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2 **WSRP – ebXML Registry Technical Note**

3 **Using ebXML Registry to Publish, Manage and**  
4 **Discover WSRP Artifacts**

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18 [http://www.oasis-open.org/committees/comments/form.php?wg\\_abbrev=wsrp](http://www.oasis-open.org/committees/comments/form.php?wg_abbrev=wsrp) at the WSRP TC  
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20

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112

## 113 **1 Introduction**

114 This document proposes a standard methodology for publishing and finding WSRP  
115 Producer and Portlet services in an ebXML Registry. It is not the purpose of this  
116 document to educate on WSRP [1], WSDL [4] or ebXML Registry [5,6]. The reader of  
117 this document should have a good understanding of the WSRP specification, the WSDL  
118 specification and the ebXML Registry specifications and data structures.

### 119 **1.1 Terminology**

120 The key words MUST, MUST NOT, REQUIRED, SHALL, SHALL NOT, SHOULD,  
121 SHOULD NOT, RECOMMENDED, MAY, and OPTIONAL in this document are to be  
122 interpreted as described in *[RFC2119]*.

### 123 **1.2 Conventions**

124 Throughout the document the following conventions are employed to define the data  
125 structures used. The following text formatting conventions are used to aide readability:

- 126 • **UML Diagrams**

127 UML diagrams are used as a way to concisely describe concepts. They are not  
128 intended to convey any specific *Implementation* or methodology requirements.

- 129 • **Identifier Placeholders**

130 Listings may contain values that reference ebXML Registry objects by their id  
131 attribute. These id values uniquely identify the objects within the ebXML Registry.  
132 For convenience and better readability, these key values are replaced by meaningful  
133 textual variables to represent such id values.

134 For example, the following placeholder refers to the unique id defined for the  
135 canonical ClassificationNode that defines the WSRP ObjectType defined in section  
136 A.1:

137  
138 

```
<id="{CANONICAL_OBJECT_TYPE_ID_WSRP}" >
```

- 139 • **Constants**

140 Constant values are printed in the Courier New font always, regardless of whether  
141 they are defined by this document or a referenced document. In addition, constant  
142 values defined by this document are printed using **bold face**. The following  
143 example shows the canonical Slot name defined by this technical note for the  
144 requiresRegistration attribute of a WSRP Producer Service:

145  
146  
147  
148  
149  
150

```
<rim:Slot  
name="urn:oasis:names:tc:wsrp:v1:ServiceDescription:requiresRegistration">  
  <rim:ValueList>  
    <rim:Value>false</rim:Value>  
  </rim:ValueList>  
</rim:Slot>
```

151  
152  
153  
154  
155

- **Example Values**

These values are represented in *italic* font. In the following, an access point example value is shown:

156  
157  
158  
159

```
<accessPoint useType="http">  
  http://vendor.com/producer/ServiceDescription  
</accessPoint>
```

## 160 2 Overview

161 This document requires some prior knowledge of WSRP, WSDL and ebXML Registry  
162 specifications. This chapter is not intended to replace the WSRP Primer [RP-PRIM] ,  
163 WSRP Specification [WSRP], WSDL specification [WSDL] or the ebXML Registry  
164 specifications [eBRIM, ebRS]. Instead, it is meant to be a very high level summary of  
165 concepts relevant to this document.

### 166 2.1 WSRP Actors

167 The WSRP specification [WSRP] describes the following major actors relevant to this  
168 technical note.

169

- 170 • **End user:** The end user, who uses a user agent such as a *web browser* to see  
171 multiple visually and contextually integrated content sources.
- 172 • **Consumer:** The software system such as a *Portal* that integrates content from  
173 multiple content sources.
- 174 • **Portlet:** The content source that generates markup as well as processing  
175 instructions for use by the consumer.
- 176 • **Producer:** The *web service* that acts as a container for Portlets and exposes the  
177 interfaces used by consumers to interact with Portlets.

178

179 The purpose of this document is to describe how Producer web services and Portlets are  
180 published, managed and discovered within an ebXML Registry.

#### 181 2.1.1 Portlet

182 A Consumer does not interact directly with Portlets. Instead it interacts with the Producer  
183 web service that contains the target Portlet. For this reason, the emphasis of this  
184 document is on publishing, management and discovery of Producers web services rather  
185 than Portlets.

186 Portlets are referenced within the service description of the Producer web service by a  
187 “Portlet Handle” identifier.

#### 188 2.1.2 Producer

189 A Producer is a web service that hosts and manages Portlets. A Producer exposes two  
190 required and two optional web service interfaces that allow Consumers to interact with it  
191 and specifically with the Portlets hosted within that Producer. These interfaces are  
192 described as PortTypes within the WSDL service description in [RP-INT].

193

194 The WSRP Producer Service has the following interfaces:

- 195 • **Service Description:** Enables Consumer to discover service capabilities including  
196 the Portlets that are available.
- 197 • **Markup:** Enables Consumer to access Portlet markup content.
- 198 • **Registration:** Enables Consumer to register with Producer if needed (optional).

- 199       • **Portlet Management:** Enables Consumer to manage lifecycle and configuration  
200       of hosted Portlets.

201

202       The WSRP specification [WSRP] specifies a WSDL definition that includes a PortType  
203       for each of the above service interfaces. It also defines one or more Bindings for each  
204       PortType. It further requires that a Producer **MUST** define at least a SOAP Binding to  
205       the required PortTypes.

