



JBoss

A critical component of the SOA puzzle



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Topics

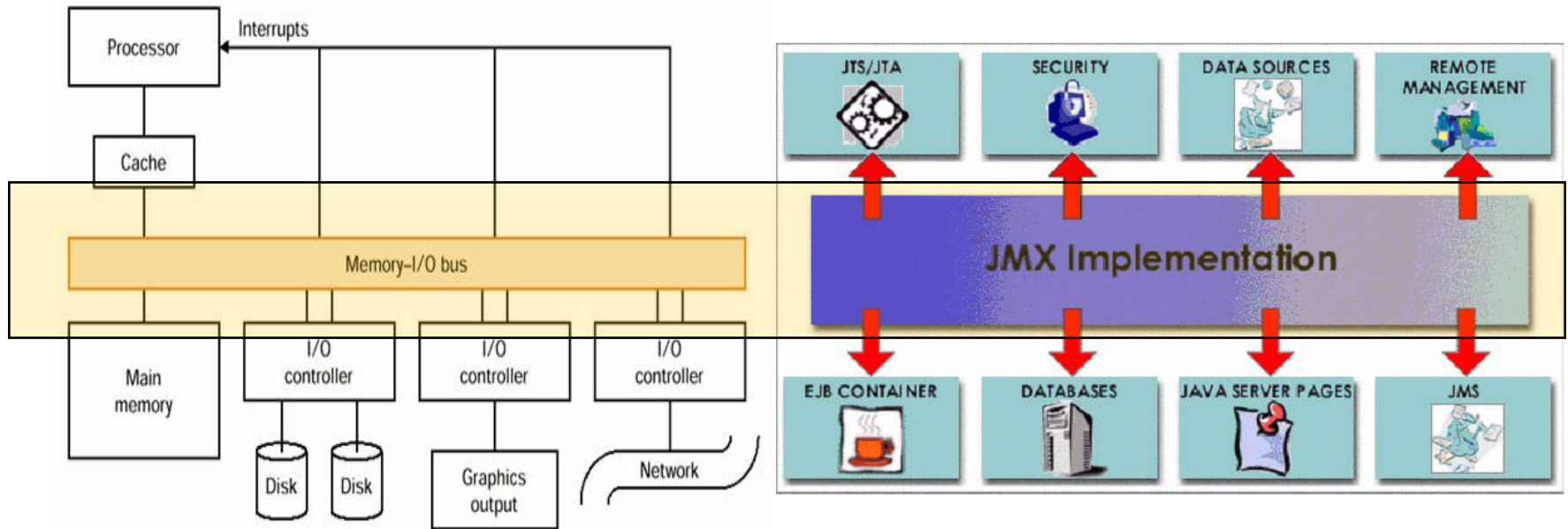
- Branding a JBoss Release
- Creating an Application Communication Network
- Service Examples
- Automated Deployment



Why use JBoss technology?

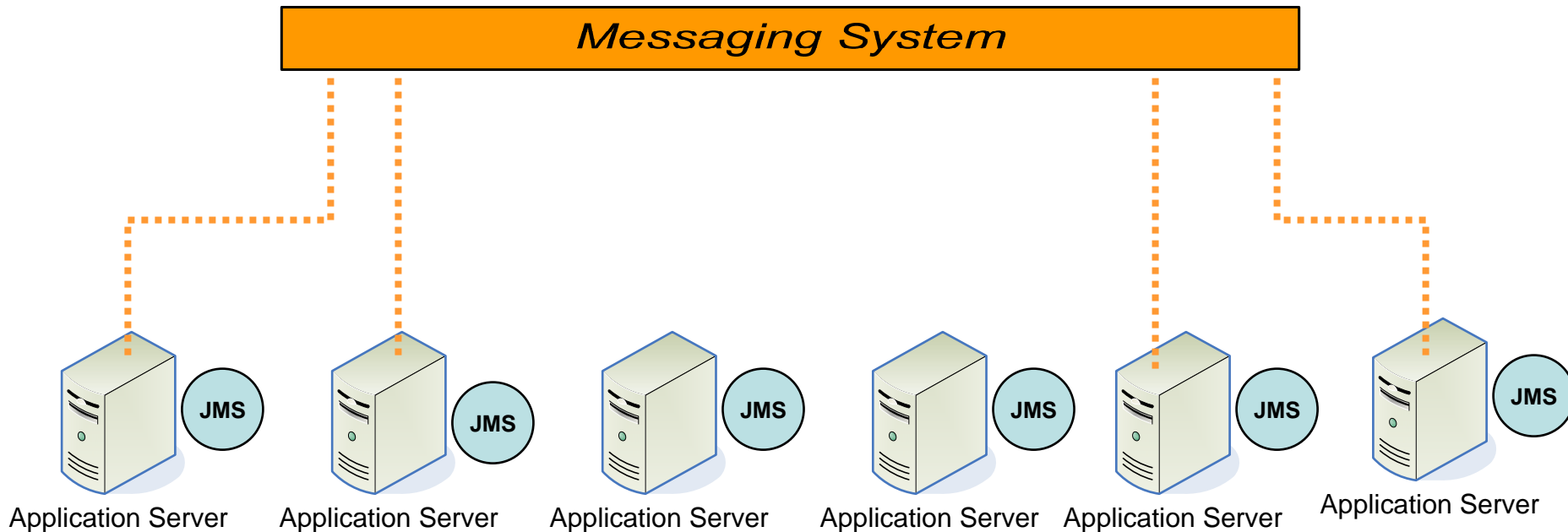
- **Microkernel architecture**
 - Customization
- **Support**
 - Most “problems” resolved within one day.
- **Economic Scalability**
 - Per CPU licenses prevent scaling SOA deployments.

