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# FOCUS ON THE ESB

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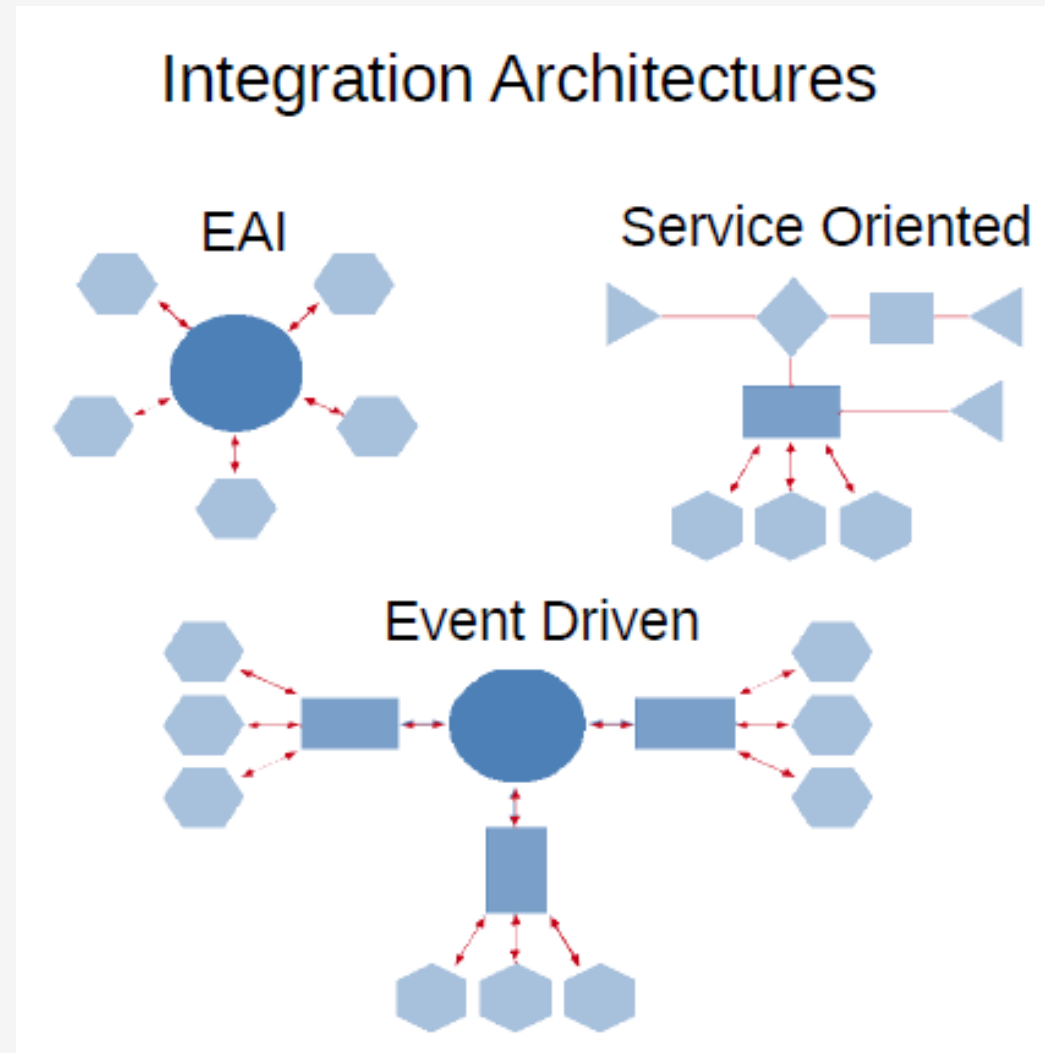
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# Architectural Evolution

- Approaches to integration architectures evolve
  - Point-to-point, enterprise application integration, SOA, and so on
- JBoss SOA-P supports multiple integration architectures
  - EAI, SOA, event-driven architectures, and BPM/business rule service integration



