



# MULE FOR SERVICE ORIENTED ARCHITECTURE

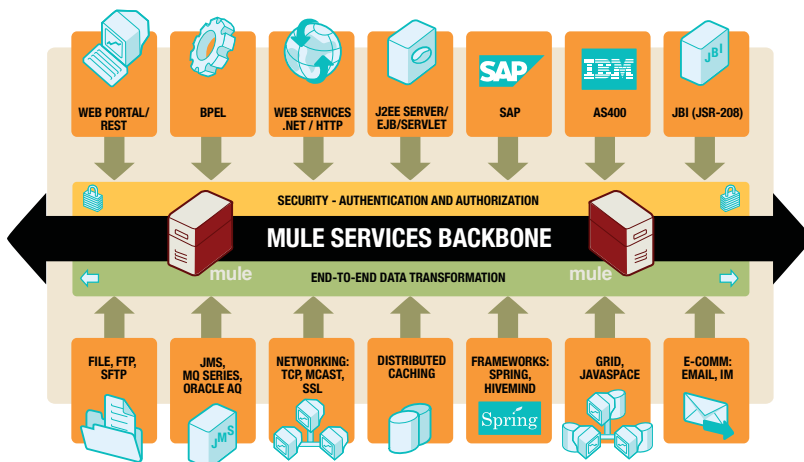
## Enterprise-Class ESB Backbone for SOA

### OVERVIEW

Mule is the world's most widely used open source Enterprise Service Bus (ESB). Designed to support high-performance, multi-protocol transactions between heterogeneous systems and services, Mule provides the basis for service oriented architecture (SOA). With a standards-based, zero intrusion approach to existing infrastructure and a simplified development model, Mule adapts to your environment and prevents vendor lock-in. The open source model allows organizations to achieve rapid ROI, and open access to source code enables developers to customize Mule to readily meet their needs.

### SERVICE ORIENTED ARCHITECTURE AND ENTERPRISE SERVICE BUS

The SOA approach to development allows IT organizations to create applications by bringing together components of application functionality, or business services. Businesses can realize dramatic savings on development costs and can rapidly adapt to changing business conditions by reusing and reconfiguring existing services in developing new applications. SOA also enables better integration of enterprise IT resources, including previously-isolated application silos and legacy systems.



An ESB functions as a transit layer for carrying information between disparate applications and services. As the core component of SOA, the ESB provides connectivity to a wide range of heterogeneous technology assets and enables the reuse of business services. The bus provides a set of capabilities to enable SOA, including routing, transformation, and management of messages between endpoints. An ESB should be standards-based and allow for multiple deployment topologies, enabling organizations to leverage existing assets, quickly achieve ROI, and scale incrementally over time.

### Why Choose Mule?

Organizations choose Mule as their ESB because it adapts to existing environments, requires lower up-front investment, and helps them to avoid vendor lock-in.

### Open Source Advantage

- ▶ No expensive up-front license commitments, resulting in rapid ROI
- ▶ Option to modify and extend the platform with direct access to source code and APIs
- ▶ Thriving community of Mule developers and experts delivering best practices, modules, and other resources

### Simplicity in Development

- ▶ Simplified programming model designed with the Java developer in mind — new users are often up and productive in 5 minutes.
- ▶ Ease of use stemming from simple configuration and controls, resulting in lower professional services fees and a lower total cost of ownership.
- ▶ Rapid development and deployment cycles means a shortened time to market and faster ROI

### Adaptive Integration

- ▶ Seamless integration with existing applications, web services, business processes, and messaging services with no need for expensive rip-and-replace.
- ▶ No vendor lock-in of expensive, proprietary systems
- ▶ Standards-based and vendor-neutral ESB is ideally suited for heterogeneous environments

