

Enterprise Java Beans

- Intergiciel pour les applications distribuée orientée objet
- Composant logiciel réutilisable

- Une spécification

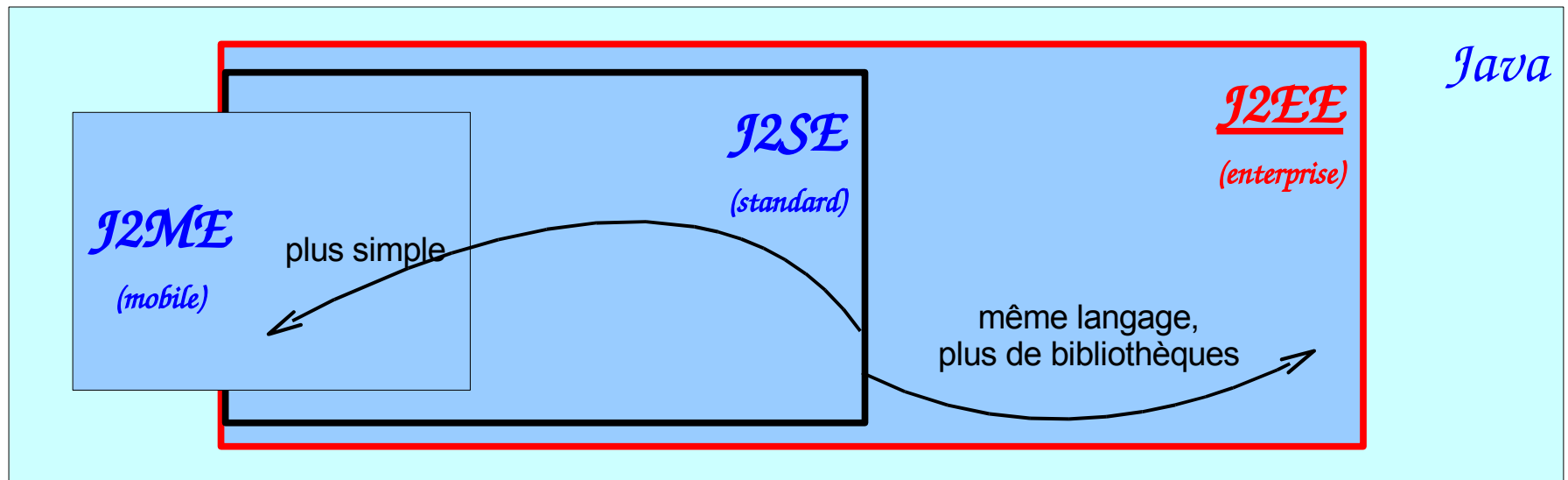
basé sur la formation CNRS

- Un ensemble d'interfaces

raccourci - 3x2 jours

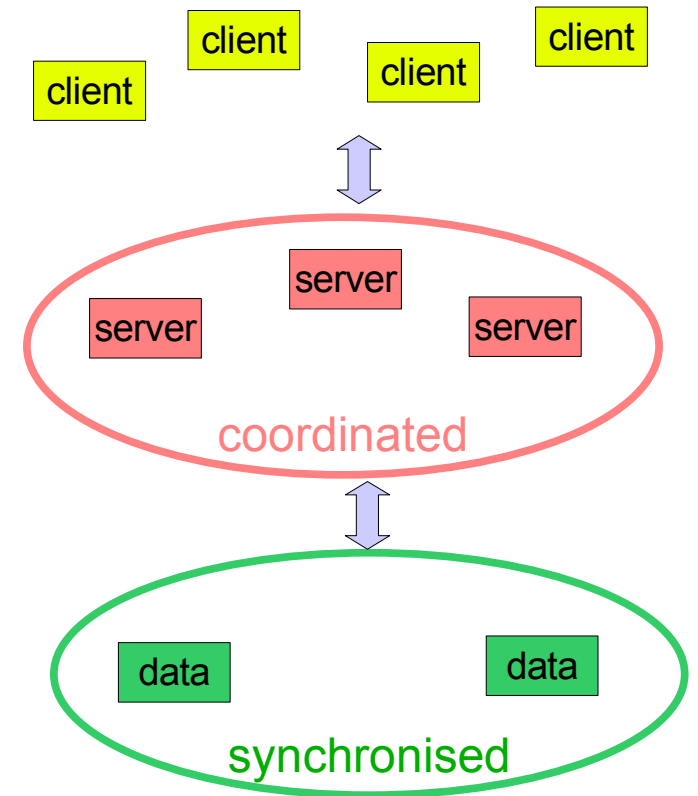
- Implémentations inter-opérable

(l'ensemble complet a 40 jours)



Fonctionnalité

