



# Publish, Management and Discovery of WSRP artifacts in an ebXML Registry

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OASIS

# What is ebXML Registry?

“ebXML Registry is to web services what relational databases were to enterprise applications”

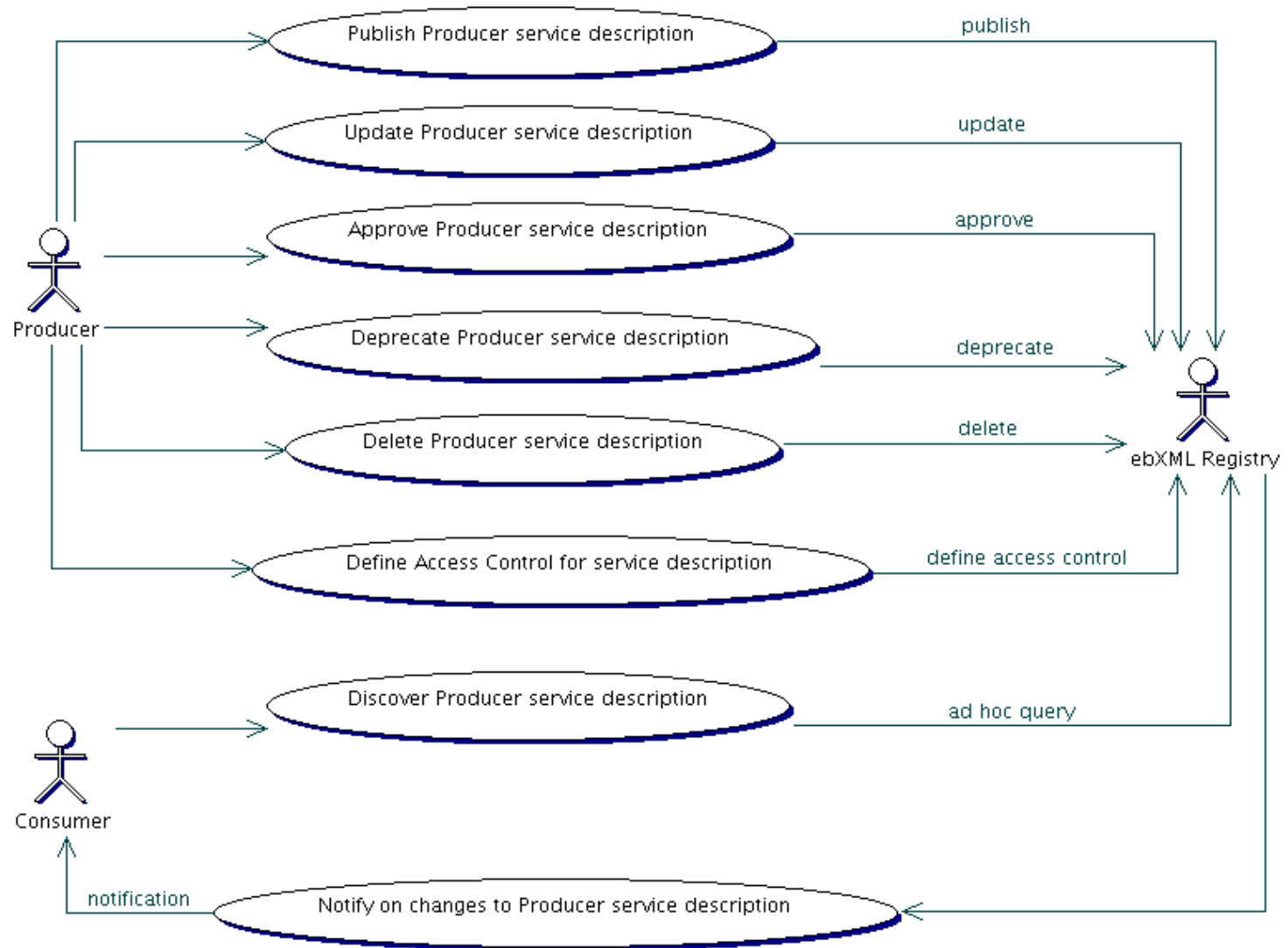
# What is ebXML Registry?

