



Real World Meta-Data Challenges

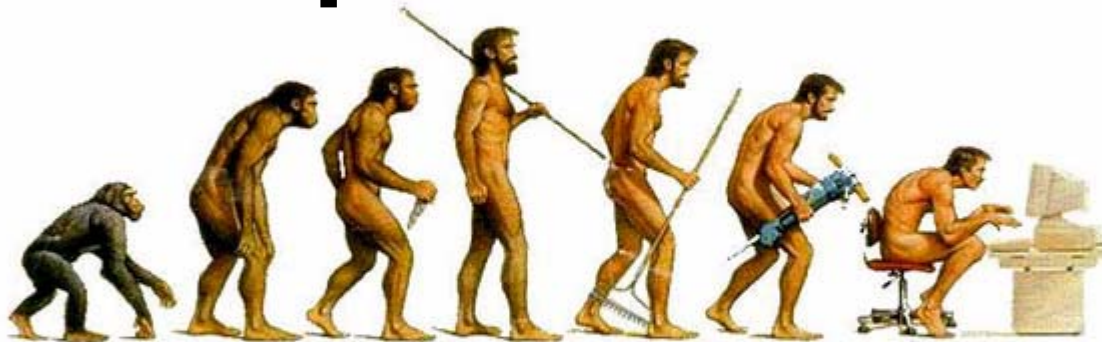
**Workshop on Challenges and Promise of
Semantic Web Services
6 September 2006**

*Antony Reynolds
Oracle UK*

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Development Trends...