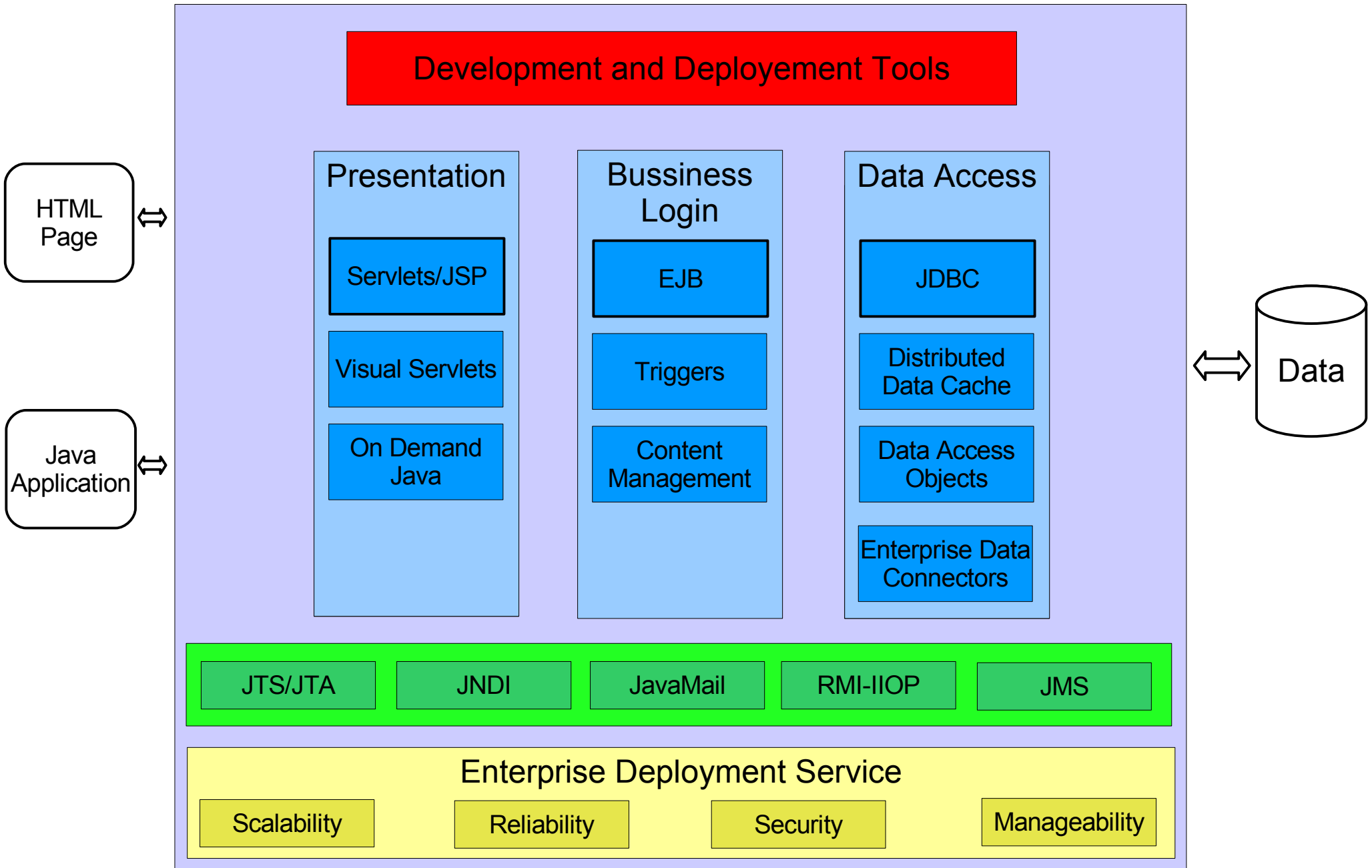
- Protocoles d'accès distants (Corba, RMI, IIOP,...)
- Gestion de la charge
- Gestion des pannes
- Persistance
- Transactions
- Clustering
- Redéploiement a chaud
- Arrêt de serveurs sans interrompre l'application
- Gestion des traces, réglages
- Multithread
- Nommage
- Sécurité
- Performance
- Gestion des états
- Cycle de vie des objets
- Gestion des ressources (pooling,...)