- An ebXML registry is an information system that securely manages any content type and the standardized metadata that describes it
- Defined by OASIS ebXML Registry specifications

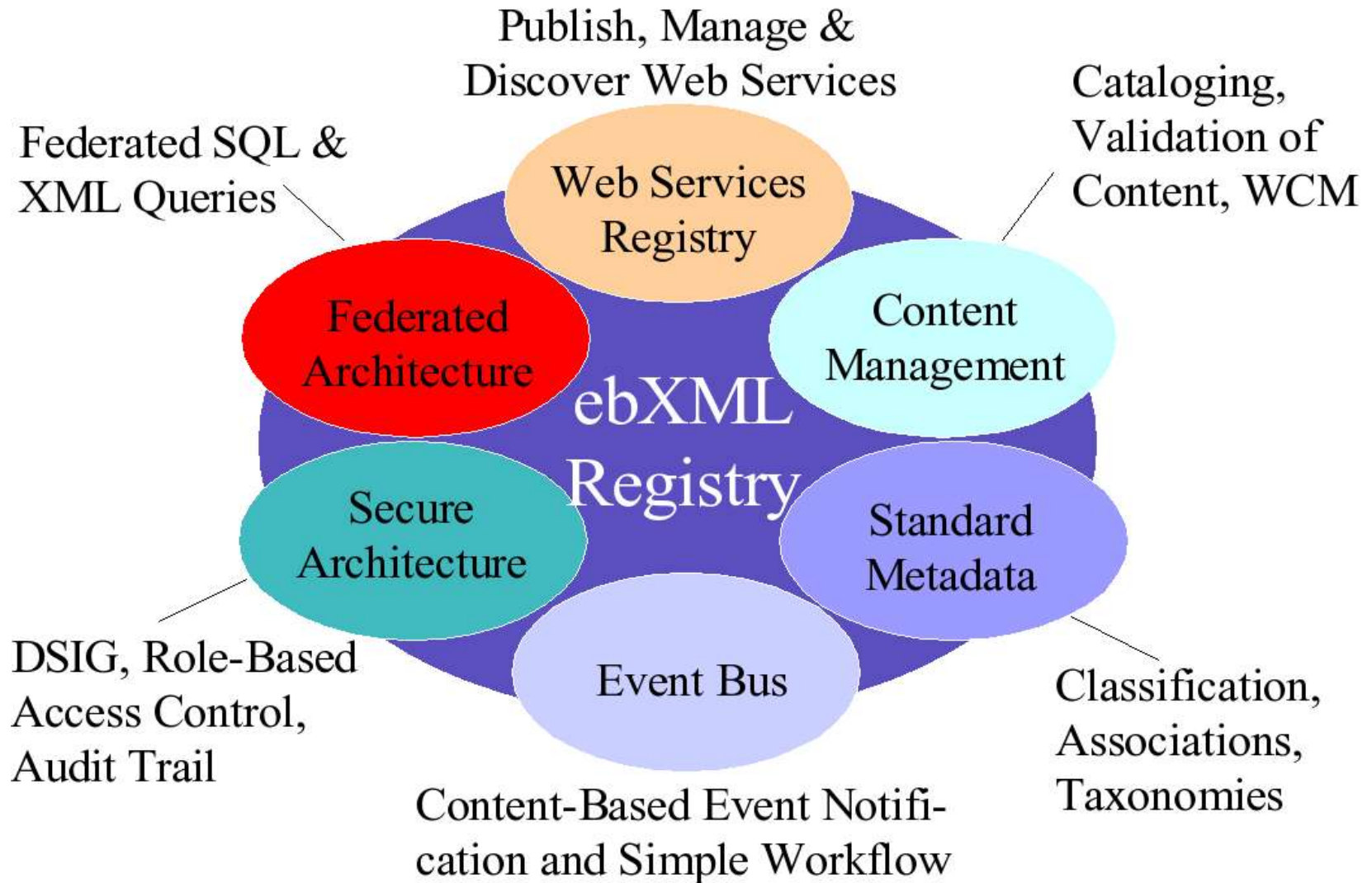
# Why ebXML Registry for WSRP

- Publish Services and Portlets
- Manage lifecycle of Services and Portlets
- Discover Services and Portlets
- Notify WSRP Consumer of events involving Services and Portlets