## 206       **2.2 WSDL Description for a WSRP Producer Service**

207       [WSRP] defines the normative WSDL description for a WSRP Producer web service  
208       description in three separate parts:

209

- 210       1. **Type Description:** Defines the data types, message and fault definitions for the  
211       WSDL service description. Defined by [RP-TYPE].
- 212       2. **Interface Description:** Defines the abstract interface (PortType) definitions for  
213       the WSDL service description. Defined by [RP-INT]. Imports [RP-TYPE].
- 214       3. **Bindings Description:** Defines the standard SOAP bindings for the abstract  
215       interfaces defined for the WSDL service description. Defined by [RP-BIND].  
216       Imports [RP-INT].

217

218       The above three WSDL files provide the common WSDL definition for all WSRP  
219       Producer services. Each of these file are imported within the next (higher-order) file in  
220       the sequence.

221

222       Each Producer service has to provide its own unique *Service Implementation WSDL*  
223       that contains a Service definition containing WSDL Ports for the various Bindings.  
224       This WSDL **MUST** import the *WSRP Binding WSDL* [RP-BIND] and supply the  
225       address URL for each Port. [WSRP] provides a template for this *Service*  
226       *Implementation WSDL* is provided in [RP-SERV].

227

228       The focus of this document is the unique *Service Implementation WSDL* for the  
229       Producer service and its associated metadata that is published within an ebXML  
230       Registry. The purpose of this document is to specify how the unique *Service*  
231       *Implementation WSDL* for the Producer service and its associated metadata is  
232       published, managed and discovered within an ebXML Registry.

## 233       **2.3 Overview of ebXML Registry**

### 234       **2.3.1 Supported ebXML Registry Version**

235       This document is based upon on version 2.5 of the ebXML Registry specifications  
236       [ebRS, ebRIM]. However, it is expected that it will be largely applicable to other version  
237       of the ebXML Registry specification.



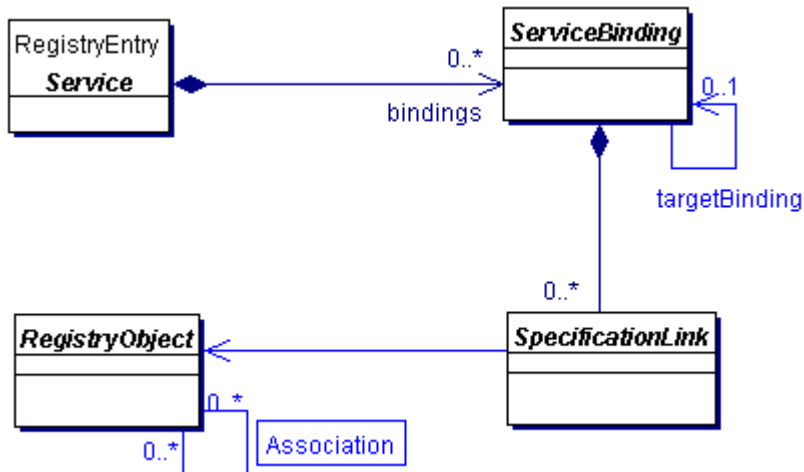
238 **2.3.2 Summary of ebXML Registry Information Model**

239 This section summarizes the ebXML Registry Information Model [ebRIM] with an  
 240 emphasis on those aspects of the model that are required for publishing, managing and  
 241 discovery of WSRP Producer services.

242  
 243 A Web service can be represented in an ebXML Registry through the following Registry  
 244 Information Model [ebRIM] classes:

- 246 • **Service:** Service instances provide information on services (e.g., Web services).  
 247 A Service has a collection of ServiceBindings.
- 248 • **ServiceBinding:** ServiceBinding instances represent a specific protocol binding  
 249 to a Service instance.
- 250 • **SpecificationLink:** A SpecificationLink associates a ServiceBinding with its  
 251 technical specifications (e.g. a WSDL definition).

252  
 253 The relationship between these RIM classes is illustrated in the figure below.



254  
 255 **Figure 1: Relationship between RIM classes Service, ServiceBinding, and SpecificationLink**

256  
 257 In addition to the Service related classes defined by [ebRIM] there are other classes in the  
 258 model that provide additional metadata.

259 The reader is referred to the Registry Information Model Specification v3.0 for the  
 260 complete set of classes and their attributes and methods.

261 **2.3.3 Registering Web Services in an ebXML Registry**

262 The ebXML Registry technical note “Registering Web Services in an ebXML Registry,  
 263 Version 1.0” [RR-WSDL] describes how a generic WSDL service description and its  
 264 associated metadata MAY be published, managed and discovered within an ebXML  
 265 Registry.

266

267 This document specializes in describing how the WSDL service description and  
268 associated metadata for a WSRP web service MAY be published, managed and  
269 discovered within an ebXML Registry. This document supplements and takes precedence  
270 over the [RR-WSDL] document.

#### 271 **2.3.4 Use Cases for ebXML Registry**

272 This section describes the various use case scenarios for using ebXML Registry with  
273 WSRP Producer service descriptions. Note that not all use cases are required to be  
274 supported by this technical note.

275 These use cases are:

- 276 • Publishing WSRP Producer Service and Portlet descriptions to an ebXML  
277 Registry
- 278 • Managing the life cycle of WSRP Producer Service and Portlet descriptions that  
279 have been published to an ebXML Registry. Life cycle operations include  
280 approval, deprecation and deletion of WSRP Producer service and Portlet  
281 descriptions.
- 282 • Discovering WSRP Producer service and Portlet descriptions within an ebXML  
283 Registry
- 284 • Managing access control to WSRP artifacts that have been published to an  
285 ebXML Registry<sup>1</sup>.
- 286 • Receiving notification of changes to WSRP Producer service descriptions that  
287 have been published to an ebXML Registry

288  
289 Figure 2 shows these use cases as a UML diagram. Each of above use cases will be  
290 explored in detail in subsequent chapters of this document.

