



La S O A Open S ource
avec



Démos / Outils PEtALS

Sept. 2007



La route vers la SOA...



Un **ESB** (Enterprise Service Bus) basé sur les standards
Java, JBI et **Web Services**
est une bonne technologie pour instancier une SOA.

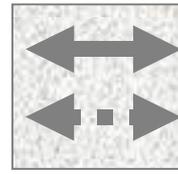




L'ESB traite tous les aspects **non fonctionnels**, relatifs à **l'exposition de services**, en dehors du périmètre applicatif.



Service Level Agreement



Communications A & Synchrones



Sécurité



Robustesse Scalabilité



Couplage faible



Supervision





De plus....

- Un ESB doit permettre **l'exposition de services patrimoniaux** (« legacy ») via un middleware standard

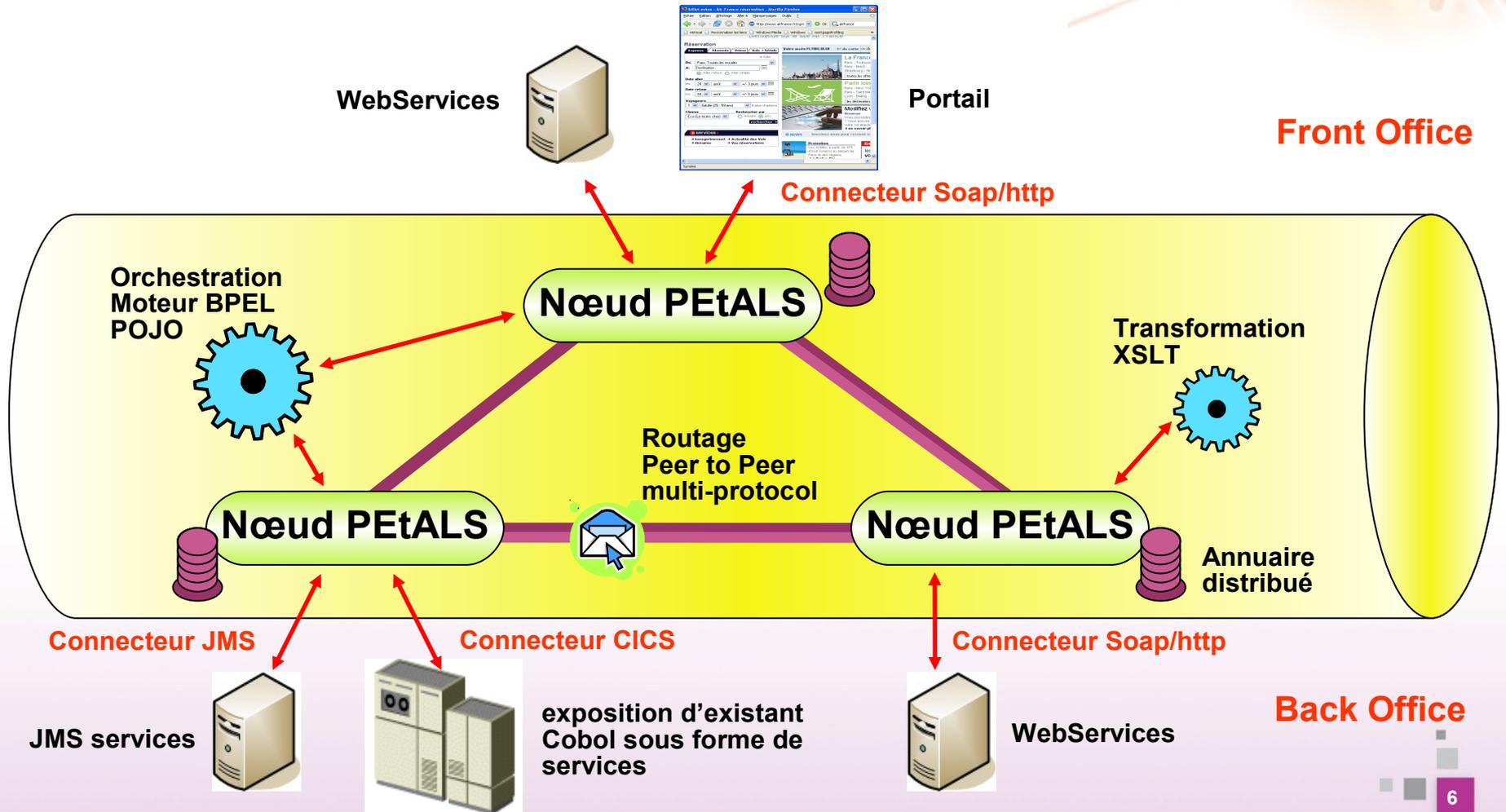
Enfin...

- Un ESB,
 - Propose un **annuaire des services** ou « registry » (UDDI or ebXML) ou doit pouvoir s'intégrer à un annuaire d'entreprise
 - Intègre un **moteur d'orchestration** (BPEL) pour créer des services composites

