



/* bound to please: the Java Enterprise Wide Framework */

Spago

New release towards SOA

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Spago goal and history



/* bound to please: the Java Enterprise Wide Framework */

- J2EE Framework: a reusable, semi-complete infrastructure that can be specialized to produce custom applications
- Released in Open Source in 2004, first in SourceForge, then moved to ObjectWeb
- It's a mature project: more than 50 projects adopted it successfully. Current release is 2.1.0
- It uses several technologies, including JDBC, Enterprise Java Beans, Java Servlets, Java Server Pages and XML technologies. This allows the developer to create an Enterprise Application that is portable between platforms and scalable, while integrating with several legacy technologies.



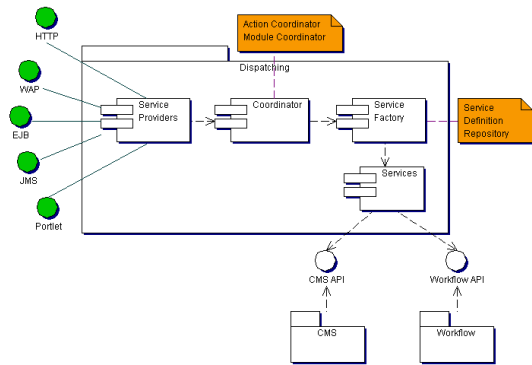
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Spago goal and history

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Pluggable architecture

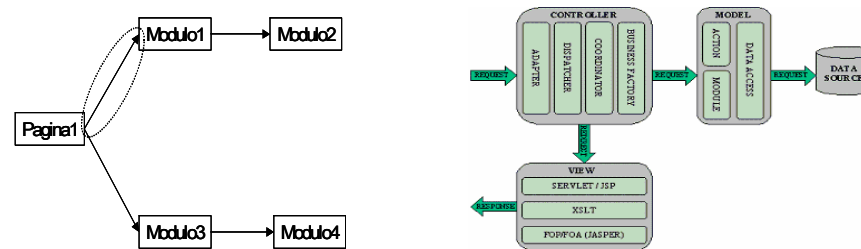


Multichannel/device publishing

User ID	Nome	Cognome	Mail
10	Luigi	Bellio	luigi.bellio@xx
250	Daniela	Butano	daniela.butano@eng.it
254	Andrea	Ferrari	andrea.ferrari@xx

Portlet development

Flexible Component model



Spago goal and history



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- **Multichannel/device services:** available channels includes HTTP, WAP, SOAP, JMS, Portlet and EJB
- **Modules dispatching:** more flexibility, high code reuse potential
- **Publishing modes:** different publishing modes according to the channel
- **Distributing business logic:** the services can be performed by Web container or by EJB container
- **Integration towards CMS JSR 170 compliant and external workflow engines**
- **Navigation:** it simplifies the handling of the user navigation
- **Pagination:** simple mechanism to produce list and details pages
- **Validation:** includes a server side validation system
- **Performance monitoring:** integration with a performance monitoring system



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Spago roadmap



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- ➔ **JBI integration (V2.1.0 just released on ObjectWeb forge)**
 - Development of a JBI adapter
 - Services will be available also as JBI components
 - No needs for the developers to implement the JBI interfaces: Spago does it
 - Easy Integration of services in a JBI container/infrastructure
- ➔ **JSF integration (V2.2 first 2006 half-year)**
 - It will allow to use all JSF visual components
 - Extends the JSF behavior adding some Spago's features
 - All JSF services will be available
 - Possibility to use any JSF enabled IDE
- ➔ **AJAX integration (V2.3 first 2006 half-year)**
 - Spago internal format is XML, it's model is already suitable for AJAX