Detached Invocation



Messaging System

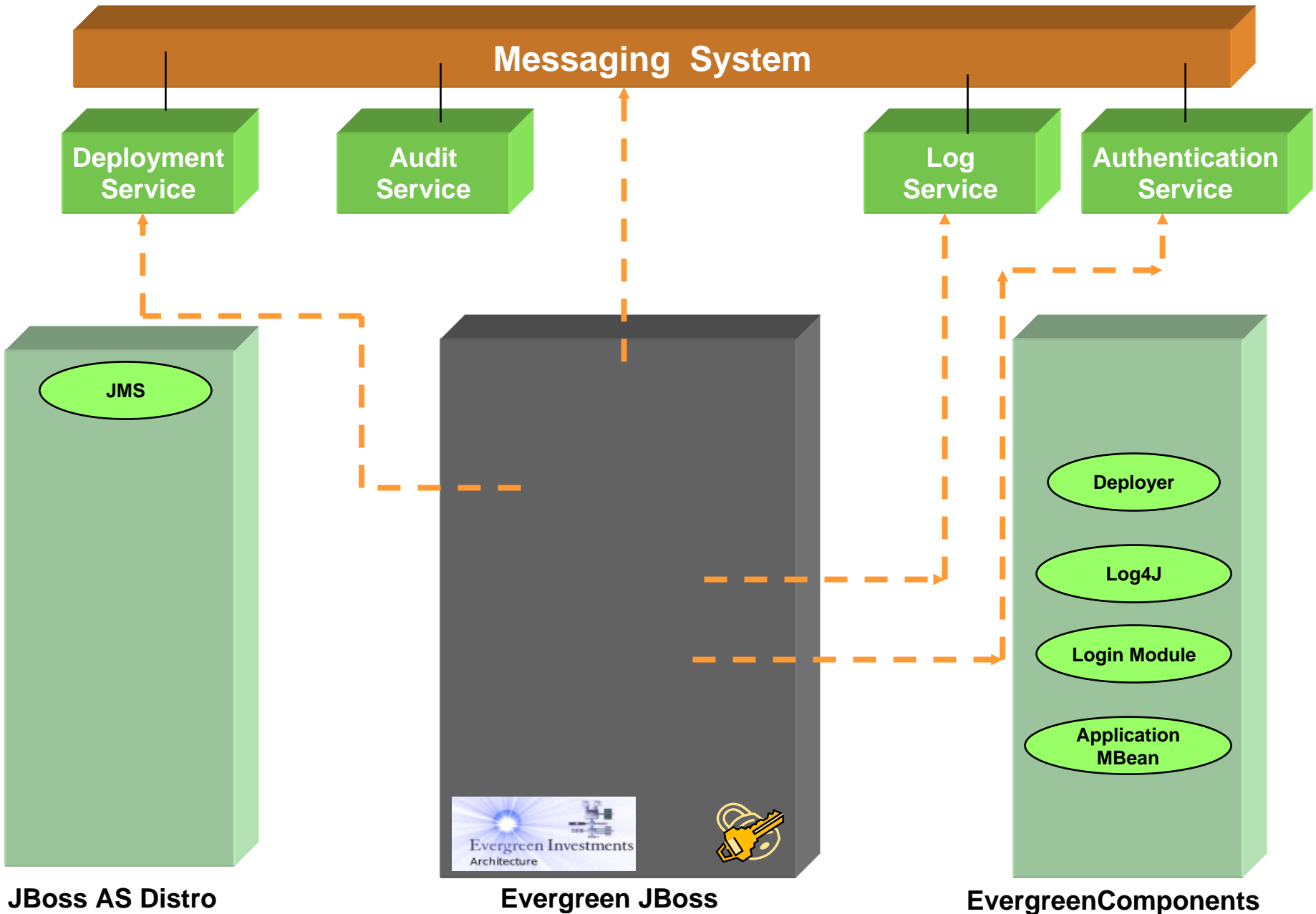
- Included in every JBoss AS **default** and **all** distribution



