JO²nAS: Java OW2 Open Application Server

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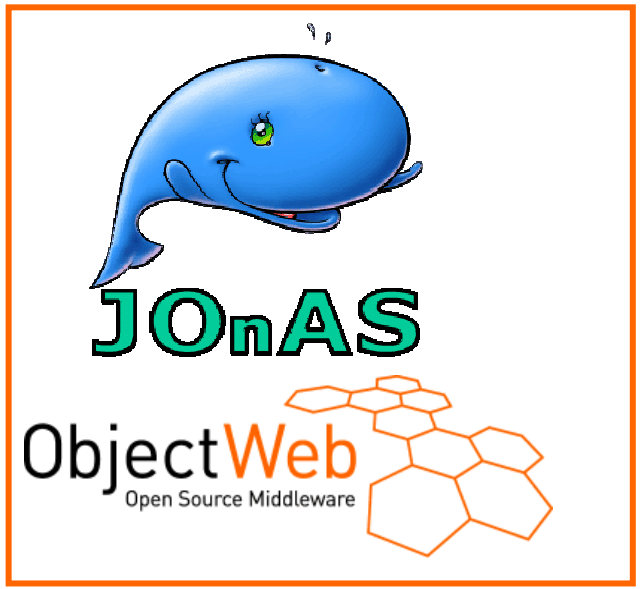
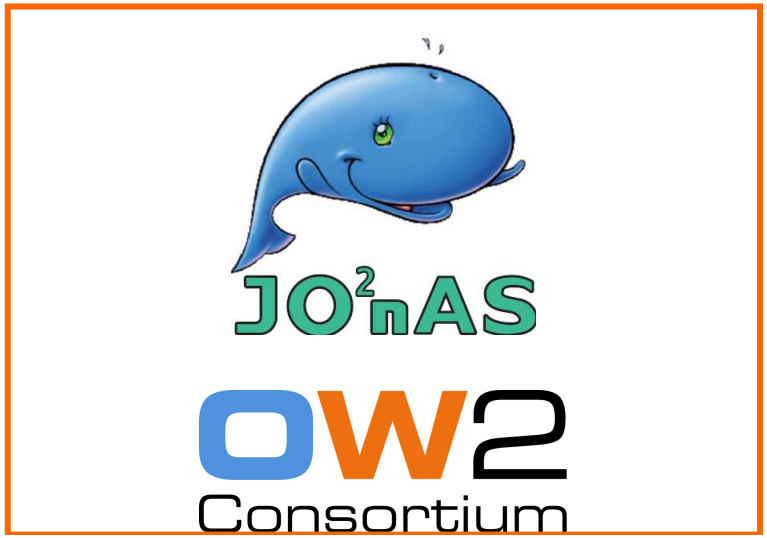
OW2 Java EE Platform

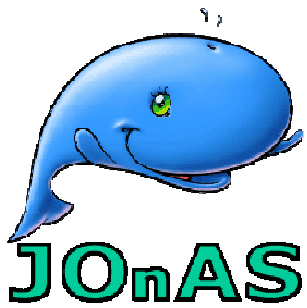




PKUAS: Overview

- **Vision**
  - Technology Excellence
  - Serve for national needs and Contribute to China's software industry
- **Implementation**
  - J2EE Compliant
  - Promising academic and industrial values
    - Commercial and practical applications
    - Distinguished and innovative features
  - Sponsored by 863, 973, NSFC …
  - Developers and researchers are increasing
    - 3/2001, 8/2002, 12/2003, 20/2004, 22/2005,20/2007, ~
  - Support offer
    - Peking University
    - InterVision
    - CVICSE