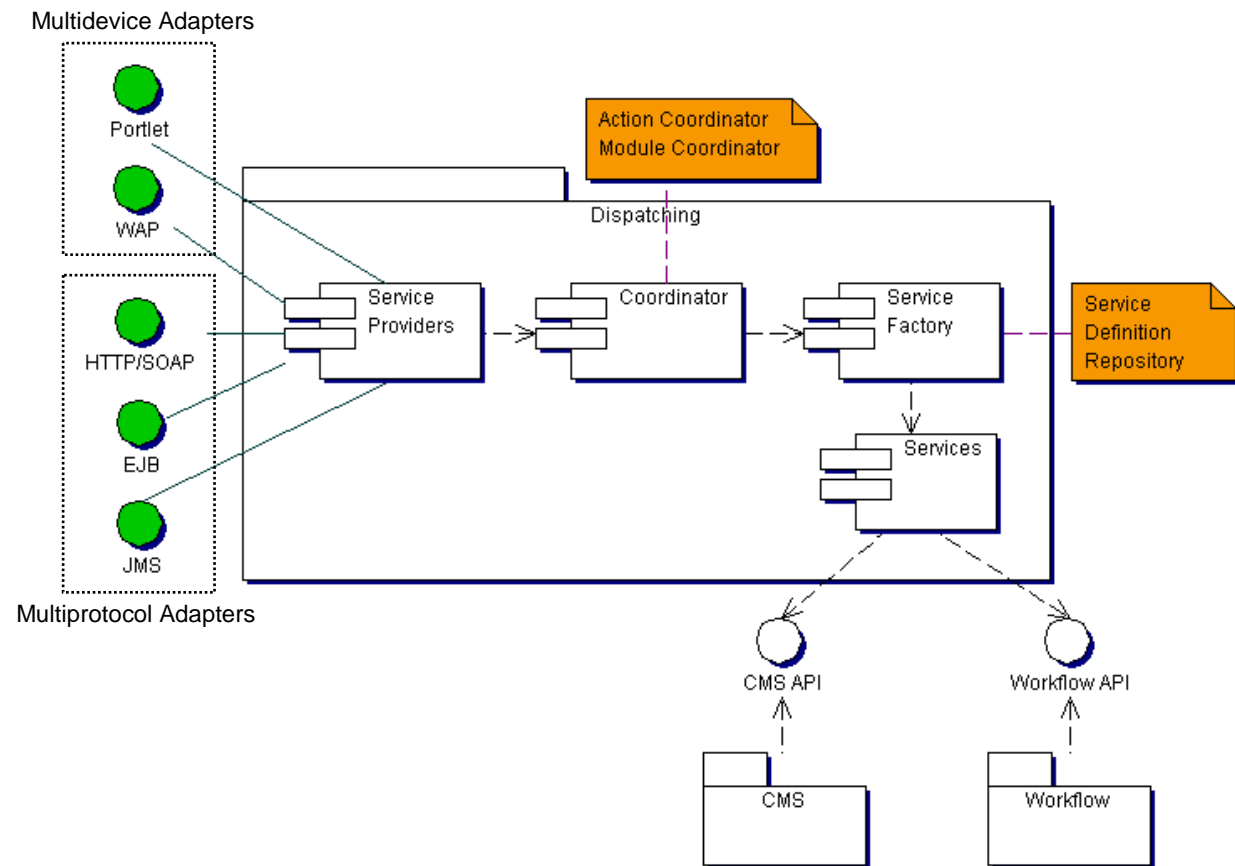
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Spago current state