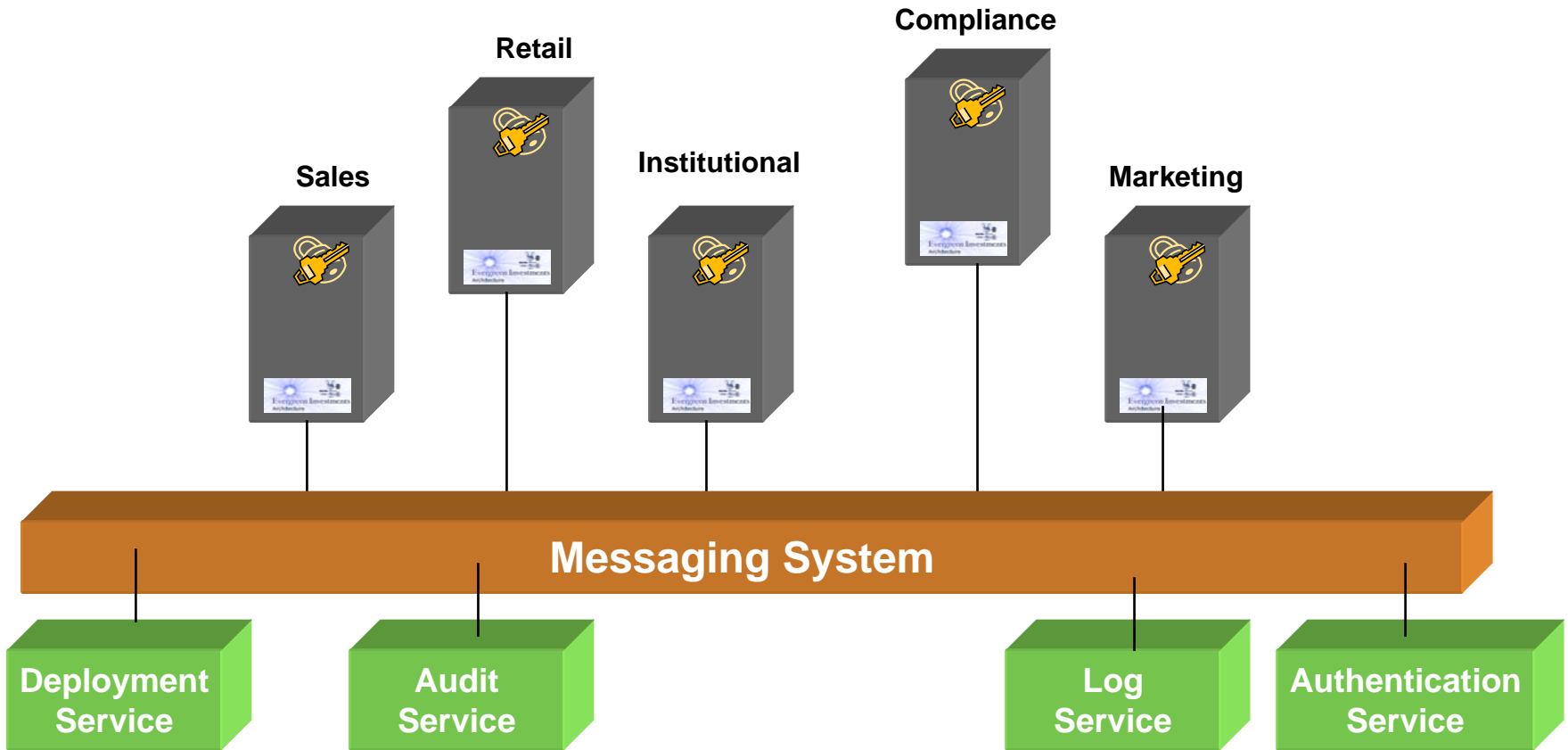
Customizing JBoss

- Connect to internal IT assets
- Remove services that will not be used.
- Add customized internal services
- Create servers for targeted purposes