JOnAS: Overview



- **Vision**
  - Enterprise Class J2EE Application Server
  - Industry Leadership
- **Implementation**
  - J2EE 1.4 Compliant (Sun Certification)
  - Enterprise Class J2EE Application Server
    - Scalability and Availability
    - Enterprise Integration
    - Integrated Development Environments
    - High Level Administration
  - Industrial Quality
    - Code Maturity (First developments in 1998)
    - Development process
      - Nightly build, Test suite, Validation
    - JOnAS wiki, Users feedbacks …
  - Development Community
    - See next slide
  - Support offer: Bull
  - Many references (telecom, industry, banking…)

JOnAS Development Community

OW2 Consortium

- **Bull**
  - Leader
  - Support and services based on JOnAS
- **France Telecom**
  - Intensive operational use of JOnAS
  - Clustering (validation, migration)
  - Versioning
- **PKU, CVICSE**
  - Services architecture, Clustering, Web Services, Management
- **INRIA**
  - Advanced Management (JASMINe)
- **UPM**
  - Clustering
- **LIFL**
  - Administration/monitoring, deployment
- **UNIFOR**
  - Clustering
- **UJF**
  - OSGi

Objectives

- **Merge PKUAS and JOnAS to a leading edge application server platform, which has technology excellence and industry leadership**
- **Promote the use of this application server in China, Europe and worldwide**
- **Collaborate and contribute on middleware technologies and related standards**
- **A common platform based on OSGi architecture**
  - Join best technologies from the both application servers
- **An ecosystem around the platform**
  - Different teams, different responsibilities: R&D, distribution, business, service…

Key Milestones [1/2]

- **February 2006**
  - agreement at OWCon'06 for common work on J2EE platform between PKUAS team and JOnAS team
  - Some mailing lists and working groups creation
- **March 2006**
  - PKUAS (version J2EE 1.3) hosted on ObjectWeb as JonasPKU
- **Spring/Summer 2006**
  - PKU contributions to JOnAS: clustering (production version) and reflective architecture (prototype)
  - Meetings in France: Lille and Grenoble
- **September 2006 (meeting in Beijing)**
  - Decision to merge projects
  - Technical exchanges
  - Collaboration topics identification
  - Define means

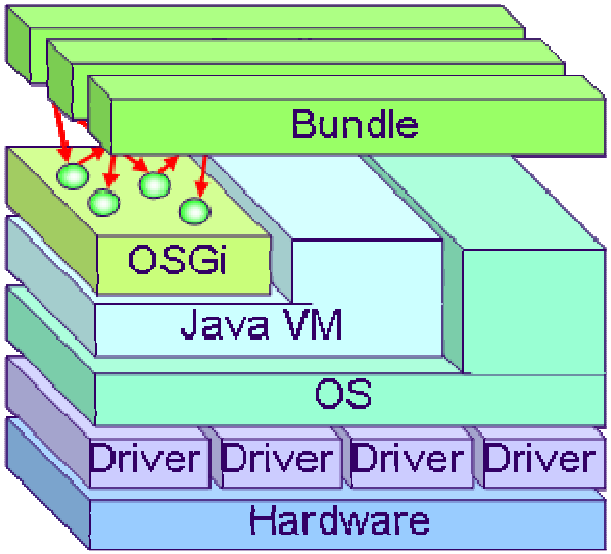
Key Milestones[2/2]