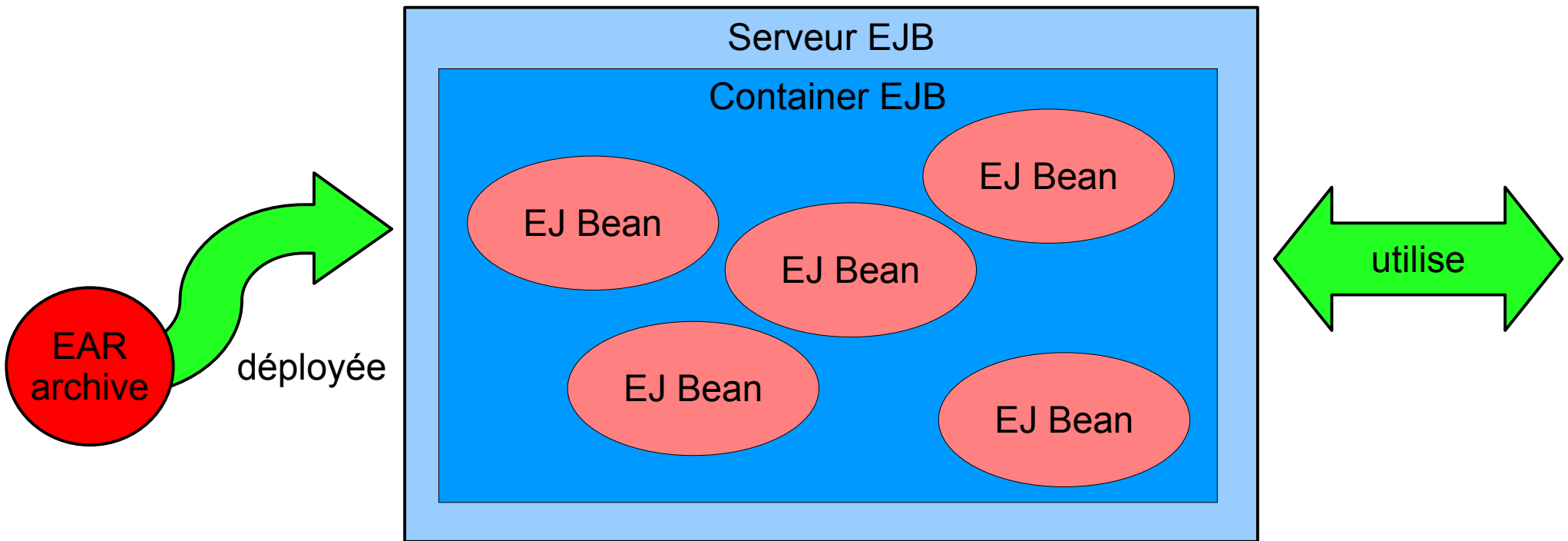
APIs

- EJB: standard
- RMI/RMI-IIOP: objets distribues
- JNDI: Java Naming and Directory Interface
- JDBC: Java Data Base Connectivity
- JTA: Java Transaction API
- JMS: Java Messaging Service
- JSP: Java Servlets and Java Pages
- Java IDL (Corba)
- JavaMail
- JCA: J2EE Connector Architecture
- JAXB: Java API for Xml Parsing
- JAAS: Java Authentication and Authorisation Service
- ...

