



## Open Source ESB

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## Agenda

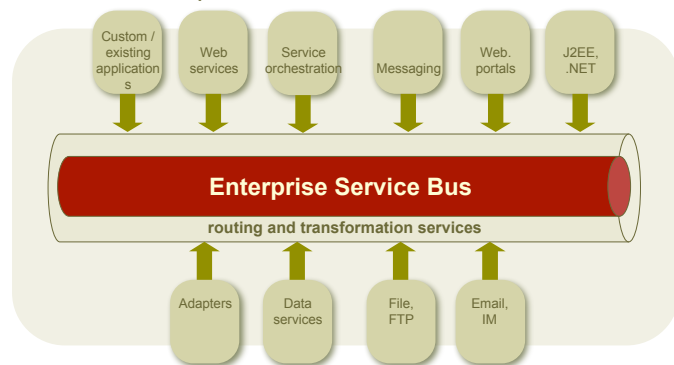
- Definition of Enterprise Service Bus (ESB)
- Open Source ESB
- Open Source vs commercial ESB
- Summary

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## What is an Enterprise Service Bus?

- The definition of ESB varies
  - Standard, framework, product?
  - Enterprise Integration Pattern?
  - Architectural style?



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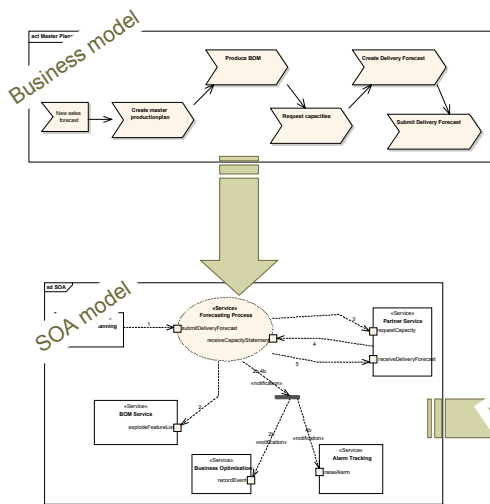
## What is not an ESB?

- Not about process orchestration (with BPEL)
- Not only web services
- Does not automatically lead to SOA

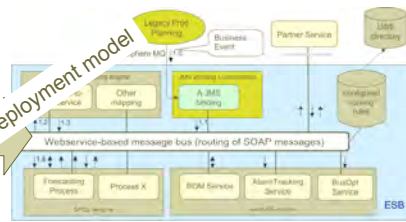
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## SOA - ESB



- SOA is a powerful architecture for business process integration
- Asynchronous message exchange patterns are essential
- Services need to be designed for asynchronous process orchestration
- Use the ESB as a model when implementing a service-oriented runtime

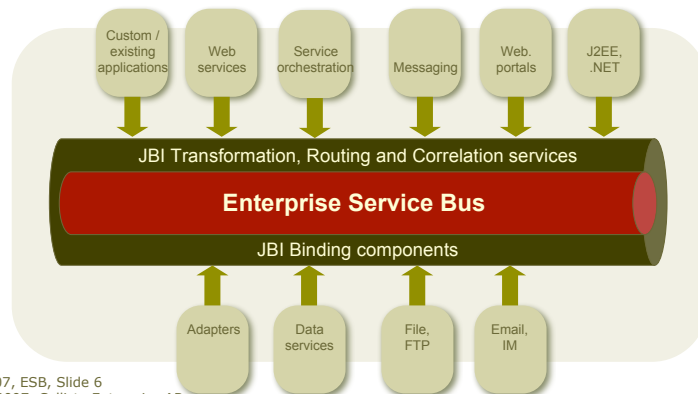


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## The JBI specification

- JBI
  - Standards-based architecture for integrating middleware components to perform ESB capabilities.



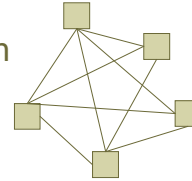
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## Why use an ESB?

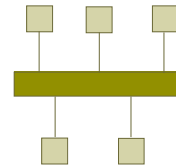
### - Simple point to point communication

- Harder to
  - maintain and make modifications
  - controlling non-functional requirements
- Spaghetti...



### Message bus

- Traceability
- Performance
- Loosely coupled services



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## Core features

### • Mediation



Routing



Message transformation

- Protocol transformation

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## Mediation – Message Routing



### Message Router Patterns

- Static or deterministic
- Content based
- Rules based
- Itinerary based

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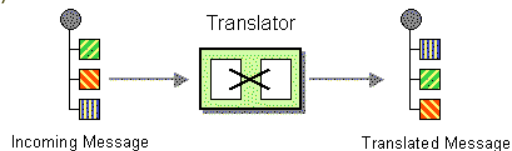
## Mediation - Message transformation

“Converting the structure and format of the incoming service request to the structure and format expected by the service provider.”