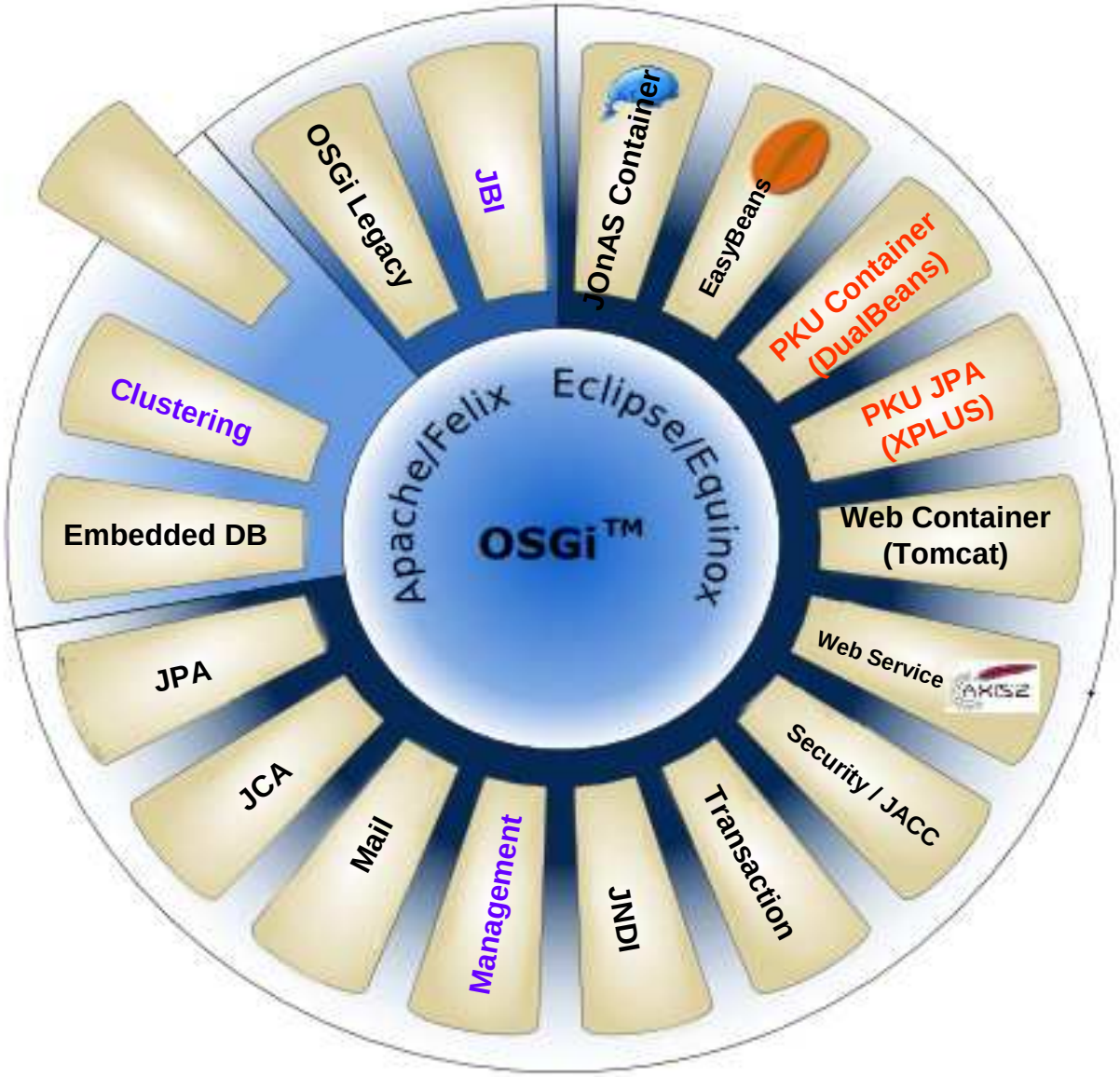
- **December 2006: signature of MOU**
  - Bull, PKU, CVICSE
  - Clarify Objectives, Means of implementation
- **March 2007**
  - Cooperation wiki creation
  - http://wiki.jonas.objectweb.org/xwiki/bin/view/Main/Cooperation
- **April 2007 (One week meeting in Grenoble / France)**
  - Visit from PKUAS development manager to Bull JOnAS team
  - Work on collaborative development process
- **May-July 2007 (training in Grenoble / France)**
  - Visit from a CVICSE development manager to Bull JOnAS team
  - Work on JOnAS 5 continuous integration and on validation
  - Work on OW2 platform for China Local Chapter
- **October 2007 (OW2 trip in China)**
  - Visit from Bull JOnAS team to PKU
  - Definition of precise development activities

Where are we now ?