---

<sup>1</sup> This is not the same as any access control provided by the actual Producer Service. It is only access control on the published WSRP artifacts to control which roles, groups and individuals are able to read, write or delete the WSRP artifacts.

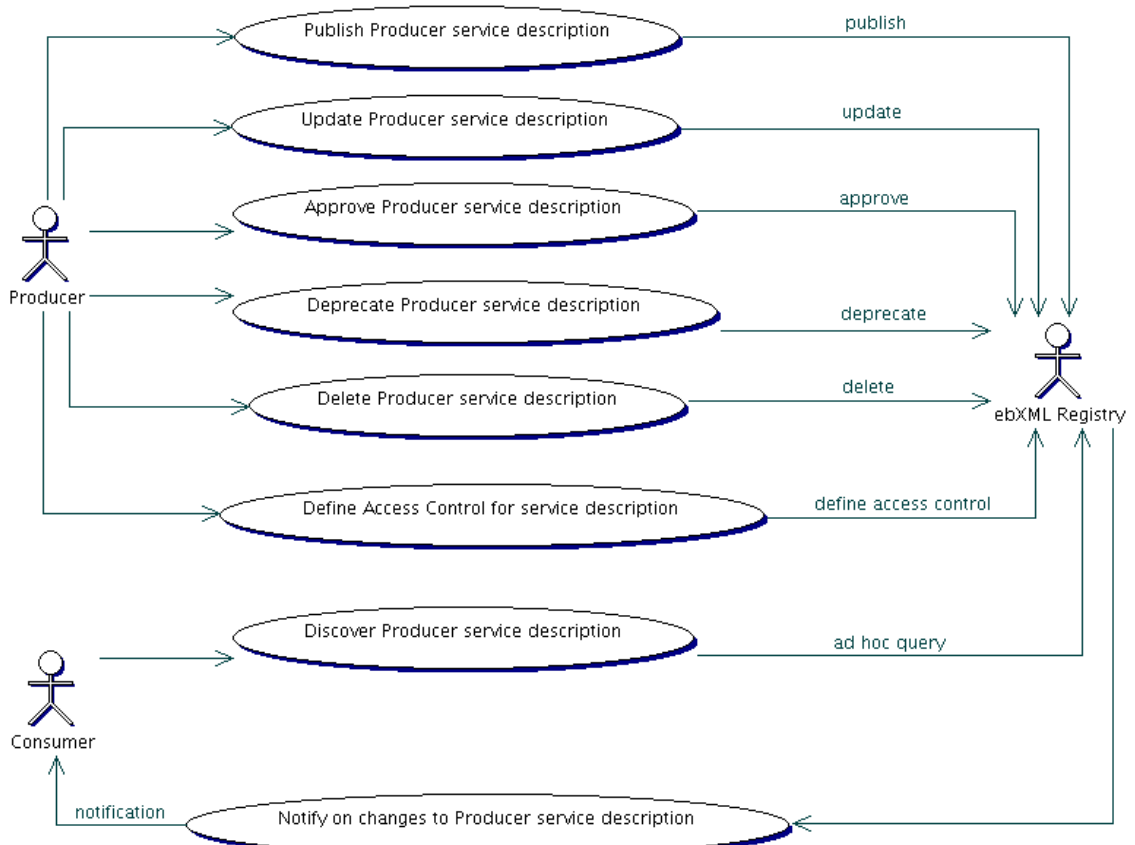


Figure 2: WSRP Use Cases for ebXML Registry

291  
292

293 **3 Publishing**

294 This chapter describes the detailed steps required to publish WSRP Producer service  
295 descriptions to an ebXML Registry. It includes publishing of all metadata including  
296 Portlet descriptions as well as the actual Producer Service Implementation WSDL.

297 **3.1 Overview**

298 The ebXML registry is both a metadata registry as well as a content repository. This  
299 document describes the publishing of the following major WSRP artifacts:

- 300 • WSDL description for a WSRP Producer service
- 301 • Metadata describing a Producer service and the Organization provides it  
302 (optional)
- 303 • Metadata describing one or more WSRP Portlets hosted within Producer services  
304 (optional)

305  
306 Figure 4 shows a simplified UML instance diagram showing the various ebXML Registry  
307 Information Model [ebRIM] objects representing a WSRP Producers and its Portlets.