### Message translation pattern

- Converting message structures and formats
- Examples to and from...
  - XML
  - Cobol copytext
  - Objects



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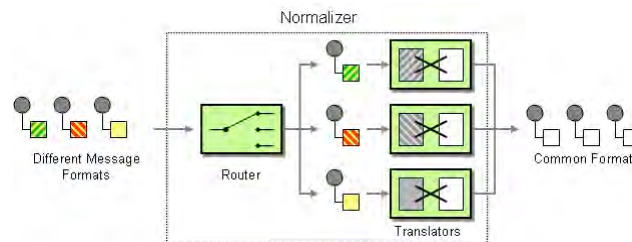


## Mediation - Message transformation



### Normalizer pattern

- Route incoming messages to a translator
- Translator transforms message into a common format



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## Mediation – Protocol transformation

- Protocol transformation
  - Receive messages from one type of protocol and forward to a service provider through a different protocol
  - Example protocols
    - SOAP/WS => JMS/MQ
    - HTTP => XMPP
    - POP3 => CICS/MQ

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## Open source ESB's

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- Emerging market
  - Venture capital
- Open source ESB companies
  - Business built upon open source products
  - Support
- User communities

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## Open source products

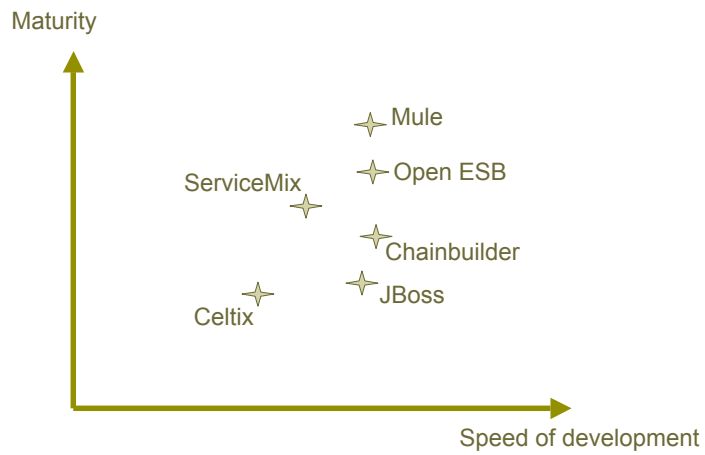
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- Open ESB (Sun)
- Apache ServiceMix (LogicBlaze - Fuse)
- Mule (MuleSource)
- Celtix (Iona - Celtix Enterprise)
- JBoss ESB (JBoss)
- ChainBuilder ESB (Bostech Corporation)
- ...

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## Momentum



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## Commercial ESB's



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## Open Source vs commercial ESB

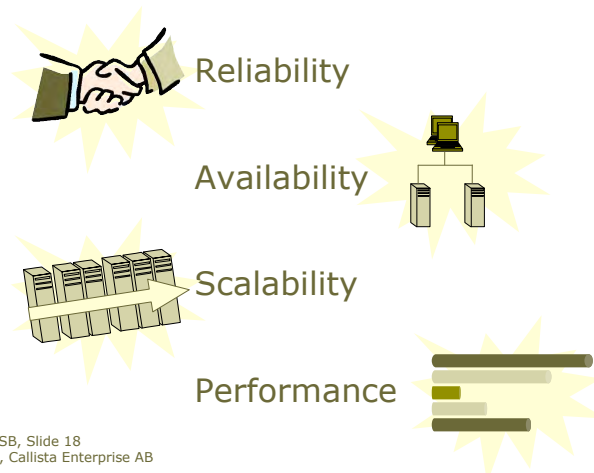
- Licensing cost
- Adapters
- Value added functionality
  - Process Coreography (BPEL)
  - Tooling / Graphical modelling
  - Monitoring / Administration
- JBI

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## Open Source vs commercial ESB

- Non-functional requirements



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## Summary

- Comparisons to J2EE in the beginning
  - Emerging market
- Open source integration architecture
- Core component maturity
- Adapters for many protocols and platforms
- Commercial products has more added value functionality
- Licensing cost

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## If you remember just one thing...

- ESB from Fullers Brewing
- <http://www.fullers.co.uk>



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## Q & A

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