- **Taking best of bread from PKUAS and JOnAS teams developments and skills !**
  - PKUAS side
    - Dynamic service platform experimentation on top of OSGi (Service integration framework)
    - Xplus JPA implementation
    - Clustering skills
    - EJB 2-3 container (DualBeans)
  - JOnAS side
    - JOnAS 5 OSGi architecture
    - EasyBeans EJB3 container
    - JASMINe administration tool
    - JOnAS 5 clustering architecture

Where are we now ?
Architecture vision





Where are we now? Merging progress

- **Working topics are defined, fruitful results**
  - OSGi/Service Architecture:
    - integration of PKUAS EJB container on JOnAS 5 platform
    - Provide different middleware services implementations
  - Clustering: Dynamic (pair) replication to address scalability
  - Web Services for Java EE 5 support: integration of Axis 2 / CXF
  - JASMINe: rules

- **Merging process close to be achieved, efficient means are used**
  - Communication means
    - Face to face meetings, E-mail list, Wiki, IRC
  - Project management means
    - Project management tool: JIRA…
    - Code repository: svn, maven2
    - Continuous integration tool: Bamboo

Advanced technical features contributed by PKUAS

- **Persistence layer unified system (xPLUS)**
  - OW2 Project
- **PKU Container (DualBeans)**
  - Modularized architecture
  - Only one container for both EJB2 and EJB3
  - Lightweight container system as thin glue layer
  - Remoting service based on dynamic proxy
  - Service integration framework
  - Standalone JPA implementation
- **Service integration framework**
  - Common layer are abstracted for services

Advanced technical features provided by JOnAS [1/2]

- **OSGi JOnAS 5 services architecture**
  - Dynamic [re-]configuration
  - On demand services
  - Modularity
  - Dependencies Management
  - Access to OSGi world
- **EasyBeans EJB3 container**
  - OW2 project
  - Light weight and modular container
  - Efficient architecture (code injection)
  - Available as connector and as OSGi bundles
  - Ease of use (automatic class reloading, no client side deployment…)
  - Core container, pluggable with Xplus, Hibernate, OpenJPA, Toplink Essential…

Advanced technical features provided by JOnAS [2/2]

- **JASMINe Administration tool**
  - OW2 project (Bull, INRIA, SERLI)
  - Tool for intelligent management of SOA platforms
  - Configuration
    - clusters architectures
  - Deployment
  - Supervision
    - Monitoring
    - Autonomous Management
- **Clustering**
  - CMI V2
    - EJB2 and EJB3 support
    - Multi protocols support (jrmp, iiop, irmi…)
    - Performance oriented design (stubs pools…)
    - Dynamic load balancing policy
    - Large scale deployment support
    - Usable outside JOnAS