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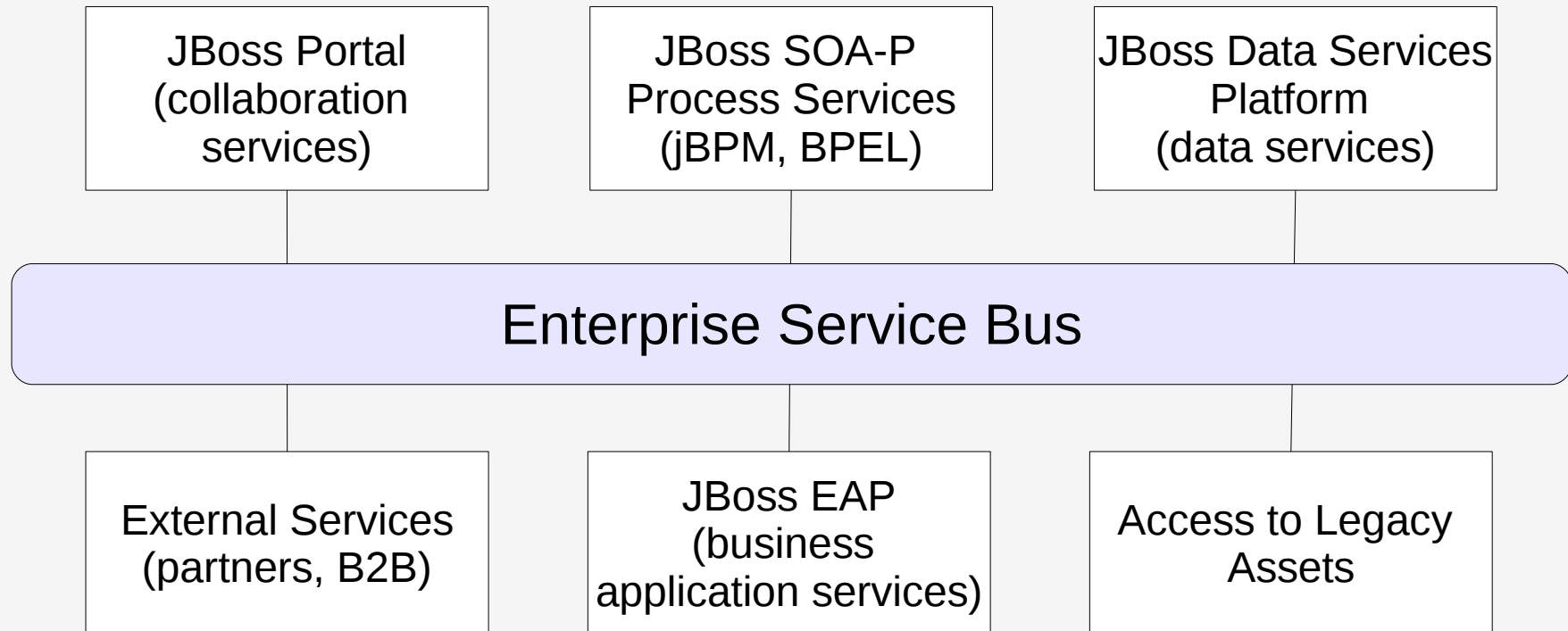
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# SOA Reference Architecture

- The ESB mediates messages between service requesters and providers
- Removes infrastructure logic from business logic