Application Network





Service Archetypes

- Persistence Service
- Transformation Service
- Routing Service
- Callout Service
- File Drop
- File Polling
- DB Polling



Log & Triage Service

- Goals
 - Provide a common place to view all application and process log messages
 - Inspect log messages and conditionally process notifications
 - Apply automatic pruning of stale messages

Message Format

- Usually defined using XSD
- Provides Validation

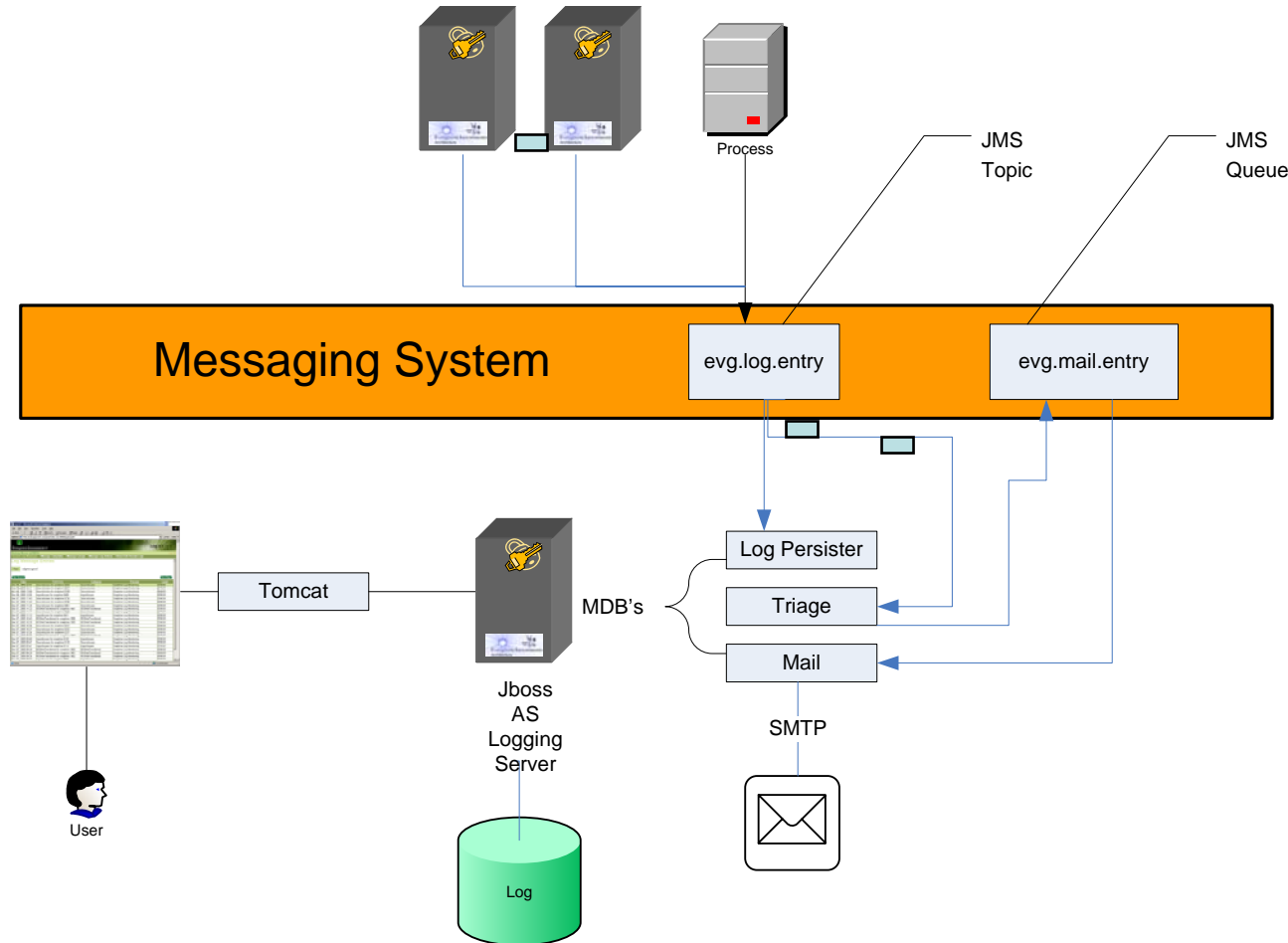
```
<?xml version="1.0" encoding="UTF-8"?>
<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
  elementFormDefault="qualified">
  <xs:element name="evg-log">
    <xs:complexType>
      <xs:sequence>
        <xs:element ref="evg-detail"/>
        <xs:element ref="evg-properties" minOccurs="0"/>
      </xs:sequence>
      <xs:attribute name="category" use="optional" type="xs:NCName"/>
    </xs:complexType>
  </xs:element>
  <xs:element name="evg-detail">
    <xs:complexType>
      <xs:simpleContent>
        <xs:extension base="xs:string">
          <xs:attribute name="format" type="xs:string"/>
        </xs:extension>
      </xs:simpleContent>
    </xs:complexType>
  </xs:element>
  <xs:element name="evg-properties">
    <xs:complexType>
      <xs:sequence>
        <xs:element maxOccurs="unbounded" ref="property"/>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
  <xs:element name="property">
    <xs:complexType>
      <xs:simpleContent>
        <xs:extension base="xs:NCName">
          <xs:attribute name="name" use="required" type="xs:NCName"/>
        </xs:extension>
      </xs:simpleContent>
    </xs:complexType>
  </xs:element>
</xs:schema>
```