JO²nAS in a nutshell

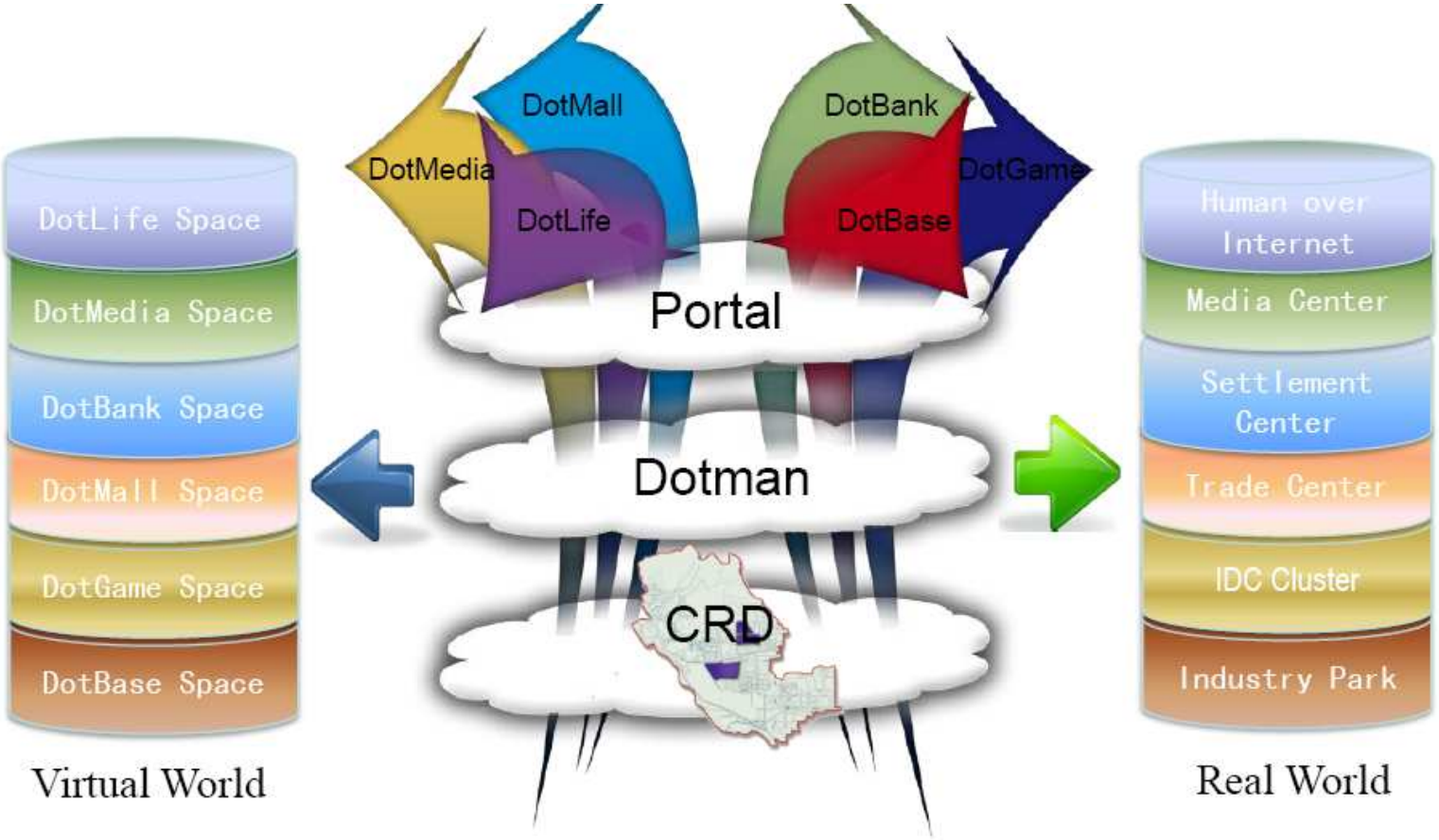
- **the leading edge Open Source implementation by OW2 of the Java EE specification, lead by Bull and Peking University**
- **Innovative**
  - many academic institutes
  - OSGI…
- **Enterprise class**
  - Clustering, administration, integration, IDE
- **Community Driven**
- **SOA ready**
- **Professional support**
- **Community**
  - Bull, PKU, CVICSE, UPM, UNIFOR, Grenoble University, Orange, INRIA, LIFL…