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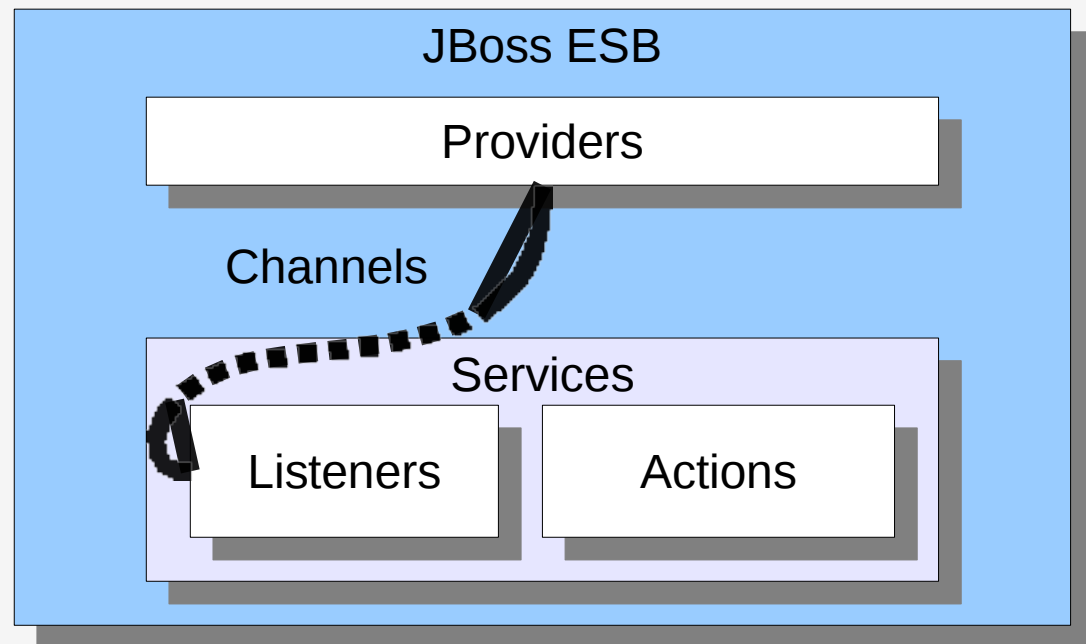
# Core Functions of an ESB

- Decouple service providers and consumers
  - Allow separation of concern (separation of business logic from communication logic)
- Perform key ESB duties:
  - **Transformation** – Change format/protocol
  - **Routing** – Message delivery
  - **Enhancement** – Addition of data
  - **Logging/Event emission** – Auditing and statistical analysis