Rapid Service Development



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Flexible Business Processes

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Rich Internet Applications

The Next Application Platform

Dynamic & Collaborative User Interfaces

User Interface Component Model

Business Process, Rules, Events

Service Component Model

Service Fabric and Binding

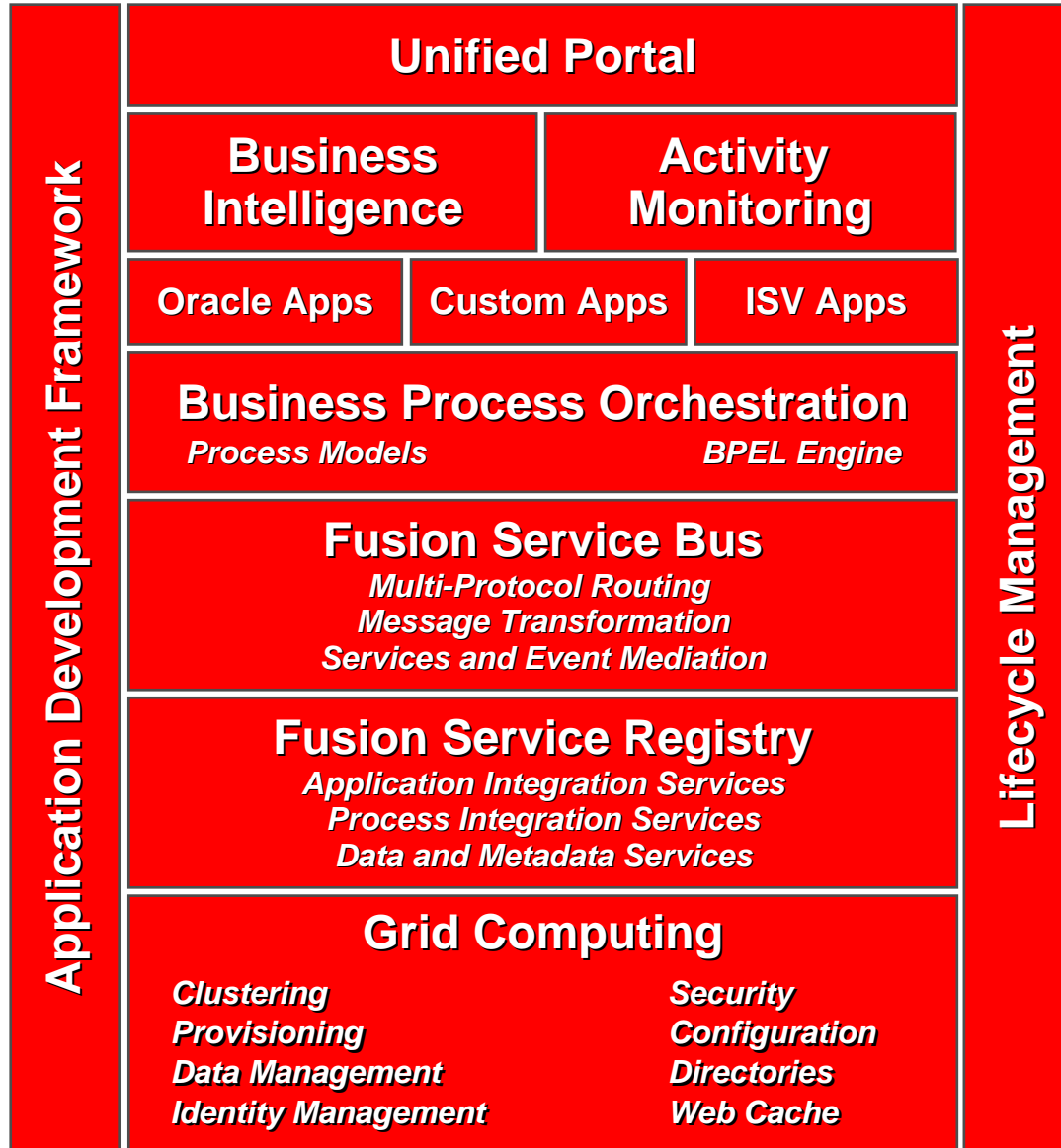
Business Logic Component Model

Persistence Services

Federated Services

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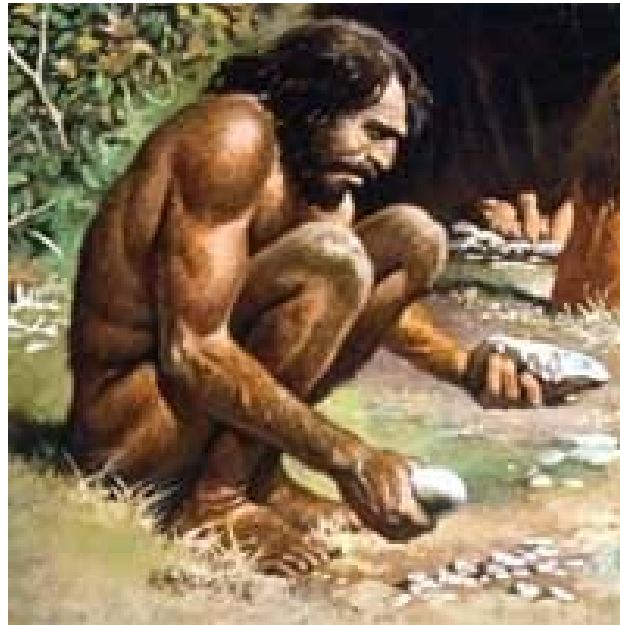
Fusion Architecture



An Open, SOA-Based Foundation

- ✓ **Service Oriented**
- ✓ **Standards-Based**
- ✓ **Model Driven**
- ✓ **Event Enabled**
- ✓ **Information Centric**
- ✓ **Performant, Scalable**
- ✓ **Secure**
- ✓ **Grid Ready**

Key Technologies



Key Technology #1

XML/XSD/XSLT

- Standardised Data Format
- Neutral
- Manipulable
- Extensible
- Self Describing Syntax

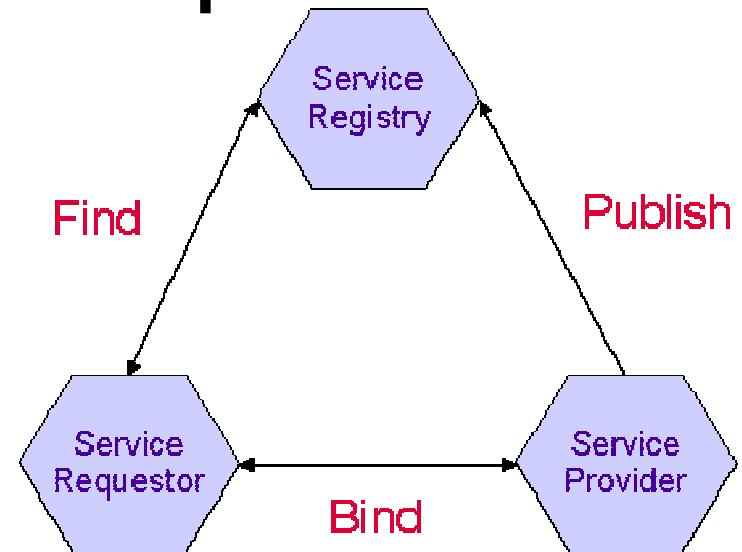
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Key Technology #2