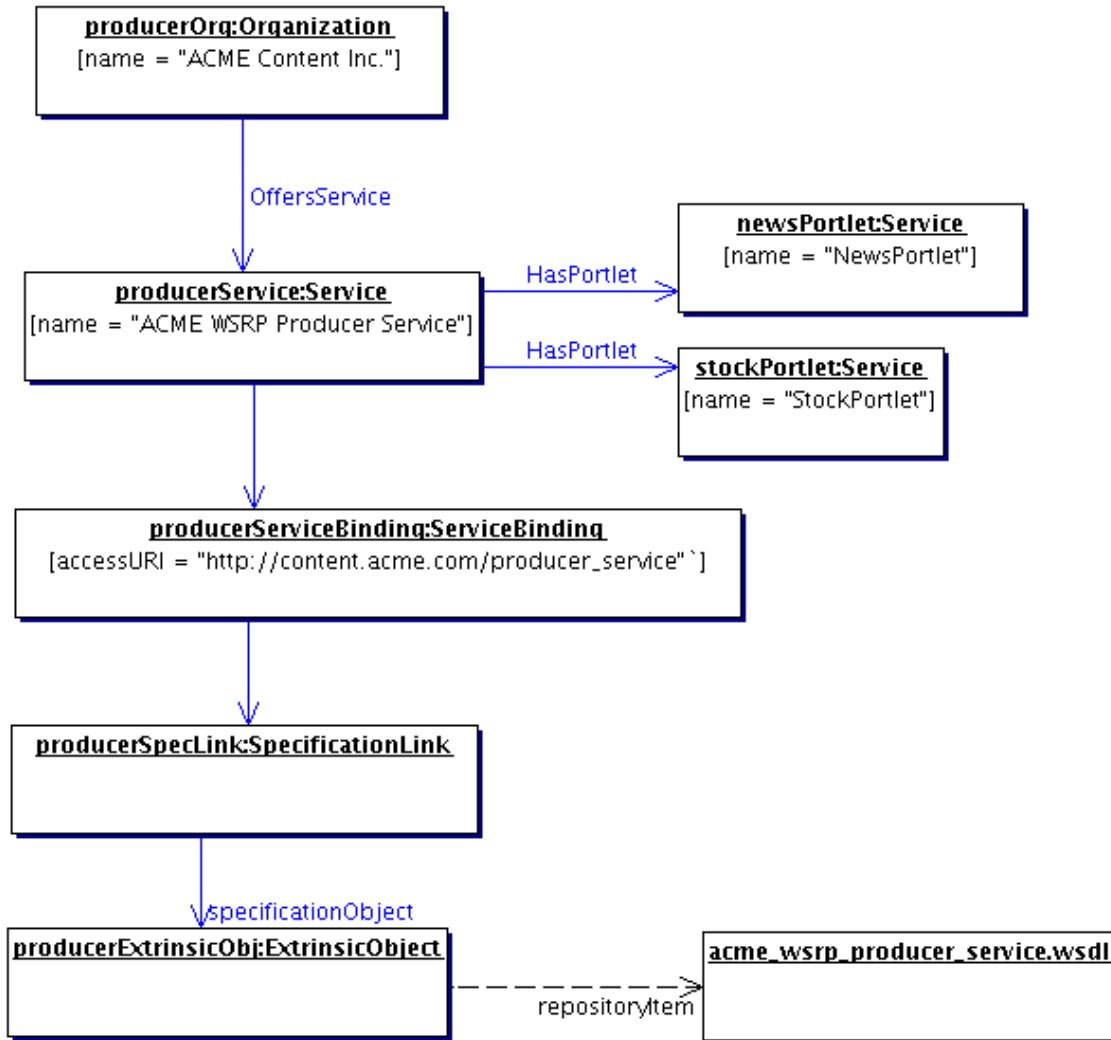


Figure 4: WSRP Producer Registration Simplified Instance Diagram

308  
309

The following is a summary of main concepts represented in Figure 4:

- 311 • An Organization object MAY be published that represents the Organization that is
- 312 offering the Producer Service.
- 313 • A Service object MUST be published that represents the Producer Service being
- 314 offered.
- 315 • The Service MUST be classified by the canonical ClassificationNode defined for
- 316 a WSRP Producer Service within the canonical ObjectType
- 317 ClassificationScheme.
- 318 • The Service MUST be classified by a ClassificationNode defined for WSRP
- 319 version within the canonical WSRPVersion ClassificationScheme.
- 320 • The Organization and Producer Service MUST be related by an Association
- 321 whose associationType is the canonical “OffersService” association type defined
- 322 by [ebRIM].

- 323 • A Service object MAY be published for each Portlet hosted by the Producer  
324 Service.
- 325 • The Producer Service and each published Portlet Service MUST be related by an  
326 Association whose associationType is the “HasPortlet” association type defined  
327 by this document in section A.2.
- 328 • The Producer Service MUST contain one or more ServiceBinding instance  
329 depending upon the number of service endpoints available. The ServiceBinding  
330 instance MAY specify the endpoint URL for the Producer service through its  
331 accessURI attribute. The value of the accessURI attribute, if specified, MUST  
332 match the value of the location attribute of the wsdl:port Address defined within  
333 the *Service implementation WSDL*. For example, in case of HTTP/S transport it  
334 must match the URL specified by the location attribute of the http:address  
335 element.
- 336 • The ServiceBinding instance MUST contain a SpecificationLink that associates it  
337 to either:
  - 338 ○ The ExtrinsicObject instance that serves at metadata for the *Service*  
339 *Implementation WSDL* that is uniquely defined for this Producer Service.
  - 340 ○ Or the ExternalLink instance that references the URL for the *Service*  
341 *Implementation WSDL* that is uniquely defined for this Producer Service.
- 342 • The ExtrinsicObject instance for the WSDL MUST be published with a  
343 companion repository item that is the actual *Service Implementation WSDL* that is  
344 uniquely defined for this Producer Service.

345  
346 The above descriptions omits several details to match the simplicity of Figure 4. The  
347 omitted details include several additional metadata such as Classifications,  
348 ExternalLinks, ExternalIdentifiers, Slots and access control defined for the objects  
349 shown. The reader should refer to [RR-WSDL] and [ebRIM, ebRS] for these details.

## 350 **3.2 Producer Service Description (Optional)**

351 A WSRP Producer Service is a web service that conforms to the interface and behavior  
352 described by [WSRP].

### 353 **3.2.1 Producer Service Mapping to ebRIM Service**

354 A Producer Service instance maps to an instance of a Service as defined by [ebRIM]. A  
355 Producer Service is a web service that is described by a Service Implementation WSDL  
356 specification. The ebXML Registry TC has defined how WSDL descriptions of web  
357 services are published, managed and discovered in [RR-WSDL]. This document defines  
358 how to published, managed and discovered WSRP Producer Service in an ebXML  
359 Registry.