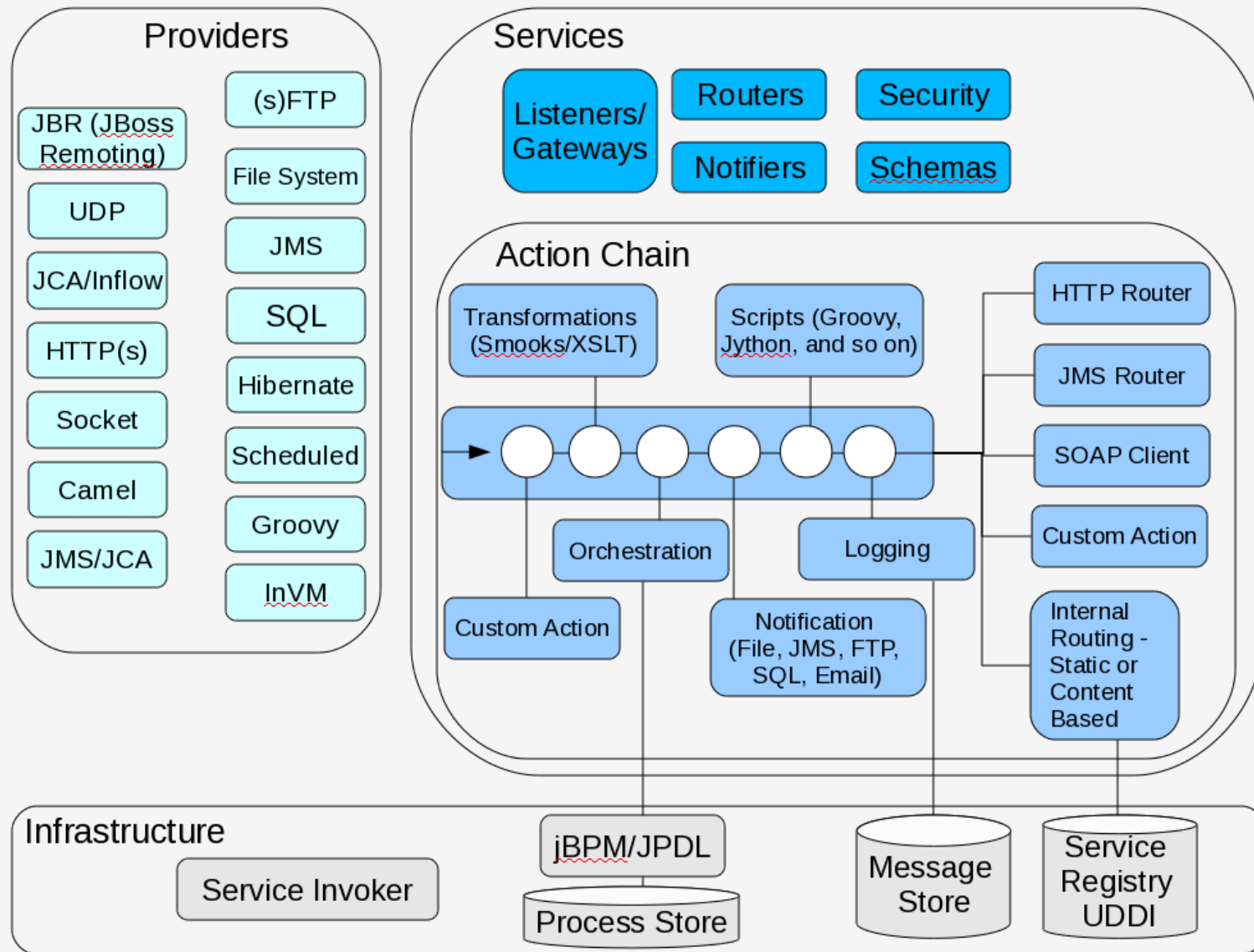


# ESB Service Overview

- ESB services consist of:
  - Provider – Protocol-specific point of ingress
  - Channel (bus) – Connects Provider to Listener
  - Service:
    - Listener – Connect Service to Provider via Channel
    - Actions – Provide message processing capabilities