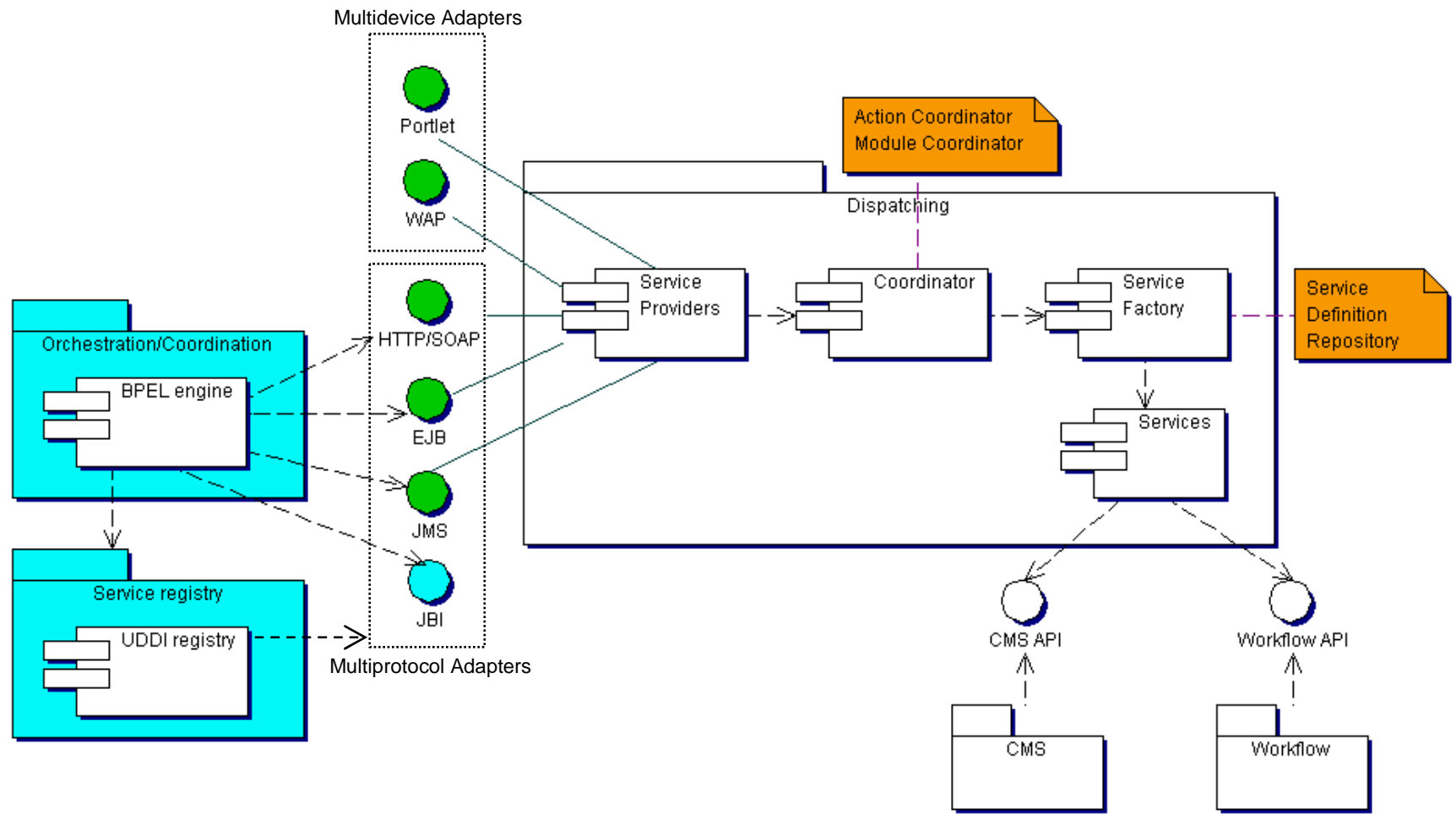
➔ Ability to call services through multiple protocols

- HTTP (Web & SOAP)
- EJB (IIOP)
- JMS



Spago SOA evolution

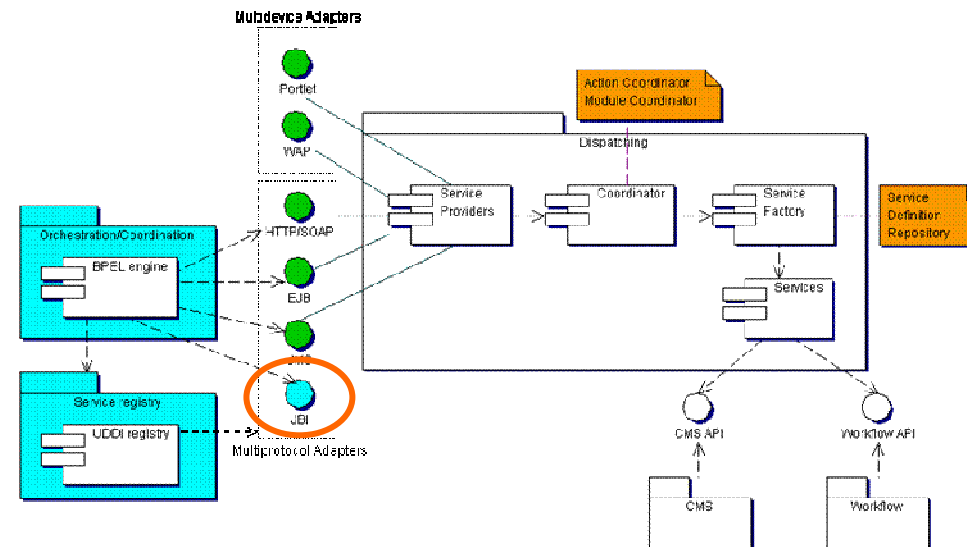
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Spago SOA evolution