#### 360 **ServiceDescription Mapping**

361 [WSRP] define the following attributes for a Producer Service Description:

362	ServiceDescription	
363	[R] boolean	requiresRegistration
364	[O] <a href="#">PortletDescription</a>	offeredPortlets[]
365	[O] <a href="#">ItemDescription</a>	userCategoryDescriptions[]
366	[O] <a href="#">ItemDescription</a>	customUserProfileItemDescriptions[]
367	[O] <a href="#">ItemDescription</a>	customWindowStateDescriptions[]
368	[O] <a href="#">ItemDescription</a>	customModeDescriptions[]
369	[O] <a href="#">CookieProtocol</a>	requiresInitCookie
370	[O] <a href="#">ModelDescription</a>	registrationPropertyDescription
371	[O] string	locales[]
372	[O] <a href="#">ResourceList</a>	resourceList
373	[O] <a href="#">Extension</a>	extensions[]

Listing 1: Producer ServiceDescription Attributes

375

376 Mapping of all of the attributes in Listing 1 is optional. The mapping of some important  
377 attributes is described as follows:

- 378 • **requiresRegistration:** Maps to a Slot with name urn:oasis:names:tc:wsrp:<wsrp  
379 version>:ServiceDescription:requiresRegistration and value of “true” or “false”
- 380 • **PortletDescription:** Each PortletDescription is mapped to a separate ebRIM  
381 Service. See section 3.3 for detail.
- 382 • **requiresInitCookie:** Maps to a Slot with name urn:oasis:names:tc:wsrp:<wsrp  
383 version>:ServiceDescription:requiresInitCookie and value of “none”, “perUser” or  
384 “perGroup”.

385

386 Listing 2 shows a minimal example of an ebRIM Service instance representing a WSRP  
387 Producer Service. Within this ebRIM Service instance are composed the ebRIM  
388 ServiceBinding and SpecificationLink instances that together with the Service instance  
389 provide a complete Service description for the Producer Service.

390

```

391 <rim:Service id="{ACME_PRODUCER_SERVICE_ID}">
392   <rim:Name>
393     <rim:LocalizedString value="ACME WSRP Producer Service" xml:lang="en-US"/>
394   </rim:Name>
395   <rim:Description>
396     <rim:LocalizedString value="A WSRP Producer Service. Contains news and stock Portlets"
397     xml:lang="en-US"/>
398   <!-- optional Slots for attributes of the Producer ServiceDescription goes here -->
399   <!-- Classify this Service with the canonical objectType for a Producer Service -->
400   <rim:Classification id="{PRODUCER_CLASSIFICATION_ID}"
401   classificationNode="{CANONICAL_CLASSIFICATION_NODE_PRODUCER_ID}"
402   classifiedObject="{ACME_PRODUCER_SERVICE_ID}">
403     </rim:Classification>
404   <!-- Classify this Service as supporting version 1.0 of WSRP specs -->
405   <rim:Classification id="{WSRP_VERSION_CLASSIFICATION_ID}"
406   classificationNode="{CANONICAL_CLASSIFICATION_NODE_VERSION1.0_ID}"
407   classifiedObject="{ACME_PRODUCER_SERVICE_ID}">
408     </rim:Classification>
409   <rim:ServiceBinding accessURI="http://content.acme.com/producer_service"
410   id="{PRODUCER_SERVICE_SOAP_BINDING_ID}">
411     <!-- optional name goes here -->
412     <!-- optional description goes here -->
413     <rim:SpecificationLink id="{PRODUCER_SERVICE_SOAP_BINDING_SPECLINK_ID}"
414     specificationObject="{V1_TYPES_XSD_ID}">

```

```
415         </rim:SpecificationLink>
416     </rim:ServiceBinding>
417 </rim:Service>
```

### Listing 2: Minimal XML Sample Representing a Producer Service

#### Fields:

- **id**: The unique id identifying this Service instance.
- **Name**: The name of the Service. Though optional this SHOULD be present.
- **Description**: The description for this Service. Though optional this SHOULD be present.
- **Classification**: Defines any number of Classifications that classify or categorize this object. A Producer Service MUST be classified by the Producer ClassificationNode and a WSRPVersion ClassificationNode defined in section A.1.
- **ServiceBinding**: Defines a binding for the Producer Service. It includes the URL for accessing the Service. We are skipping the usual id, Name, Description, Classification and Slot elements that may be specified on any object in ebRIM.
  - **SpecificationLink**: Defines an association between the ServiceBinding instance and the Producer Service Implementation WSDL specification. Its specificationObject attribute is a reference to the ExtrinsicObject that represents the Service Implementation WSDL specification.

## 3.3 Portlet Description (Optional)

Publishing Portlets associated with the Producer Service is optional since the Producer already provides an interface to discover and manage its associated Portlets. This document recommends that Portlets be published to the ebXML Registry in addition to the Producer Service because it improves the ability of the End User to perform a direct ad hoc query and discover Portlets based upon their description.

### 3.3.1 Portlet Mapping to ebRIM Service

A Portlet instance maps to an instance of a Service as defined by [ebRIM]. Portlets do not expose interfaces, access points or bindings directly. Instead a Consumer interacts with Portlets indirectly via the Producer service, addressing them by their Portlet Handles. Thus the Service representation of Portlet MUST not contain any ServiceBinding or SpecificationLink instances.