# Components in ESB Projects



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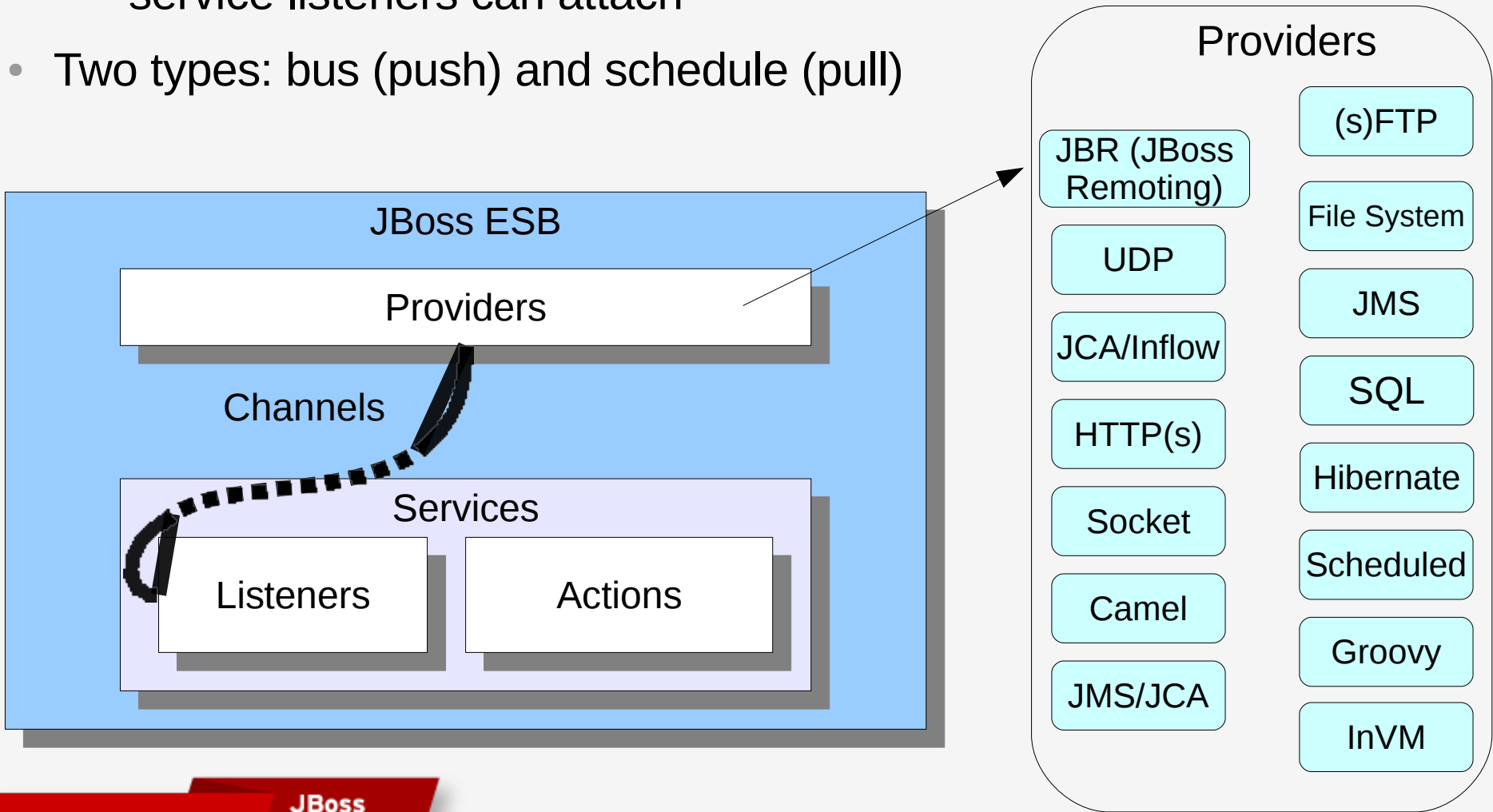
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# Providers

- Providers act as protocol-specific gateways into ESB
  - Define channels (or buses) for message transport and to which service listeners can attach
- Two types: bus (push) and schedule (pull)