Sample Log Message

```
<evg-log level="INFO"  
  process="DataStageTX"  
  summary="Map completed successfully"  
  time="2004-11-23T003:19Z"  
  category="foo"  
  code="0"  
  msg-type="DataStageTX"  
  host="foo">  
<evg-detail format="XML">  
  <![CDATA[data]]>  
</evg-detail>  
<evg-properties>  
  <property name="foo">test property</property>  
</evg-properties>  
</evg-log>
```

Log & Triage Architecture



View Log Messages

Log UI - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://odyapprod1.evergreeninsite.com:8480/ega/LogUI/>

Evergreen Investments SM Log UI

Rodney Moore (a228814) Log Off

> Search Log Messages > Manage Templates > Manage Groups > Manage Log Actions > View ESB Process Logs

[New Search](#) [Next Page](#)

Time	Summary	Category	Process	Level
Dec 08, 2005 02:41	Sourcelssues for snaptime 0529	Sourcelssues	Snaptime Log Monitoring	ERROR
Dec 08, 2005 12:11	Sourcelssues for snaptime 0504	Sourcelssues	Snaptime Log Monitoring	ERROR
Dec 08, 2005 12:06	Sourcelssues for snaptime 0739	Sourcelssues	Snaptime Log Monitoring	ERROR
Dec 08, 2005 12:05	ImportIssues for snaptime 0459	ImportIssues	Snaptime Log Monitoring	ERROR
Dec 07, 2005 11:43	Sourcelssues for snaptime 0730	Sourcelssues	Snaptime Log Monitoring	ERROR
Dec 07, 2005 11:43	Sourcelssues for snaptime 0726	Sourcelssues	Snaptime Log Monitoring	ERROR
Dec 07, 2005 11:24	Sourcelssues for snaptime 0451	Sourcelssues	Snaptime Log Monitoring	ERROR
Dec 07, 2005 11:22	RDSNotTransferred for snaptime 1907	RDSNotTransferred	Snaptime Log Monitoring	ERROR
Dec 07, 2005 11:17	Sourcelssues for snaptime 0526	Sourcelssues	Snaptime Log Monitoring	ERROR
Dec 07, 2005 11:12	ImportIssues for snaptime 0411	ImportIssues	Snaptime Log Monitoring	ERROR
Dec 07, 2005 10:43	RDSNotTransferred for snaptime 1906	RDSNotTransferred	Snaptime Log Monitoring	ERROR
Dec 07, 2005 10:39	RDSNotTransferred for snaptime 1905	RDSNotTransferred	Snaptime Log Monitoring	ERROR
Dec 07, 2005 10:36	Sourcelssues for snaptime 0317	Sourcelssues	Snaptime Log Monitoring	ERROR
Dec 07, 2005 10:27	Sourcelssues for snaptime 0232	Sourcelssues	Snaptime Log Monitoring	ERROR
Dec 07, 2005 10:25	Sourcelssues for snaptime 0227	Sourcelssues	Snaptime Log Monitoring	ERROR
Dec 07, 2005 09:58	RDSNotTransferred for snaptime 1904	RDSNotTransferred	Snaptime Log Monitoring	ERROR
Dec 07, 2005 09:49	ImportIssues for snaptime 0120	ImportIssues	Snaptime Log Monitoring	ERROR
Dec 07, 2005 09:47	Sourcelssues for snaptime 0115	Sourcelssues	Snaptime Log Monitoring	ERROR
Dec 07, 2005 09:47	ImportIssues for snaptime 0112	ImportIssues	Snaptime Log Monitoring	ERROR
Dec 07, 2005 09:29	RDSNotTransferred for snaptime 1903	RDSNotTransferred	Snaptime Log Monitoring	ERROR
Dec 07, 2005 09:29	RDSNotTransferred for snaptime 1901	RDSNotTransferred	Snaptime Log Monitoring	ERROR
Dec 07, 2005 09:24	RDSNotTransferred for snaptime 1902	RDSNotTransferred	Snaptime Log Monitoring	ERROR
Dec 07, 2005 09:03	ImportIssues for snaptime 0004	ImportIssues	Snaptime Log Monitoring	ERROR
Dec 07, 2005 04:56	Sourcelssues for snaptime 0905	Sourcelssues	Snaptime Log Monitoring	ERROR
Dec 07, 2005 04:53	Sourcelssues for snaptime 0916	Sourcelssues	Snaptime Log Monitoring	ERROR

