

Tendances Logicielles

L'architecture pour répondre aux besoins métier

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WebSphere Service Registry & Repository



Features Summary of WebSphere Service Registry and Repository

- Service Discovery
- User role based browser perspectives
- Standards based service metadata documents support
- “Parsing” documents into meaningful and optimized organization
- Query
 - Keyword and wizard based search
 - Faceted search
- Classification
 - OWL based ontologies
 - Customization enabling governance capabilities, state transitions, lifecycle actions
- OWL based metadata modeling
- Automatic promotion of service metadata to different environments
- Eclipse based toolset integrating into Eclipse 3.0.x based IDEs
- Java and Web services API
- REST interface
- UDDI Federation
- Clustering support
- WS-Policy and WS-PolicyAttachment support
- Command line utilities
- Subscription and Notification support
- Impact Analysis
 - Graphical View



What is a registry ... a repository?



Registry?
Contains Service Metadata



Repository?
Store Artefacts

An integrated Registry / Repository Solution
is needed govern and manage SOA for maximum value



**Business
process vitality**



**New value
through
reuse of
assets**



**Improved
connectivity**



**Closer
alignment of IT
to business**



**Business
Flexibility**



WSRR Content

Service Description Entities

Physical Documents

- WSDL
- XSD
- SCDL
- WS-Policy
- XML – *User-defined Documents*
- Binary Documents

Logical derivations

- | | |
|-------------|------------|
| ▪ Interface | ▪ Service |
| ▪ Operation | ▪ Binding |
| ▪ Message | ▪ Endpoint |
| ▪ Type | ▪ Policy |
| ▪ Policy | Attachment |
- Extension Logical Object

Concepts

- *User-defined by classification*
- Business Application
- Business Process
- Governed Collection
- External reference

Metadata
applies to
all entities

Service Description Metadata

Properties

- name
- namespace
- version
- description
- modifiedDate

- name
- namespace
- *User-defined*
- metrics

- *User-defined*
- owner
- externalURL

Relationships

- imports
- includes
- predecessor
- *User-defined*

- derivedFrom
- operations
- messages
- *User-defined*

- *User-defined*
- dependantServices
- serviceInterface
- governedEntities
- policies
-

Classifications

- *User-defined States*
 - Created
 - Approved
 - Published
 - Operational

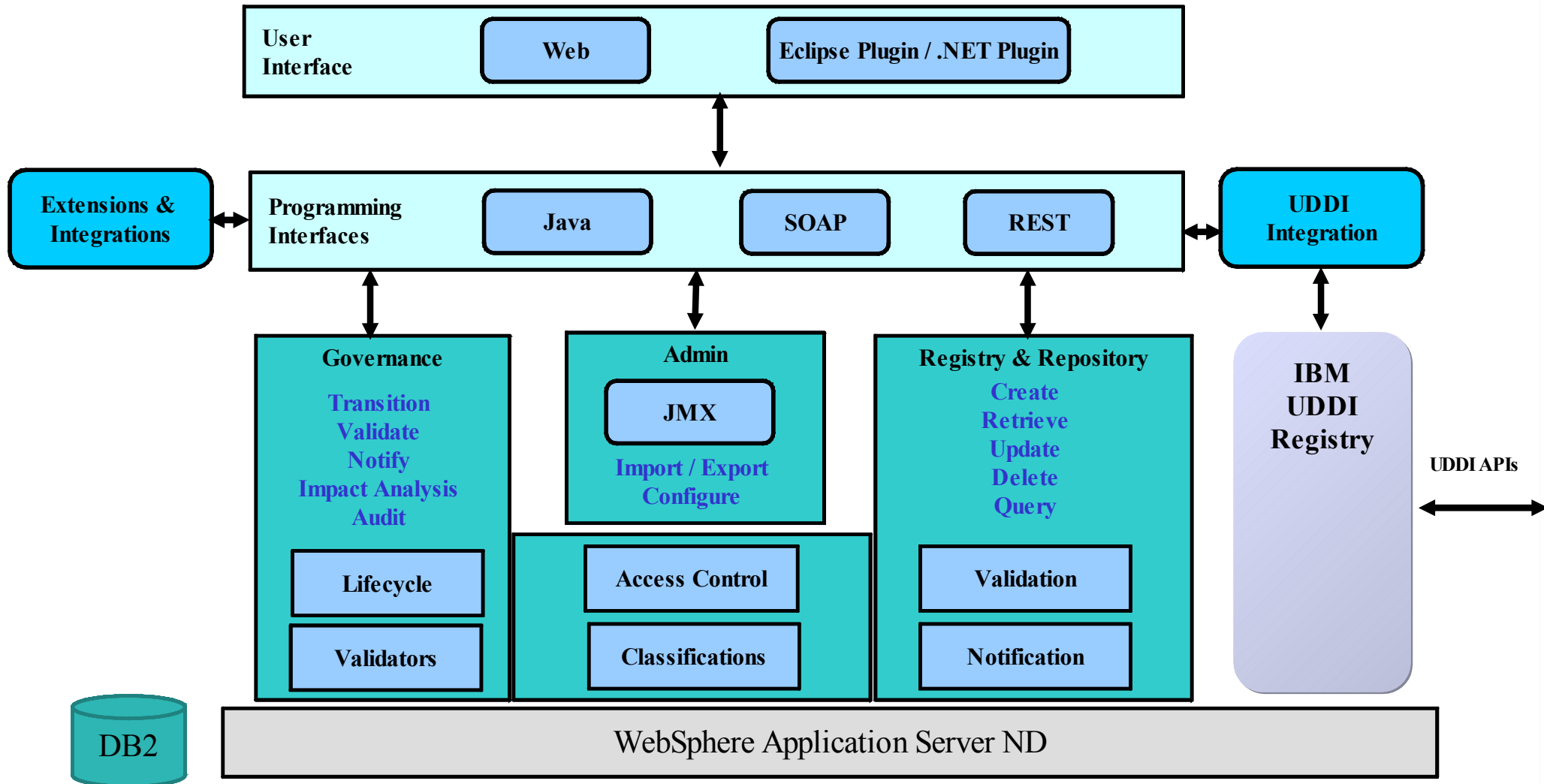
- *User-defined Environments*
 - Development
 - Test
 - Approval
 - Production