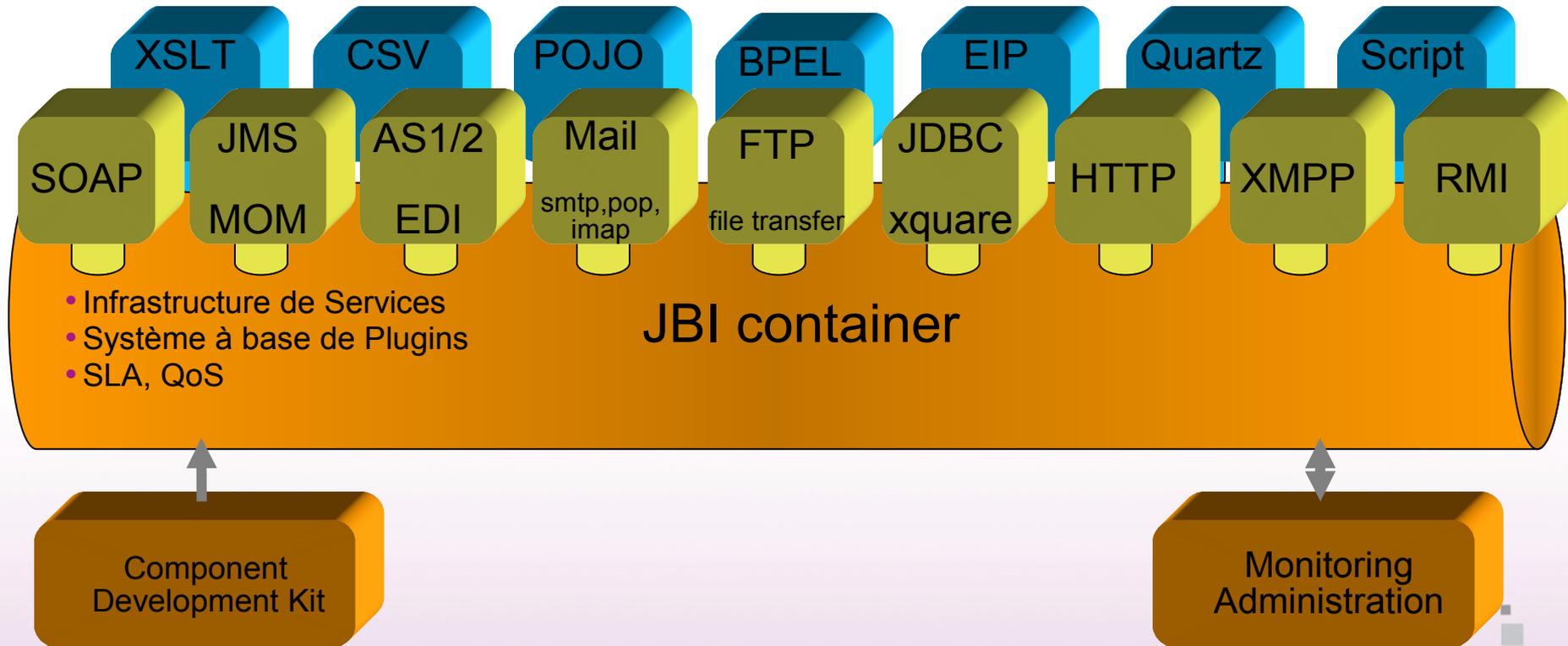


- **Interface**
 - Exposition et appel des services (ESB agit souvent en tant que proxy)
 - Connecteurs
- **Distribution & Routage**
 - Service de routage A2A
 - Routage basé sur le contenu
- **Transformation**
 - Transformation de formats de données
 - Exemple : XSLT
- **Orchestration**
 - Assemblage de services pour créer un service composite
- **Administration**
 - Qualité de service
 - Gestion du cycle de vie des services
 - Monitoring de l'infrastructure

PEtALS : l'ESB JBI distribué



Composants



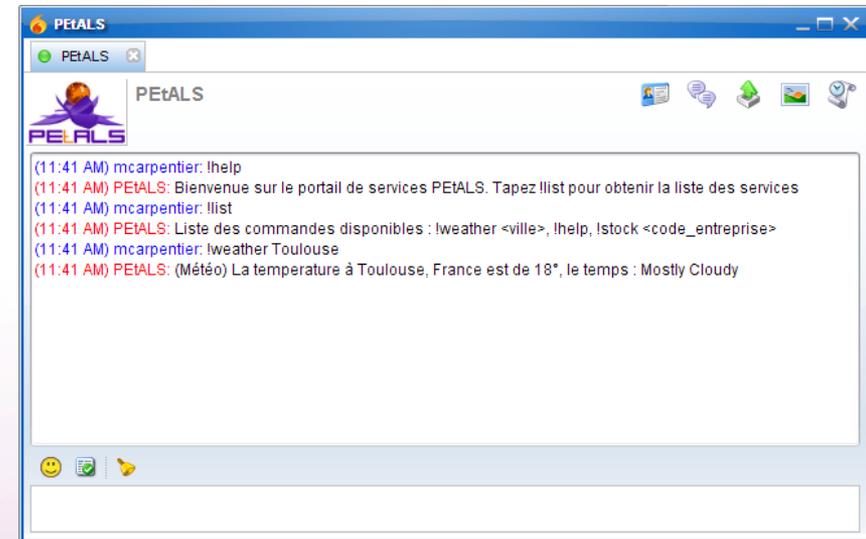


- **Portail « SOA »** 
 - Exposition / Enchaînement de service selon le cas d'usage « Portail de services »
- **Plug-ins de développement**
 - Administration / Configuration & déploiement des composants
 - Interface de configuration graphique
- **Monitorat / Administration**
 - Console Web PEtALS



Acteurs

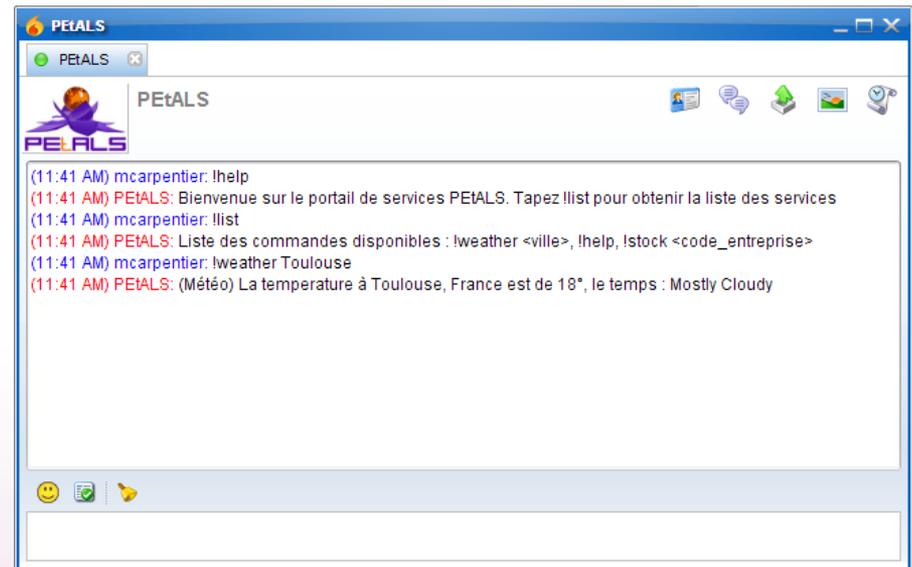
- Enterprise Service Bus **PEtALS**
- Serveur Jabber (jabber.objectweb.org)
- Client Jabber (Spark)
- Services externes (météo, bourse,...)





Objectifs

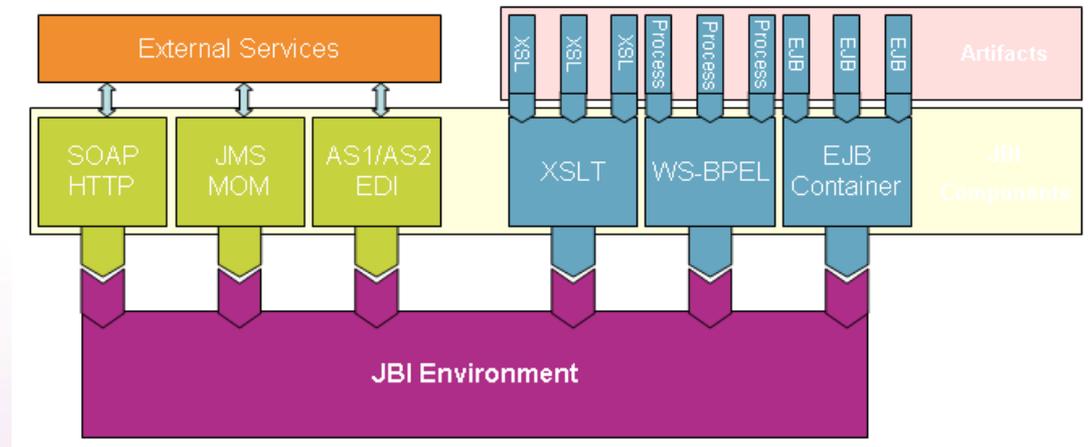
- Transformation de protocoles
- Transformation de données
- Orchestration