#### PortletDescription Mapping

[WSRP] define the following attributes for a Portlet Description:



455	PortletDescription	
456	[R] <a href="#">Handle</a>	portletHandle
457	[R] <a href="#">MarkupType</a>	markupTypes[]
458	[O] <a href="#">ID</a>	groupID
459	[O] <a href="#">LocalizedString</a>	description
460	[O] <a href="#">LocalizedString</a>	shortTitle
461	[O] <a href="#">LocalizedString</a>	title
462	[O] <a href="#">LocalizedString</a>	displayName
463	[O] <a href="#">LocalizedString</a>	keywords[]
464	[O] string	userCategories[]
465	[O] string	userProfileItems[]
466	[O] boolean	usesMethodGet
467	[O] boolean	defaultMarkupSecure
468	[O] boolean	onlySecure
469	[O] boolean	userContextStoredInSession
470	[O] boolean	templatesStoredInSession
471	[O] boolean	hasUserSpecificState
472	[O] boolean	doesUrlTemplateProcessing
473	[O] <a href="#">Extension</a>	extensions[]

**Listing 4: PortletDescription Metadata**

475 This section describes the rules that are used to map nearly all of the attributes of a  
 476 Portlet Description to metadata associated with the Portlet Service instance.

477  
 478 Table 1 shows the mapping for a subset of the attributes defined by [WSRP] for a Portlet  
 479 Description.

Portlet Attribute	Mapping to ebRIM	Comments
Description	Service.description	
DisplayName	Service.name	
<All other attributes...>	Service.Slot	

**Table 1: Portlet Description Attribute Mapping**

483  
 484 Any other attribute whose domain is a primitive value or a Collection of primitive values  
 485 for which a mapping is not defined in this table MUST map to a Slot within the Portlet's  
 486 Service instance. The Slot name MUST match the following name pattern:

487  
 488 **urn:oasis:names:tc:wsrp:<wsrp version>:PortletDescription:<attribute**  
 489 **name>**

490  
 491 The Slots value contains the single or collection value as described by [WSRP]  
 492 For example the portletHandle attribute name maps as follows:

493  
 494 **urn:oasis:names:tc:wsrp:v1:PortletDescription:portletHandle**

495  
 496 For example the markupType attribute name maps as follows:

497  
 498 **urn:oasis:names:tc:wsrp:v1:PortletDescription:markupType**

499

500 The provider **MUST** provide the PortletHandle attribute. The provider **SHOULD**  
 501 minimally also provide the displayName and description for the Portlet. Beyond that it is  
 502 up to the provider of the Portlet as to how much of the Portlet Description is published as  
 503 metadata for the Portlet within an ebXML Registry.

504

505 Listing 5 below shows a minimal sample XML fragment for an ebRIM Service  
 506 representing a WSRP Portlet and its metadata.

507

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533

534

```

<!--The News Portlet-->
<rim:Service id="{ACME_PORTLET_SERVICE_ID}">
  <rim:Name>
    <rim:LocalizedString value="ACME News Portlet" xml:lang="en-US"/>
  </rim:Name>
  <rim:Description>
    <rim:LocalizedString value="A WSRP Portlets that provides News." xml:lang="en-US"/>
  </rim:Description>
  <!-- optional Slots for attributes of the Producer ServiceDescription goes here -->
  <!--Provide portletHandle for this Portlet-->
  <rim:Slot name="urn:oasis:names:tc:wsrp:v1:PortletDescription:portletHandle">
    <rim:ValueList>
      <rim:Value>NewsPortlet</rim:Value>
    </rim:ValueList>
  </rim:Slot>
  <!--Classify this Service with the canonical objectType for a Portlet -->
  <rim:Classification id="{PORTLET_CLASSIFICATION_ID}"
classificationNode="{CANONICAL_CLASSIFICATION_NODE_PORTLET_ID}"
classifiedObject="{ACME_PORTLET_SERVICE_ID}">
  </rim:Classification>
  <!--Classify this Service as supporting version 1.0 of WSRP specs -->
  <rim:Classification id="{WSRP_VERSION_CLASSIFICATION_ID_2}"
classificationNode="{CANONICAL_CLASSIFICATION_NODE_VERSION1.0_ID}"
classifiedObject="{ACME_PORTLET_SERVICE_ID}">
  </rim:Classification>
</rim:Service>

```

#### Listing 5: Minimal XML Sample Representing a Portlet Service

#### 535 Fields:

536

537

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545

546

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548

549

- **id**: The unique id identifying this Service instance.
- **Name**: The name of the Service. Though optional this **SHOULD** be present.
- **Description**: The description for this Service. Though optional this **SHOULD** be present.
- **Slot**: Represents any other attribute of the PortletDescription that does not map directly into an [ebRIM] standard attribute. Note that the Slot for portletHandle attribute **MUST** be published.
- **Classification**: Defines any number of Classifications that classify or categorize this object. A Portlet Service **MUST** be classified by the Portlet ClassificationNode and a WSRPVersion ClassificationNode defined in section A.1.

### 550 3.4 Producer's Organization Description

551 A Producer Service when published to an ebXML Registry MAY be optionally  
552 associated with a description of the Organization that offers the Producer Service.  
553 This is done by publishing an ebRIM Organization instance.

554  
555 Listing 7 shows a sample XML fragment for an Organization instance that offers the  
556 Producer Service described in Listing 2.

```
557
558 <rim:Organization id="{ACME_ORG_ID}" primaryContact="{ACME_PRIMARY_CONTACT_ID}">
559 <rim:Name>
560 <rim:LocalizedString value="ACME Content Inc." xml:lang="en-US"/>
561 </rim:Name>
562 <rim:Description>
563 <rim:LocalizedString value="Provides WSRP Producer service for news and stock content." xml:lang="en-
564 US"/>
565 </rim:Description>
566 <!--Classify Organization by geography of United States-->
567 <rim:Classification id="{US_CLASSIFICATION_ID}"
568 classificationNode="{CANONICAL_CLASSIFICATION_NODE_GEO_US}"
569 classifiedObject="{ACME_ORG_ID}">
570 </rim:Classification>
571 <rim:Address city="Burlington" country="USA" postalCode="01867" stateOrProvince="MA" street="Network
572 Dr." streetNumber="1"/>
573 <rim:TelephoneNumber areaCode="123" countryCode="1" number="456-7890"/>
574 </rim:Organization>
```