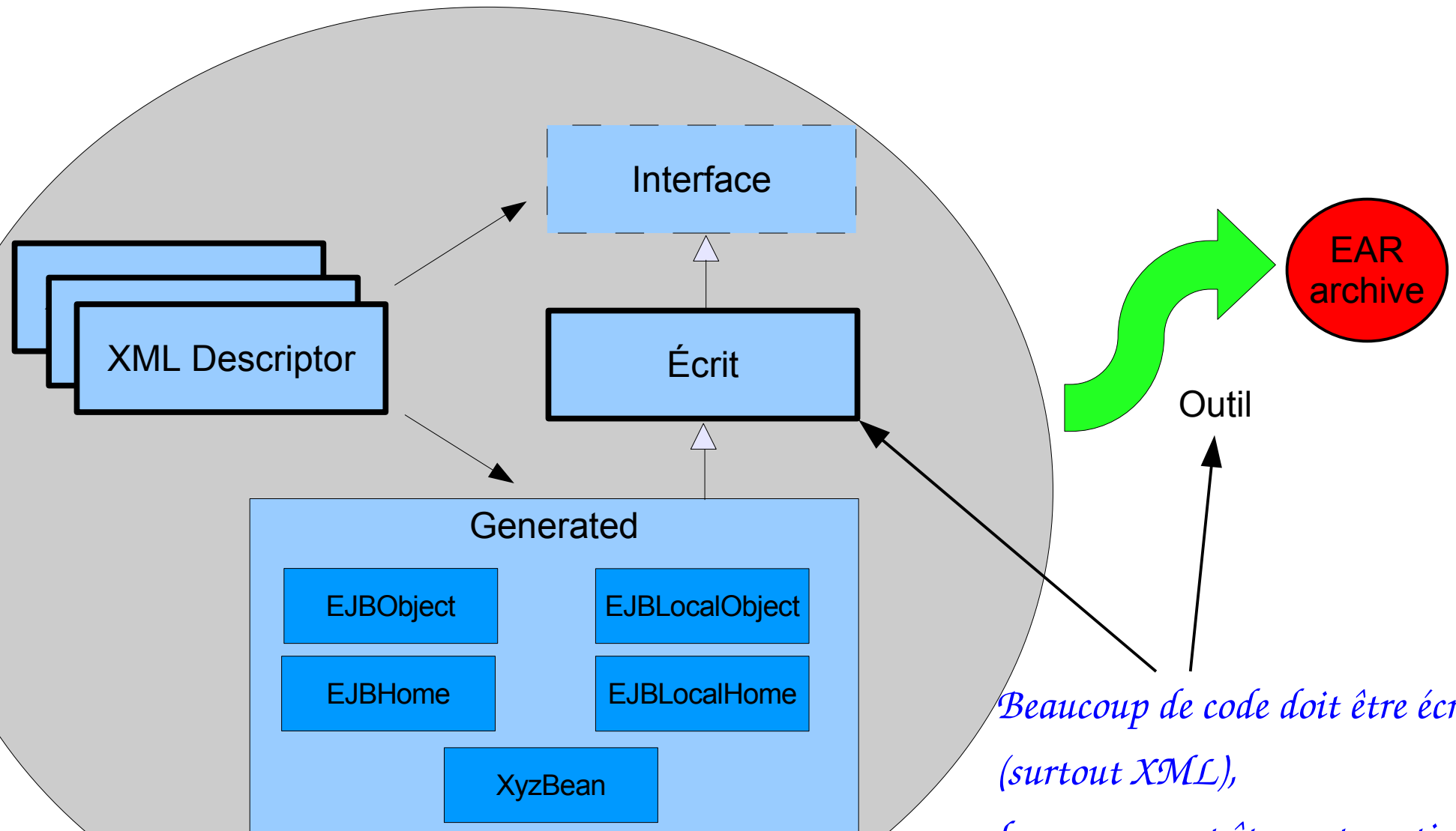
Architecture



Model



Codage



*Beaucoup de code doit être écrit
(surtout XML),
beaucoup peut être automatisé
(Eclipse, NetBeans,...).*

DevDur, J.Hrivnac, May'06

Beans

- Session Bean: logique métier, calculs,...
 - Stateless
 - Statefull
- Entity Bean: logique orientée donnée
 - BMP: Bean Managed Persistence
 - CMP: Container Managed Persistence
- Message-Driven Bean: logique oriente message, traitement après réception

Example

```
<ejb-jar>
  <enterprise-beans>
    <session>
      <ejb-name>Hello</ejb-name>
      <home>my.domain.HelloHome</home>
      <remote>my.domain.Hello</remote>
      <local-home>my.domain.HelloLocalHome</local-home>
      <local>my.domain.HelloLocal</local>
      <ejb-class>my.domain.HelloBean</ejb-class>
      <session-type>Stateless</session-type>
      <transaction-type>Container</transaction-type>
    </session>
  </enterprise-bean>
</ejb-jar>
```

descriptor

```
Properties properties = System.getProperties();
Context context = new InitialContext(properties);
Object object = context.lookup('HelloHome'); // Home = Factory
HelloHome home = (HelloHome)PortableRemoteObject.narrow(obj, HelloHome.class);