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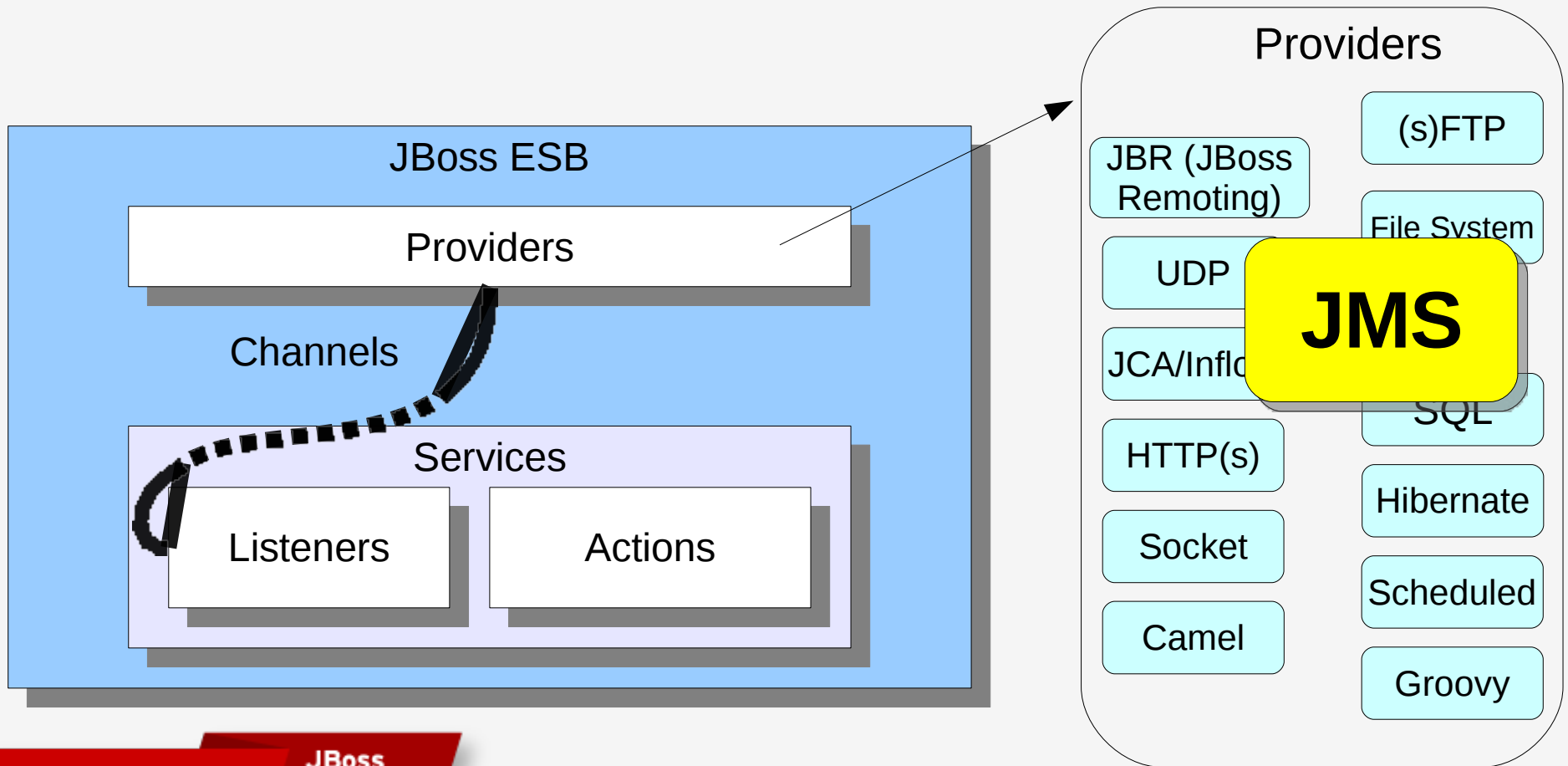
# Message Conversion

- Providers transform protocol-specific messages into generic ESB formatted XML messages
- ESB formatted messages contain:
  - **Header** - Meta-information such as destination, sender
  - **Context** - Context information such as identification information related to security
  - **Body** – Message payload
  - **Fault** – Fault information including exceptions
  - ***Attachment*** - Currently unused
  - ***Properties*** - Currently unused



# Java Message Service Provider

- Allows an ESB project to retrieve JMS messages
- Filter properties specify the queue or topic



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# Practice Exercise – Deploying a JMS Provider

- Start JBDS
  - Desktop shortcut
  - Applications >  
Programming >  
JBoss Dev Studio
- System is already set up
- Follow handout instructions
- Work with your neighbors
- If all else fails, ask!
- Time: ~20 minutes



# Thank You for Attending!

- To learn more about the JBoss ESB, Red Hat Training offers the following 2-day course:  
**JBoss SOA: ESB Service Implementation (JB431)**
- Please complete your survey and log out of your system before you leave!
- Additional Questions? Visit the Red Hat Training booth in the Partner Pavilion and speak with a member of the Curriculum Team

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