575 **Listing 7: Sample XML fragment representing the Organization offering the Producer Service**

576

#### 577 **Fields:**

- 578 • **id:** The unique id identifying this Organization instance.
- 579 • **Name:** The name of the Organization. Though optional this SHOULD be  
580 present.
- 581 • **Description:** The description for this Organization. Though optional this  
582 SHOULD be present.
- 583 • **Classification:** Once or more Classifications MAY be used to classify or  
584 categorize the Organization using any ClassificationScheme (taxonomy).  
585 Though optional there SHOULD be some classifications present.
- 586 • **ExternalIdentifier:** Defines zero or more additional identifiers for this  
587 Organization besides its id attribute.
- 588 • **Address:** The PostalAddress for this Organization.
- 589 • **TelephoneNumber:** Defines one or more TelephoneNumbers for this  
590 Organization.

591

#### 592 3.4.1 Association Producer Organization and Service

593 The Organization instance MAY be associated with the Producer Service instance using  
594 an Association instance that has an associationType of "OffersService".

595

```
596 <!--Associate Org and Service with OffersService canonical associationType -->
```

```

597 <rim:Association associationType="{CANONICAL_CLASSIFICATION_NODE_OFFERS_SERVICE}"
598 id="{OFFERS_SERVICE_ASSOCIATION1_ID}" sourceObject="{ACME_ORG_ID}"
599 targetObject="{ACME_PRODUCER_SERVICE_ID}"/>

```

**Listing 9: Sample XML Fragment for Association between Producer’s Organization and Service**

### 3.5 Portlet’s Organization Description

It is possible that a Portlet MAY be provided by a different Organization than the one that provides the Producer Service that hosts the Portlet. In such cases the Portlet provider Organization may be associated with the ebRIM Service describing the Portlet in the same manner as defined in section 3.4.1.

### 3.6 Publishing the Service Implementation WSDL

The Service Implementation WSDL for the Producer Service may be published in one of two ways:

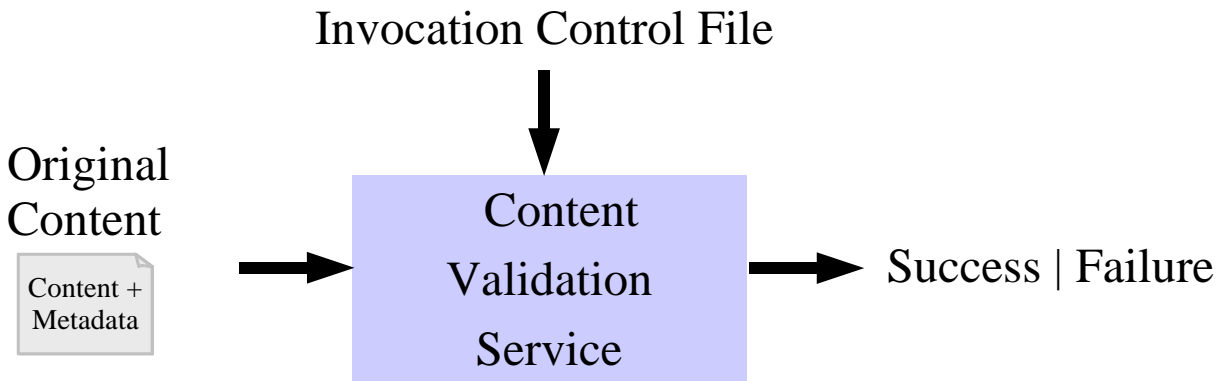
1. Publish the WSDL directly into the ebXML Registry’s repository as a repository item.
2. Publish a reference to the WSDL into the ebXML Registry as an ExternalLink instance.

A Producer SHOULD publish the WSDL directly into the ebXML Registry’s repository because this enables the WSDL to benefit from all the use cases identified in this document for the Portlet and Producer metadata.

Alternatively, a Producer MAY publish the WSDL into the ebXML Registry as an ExternalLink instance if the WSDL is generated dynamically or if there is some other compelling reason for keeping it outside the ebXML Registry. In such cases the WSDL will not be able to benefit from all the use cases identified in this document for the Portlet and Producer metadata.

### 3.7 Validation of WSRP Producer Service Descriptions

The ebXML Registry Content Management Services support the ability to enforce domain specific business validation rules upon submitted content and metadata in a content specific manner.



628

**Figure 6: Content Validation Service**

629

An ebXML Registry uses one or more Content Validation Services to automatically validate<sup>2</sup> the Content and Metadata when it is submitted to the registry. According to [ebRS] a registry MUST reject a submission request in its entirety if it contains invalid data as deemed by a content validation service.

630

631

632

633

The following are suggested validation rules that SHOULD be encapsulated in a Content Validation service for WSRP Producer Services and Portlets.

634

635

- **PortletHandle MUST Be Specified:** Enforce that when a WSRP Portlet is published that it MUST have its PortletHandle specified.

636

637

- **Valid Attribute Values MUST be Specified:** Enforce that all attribute values specified by Slots for Producer Service or Portlet have a valid value. For example specifying a value other than “true” or “false” for the requiresRegistration attribute of Producer Service is not valid.

638

639

640

---

<sup>2</sup> Such business rule based validation is distinct and orthogonal to syntax validation offered by validating XML parsers.

## 641 **4 Discovery**

642 So far we have described how the Producer publishes descriptions of WSRP Producer  
643 Services and Portlets to an ebXML Registry. In this chapter we describe how consumers  
644 subsequently discover these descriptions.

