



## BOOK REVIEW

# Open Source ESB in Action

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*Open Source ESB in Action*  
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### ABOUT THE BOOK REVIEW AND OUR PERSPECTIVE

This book as one of a few sources of information for IT architects as well as integration developers who wish to use an open source Enterprise Service Bus (ESB). The book provides the introduction to the two open source ESB's - Mule and ServiceMix ESBs - with plenty of examples. In this review we looked at the following points:

1. How the architecture of the ESBs and processing environment are treated,
2. Is the robustness or lack of it highlighted for both products,
3. Are there pointers to appropriate tooling for developers and,

4. Are there pointers and references to the on-line documentation

In order to provide the reader with sufficient information with regards to the conceptual underpinning of the discussed topics and components, we also provided the generic explanation of each component discussed in this book.

In some chapters, we have decided to visit appropriate websites and bring them into the context of this book content.

### What You Need to Know About SOA Before You Start Reading this Review

The emergence of web services technology and Service Oriented Architecture (SOA) has introduced several issues and challenges one has to be aware of in all stages of SOA projects. The concept of service is understood as a repeatable business task. Service Oriented refers to the effort aimed at integrating business processes by linking the services together and delivering the complete a solution.

Services can be seen as tasks in the business process. They are loosely coupled, the access is provided via their well defined interfaces, they

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are stateless and independent of technology. Within this framework, the important part of SOA is its backbone called Enterprise Service Bus (ESB). ESB implements the logic needed for a single client view, supports wide range of connectivity protocols and provides necessary routing and transformation of messages exchanged among many services to accomplish the tasks required by business processes the ESB integrates .

There are many open source ESBs on the market, for example Apache Synapse, Apache Tuscany, JBI based ChainBuilder, FUSE ESB, JBoss ESB, OpenAdapter, Open ESB, PET-ALS, Spring Integration, and WSO2 ESB. This book selected two ESBs - Mule (<http://mule.codehouse.org>) and Apache ServiceMix (<http://servicemix.apache.org/home.html>).

There are also commercial ESBs available such as IBM's WebSphere Process Server, TIBCO, Microsoft, Oracle. BEA Systems, Inc. recently announced the new family of products for service infrastructure, named AquaLogic which is BEA's implementation of the Enterprise Service Bus combined with Web services management capabilities.

## BOOK REVIEW – OPEN SOURCE ESBS IN ACTION

### Part 1

#### *World of Open Source ESBs*

The ESB is seen as the backbone of the integration platform that enables existing applications to be exposed as services. In essence the ESB is a technical product used to solve integration problems. Many ESB products are currently available from vendors like IBM, TIBCO, Microsoft, and Oracle. Some of these products rely on components and also the concepts taken from the older enterprise application integration background. There are also open source ESBs for example Mule and ServiceMix, both examined in the reviewed book in detail. The key advantage of an ESB is that it allows dif-

ferent applications to communicate with each other by acting as a transit system for carrying data between applications within your intranet or across the Internet. The heart of the system is the *message bus*, which routes messages between applications.

In this book, the authors define the **core ESB functionality** as locations transparency, transport protocol conversion, message transformation, message routing, message enhancement, security and monitoring and management. The support for core ESB functionalities is then used as the main selection criteria for using Mule and ServiceMix as the examples of open source ESB. Altogether, eight selection criteria were applied including quality of documentation, market visibility, active development and support community, custom logic, transport protocol and integration options, and tool support in the final decision.

The book looks at **MULE** which is characterised as lightweight messaging framework with its central part being the service definition which implements the integration logic. The second tool featured in this book is Apache **ServiceMix** which from architectural point of view adheres to Java Business Integration (JBI) standard (<http://jcp.org/aboutJava/communityprocess/edr/jsr208/>). In ServiceMix, JBI plays important role in defining the necessary architectural components and functionality of an ESB. In essence, JBI defines an architecture that allows integration products to be built based on components that can be plugged into the JBI environment. These components can in turn provide additional services, consume services or combination of both.

### **Architecture of MULE and ServiceMix & Setting up the Mule and ServiceMix Environments**

#### *Mule*

Current available version Mule 2.1.1 Mule documentation can be found on the web (<http://mulesource.org/display/MULE2INTRO/Home>). Mule is a lightweight Java-based

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