Transformation de protocoles

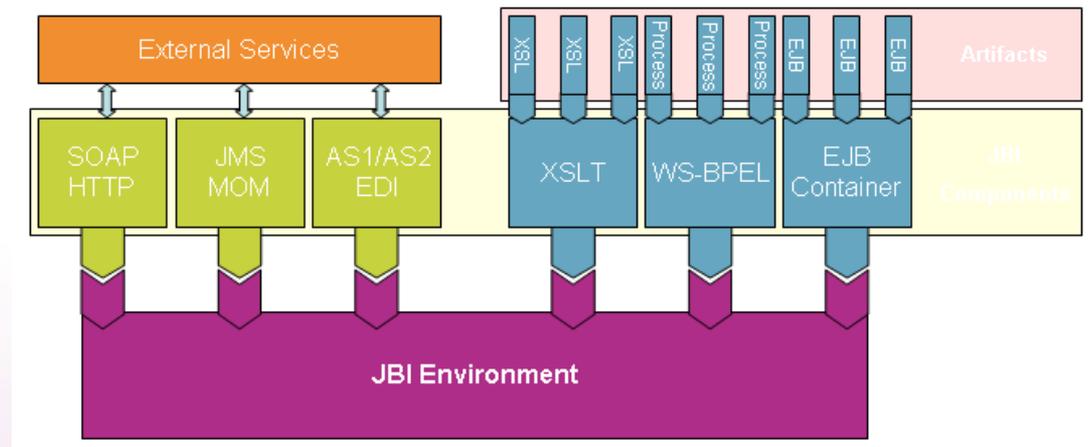
- Binding Composant XMPP
- Binding Composant HTTP





Transformation de données

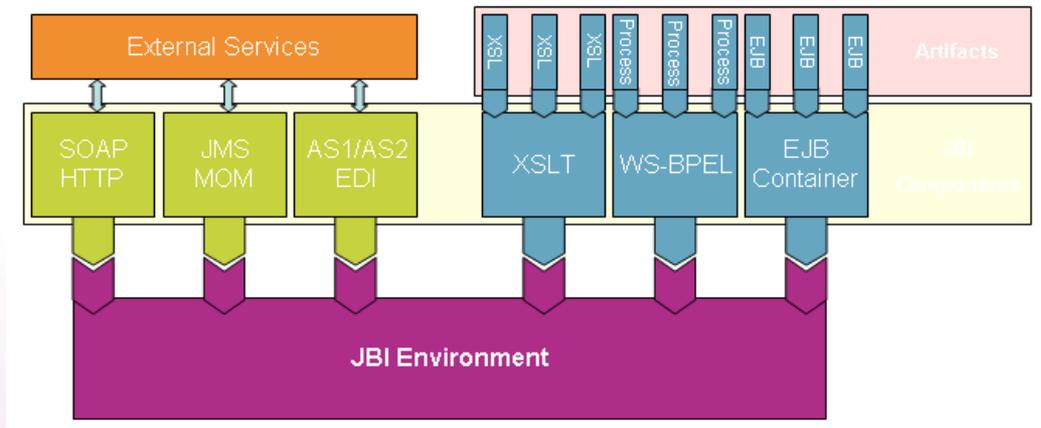
- Conversation XMPP
- Requêtes HTTP : météo, bourse
- Message Exchanges JBI

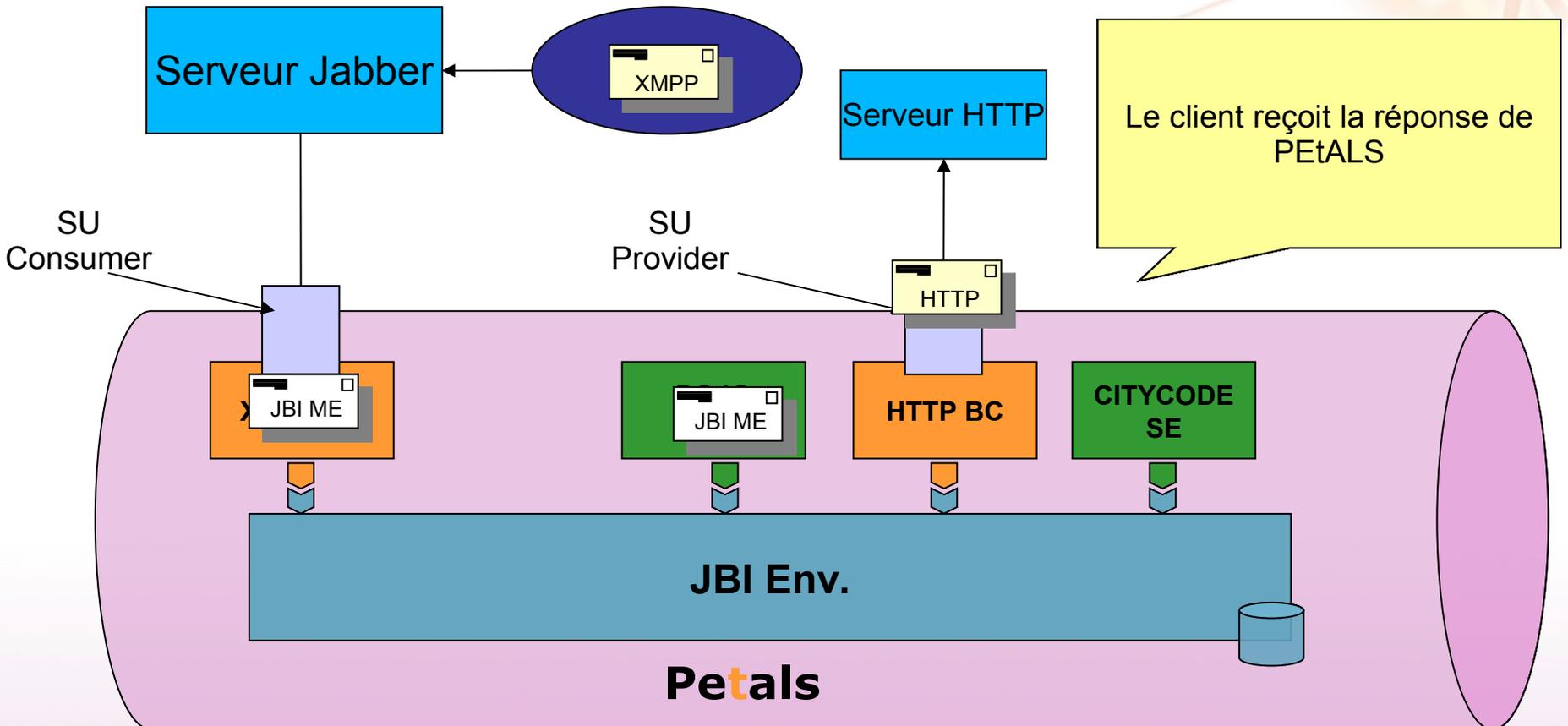




Orchestration

- Service Engine Portal
- Appel de multiples services
- Construction du Message Exchange à partir des différentes réponses