➔ JBI integration

- It's a piece, not the key, of the Spago SOA evolution
- Development of a JBI adapter
- Services will be available also as JBI components
- No needs for the developers to implements the JBI interfaces: Spago will do it
- Easy Integration of services in a JBI container/infrastructure



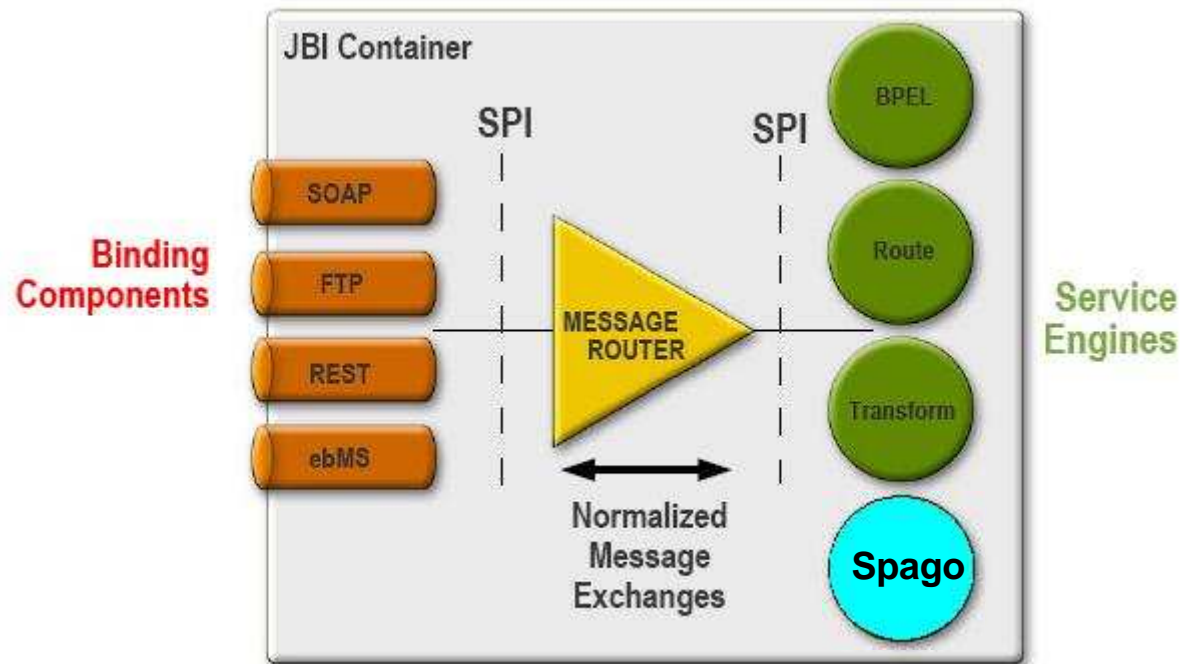
Spago SOA evolution



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→ JBI integration

- Tested with Sun Reference Implementation and ServiceMix (Petals in testing phase)
- Implemented as JBI service engine