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Local intranet



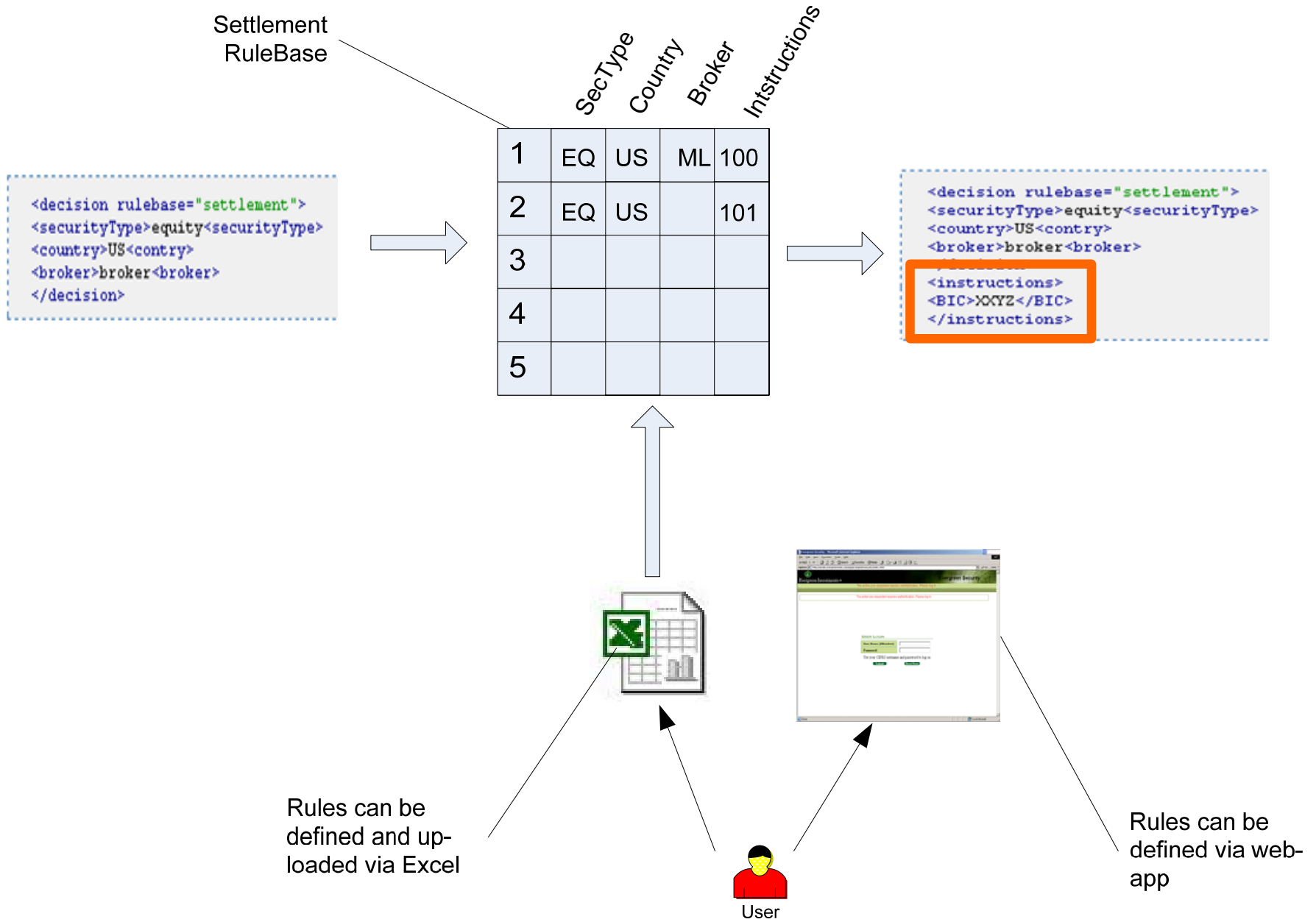
Log Service Components

- 1 Messaging System
- 1 JMS Topic – Messaging
- 1 JMS Queue – Messaging
- 1 Persistence Service (MDB)
- 1 Triage Service (MDB)
- 1 Database (JCA)
- 1 GUI (Tomcat)