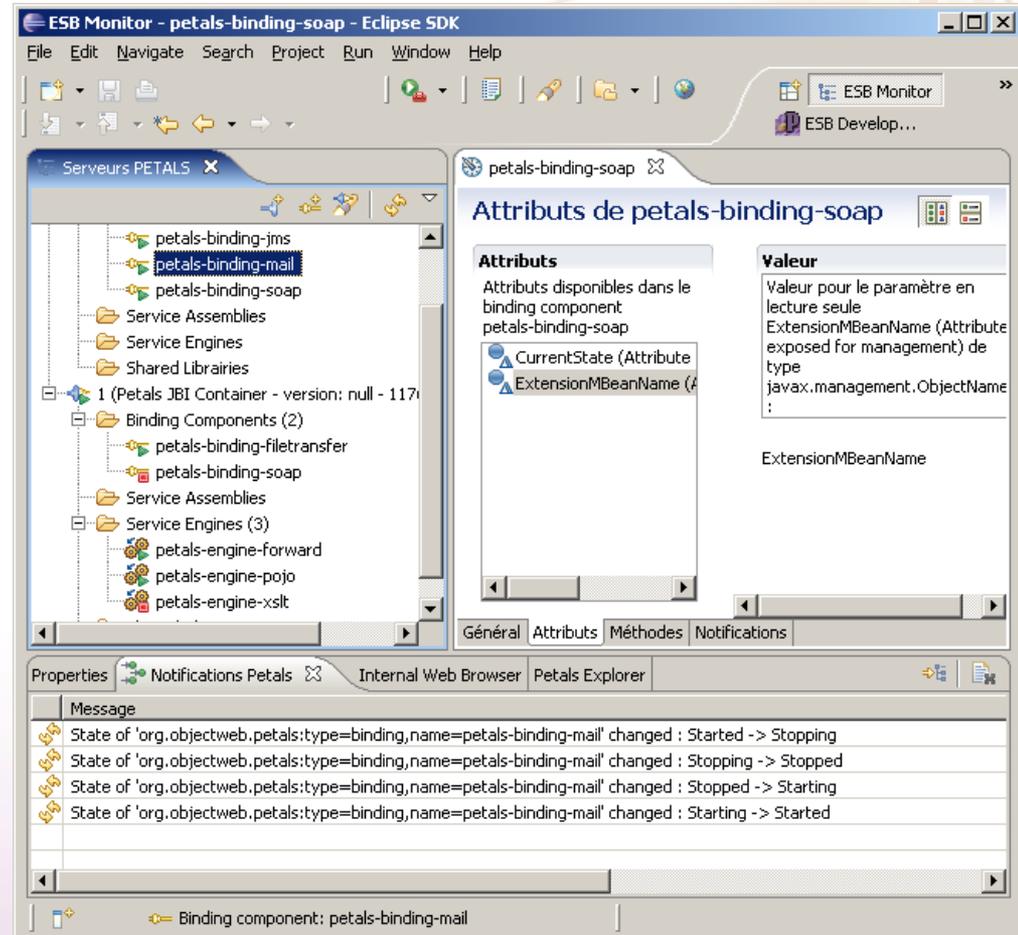




- **Portail « SOA »**
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Eclipse plug-in to monitor JBI containers

- The plug-in allows to monitor several JBI containers and manage them
- Based on the JMX MBeans define by the JBI specification
- The plug-in is JBI compliant, as it only use the MBeans defined by JBI specification



The screenshot displays the ESB Monitor Eclipse plug-in interface. The main window is titled "ESB Monitor - petals-binding-soap - Eclipse SDK". The interface is divided into several panes:

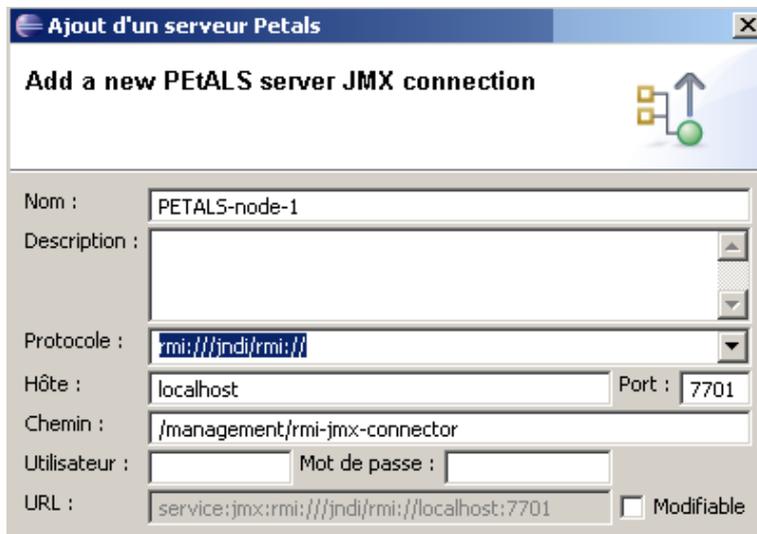
- Left Pane (Servers PETALS):** A tree view showing the hierarchy of JBI components. The selected component is "petals-binding-mail" under "petals-binding-soap".
- Right Pane (Attributs de petals-binding-soap):** A detailed view of the selected component's attributes. It shows a table of attributes and their values.
- Bottom Pane (Message):** A log of state changes for the selected component.

Attributs	Valeur
Attributs disponibles dans le binding component petals-binding-soap	
CurrentState (Attribute)	Valeur pour le paramètre en lecture seule
ExtensionMBeanName (Attribute)	ExtensionMBeanName (Attribute exposed for management) de type javax.management.ObjectName :
	ExtensionMBeanName

Message log:

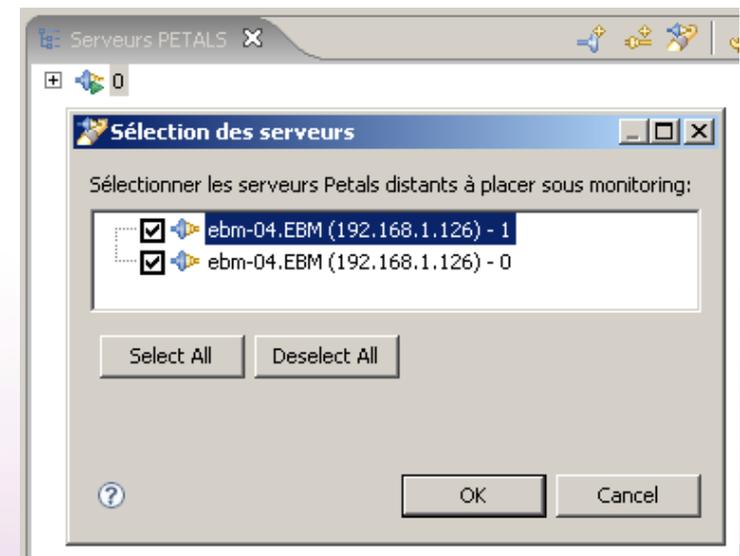
- State of 'org.objectweb.petals:type=binding,name=petsals-binding-mail' changed : Started -> Stopping
- State of 'org.objectweb.petals:type=binding,name=petsals-binding-mail' changed : Stopping -> Stopped
- State of 'org.objectweb.petals:type=binding,name=petsals-binding-mail' changed : Stopped -> Starting
- State of 'org.objectweb.petals:type=binding,name=petsals-binding-mail' changed : Starting -> Started