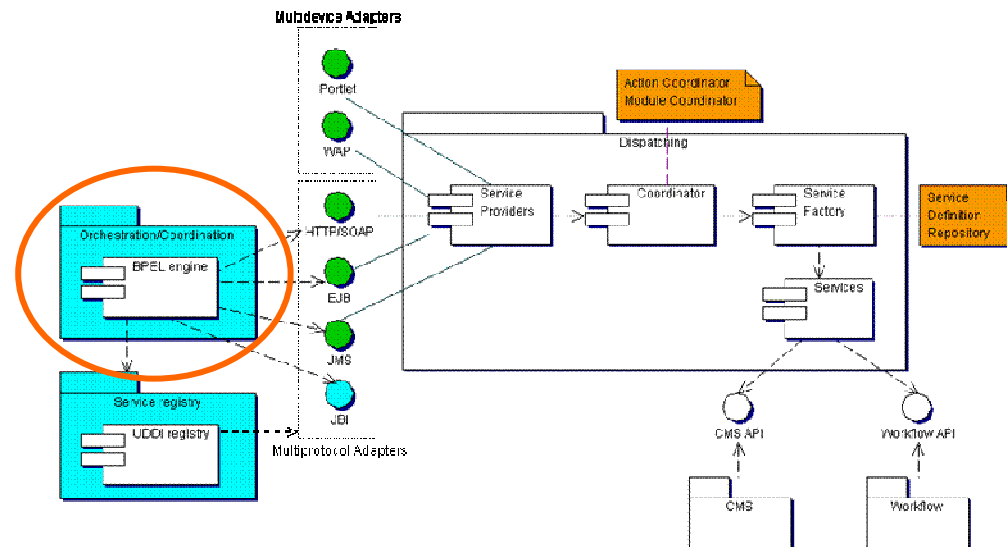
Spago SOA evolution



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➔ BPEL Engine Extension

- In a complex system all these services need orchestration
- Not all services may be exposed as Web Services
- Standard BPEL is not enough
- Our intention is to extend an Open Source BPEL engine (e.g. Active BPEL, Intalio PXE) to support multiprotocol calls



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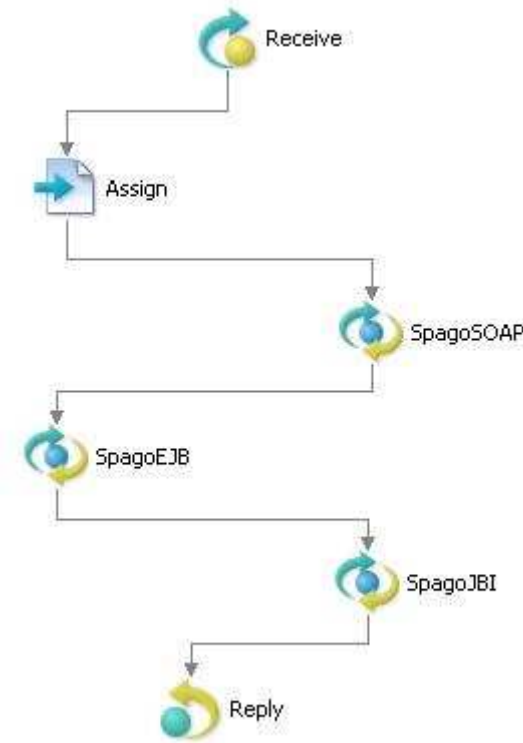
Spago SOA evolution



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➔ BPEL Engine Extension

- The WSDL plays a central role in this architecture
- The ability to support multiple protocols has to be added
- Spago's WSDL has to be extended for multiprocol support



Spago SOA evolution



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→ WSDL centric approach

- WSDL was defined for Web Services technologies
- It's spreading also for defining the interfaces of the systems in a Service Oriented Architecture
- Web services can be used for SOA, but SOA is a wider world

→ Spago WSDL planned tools

- WSDL2Java: possibility to expose services by Spago adapters without the necessity to write a "native" Spago service (generation of code and configuration files)
- Client libraries: starting from WSDL allow to call Spago services in a protocol independent way