Web Services

(WSDL/SOAP/UDDI)

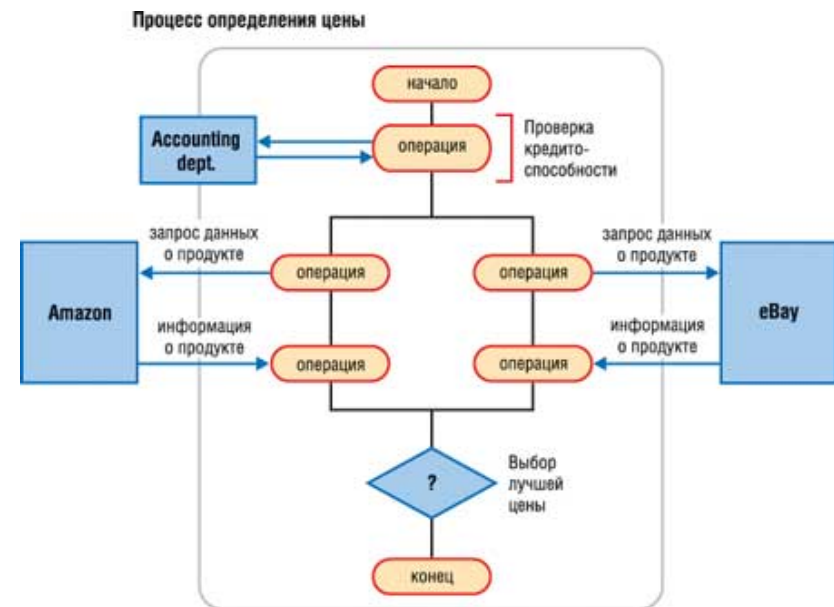
- **Standardised Interface Descriptions**
- **Neutral**
- **Manipulable**
- **Extensible**
- **Self Describing Syntax**



Key Technology #3

BPEL

- Standardised Process Descriptions
- Neutral
- Manipulable
- Extensible
- Self Describing Syntax