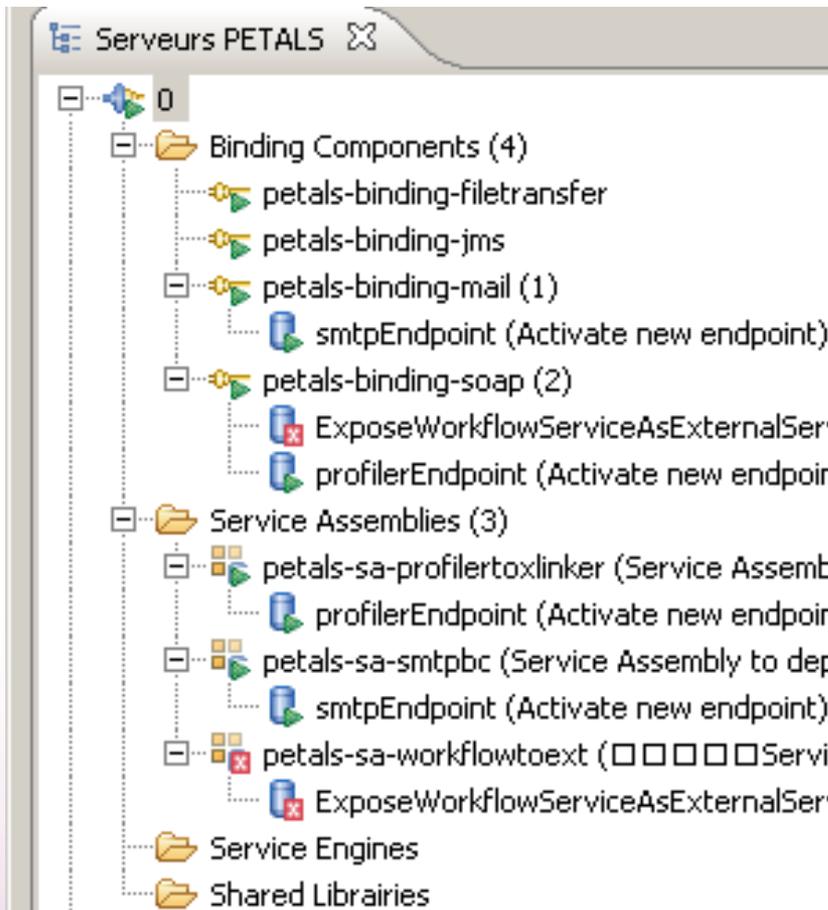
- Connect via JMX to a JBI container



A screenshot of a software dialog box titled "Ajout d'un serveur Petals" (Add a new PETALS server JMX connection). The dialog contains several input fields: "Nom" (Name) with the value "PETALS-node-1", "Description" (empty), "Protocole" (Protocol) with a dropdown menu showing "rmi://jndi/rmi://", "Hôte" (Host) with "localhost" and "Port" (Port) with "7701", "Chemin" (Path) with "/management/rmi-jmx-connector", "Utilisateur" (User) and "Mot de passe" (Password) fields (both empty), and "URL" with the value "service:jmx:rmi:///jndi/rmi://localhost:7701". There is a "Modifiable" checkbox which is unchecked.

- Can retrieve the JBI containers running in the same domain (PETALS specific functionality)





■ The JBI Container explorer

- Binding Components
 - Service units deployed
- Service Engines
 - Service Units deployed
- Service Assemblies
 - Services units
- Shared Libraries



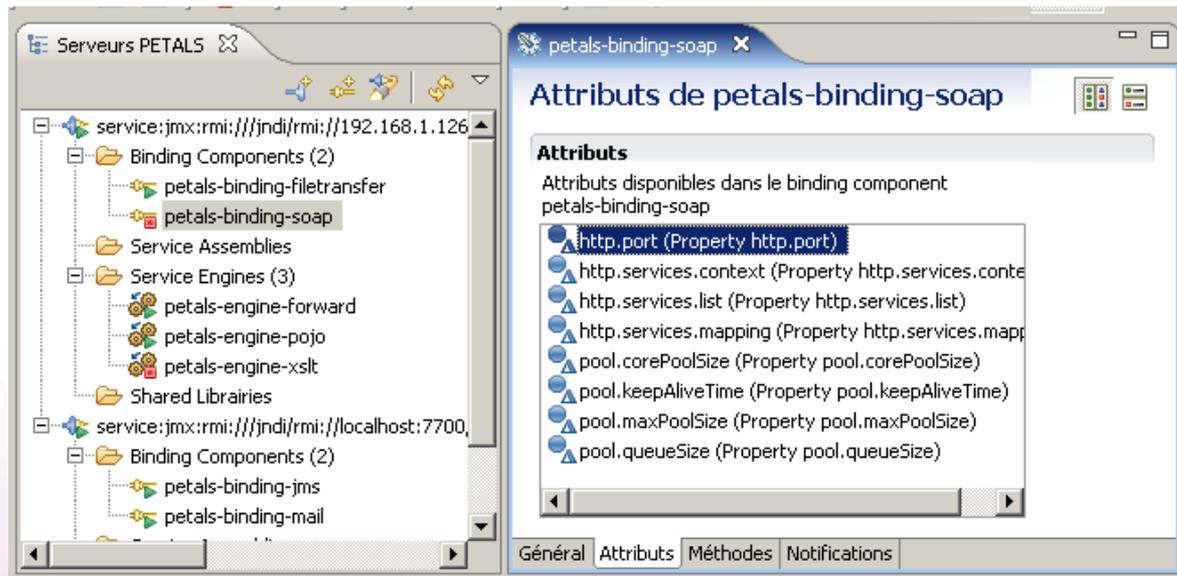
JBI-Component installation

- Install Components, Service Assemblies or Shared Libraries on a container

- Drag and Drop facilities

The screenshot displays the Eclipse IDE interface for JBI component installation. On the left, the 'Ajout d'un nouveau composant' (Add new component) wizard is open, showing the URL 'file:/C:/PETALS/petals2/samples/petals-se-helloworld-1.2.zip' and the component type 'Service Engine'. The main workspace shows the 'Serveurs PETALS' project tree with folders for 'Binding Components', 'Service Assemblies', 'Service Engines', and 'Shared Libraries'. A yellow arrow points from a folder icon in the 'components' view on the right to the 'Binding Components' folder in the project tree. The 'components' view shows a list of folders: 'petals-bc-axis2-1.2', 'petals-bc-filetransfer-1.2', and 'petals-bc-jms-1.2'.