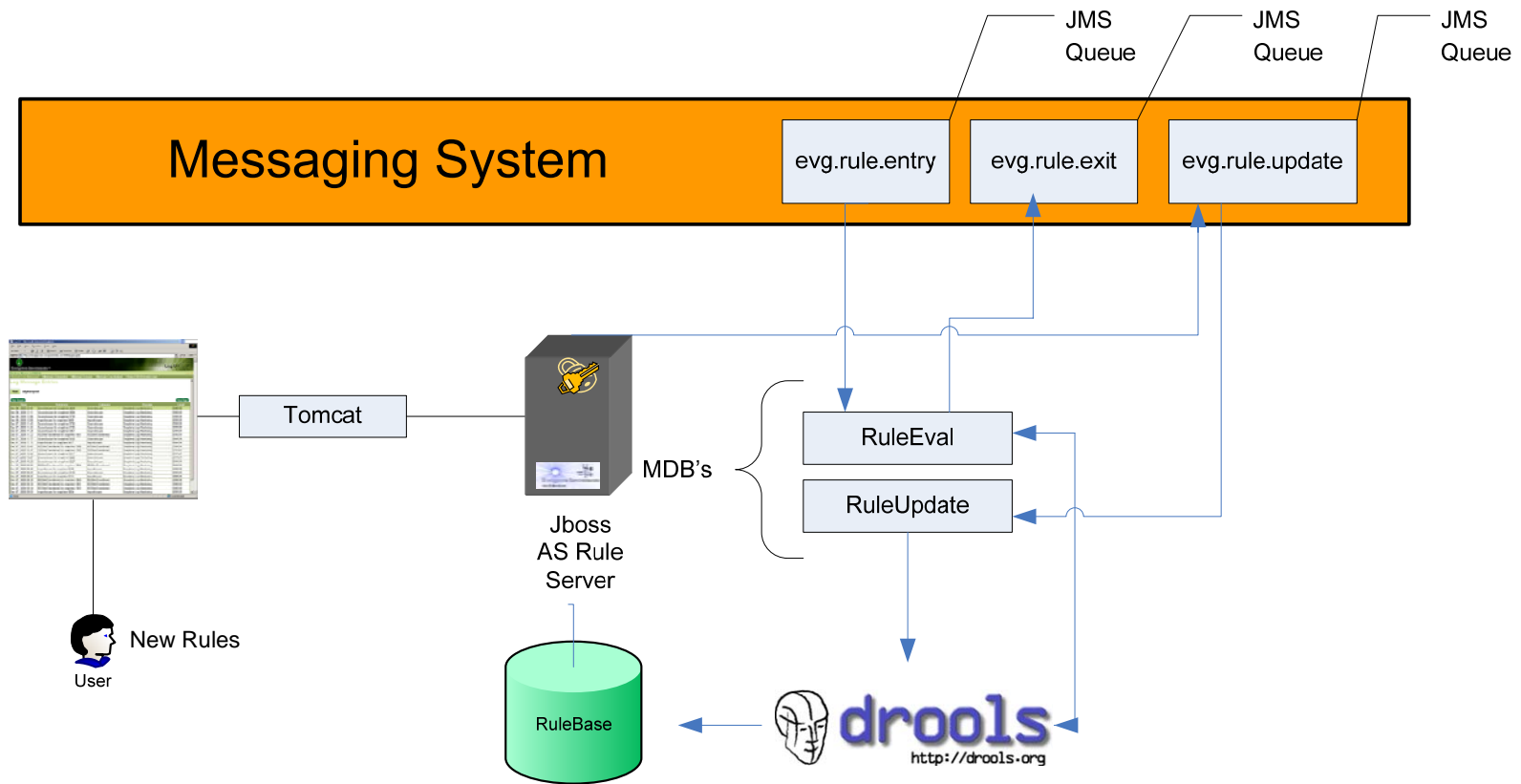


Business Rule Service

- Goals
 - Evaluate data against rule base
 - Rule base must be maintained by non – technical users
 - Errors