- *User-defined Concepts*
 - Application
 - Process
 - Capability

- *Standard Ontologies*
 - NAICS
 - UNSPSC
 - ISO3166



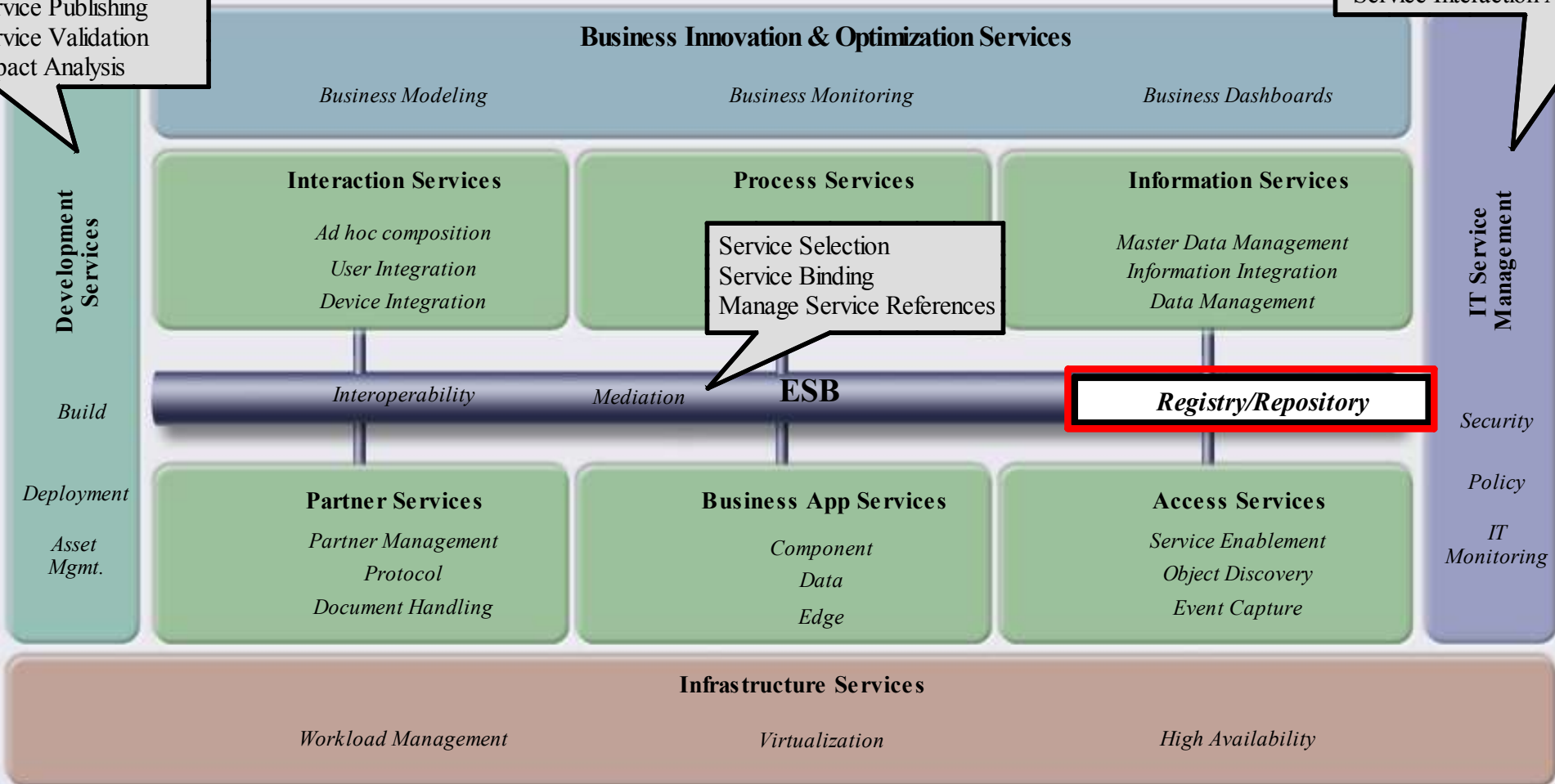
WebSphere Service Registry & Repository Architecture



SOA Reference Architecture Positioning

Service Discovery
Service Configuration
Service Publishing
Service Validation
Impact Analysis

Service Management
Service Assessment
Service Interaction Analysis



Enhanced Governance

- Governance Validator
 - Enforces governance policies and WS-I compliance
 - Role-based access control on making changes to service metadata (operations, properties, etc)

- Improved user interface to drive common administration tasks
 - Business model editor
 - UML Lifecycle editor
 - Business model templates