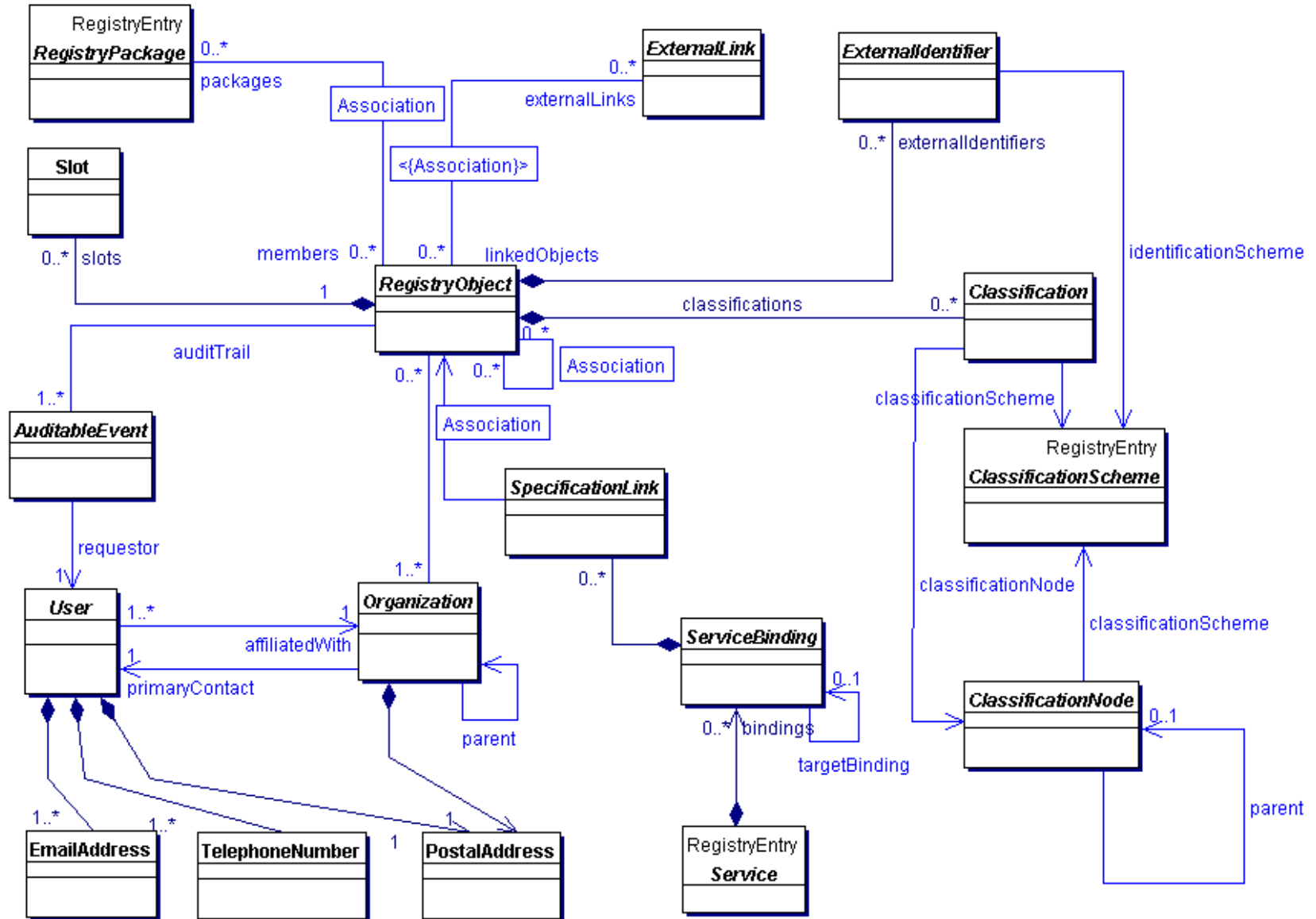
# Use Cases Addressed



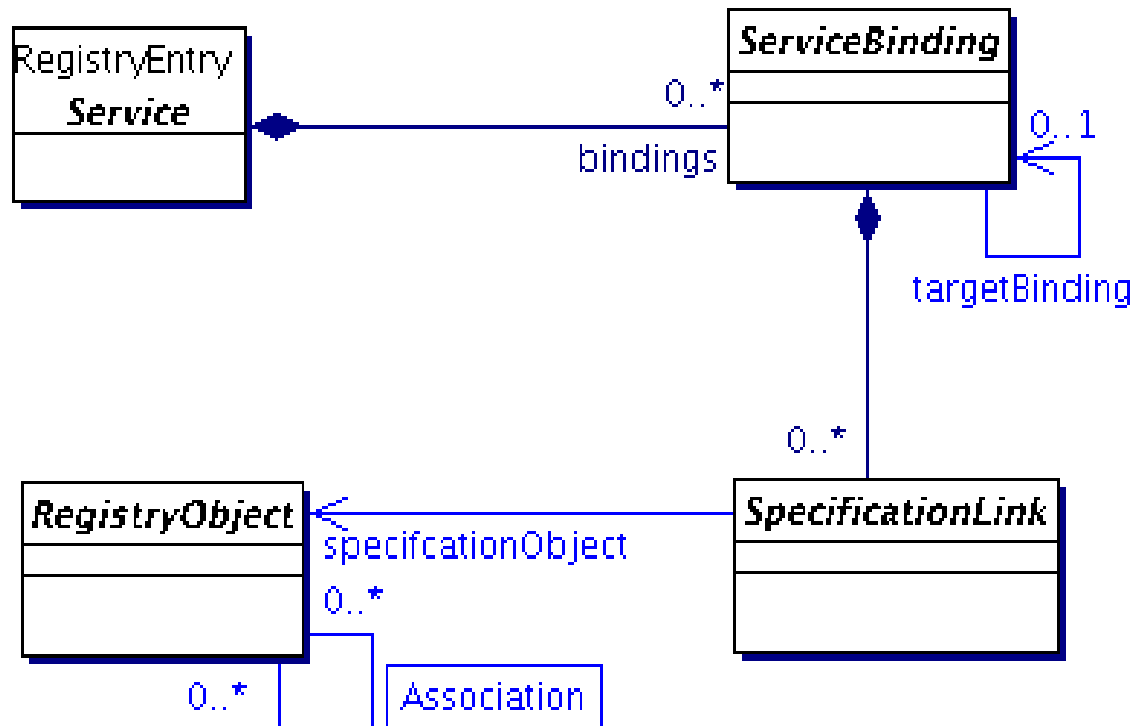
# ebXML Registry at a Glance



# Registry Information Model



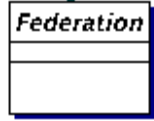
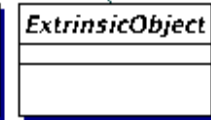
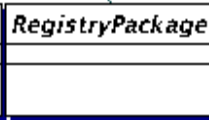
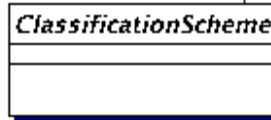
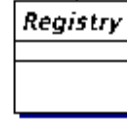
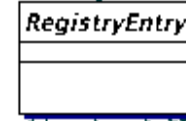