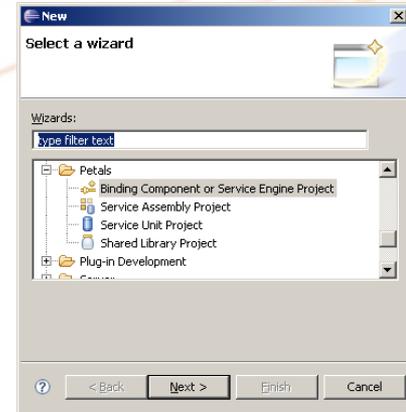
- During the installation phase of a JBI Component, the JMX attributes and methods of the component's Configuration-Mbean are dynamically exposed and can be set



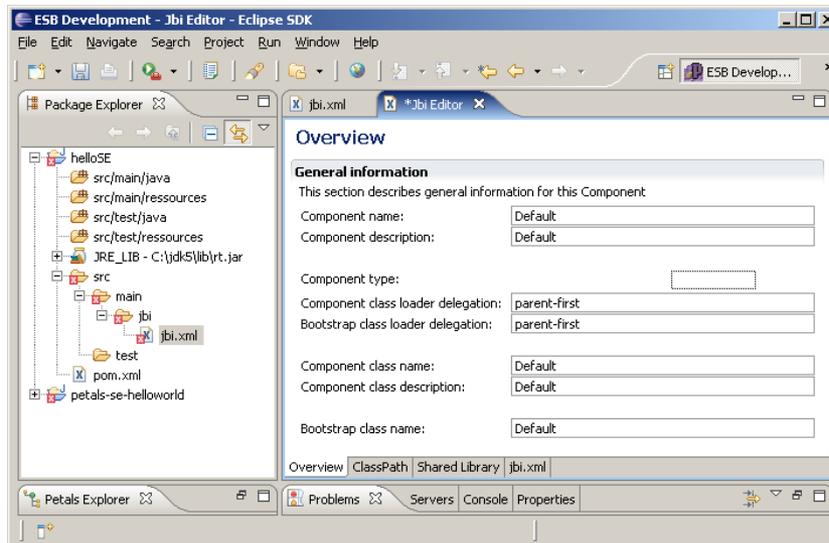
Eclipse plug-in for development



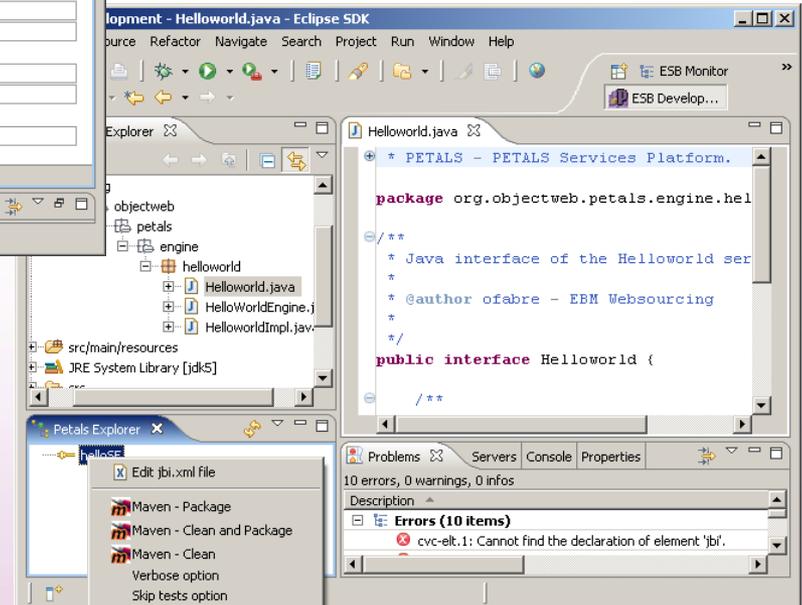
- Wizard to create components, service units, service assemblies and shared libraries artefacts



- JBI.XML editor



- Packaging of the artefact (with Maven2)



Interface de configuration graphique



Java - PetalsCimero/petals.cimero2_diagram - Eclipse SDK

File Edit Diagram Navigate Search Project Run Window Help

Tahoma

Package Explor Hierarchy

petals.cimero2_diagram

petals.cimero2

petalsCimero

- petals
 - build
 - petals_eip3.zip
 - petals_mail4.zip
 - petals_xmpp0.zip
 - petals_xsquare7.zip
 - petals_xst5.zip
 - petals.zip
 - SA
 - META-INF
 - jbi.xml
 - SUs
 - eip3
 - jbi.xml
 - mail4
 - jbi.xml
 - xmpp0
 - jbi.xml
 - xsquare7
 - jbi.xml
 - xst5
 - jbi.xml
 - build.xml
 - petals.cimero2
 - petals.cimero2_diagram

Diagram showing components and connections:

- Person icon (User) connected to EIP
- XQuare connected to EIP
- Mail icon connected to Mail component (with a red X)

Palette

- Select
- Connection
- citycode
- clock
- csv
- EIP
- forward
- helloworld
- pojo
- soapportal
- xst
- filetransfer
- FTP
- ftp
- http
- jms
- mail
- Http
- soap
- xmpp
- xquare

Task List

Find: All

Uncategorized

Outline

Problems @ Javadoc Declaration Properties

Component Instance mail4

Property	Value
Component	
Appearance	
01- name	mail4
02- Exclusive properties	
01- consumes	
01- endpoint-name	EIP mail4
02- mep	++
03- operation	FA
04- timeout	FA
05- org.objectweb.petals.routing.strategy	FA
06- org.objectweb.petals.transport.compress	FA
07- org.objectweb.petals.messaging.noack	FA
08- org.objectweb.petals.transport.qos	FA
09- interface-name	
10- service-name	
11- su-interceptors	
12- params	

démarrer

Courrier ent... Download C... Parce qu'on ... Spark Jabbe... Ajouter ou s... 9 PowerSh... Java - Instal... Spark - nsal... <oxgen/> ... eclipse

Java - Petal... FR 15:40

Interface de configuration graphique



The screenshot displays the Eclipse IDE interface for configuring a graphical diagram. The main workspace shows a diagram with three elements: a person icon, an 'EIP' box, and a crossed-out box. Arrows indicate connections from the person icon to the 'EIP' box, and from the 'XQare' box to the crossed-out box. A context menu is open over the diagram, listing various actions such as 'File', 'Edit', 'Select', 'Arrange All', 'Filters', 'View', 'Zoom', 'Manage namespace', 'Validate diagram', 'Generate Ant Task and JBI descriptors', 'Generate JBI package', 'Mark as Landmark', 'Remove from Context', 'Checkstyle', and 'Show Properties View'. The left sidebar shows a package explorer with a tree view of the project structure, including folders like 'petals', 'build', 'SA', 'SUs', 'eip3', 'mail4', 'xmpp0', 'xquare7', 'xslt5', and 'build.xml'. The bottom status bar shows the system tray with various icons and the time 15:41.



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- **Monitorat / Administration** 
 - Console Web PEtALS



The screenshot shows the PEtALS Monitoring console in a Mozilla Firefox browser window. The browser title is "Monitoring - Network - Mozilla Firefox" and the address bar shows "http://localhost:8080/petals-webconsole/showNetwork.do". The page content includes the PEtALS logo, the tagline "The open source ESB solution for Services Oriented Architectures", and navigation tabs for "PEtALS Admin", "JUDDI Admin", and "Monitoring".