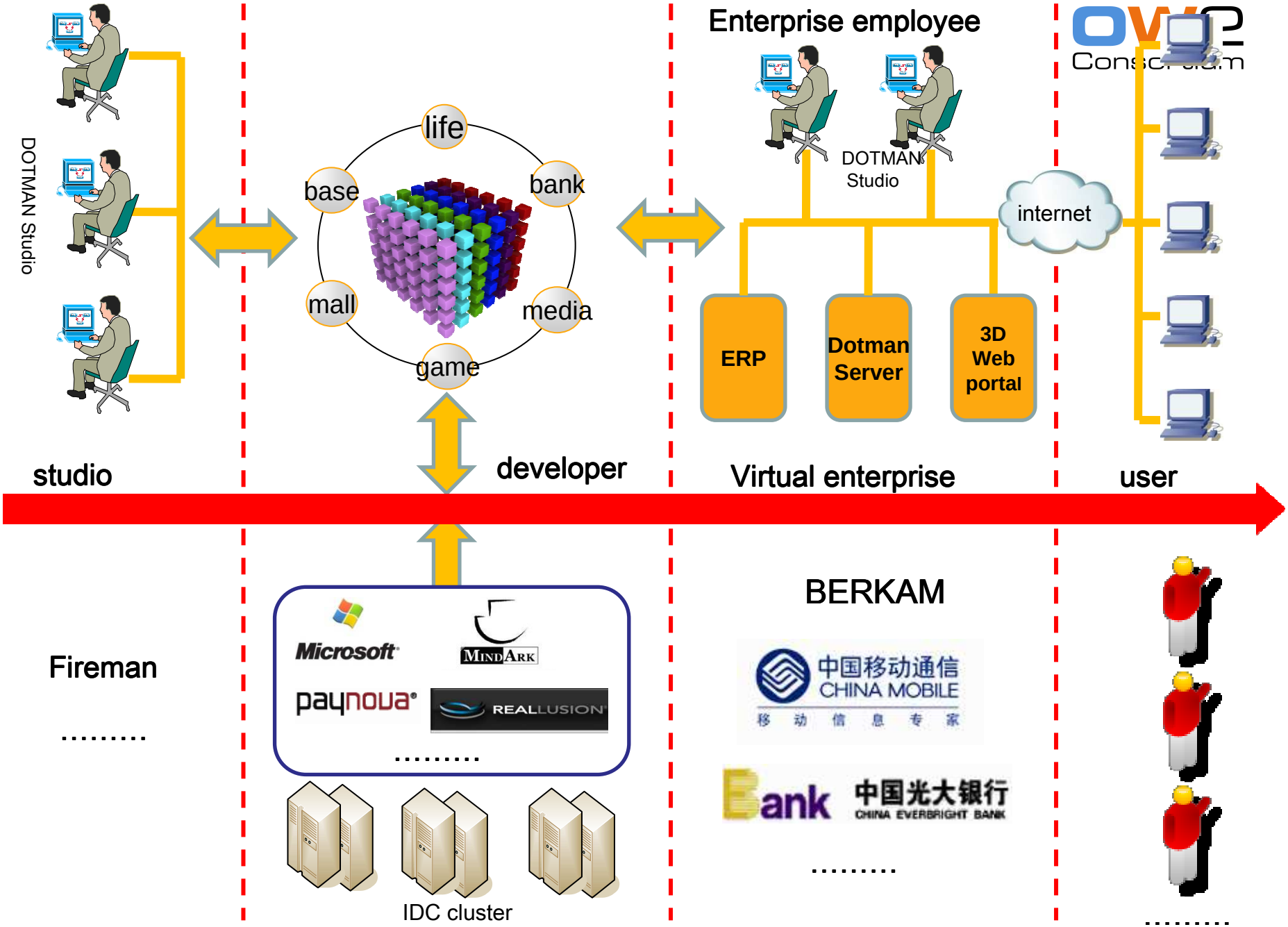
- ***Key Features***
  - Java EE certified;
  - OSGi based
  - Web Services;
  - Clustering;
  - Versioning
  - Scalability;
  - Interoperability;
  - Modularity
  - Extensibility
  - Security support;
  - JMX™ based management;
  - Advanced Management (JASMINe)
  - JMS™ integration.