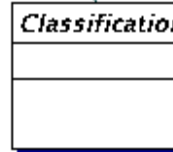
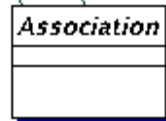
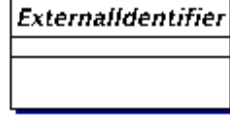
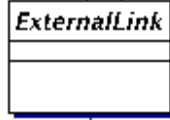
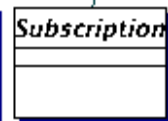
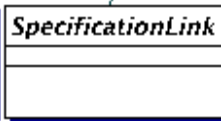
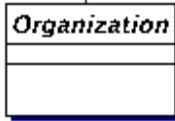
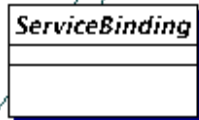
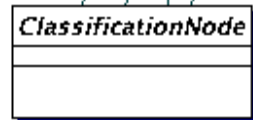
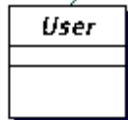
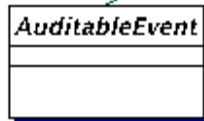
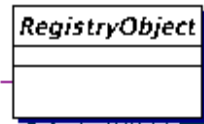
# Service Information Model





# Registry Information Model

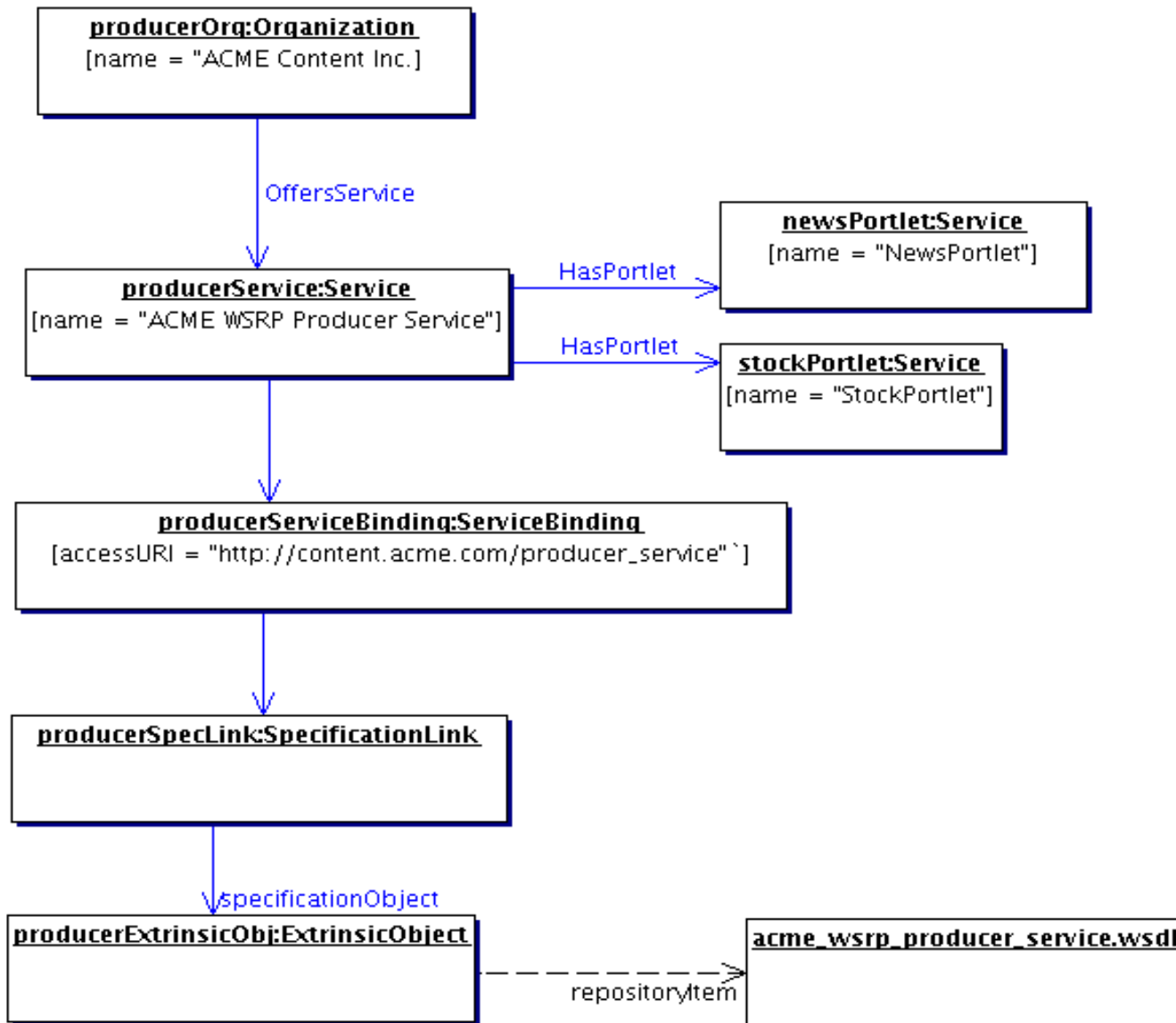
Base class for all metadata objects in registry. Provides minimal static metadata attributes for objects that need unique identity and have independent lifecycles. Also provides support for dynamic metadata.