- Enhanced service lifecycle management
 - Import/Export large amounts of service metadata for promoting services between WSRR instances

More out of the
box governance

Best practices
support

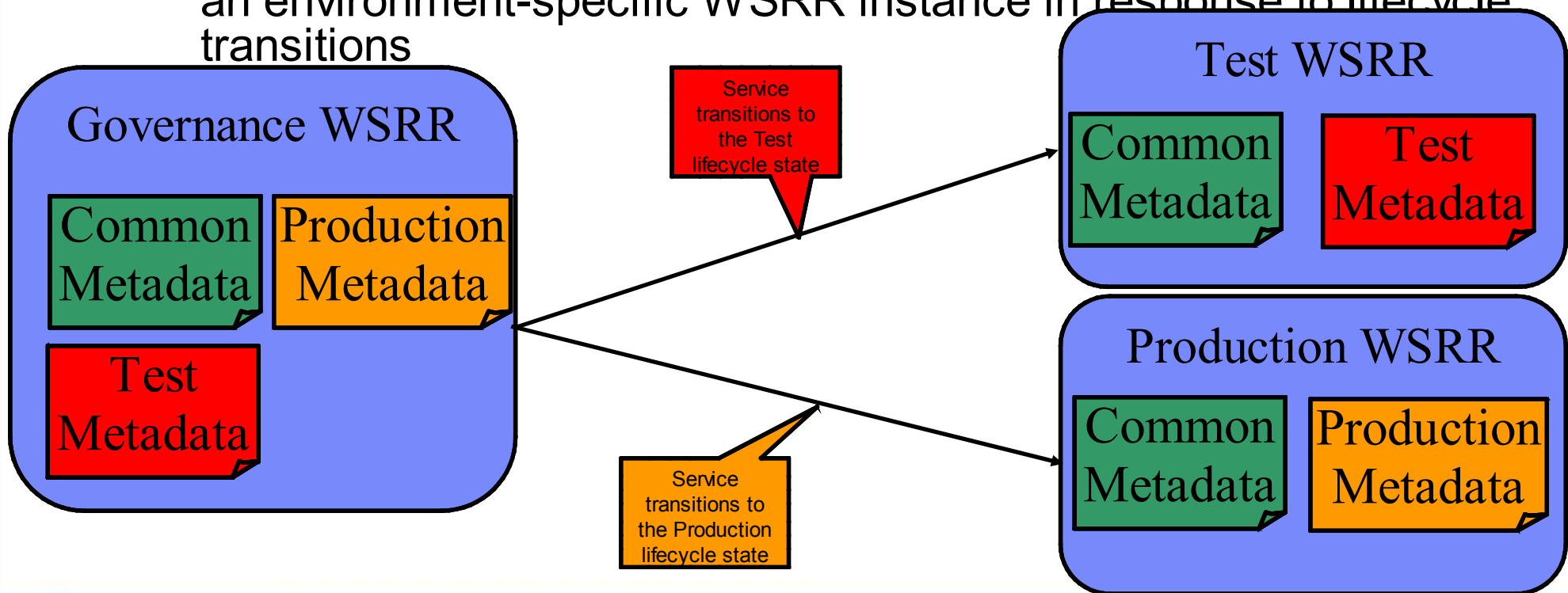
Easier administration
and configuration



Promotion

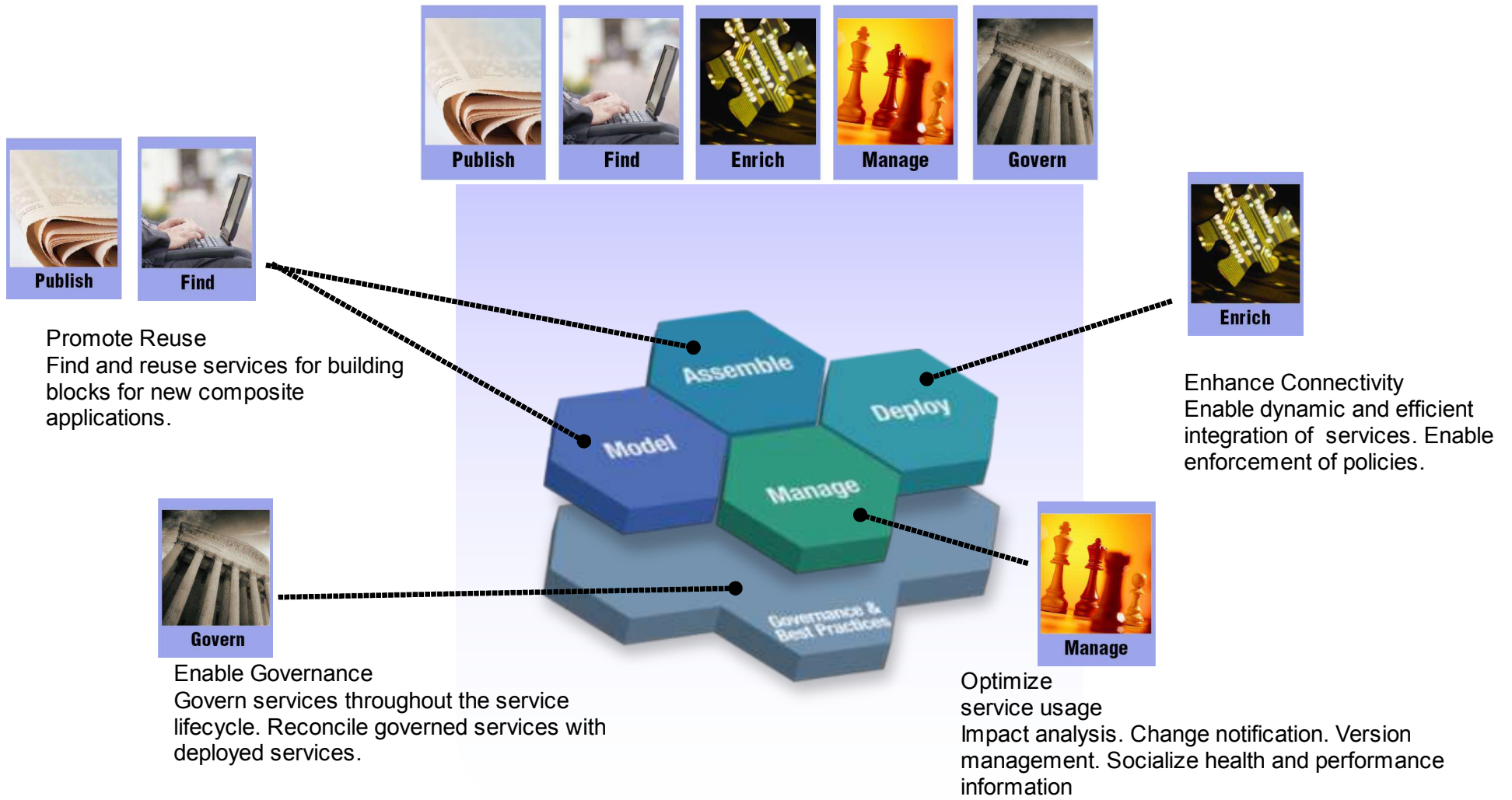
Helps clients extend the governance to multiple environment topology

