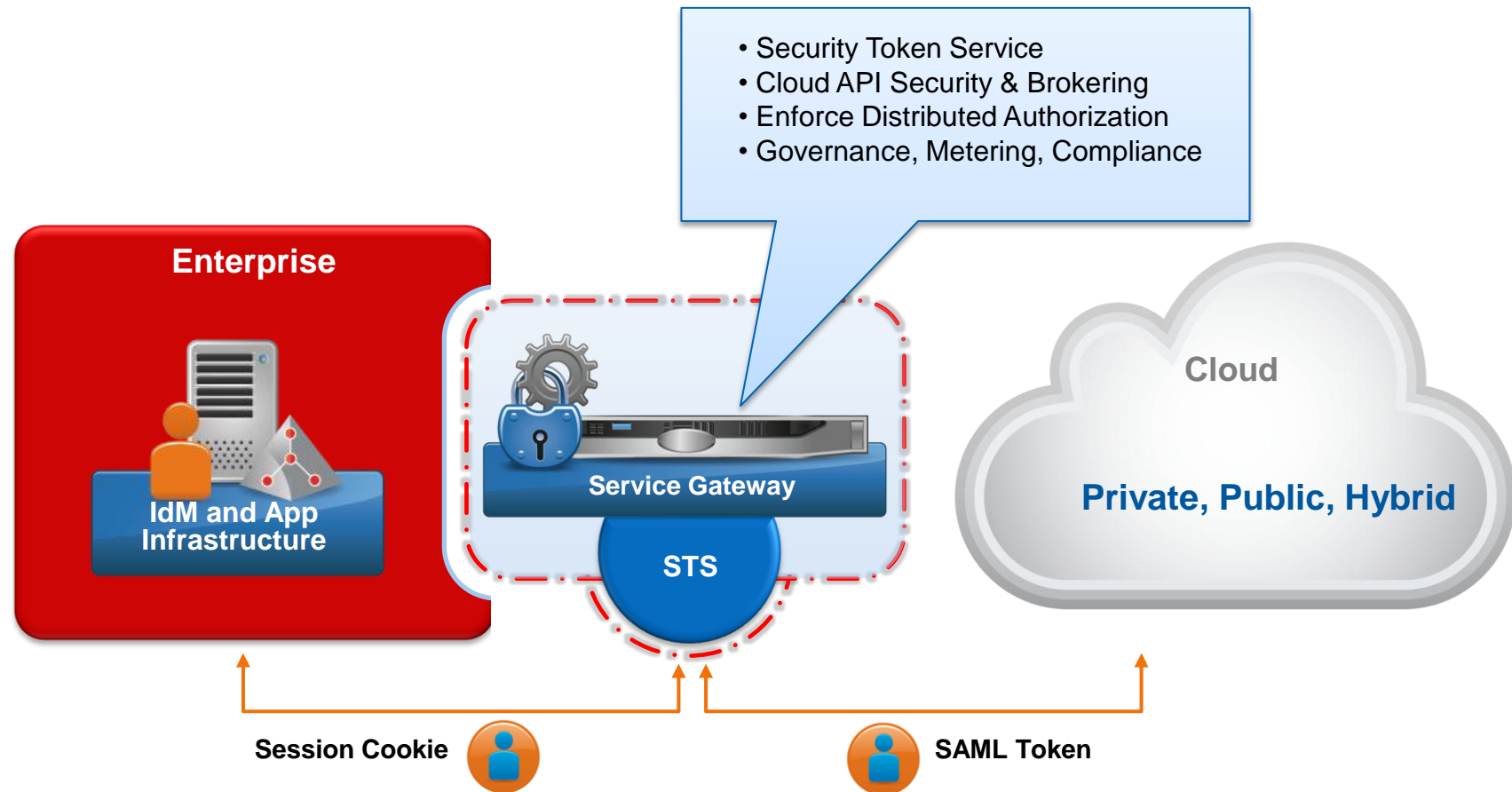
Identity based cloud security for externalization of ids and a controlled dynamic perimeter
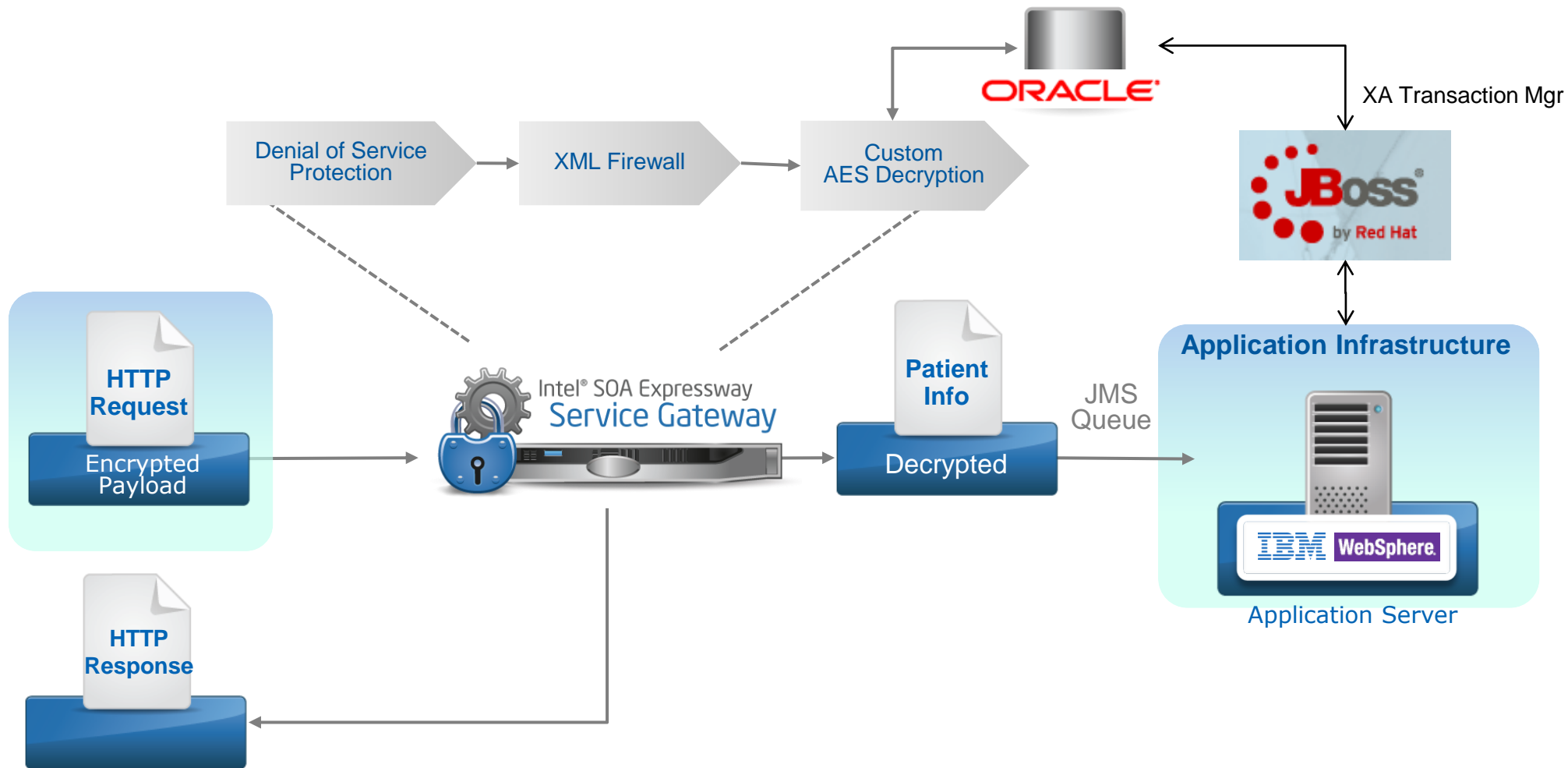
Security and Mediation

