Tying it all together—EAI and iPortal

OMG EAI Workshop
Orlando, Florida

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Agenda

- IONA and EAI
  - will look very briefly at how Orbix has been used in EAI projects
- But, what is IONA doing now to make EAI easier?
- In particular, what is IONA doing to tie together the key technologies?
  - EJB
  - CORBA Brokers
  - Message Brokers
  - Legacy systems
  - The Web
EAI and CORBA

• Standards-based middleware reduces the complexity of EAI
  – using CORBA as the middleware, we can reduce NxN interfaces to N interfaces
  – using Hub and Spoke architectures

• IONA have been doing EAI for years
  – using Orbix, OrbixTalk and OrbixOTM as the middleware
  – can be used to tie existing systems to other existing systems and also to brand new systems
A typical EAI architecture

Hub and Spoke

connector
connector
connector
connector
connector
connector
connector
connector
Boeing DCAC

Baan
Metaphase
Trilogy
connectors
Oracle
CIMLINC
connectors

OrbixTalk
OrbixOTM

 Ông A Technologies 1999
Infostrada

Siebel
Inconcert
connector
connector
connector

SAP
Oracle
connector
connector
connector
The forces shaping EAI

- **Timeliness** - the flexibility to change in realtime
- **Openness** - open standards and open source software very popular
- **Scalability**, but this also implies ...
  - robustness
  - reliability
  - adaptability
- **The Web** - all businesses must become eBusinesses or die
  - EAI must embrace the web, i.e. IAI
  - EAI architectures must provide integrated backend systems with an interface to the internet

- Let’s look at how IONA is trying to solve these problems
Tying it together with iPortal

**iPortal Application Server**
- EJB 1.1 and J2EE
- built on Orbix 2000
- flexible ART architecture

**iPortal Server**
- build an enterprise portal to provide an interface to the web

**iPortal Integration Server**
- connectors legacy systems: OS/390, CICS, IMS
- connectors to message brokers

**Orbix 2000**
- ART (Adaptive Runtime Technology)
- modular architecture
Orbix 2000

- Orbix 2000 is IONA's next-generation CORBA platform
- Can build POA-based CORBA 2.3 applications
- Built on IONA’s Adaptive Runtime Technology (ART)
  - Patented micro-kernel architecture
  - Highly modular - minimal ORB core with plug-in framework
  - Allows statically-linked plug-ins and dynamically-loaded plug-ins
  - Most advanced ORB technology on the market
iPortal Server

No Programming Interface
Content Router
Web Services - user sessions, profiling
Configuration Driven

Calendar
Search
Profiling
Custom 1
Custom 2

CORBA Server
Application Server
Integration Server

C++
EJB
COM+

Notes
SAP
MVS
Legacy
iPortal Application Server

• A ‘J2EE ready’ EJB 1.1 Server/Container
  – built on ART and Orbix 2000 for Java
• Dynamic container
  – no code generation
  – hot installation/migration
  – dynamic reconfiguration
• and a Graphical Application Builder for the roles of
  – EJB Developer, Assembler, Deployer and Administrator
  – Ease of use and a shorter development cycle
CORBA/EJB Interoperability

Clients

CORBA Client

EJB Application Server

Container

CORBA application

EJB Client

Enterprise Resources

Database

ERP Applications

Legacy Systems
EJB to CORBA

• Easier than CORBA to EJB
• Ideal if EJB Server built on CORBA, and uses RMI/IIOP to talk to the container
  – beans can then use IIOP to talk to CORBA Servers
  – this is allowed in the EJB 1.1 specification
• Simply compile the IDL to Java
  – the bean is then coded as a normal CORBA client
  – in iPAS, beans are Orbix 2000 for Java clients
• With this approach there is no restriction on the IDL, i.e. Objects By Value is not required
  – will work with CORBA 2.1, CORBA 2.3 and up
CORBA to EJB

- EJB 1.1 spec allows CORBA clients to EJB Servers via IIOP
- but, this is a more difficult problem
  - stems from the Java to IDL mapping
  - requires Objects by Value
- This results in restrictions
  - only CORBA 2.3 clients can communicate directly to EJB
  - CORBA 2.1 clients must use a bridge
iPortal Integration Server

- EAI solution including advanced message broker, workflow, business transformation,
- Built on open standards
- Proven deployments
- Adapters to COTS products
  - SAP & PeopleSoft (Visual Edge)
  - Baan & Vantive (COMet)
  - Seibel & Oracle (CORBA)
  - OS/390 IMS & CICS (CORBA)
  - Any CORBA or COM enabled application
- iPortal Framework
  - iIntegrate Service