Base class that provides extended metadata attributes

Metadata describing content whose type is not known to Registry

# Producer / Portlet Registration



# Publish: Special features

- Full mapping of ServiceDescription attributes to published description
- Full mapping of PortletDescription attributes to published description
- Relationship between Producer and its Portlets
- Publish actual WSDL not just a proxy

# Publish: Advanced features

- Content validation
  - PortletHandle must be specified
  - Attribute values are valid
- Content Cataloging
  - Map selected WSDL content to metadata
    - Name space uses
    - Bindings supported
    - Version supported

# Discover: Special Features

- Queries specialized to WSRP
- SQL 92 and XML Filter Query syntax
- Content based queries
  - Find me all Producer whose WSDL supports a MIME binding
  - Find me all Producers whose WSDL supports version 1.1

# Portlet Discovery Queries

- Find All Portlets
- Find All Portlets Supporting Specified WSRP Version
- Find Portlet By Portlet Handle
- Find All Portlets for a Producer
- Portlet Discovery Adhoc Queries

# Portlet Ad hoc Queries

- Typical predicates will consist of:
  - Portlet displayName
  - Portlet description
  - Portlet handle
  - Supported markupType

# Sample Portlet Query

```
SELECT * from Service portlet, Name nm, Description d, Slot slot
WHERE
AND (nm.parent = portlet.id AND UPPER ( nm.value ) LIKE UPPER ( "$name" ) )
AND (d.parent = portlet.id AND UPPER ( d.value ) LIKE UPPER ( "$description" ) )
AND (Slot.parent = portlet, Slot.name = "urn:oasis:names:tc:wsrp:v1:PortletDescription:portletHandle"
      AND Slot.value LIKE "$portletHandle")
AND (Slot.name = "urn:oasis:names:tc:wsrp:v1:PortletDescription:markupType"
      AND Slot.value LIKE "$markupType"
AND (portlet.id IN ( SELECT classifiedObject FROM Classification WHERE classificationNode IN
  ( SELECT id
FROM ClassificationNode WHERE path LIKE "/urn:uuid:3188a449-18ac-41fb-be9f-
  99a1adca02cb/RegistryObject/RegistryEntry/ExtrinsicObject/WSRP/Portlet%" ) ) )
```



# Producer Discovery Queries

- Find All WSRP Producers
- Find All WSRP Producer Supporting Specified WSRP Version
- Find Producer By Name
- Find Producer for Specified Portlet
- Producer Discovery Ad hoc Queries