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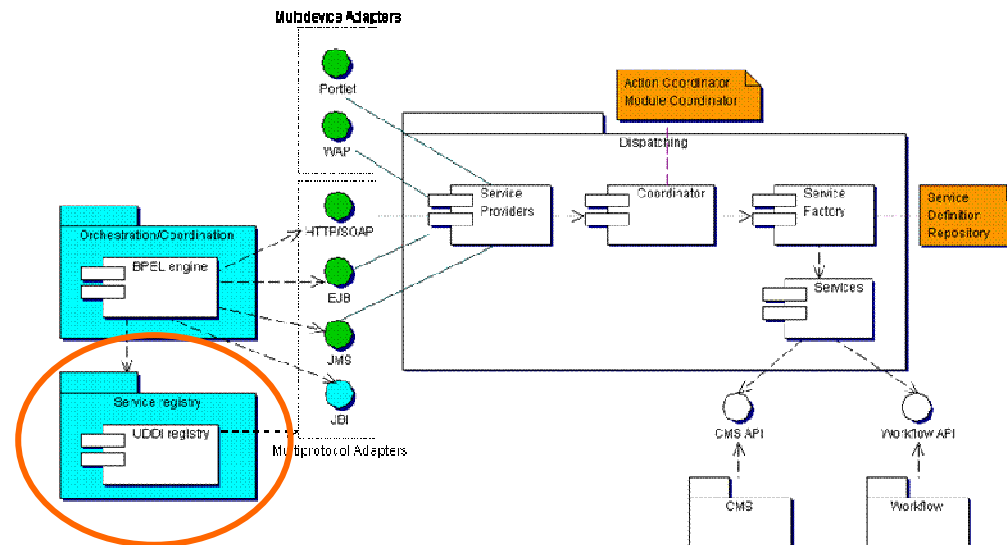
Spago SOA evolution



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→ UDDI Service registries

- The loose coupling of services is achieved through usage of service registries
- UDDI registries are not limited to Web Services
- Need for federated service registries
- The complexity of composing services in such a complex system should be partially hidden by some Spago client library



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Spago SOA evolution



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→ Key points

- WSDL centric approach
- JBI integration
- BPEL Engine extension
- UDDI client library
- Use all this stuff only if necessary: In-process calls if different services on the same Virtual machine have to communicate
- Both SOA styles are supported: SOA fabric and ESB



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Spago evolution



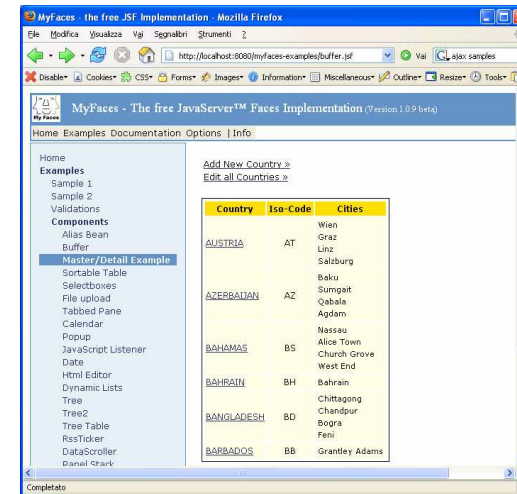
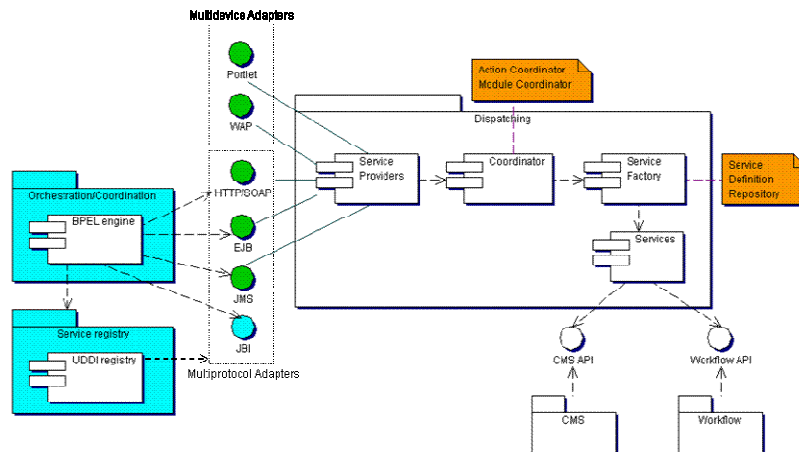
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➔ Back End

- JBI integration
- Extension of BPEL engine
- UDDI client libraries for Spago services

➔ Front End

- AJAX integration
- JSF integration



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<http://java.sun.com/integration>

Java Business Integration (JSR 208) Specification

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Implementing SOA with JBI (Sun)

<http://sun.hongkongmarket.net/javachina/download/PaulCheung-JBI-SOA-03.pdf>



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<http://spago.eng.it>

ObjectWeb Home

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