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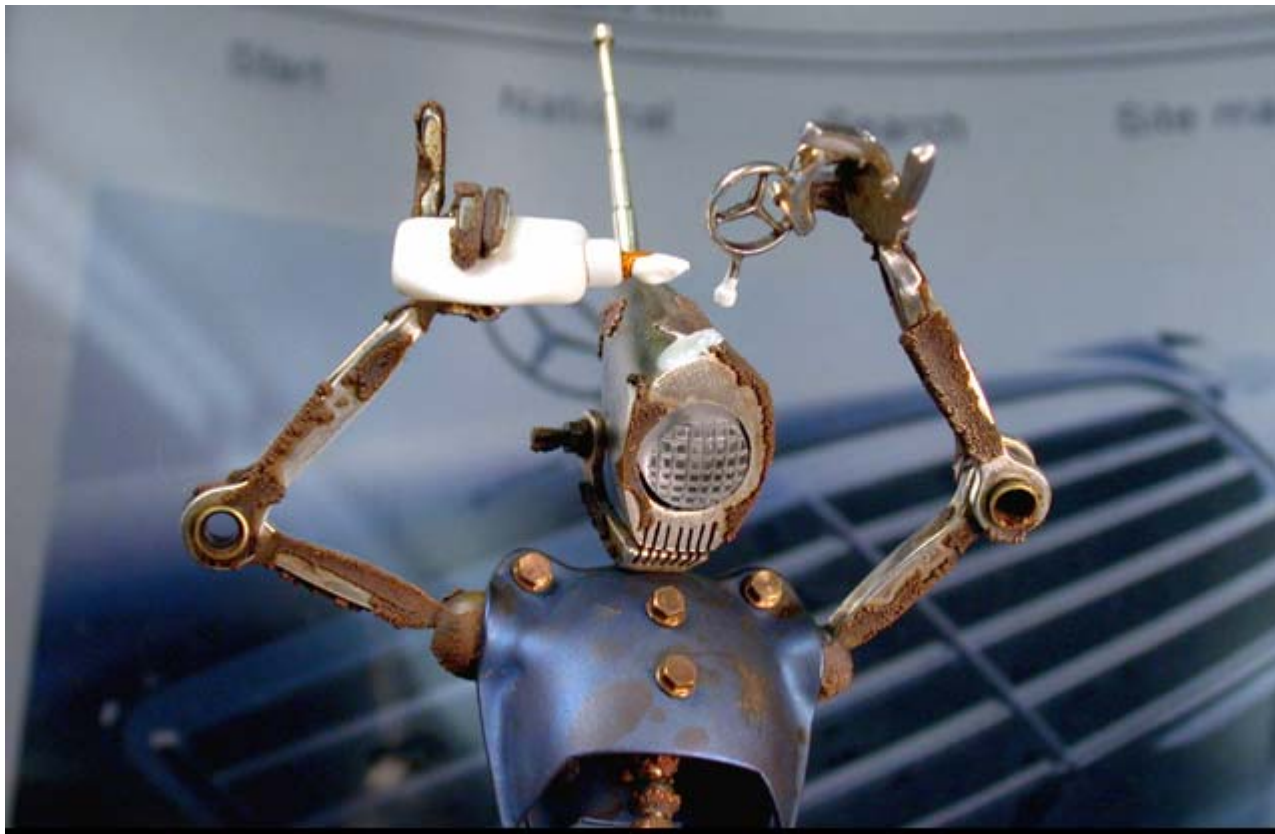
Real World Challenges



Real World Meta-Data Challenges

- **Application Upgrade**
- **Plug and Play Applications**
- **Real Time Service Resolution**

Application Upgrade



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Application Upgrade

- **Most packaged enterprise applications are customised**
- **Customisations by definition are unique**
- **Upgrades break customisations**
 - **Change features**
 - **Change data structures**
 - **Change processes**

Oracle Applications Strategy

Simply Put...

- ✓ **PROTECT** Your Existing Investment
- ✓ **EXTEND** the Value of Your Applications
- ✓ **EVOLVE** You to the Next-Generation

Meta-Data Opportunity

- **Central Configuration Repository**
- **Meta-Data Describes**
 - **the System**
 - **System Customisations**
 - **System Extensions**
- **Meta-Data Identifies Different Layers**

Research Topics

- **Temporal Change of Meta-Data**
- **Reconciliation of Changes**
- **Policy Driven Reconciliation**



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Plug & Play Applications



Plug & Play Applications

- **SOA Promises Pluggable Solutions**
- **Packaged Applications Expect Certain Interfaces**
- **Vendors Don't Agree on Interfaces**

Meta-Data Opportunity

- **Self Describing Modules**
- **Introspective Containers**

Research Topics

- **Dynamic Interface Mapping**
- **Reconciliation of Processes**
- **Semantic Description of Processes**



Real Time Service Resolution



Real Time Service Resolution

- **Certain Applications Need Real Time Service Identification & Location**
 - **Location is easily handled by UDDI or ESB**
 - **Identification is Harder**
 - **UDDI Search?**
 - **Service Name Consistency**
- **General Service Resolution Harder Still**
 - **Quality of Service**
 - **Cost**
 - **Preferences**

Example – CRS

- **No standardised API for Travel**
- **CRS has 100s of Links to Airlines, Car Hire, Hotels – each different**
- **Each New Supplier Requires Coding**

Meta-Data Opportunity

- **Semantic Service Descriptions**
- **QOS Descriptions**

Research Topics

- **Ontology's for Specific Domains**
- **Cross-Ontology Mapping**
- **Service Matching**
- **Policy Matching**



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David's Trip to Barcelona





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