- Promotion allows metadata relating to multiple deployment environments to be managed in a central WSRR instance while allowing the appropriate subset of the information to be copied to an environment-specific WSRR instance in response to lifecycle transitions



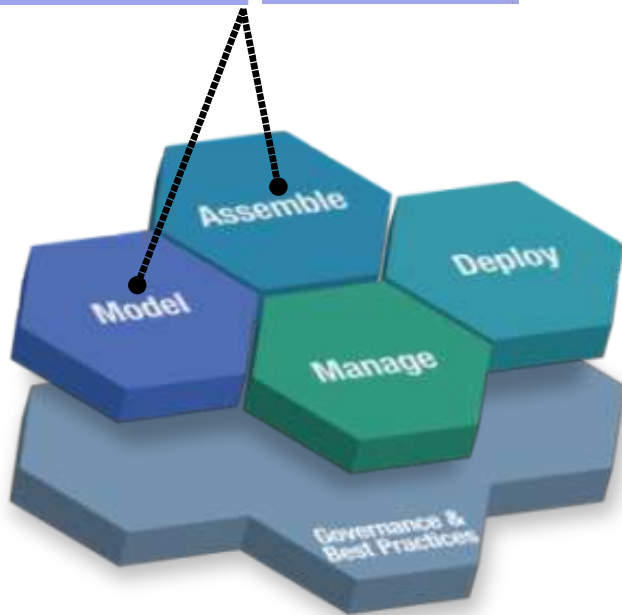
The WebSphere Service Registry and Repository provides value throughout the SOA lifecycle

WebSphere Service Registry and Repository



Promote Reuse – Publish and Find Capabilities

Build a catalog of trusted, high quality services



- Multiple methods to publish services and associate meta-data
- Customizable ontologies to classify services aligned with your business domain
- Powerful query mechanism to search for best-fit services
- Standards based API support to access content including REST interfaces (Web 2.0)
- *Service Discovery* to discover deployed services on .NET and WAS servers
- *Faceted Search* for a natural, user-friendly way to refine search using attributes, document types or classification
- *Extensible Parsing* to capture non-Web services using WSDL e.g. support MQ Service Definition specification



Faceted search

- Start with a simple search and refine it to home in on what you are looking for by applying the filters
- Makes it easy for the customers to find what they are looking for

The screenshot illustrates a faceted search interface. It features a main 'Query results' window and a 'Filters' sidebar. The main window shows a table of search results with columns for Name, Graph, Description, and Object Type. The 'Filters' sidebar includes sections for 'ESB Asset Classification', 'Document Type', and 'Service Metadata', each with a list of filterable items and their counts. A 'Property' section at the bottom right allows for adding property names and values.

Query results (top):

Messages
The query returned 26 results.

Templates > Query Results
This is the collection of results for the query.

Preferences

Name	Graph	Description	Object Type
BasicCreditReportService.wsdl			WSDL document
BasicCreditReportServiceElectronicPort			port
BasicCreditReportServiceElectronicPort_SOAPAddress			SOAP address
BasicCreditReportServiceElectronicService			service
BasicCreditReportServiceElectronicSoapBinding			binding

Filters:

ESB Asset Classification
[Endpoint](#) (2)

Document Type
[WSDL document](#) (3)

Service Metadata
[Binding](#) (2)
[Operation](#) (3)
[Port](#) (2)
[Port Type](#) (1)
[Service](#) (2)
[SOAP Address](#) (2)
[SOAP Binding](#) (2)
[Element](#) (2)

Property
 Property name:
 Value:

Query results (middle):

Templates > Query Results
This is the collection of results for the query.