Network

- Server 0
 - Binding components
 - petals-binding-xmpp
 - Service engines
 - petals-se-soaportal
 - petals-sample-client
 - petals-se-citycode
 - Messages Exchanges
 - Endpoints

Network

Started Servers :

- Start monitoring all servers with messages content
- Start monitoring all servers without messages content
- Stop monitoring all servers

Server 0

Components :

- petals-se-soaportal (Stopped)
- petals-binding-xmpp (Started)
- petals-sample-client (Started)
- petals-se-citycode (Shutdown)

Monitor the Server :

- Monitoring status : started - Message content shown : true
- Start monitoring Server 0 with messages content
- Start monitoring Server 0 without messages content
- Stop monitoring Server 0

Server Informations :

- IP : 192.168.1.139
- jmxPort : 7700

Stopped Servers :

no stopped server known

Terminé





Administration - Mozilla Firefox

Echier Edition Affichage Historique Marque-pages Outils 2

http://localhost:8080/petals-webconsole/showAdminSA.do?server=0

Google

The open source ESB solution for Services Oriented Architectures

PETALS

PETALS Admin JUDDI Admin Monitoring

Network

- Server 0
 - Admin Components
 - Admin Service Assemblies

Service Assembly Administration For Server 0

sa-xmpp-provide (Started)

Upload & install a new service assembly :

Terminé

Hors ligne

Console de supervision PEtALS



The screenshot shows the PEtALS Monitoring console in a Mozilla Firefox browser window. The browser title is "Monitoring - Server - Mozilla Firefox" and the address bar shows the URL: `http://localhost:8080/petals-webconsole/showComponent.do?server=0&component=petals-binding-xmpp`. The page content includes the PEtALS logo and the tagline "The open source ESB solution for Services Oriented Architectures". Below the logo, there are navigation tabs for "PETALS Admin", "JUDDI Admin", and "Monitoring". The main content area is divided into two sections: a left sidebar and a right main panel. The sidebar, titled "Network", shows a tree view with "Server 0" expanded, containing "Binding components", "Service engines", "Messages Exchanges", and "Endpoints". The "Binding components" section is selected, showing "petals-binding-xmpp". The right panel, titled "Binding Component details", displays the following information:

- **Name** : petals-binding-xmpp
- **Description** :
- **State** : Started
- **Type** : Binding component
- **ObjectName** : org.objectweb.petals.name=petals-binding-xmpp,type=binding
- **ServiceUnits** : none

The browser's status bar at the bottom shows the same URL and the system clock "Hors ligne".

Console de supervision PEtALS



Monitoring - Server - Mozilla Firefox

http://localhost:8080/petals-webconsole/showComponent.do?server=0&component=petals-sample-client

The open source ESB solution for Services Oriented Architectures

PEtALS

PEtALS Admin JUDDI Admin Monitoring

Network

- Server 0
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 - petals-sample-client**
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 - Endpoints

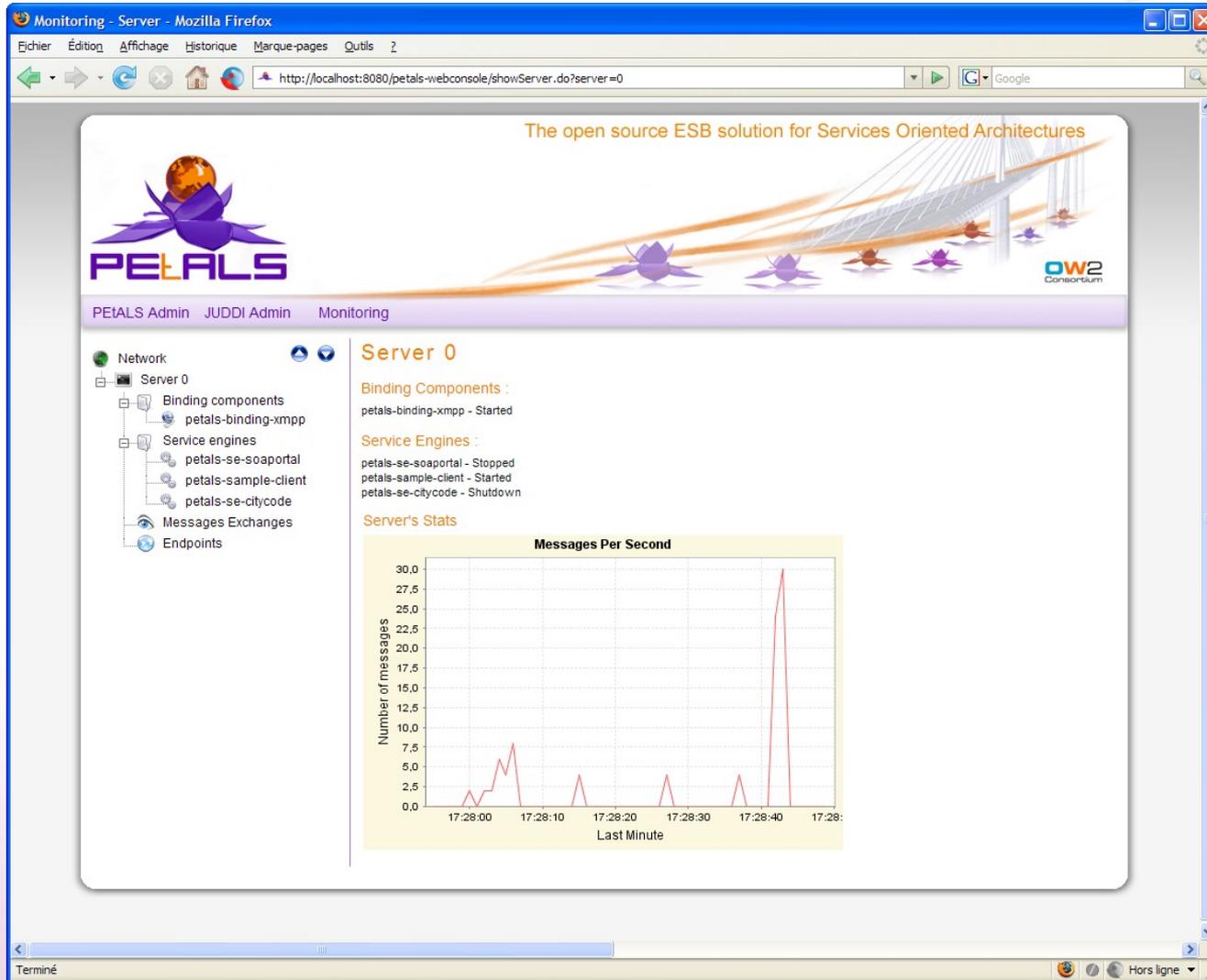
Service Engine details

- Name : petals-sample-client
- Description :
- State : Started
- Type : Service engine
- ObjectName : org.objectweb.petals.name=petals-sample-client,type=engine
- ServiceUnits : none