First potential applications of JO²nAS in China

Applications(1)

- **China Virtual ecomomy district**
  - http://www.crd.gov.cn/en/index.asp
- **China Virtual world**(China Recreation District)




DOTMAN Studio
life
base
bank
mall
media
game
Enterprise employee
DOTMAN
Studio
internet
ERP
Dotman
Server
3D
Web
portal
studio
developer
Virtual enterprise
user
Fireman
.....
Microsoft
MindArk
paynova
REALLUSION
.....
IDC cluster
BERKAM
中国移动通信
CHINA MOBILE
移 动 信 息 专 家
Bank
中国光大银行
CHINA EVERBRIGHT BANK
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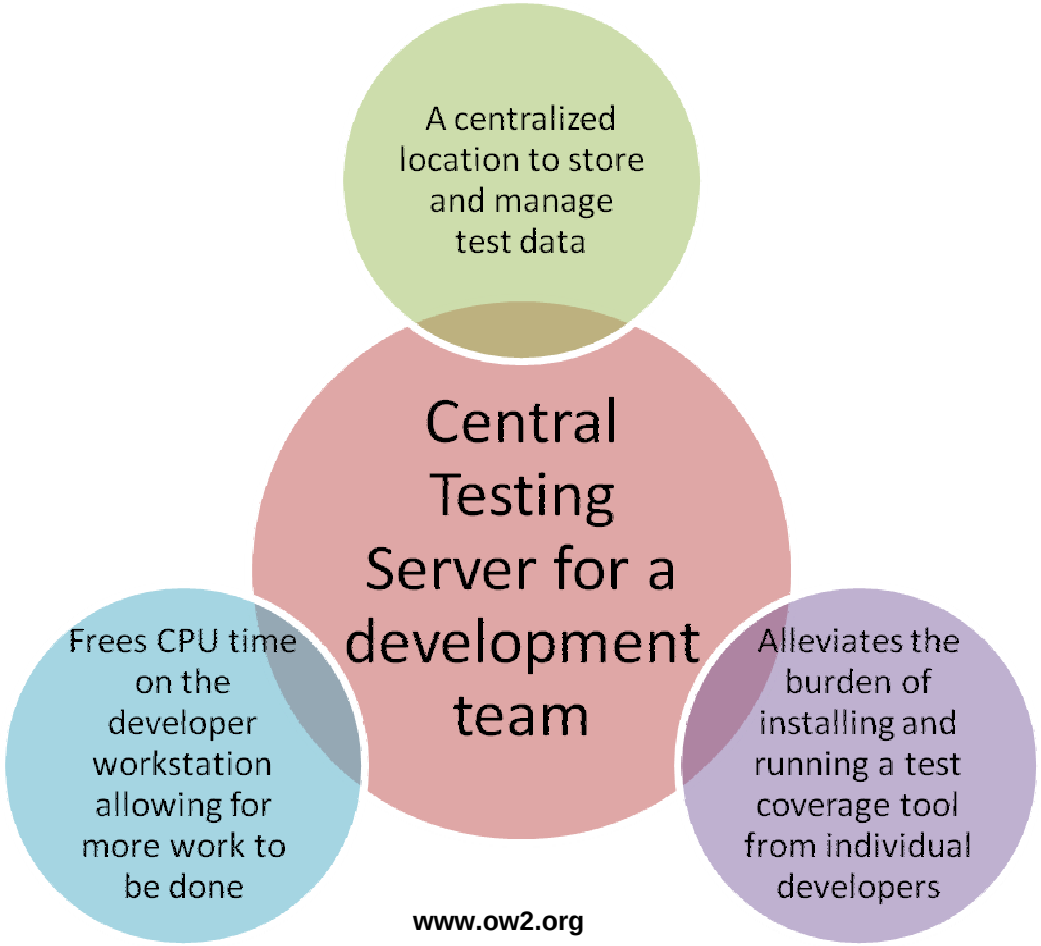
Applications(2)

- **eXVantage host**
  - http://www.research.avayalabs.com/
  - eXVantage is a product line of eXtreme Visual-Aid Novel Testing and Generation tools

- **Coverage test**

- **JO²nAS brings the access capability to eXVantage, and eXVantage brings a valuable value-added service to JO²nAS.**



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