Applied Filters
 Port
 Endpoint > ProductionEndpoint

Preferences

Name	Graph	Description	Object Type
PremiumCreditReportServiceElectronicPort			port

Total: 1

Save this Search
 Name:

Query results (bottom):

Templates > Query Results
This is the collection of results for the query.

Applied Filters
 Port
 Endpoint

Preferences

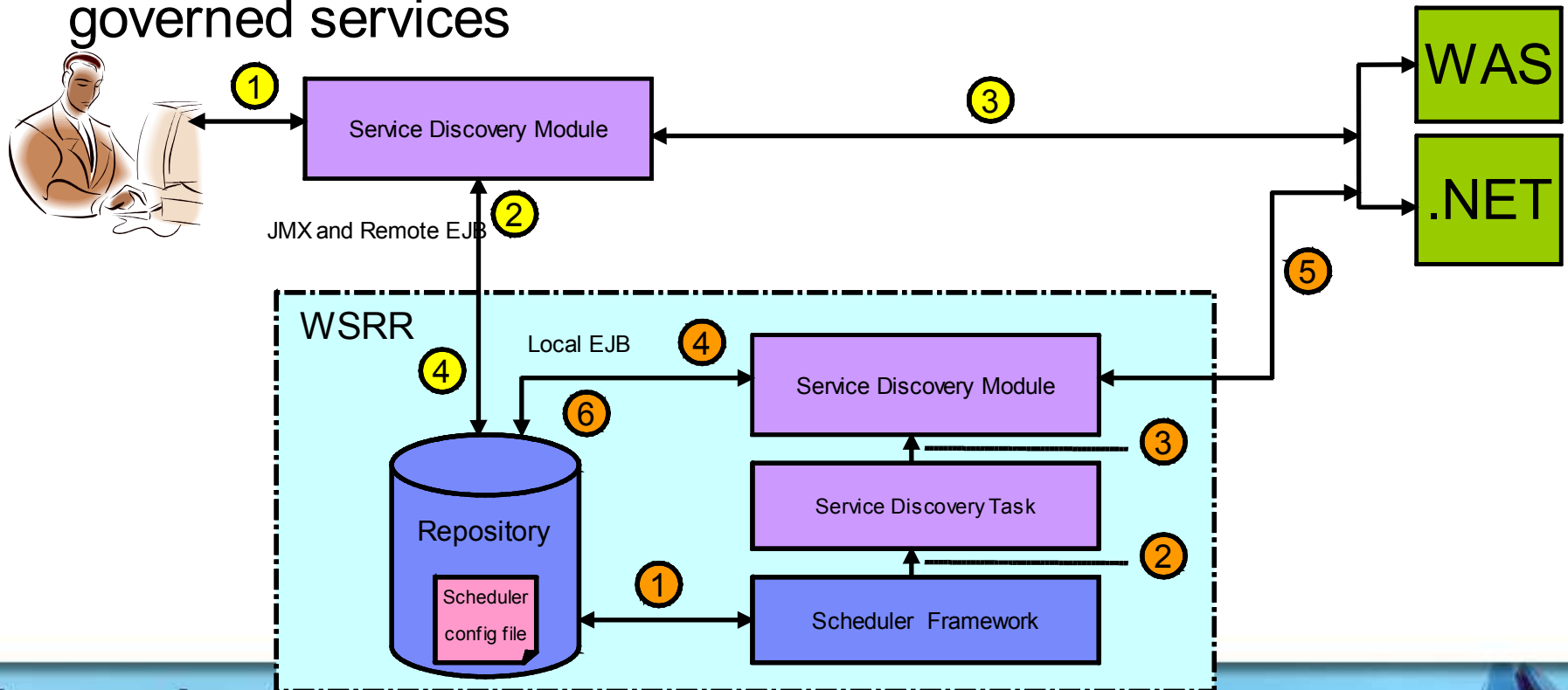
Name	Graph	Description	Object Type
BasicCreditReportServiceElectronicPort			port
PremiumCreditReportServiceElectronicPort			port

Total: 2



IBM WebSphere Service Registry and Repository Makes It Easy..... To Publish through Service Discovery

- You can discover WSDL-described services from IBM WAS and .NET; discover SCA modules from WESB or WPS; discover WSDL-described services from IIS
- Helps client discover existing services
- Helps client reconcile deployed services with registered / governed services



Auditing and Reporting

Auditing the updates to generate useful metrics

- Audit updates to WSRR content
 - Record updates to services and metadata
 - Record lifecycle transitions
 - Generate reports based on audit information