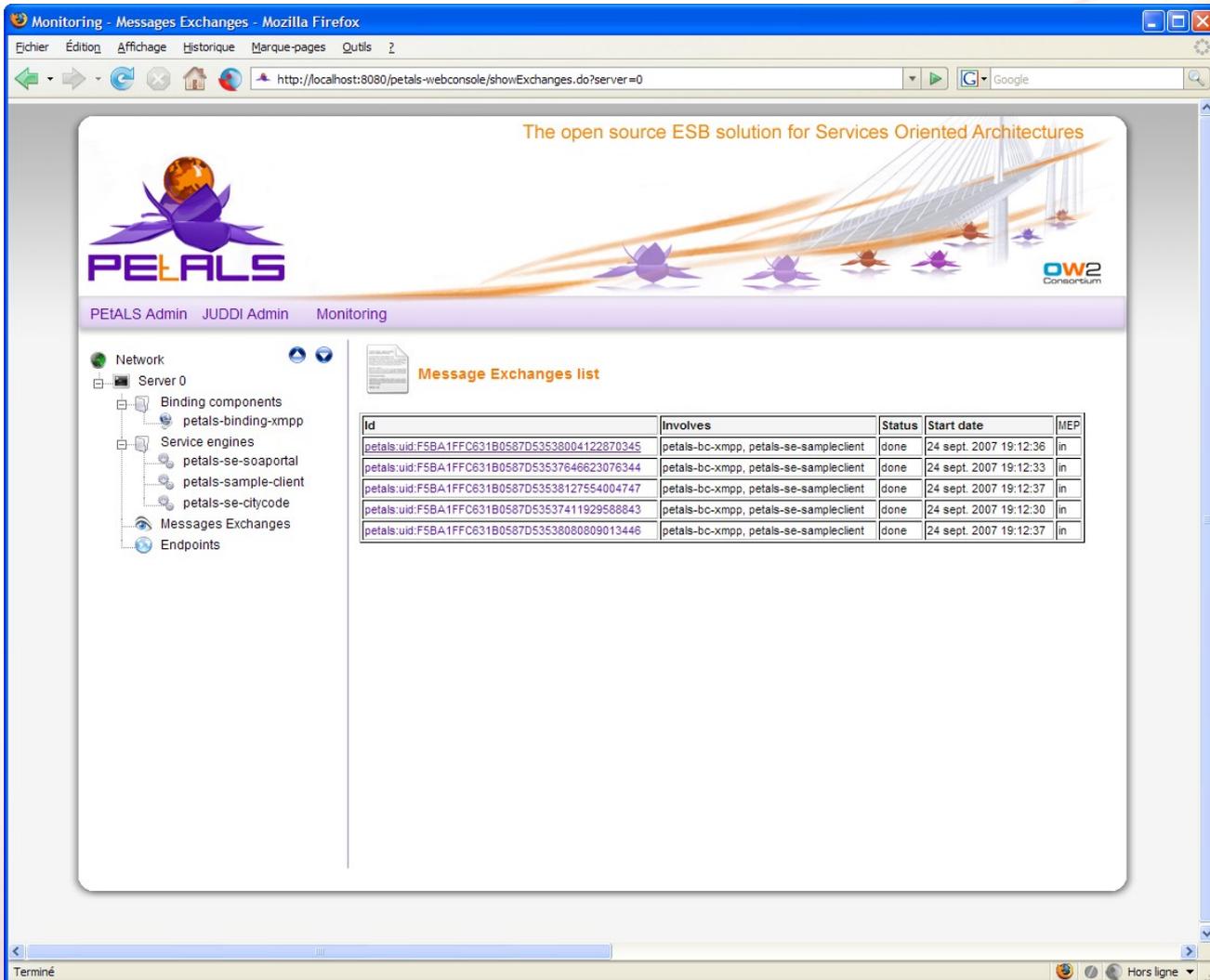
http://localhost:8080/petals-webconsole/showComponent.do?server=0&component=petals-sample-client

Hors ligne

Console de supervision PEtALS



Console de supervision PEtALS



Monitoring - Messages Exchanges - Mozilla Firefox

http://localhost:8080/petals-webconsole/showExchanges.do?server=0

The open source ESB solution for Services Oriented Architectures

PETALS Admin JUDDI Admin Monitoring

Network
Server 0

- Binding components
 - petals-binding-xmpp
- Service engines
 - petals-se-soaportal
 - petals-sample-client
 - petals-se-citycode
- Messages Exchanges
- Endpoints

Message Exchanges list

Id	Involves	Status	Start date	MEP
petals.uid:F5BA1FFC631B0587D53538004122870345	petals-bc-xmpp, petals-se-sampleclient	done	24 sept. 2007 19:12:36	in
petals.uid:F5BA1FFC631B0587D53537646623076344	petals-bc-xmpp, petals-se-sampleclient	done	24 sept. 2007 19:12:33	in
petals.uid:F5BA1FFC631B0587D53538127554004747	petals-bc-xmpp, petals-se-sampleclient	done	24 sept. 2007 19:12:37	in
petals.uid:F5BA1FFC631B0587D53537411929588843	petals-bc-xmpp, petals-se-sampleclient	done	24 sept. 2007 19:12:30	in
petals.uid:F5BA1FFC631B0587D53538080809013446	petals-bc-xmpp, petals-se-sampleclient	done	24 sept. 2007 19:12:37	in

Terminé



Monitoring - Message Exchange Details - Mozilla Firefox

http://localhost:8080/petals-webconsole/showExchangeDetails.do?server=0&exchangeId=petals:uid:F5BA1FFC631B0587D53537411929588843

The open source ESB solution for Services Oriented Architectures



OW2 Consortium

PEtALS Admin JUDDI Admin Monitoring

Network

- Server 0
 - Binding components
 - petals-binding-xmpp
 - Service engines
 - petals-se-soapportal
 - petals-sample-client
 - petals-se-citycode
 - Messages Exchanges
 - Endpoints

Message Exchange details

Id	Start time	End time	Status	Mep
petals:uid:F5BA1FFC631B0587D53537411929588843	24 sept. 2007 19:12:30	24 sept. 2007 19:12:32	done	in

0 1 2 3

Normalized Message #2

component	petals-binding-xmpp
content	This is a test message
status	done
time	24 sept. 2007 19:12:32
service	{http://petals.objectweb.org/extensions}xmppService
endpoint	xmppEndpoint

http://localhost:8080/petals-webconsole/showExchangeDetails.do?server=0&exchangeId=petals:uid:F5BA1FFC631B0587D53537411929588843&messageId=1190653952203

Hors ligne

Console de supervision métier : Spagic



Spagic Home - Mozilla Firefox

http://localhost:8080/consolidoSP/ViewServlet.do?TTPPAGE=LeanProcess&DW_SESSION=TRUE

Service Monitoring

Lean Process

Lista Processi

Nome	Inizio Validita	Fine validita	Instance
SimpleEnricher	23/03/07		0
Simple	09/03/07		12
FlgSenzalIncentivo	21/03/07		0
TestCDR11	31/01/07		0
TestCDR3	25/01/07		0
TestCDR1	25/01/07		0
IN-ICDP2	23/01/07		7
Groupy	01/01/06		2
Enricher	01/01/06		0
TestEnricher	01/01/06		0

Nome: TestCDR11 Descrizione: Dev di linea in Test CDR11

Inizio Validita: 30/01/07 15:45 Fine Validita:

Organizzazione: Engineering Nome UDC: cdt.LB11

Definizione Processi **Instanze Processi**

myWebServiceEnricher

myGenericEnricherEnricher

myGenericEnricherEnricherHttp

myScreenOutputEnricher