# Producer Ad hoc Queries

- Typical predicates will consist of:
  - Service name
  - Service description
  - Portlet handle of hosted Portlet
  - Value of requiresRegistration attribute
  - Value of initCookies

# Sample Producer Query

- Like Portlet query only looks scarier!

```
SELECT * from Service producer, Service portlet, Association ass, Name nm, Description d

WHERE

AND (nm.parent = producer.id AND UPPER ( nm.value ) LIKE UPPER ( "$name" ))

AND (d.parent = producer.id AND UPPER ( d.value ) LIKE UPPER ( "$description" ))

AND (producer.id IN ( SELECT classifiedObject FROM Classification WHERE classificationNode IN ( SELECT id
FROM ClassificationNode WHERE path LIKE "/um:uuid:3188a449-18ac-41fb-be9f99a1adca02cb/RegistryObject/RegistryEntry/ExtrinsicObject/WSRP/Producer%" )))

AND (portlet.id IN ( SELECT classifiedObject FROM Classification WHERE classificationNode IN ( SELECT id
FROM ClassificationNode WHERE path LIKE "/um:uuid:3188a449-18ac-41fb-be9f99a1adca02cb/RegistryObject/RegistryEntry/ExtrinsicObject/WSRP/Portlet%" )))

AND (ass.sourceObject = producer.id AND ass.targetObject = portlet.id AND ass.associationType = "um:uuid:c7a2f66-7de9-46c5-b6e1-edc761e3a53e")

AND (Slot.parent = portlet, Slot.name = "um:oasis:names:tc:wsp:v1:PortletDescription:portletHandle"

        AND Slot.value LIKE "$portletHandle")

AND (Slot.parent = producer, Slot.name = "um:oasis:names:tc:wsp:v1:ServiceDescription:requiresRegistration"

        AND Slot.value LIKE "$ requiresRegistration")

AND (Slot.parent = producer, Slot.name = "um:oasis:names:tc:wsp:v1:ServiceDescription:requiresInitCookie"

        AND Slot.value LIKE "$ requiresInitCookie")
```

# Lifecycle Management

- *Approve* Services and Portlets
- *Update* Services and Portlets
- *Version* Services and Portlets
- *Deprecate* Services and Portlets
- *Undeprecate* Services and Portlets
- *Delete* Services and Portlets

# Event Notification

- Consumer subscribes using *Selector Query*
- Consumer receives event notifications using:
  - SOAP interface: NotificationListener
  - Email
- Notification granularity is configurable

# Selector Query Example

```
SELECT * from Service s
```

```
WHERE
```

```
AND (s.id IN ( SELECT classifiedObject FROM  
Classification WHERE classificationNode IN  
( SELECT id
```

```
FROM ClassificationNode WHERE path LIKE  
"/urn:uuid:3188a449-18ac-41fb-be9f-  
99a1adca02cb/RegistryObject/RegistryEntry/Extrinsi  
cObject/WSRP/ %" ) ) )
```

# Canonical Metadata

- Extensions to ObjectType taxonomy:
  - *Portlet*: identifies a Portlet Service
  - *Producer*: identifies a Producer Service
- Extensions to AssociationType taxonomy:
  - *HasPortlet*: Used to identify Association between Producer and Portlet services
- WSRPVersion ClassificationScheme

# Summary

- Service and Portlet published with full metadata, WSDL, content cataloging and validation
- Discovery using ad hoc WSRP specific queries that can even predicate on WSDL content
- Lifecycle management features



# Summary

- Consumer may subscribe and receive notification on events related to WSRP Producers and Services
  - Selector query specifies precisely what event are of interest to consumer

# Issues

- Need help identifying additional custom queries for discovering WSRP artifacts
- Need additional scenarios for event notification of WSRP artifacts
- Should custom role based access control be addressed for WSRP artifacts