Reporting service usage, portfolio and conformance

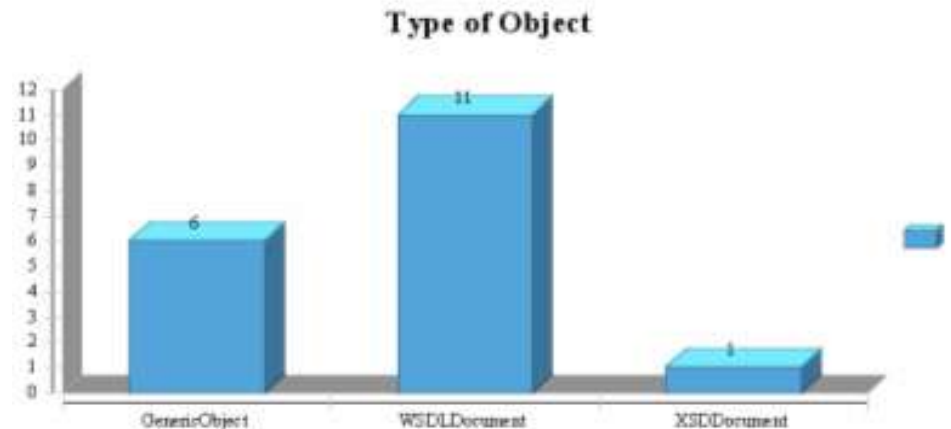
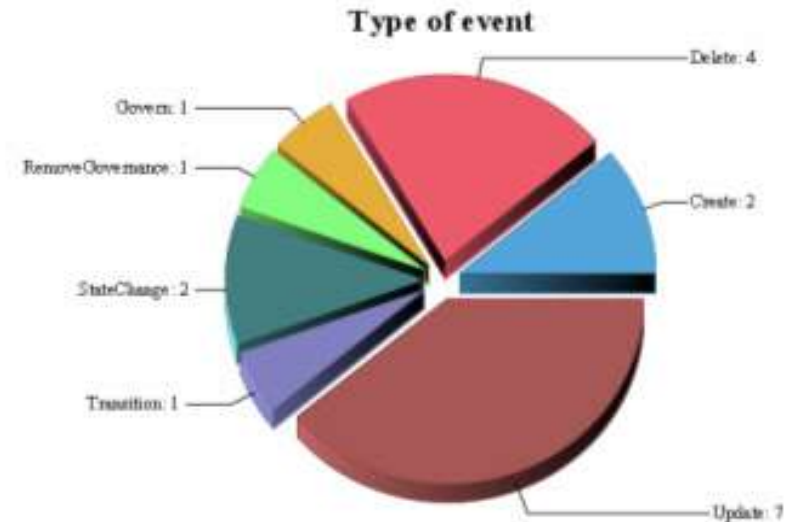
- Create customized and detailed reports
 - Generate HTML, PDF, Excel reports
 - Open access for other reporting tools to generate consolidated reports

What has changed in the past week? By user Jane?

*What is the lifecycle history for the **Auto Claims** service?*

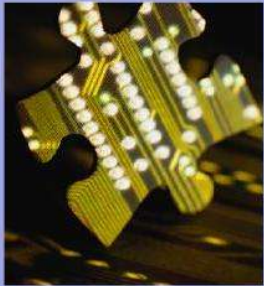
*Which services are **commonly used** and who is using them?*