Goal: Public network integration using web services

Problem: Rising costs and inefficient secure updates of patient data

Solution: High performance, low cost, extensible security gateway

ORACLE

XA Transaction Mgr

Denial of Service Protection → XML Firewall → Custom AES Decryption

JBoss by Red Hat

Application Infrastructure

HTTP Request
Encrypted Payload

Intel® SOA Expressway
Service Gateway

Patient Info
Decrypted

JMS Queue

IBM WebSphere

Application Server

HTTP Response

Intel was chosen over the homegrown solution which required 32 servers to scale to the required 160,000 messages per day

Intel® SOA Expressway

SOA Soft-Appliance   or   **Virtualized Appliance**   or   **Tamper Resistant Hardware Appliance**

Available on all major operating systems

Intel® SOA Expressway

SOA Soft-Appliance   or   **Virtualized Appliance**   or   **Tamper Resistant Hardware Appliance**

Protocol Agnostic
- REST.,SOAP
- XML, Non-XML
- HTTP, FTP, TCP

Performance
- 2x hard appliances
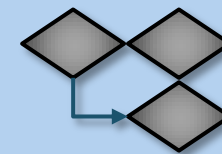- Tie-in to chip roadmap
- Efficient XML parsing at machine level

Secure
- Tamper proof appliance
- Common Criteria
- XML Firewall
- AAA integration

No Programming
- Simple visual environment

Flexible
- Routing
- Transform
- Validation
- Service Call-outs
- Firewall Rules

Available on Red Hat Linux & other OSs

Hardware Appliance Form-Factor

Tamper resistant appliance form factor features:

- Physical Tripwire
  - Secure Boot and BIOS
- Snooping protection
- Data Confidentiality
- Tamper Resistant

Federal Market Certifications

- FIPS 140-2 Level 3 Cryptographic Hardware
- Common Criteria EAL4+
- DoD STIG Ready

Network shareable HSM

Intel manufactures & supports

Ready for secure **High-Assurance** verticals

JBoss Enterprise SOA Platform

Intel® SOA Expressway Service Gateway

www.jboss.com/resources/soa/

www.dynamicperimeter.com

Enterprise SOA
Platform
Data Sheet

Enterprise SOA
Platform
White Paper

Joint JBoss/Intel
White Paper

New Cloud Security
White Paper

"JBoss Community"
Pierre's Blog

"Truth in SOA"
Blake's Blog

http://community.jboss.org/people/pfricke/blog/

http://soatruth.blogspot.com/