## MULE ESB FEATURES

<b>FLEXIBLE DEPLOYMENT TOPOLOGIES</b>	Including: <ul style="list-style-type: none"> <li>ESB</li> <li>Client/Server</li> <li>Peer-Peer</li> <li>Enterprise Service Network (ESN)</li> <li>Hub and Spoke</li> </ul>
<b>PLUGGABLE CONNECTIVITY</b>	Including: <ul style="list-style-type: none"> <li>JMS</li> <li>JBI</li> <li>VM</li> <li>JDBC</li> <li>TCP</li> <li>UDP</li> <li>Multicast</li> <li>HTTP</li> <li>Servlet</li> <li>File</li> </ul>
<b>ORCHESTRATION OF SERVICES</b>	Using WS-BPEL and Mule components and routers
<b>ASYNCHRONOUS, SYNCHRONOUS AND REQUEST-RESPONSE EVENTS</b>	Processing over any transport
<b>WEB SERVICES</b>	Using XFire (STaX-based) Axis or Glue
<b>DECLARATIVE AND PROGRAMMATIC</b>	Transaction support including XA support
<b>END-TO-END SUPPORT</b>	For routing, transport and transformation of events
<b>SPRING FRAMEWORK INTEGRATION</b>	Can be used as the ESB container easily embedded into Spring applications
<b>HIGHLY SCALABLE THROUGHPUT</b>	Using the SEDA processing model
<b>REST API</b>	To provide technology agnostic and language neutral web based access to Mule events

## MULE ESB PLATFORM AND STANDARDS SUPPORT

<b>OS</b>	<ul style="list-style-type: none"> <li>Red Hat/Fedora Linux</li> <li>Windows Server</li> <li>Solaris SPARC/x86</li> <li>Suse Linux</li> <li>Ubuntu/Debian Linux</li> <li>FreeBSD</li> <li>Mac OSX</li> </ul>
<b>JAVA</b>	1.4 / 5 / 6 / 7
<b>APPSERVER</b>	<ul style="list-style-type: none"> <li>Apache Tomcat</li> <li>WebLogic</li> <li>WebSphere</li> <li>Geronimo</li> <li>JBoss</li> <li>Oracle</li> <li>Resin</li> <li>Jetty</li> <li>JRun</li> </ul>
<b>TRANSPORT</b>	<ul style="list-style-type: none"> <li>JMS</li> <li>MQ Series</li> <li>File</li> <li>FTP</li> <li>HTTP</li> <li>HTTP Servlets</li> <li>HTTPS</li> <li>IMAP</li> <li>In-Memory</li> <li>JBI</li> <li>JDBC</li> <li>SOAP</li> <li>SSL</li> <li>Multicast</li> <li>Oracle AQ</li> <li>POP3</li> <li>Remote EJB</li> <li>RMI</li> <li>SMTP</li> <li>System I/O</li> <li>TCP</li> <li>TIBCO</li> <li>TLS</li> <li>VFS</li> <li>UDP</li> <li>XMPP</li> <li>AS400 Data Queues</li> <li>File system</li> </ul>
<b>INTEGRATION</b>	<ul style="list-style-type: none"> <li>Spring</li> <li>EJB</li> <li>GigaSpaces</li> <li>JavaSpaces</li> <li>JBI</li> <li>JCA</li> <li>JNDI</li> <li>JOTM</li> <li>JTA</li> <li>PicoContainer</li> <li>Plexus</li> <li>HiveMind</li> </ul>
<b>WEB SERVICES</b>	<ul style="list-style-type: none"> <li>XFire</li> <li>Axis</li> <li>SOAP</li> <li>REST</li> <li>Glue</li> </ul>
<b>SECURITY</b>	<ul style="list-style-type: none"> <li>Acegi</li> <li>JAAS</li> <li>PGP</li> </ul>
<b>OTHER</b>	<ul style="list-style-type: none"> <li>BPEL</li> <li>jBPM</li> <li>JSR-223 (Scripting)</li> <li>OGNL Filters</li> <li>Quartz</li> </ul>

## ABOUT MULESOURCE

MuleSource is the leading provider of open source service oriented architecture (SOA) infrastructure software. Founded by the creators of the Mule project, the world's most reliable and widely used open source enterprise service bus (ESB) and integration platform, MuleSource delivers enterprise-class software, support and services to the thousands of organizations that have downloaded the open source project worldwide. Founded in 2006 and backed by investors Hummer Winblad Venture Partners, Lightspeed Venture Partners and Morgenthaler Ventures, MuleSource is headquartered in San Francisco with offices worldwide.

**For more information: [www.mulesource.com](http://www.mulesource.com), or email [info@mulesource.com](mailto:info@mulesource.com).**