BRS Architecture





Business Rule Service Components

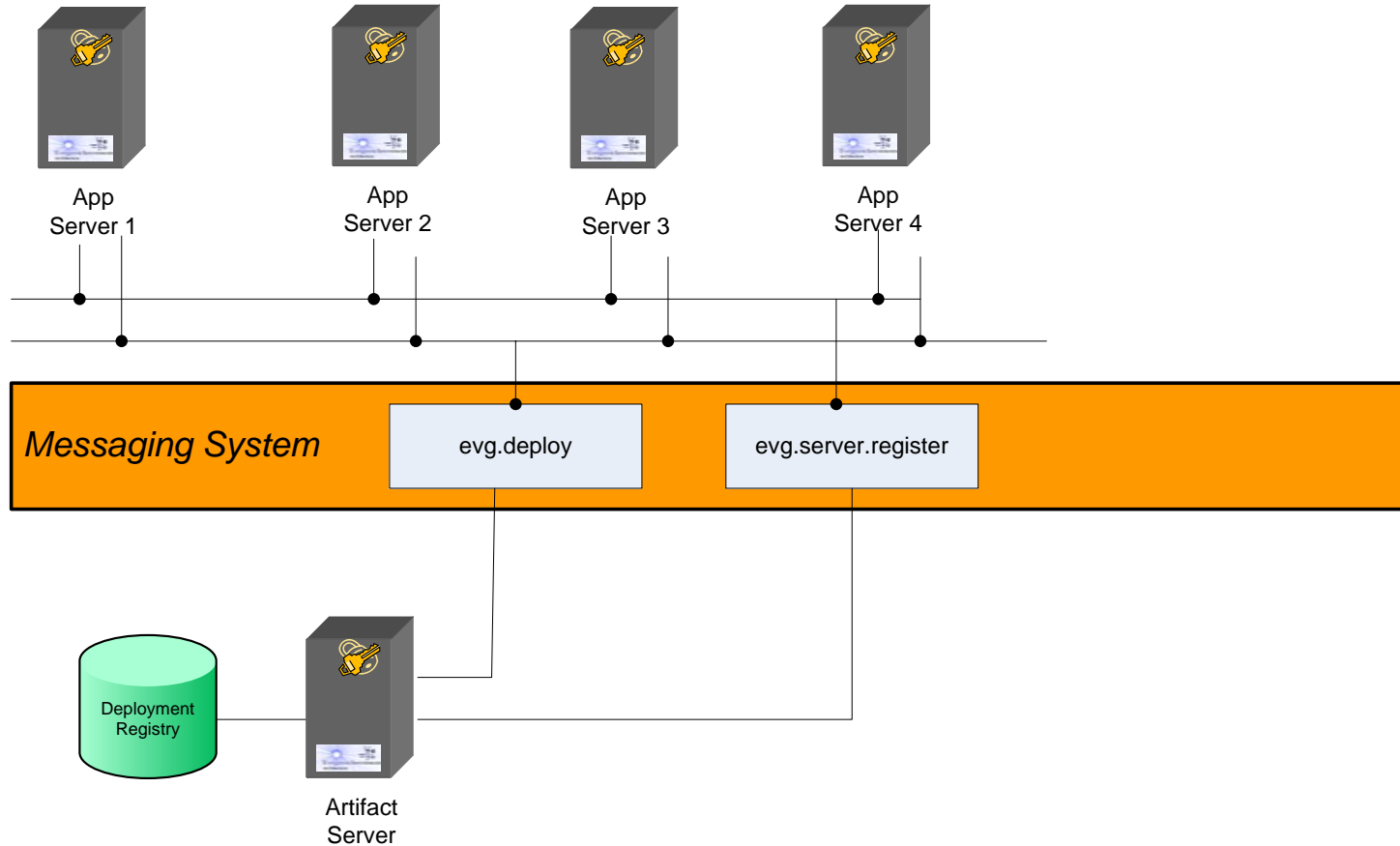
- 1 JMS Queue evg.rule.entry
- 1 JMS Queue evg.rule.exit
- 1 JMS Queue evg.rule.update
- 1 Message System
- 1 Rule Evaluator (MDB)
- 1 Rule Updater (MDB)
- 1 Rule Engine (Drools)
- 1 Database (JCA)



Automated Deployment

- Send any artifact to one or more JBoss servers.
- Auto-discover new servers
- Audit artifacts sent to servers from deployment application.

Deployment Architecture





Summary

- Established a messaging system
- Customized application server
- Created Log Service
- Created a Business Rule Evaluation Service
- Create an auto-deployment service.