*What services do we have for our **premium customers**?*

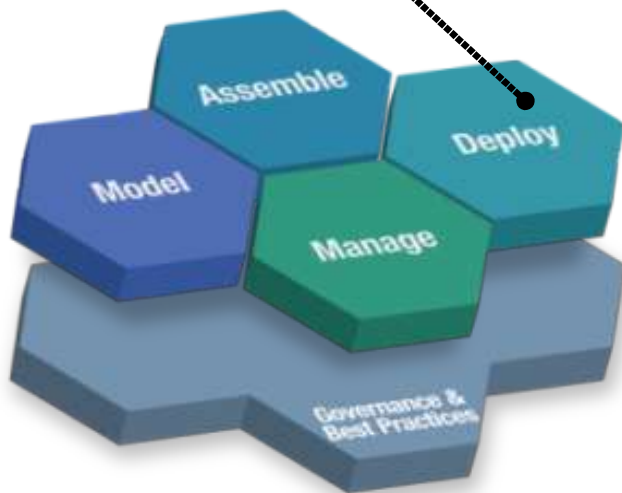


Enhance Connectivity – Enrich capability

Increase runtime flexibility of applications in your SOA



Enrich

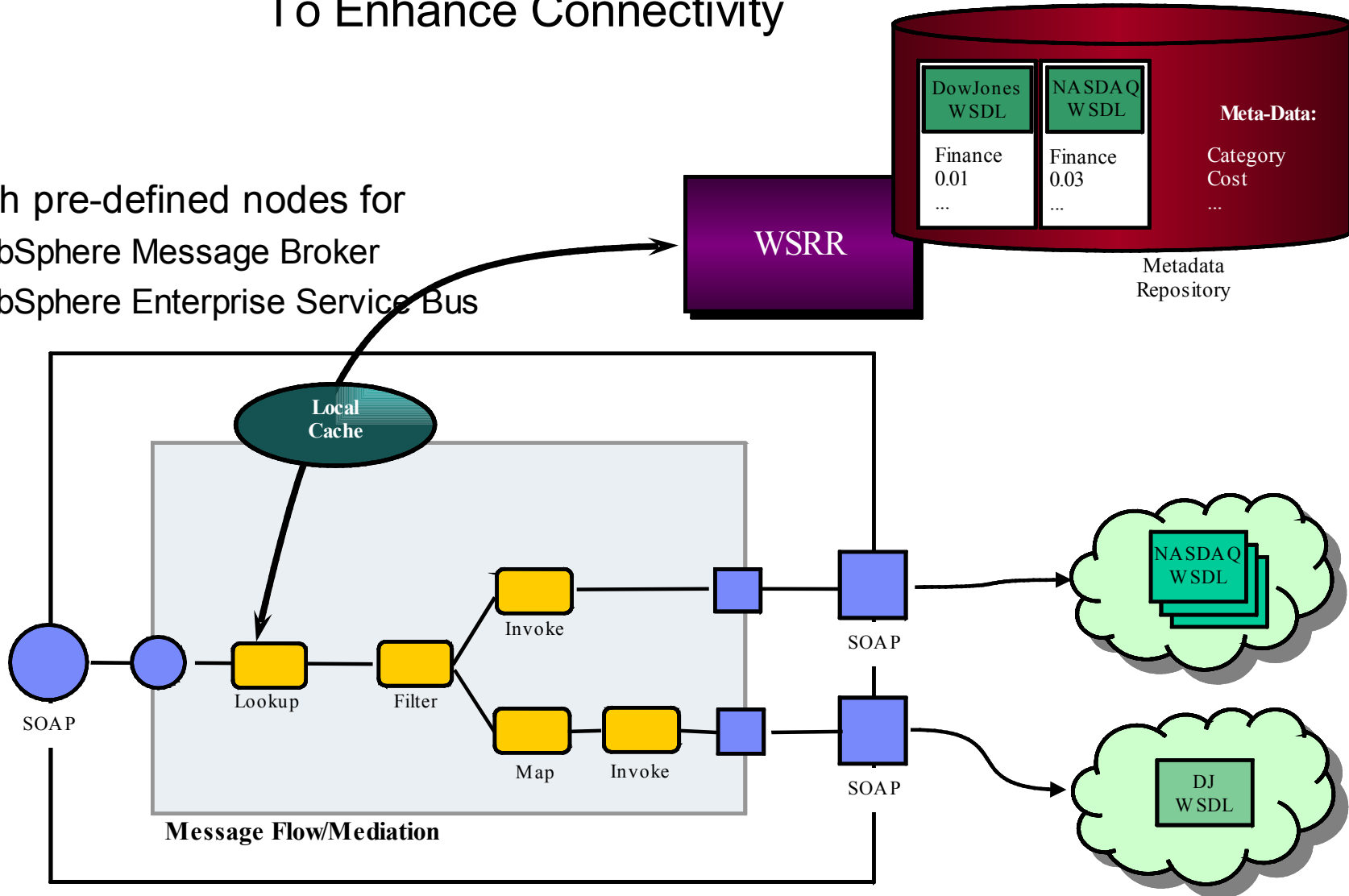
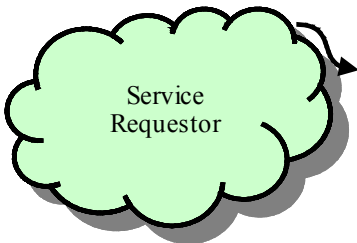


- **Pre-built integration points allow applications to query WSRR for service end-points as well as the associated metadata, during runtime**
- **Standards based API support to access content**
 - **Java APIs**
 - **SOAP APIs**
 - **UDDI V3 APIs**
 - **REST interfaces**



IBM WebSphere Service Registry and Repository Makes It Easy..... To Enhance Connectivity

- Through pre-defined nodes for
 - WebSphere Message Broker
 - WebSphere Enterprise Service Bus

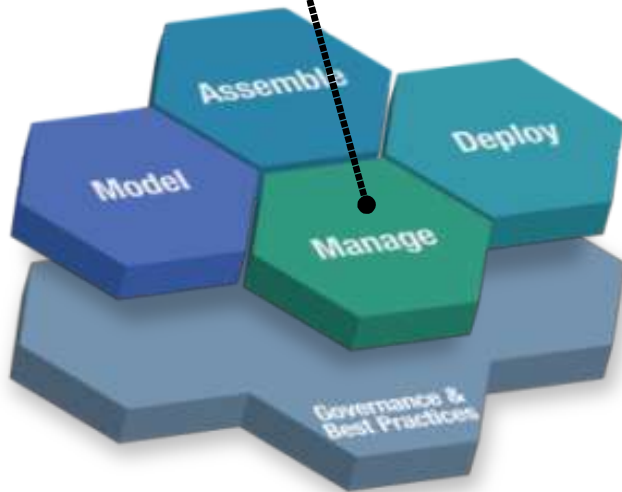


Optimal Service Usage – Manage capability

Ensure utilization, health and performance of services



Manage



- **Create and Manage policies**
- **Manage change and versioning of services**
- **Impact analysis using intuitive graphical views of service relationships**
- **Manage dynamic service metadata – health and performance information**
- **Manage and analyze service consumers**



IBM WebSphere Service Registry and Repository Makes It Easy..... To Manage Change

- Through impact analysis

XML Schema Definition Document

XSD Documents > Businessitems.xsd
Details of the Businessitems.xsd XML schema definition document.

Details Content Impact Analysis Governance

Impact Analysis
Specify dependency relationship options for performing impact analysis.

Impact Analysis Options

Impact Analysis for: Businessitems.xsd

```

graph LR
    A[SecondaryCreditReportS...  
WSDL Document] --> B[CreditReportServiceElec...  
WSDL Document]
    C[PrimaryCreditReportSer...  
WSDL Document] --> B
    B --> D[Businessitems.xsd  
XML Schema Definition Doc...]
            
```

Entity reference to classification
Entity relationship to predecessor
Non-derived entity reference to its template
WSDL service to WSDL port
WSDL port to WSDL binding
WSDL port to SOAP address
WSDL binding to SOAP binding