Hello hello = home.create();
```

client

Implémentations

- **Implémentation de référence**

- **Commercial:**

- SunONE
- IBM WebSphere
- Apple WebObjects
- BEA WebLogic
- Borland BES
- Oracle 9iAS

- **Gratuit:**

- **JBoss**
- **ObjectWeb JOnAS**
- **Apache Geronimo**

ObjectWeb JOnAS

JOnAS Administration

Reset Log Out

Domain (jonas) > Server JOnAS (jonas) > Deployment

Applications (EAR)

Deployment Upload Remove

Deployable	Deployed
/mnt/diskC/opt/JONAS_4_6_6/apps/alarm.ear	/mnt/diskC/opt/JONAS_4_6_6/apps/autoload/earsample.ear
/mnt/diskC/opt/JONAS_4_6_6/apps/cmp2.ear	/mnt/diskC/opt/JONAS_4_6_6/apps/autoload/mejb.ear
/mnt/diskC/opt/JONAS_4_6_6/apps/emb-sample.ear	
/mnt/diskC/opt/JONAS_4_6_6/apps/j2eemanagement.ear	
/mnt/diskC/opt/JONAS_4_6_6/apps/olstore.ear	
/mnt/diskC/opt/JONAS_4_6_6/apps/sampleCluster2.ear	
/mnt/diskC/opt/JONAS_4_6_6/apps/tp.ear	
/mnt/diskC/opt/JONAS_4_6_6/apps/ws.ear	
/mnt/diskC/opt/JONAS_4_6_6/apps/wsclient.ear	

Apply

<http://jonas.objectweb.org>

Future

- Nouvelle version annoncée (JavaOne – SF/CA) – Hibernate, JDO,...
- Interoperabilité avec MS .Net
- HEP ?
 - Grille ?
 - Gaudi/Athena/Root ?