Display Options

Display results as a graph

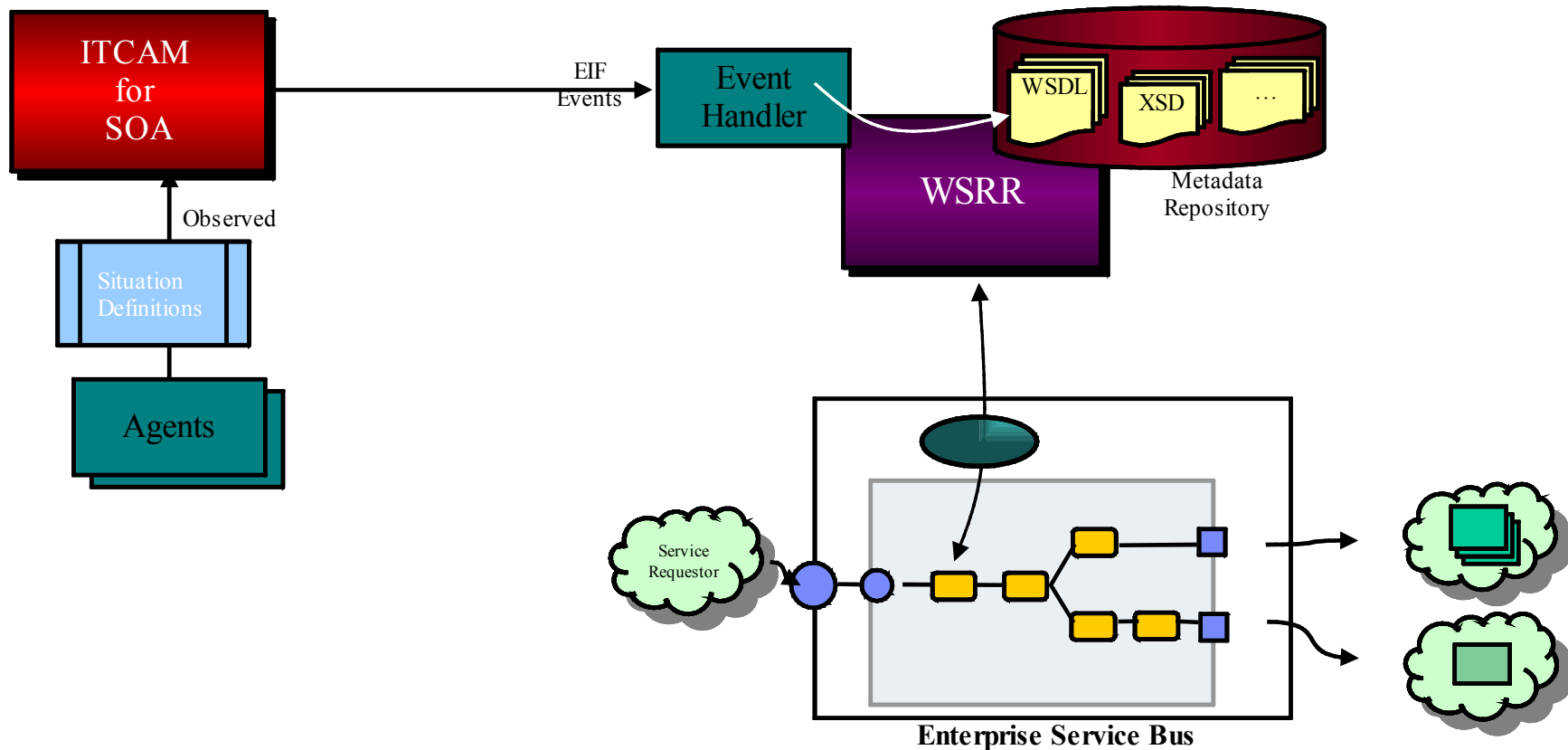
Display results as a table

Go



IBM WebSphere Service Registry and Repository Makes It Easy..... To Manage Service Metadata

- Through integration with ITCAM for SOA

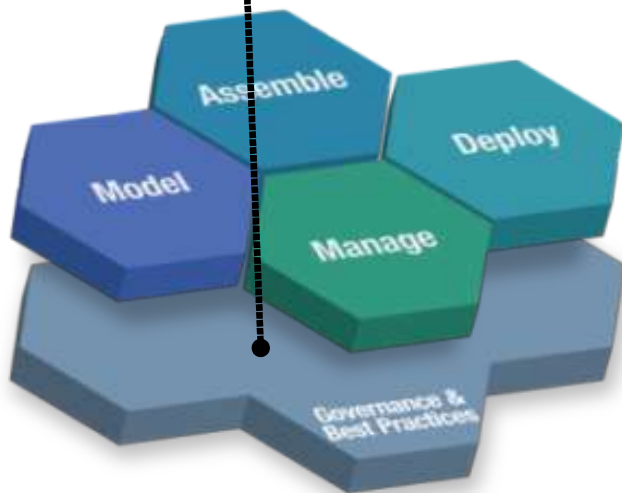


Enable enterprise governance – Govern capability

Better control your SOA through governance



Govern



- **OWL based Metadata Modeling**
- **Complete service life cycle management**
 - User definable collections of service metadata that can be governed together
- **Controlled lifecycle state transitions**
 - Customizable validators
 - Subscriber notifications
- **Support for service promotion from one environment to another (e.g. staging to production)**
- **Role based access to services for sharing and reuse**
 - Easy to use access-control editor
- **Governance profile that includes templates, lifecycles, generic validator, classifications and roles to help you get started quickly**



Metadata Modelling

- Helps clients enforce service metadata model
- Alternative to template mechanism in WSRR 6.0
- Models are represented in OWL
- User models can now have strongly-typed properties and relationships
- User models can now specify cardinalities on relationships