645  
646 The ebXML Registry allows a Consumer to discover WSRP Producer Services and  
647 Portlets within it using ad hoc queries. By their very nature ad hoc queries are user-  
648 defined and open-ended. This means that a Consumer MAY use *any* ad hoc query to  
649 search the registry as long as the query syntax is supported by [eBRS].

650  
651 The subsequent section will show ad hoc queries of varying complexity that cover  
652 anticipated discovery needs for Portlets and Producer Services. It is expected that UI  
653 tools would provide simplified form based parameter entry to hide the details of these  
654 underlying queries from the user.

### 655 **4.1 Producer Service Discovery**

656 Producer Services may be discovered using queries that may be as general or as specific  
657 as needed.

#### 658 **4.1.1 Find All WSRP Producers**

659 Listing 10 shows a query that finds all WSRP Producer Services. It looks for all ebRIM  
660 Services that are classified as a WSRP Producer.

661

662

663

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671

672

```
SELECT * from Service producer
WHERE
  (producer.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/P
roducer%" ) ))
```

673

**Listing 10: Find All Producers - Query**

674

#### 675 **4.1.2 Find All WSRP Producer Supporting Specified WSRP Version**

676 Listing 12 shows a query that finds all WSRP Producer Services that support a specified  
677 WSRP version. The query shows the WSRPVersion query parameter with the parameter  
678 name prefixed by a '\$'. This should be replaced with the actual parameter value.

679

```

680
681     SELECT * from Service producer
682     WHERE
683     (producer.id IN ( SELECT classifiedObject FROM Classification WHERE
684     classificationNode IN ( SELECT id
685     FROM ClassificationNode WHERE path LIKE "/urn:uuid:3188a449-18ac-
686     41fb-be9f-
687     99a1adca02cb/RegistryObject/RegistryEntry/ExtrinsicObject/WSRP/P
688     roducer%" ) ) ) AND
689     (producer.id IN ( SELECT classifiedObject FROM Classification WHERE
690     classificationNode IN ( SELECT id
691     FROM ClassificationNode WHERE path LIKE "/urn:uuid:bd0c092a-cb38-
692     4578-8520-81274054f678/$WSRPVersion%" ) ) )
693
694

```

695 **Listing 12: Find All Producers Supporting Specified WSRP Version - Query**

### 696 **4.1.3 Find Producer By Name**

697 Listing 14 shows a query that finds all ebRIM Services that are classified as a Producer  
698 Service and match the specified name pattern.

699

700 The query shows the name query parameter with the parameter name prefixed by a '\$'.  
701 This should be replaced with the actual parameter value.

702

```

703
704     SELECT * from Service producer, Name nm
705     WHERE
706     (nm.parent = producer.id AND UPPER ( nm.value ) LIKE UPPER ( '$name' ) )
707     AND (producer.id IN ( SELECT classifiedObject FROM Classification WHERE
708     classificationNode IN ( SELECT id
709     FROM ClassificationNode WHERE path LIKE "/urn:uuid:3188a449-18ac-
710     41fb-be9f-
711     99a1adca02cb/RegistryObject/RegistryEntry/ExtrinsicObject/WSRP/P
712     roducer%" ) ) )
713

```

714

**Listing 14: Find Producer By Name - Query**

### 715 **4.1.4 Find Producer for Specified Portlet**

716 Listing 16 shows a query that finds all ebRIM Services that are classified as a Producer  
717 Service and hosts the Portlet specified by its portletHandle.

718

719 The query shows the portletHandle query parameter with the parameter name prefixed by  
720 a '\$'. This should be replaced with the actual parameter value.

721

```
722
723     SELECT * from Service producer, Service portlet, Association ass
724     WHERE
725     (producer.id IN ( SELECT classifiedObject FROM Classification WHERE
726     classificationNode IN ( SELECT id
727     FROM ClassificationNode WHERE path LIKE "/urn:uuid:3188a449-18ac-
728     41fb-be9f-
729     99a1adca02cb/RegistryObject/RegistryEntry/ExtrinsicObject/WSRP/P
730     roducer%" ) ))
731     AND (portlet.id IN ( SELECT classifiedObject FROM Classification WHERE
732     classificationNode IN ( SELECT id
733     FROM ClassificationNode WHERE path LIKE "/urn:uuid:3188a449-18ac-
734     41fb-be9f-
735     99a1adca02cb/RegistryObject/RegistryEntry/ExtrinsicObject/WSRP/P
736     ortlet%" ) ))
737     AND (ass.sourceObject = producer.id AND ass.targetObject = portlet.id AND
738     ass.associationType =
739     "${CANONICAL_CLASSIFICATION_NODE_HAS_PORTLET_ID}")
740     AND (Slot.parent = portlet, Slot.name =
741     "urn:oasis:names:tc:wsrp:v1:PortletDescription:portletHandle"
742     AND Slot.value LIKE "$portletHandle")
```

743 **Listing 16: Find Producer For Specified Portlet**

#### 744 **4.1.5 Complex Producer Discovery Query**

745 Listing 18 shows a more complex query that finds all ebRIM Services that are classified  
746 as a Producer Service based upon zero or more of following criteria:

- 747 • Service name
- 748 • Service description
- 749 • Portlet handle of hosted Portlet
- 750 • Value of requiresRegistration attribute
- 751 • Value of initCookies

752  
753 The query shows all query parameters with the parameter name prefixed by a '\$'. These  
754 should be replaced with the actual parameter value. If a parameter is not relevant to the  
755 query then the entire query predicate for that parameter SHOULD be pruned.

756



```

757
758     SELECT * from Service producer, Service portlet, Association ass, Name nm,
759 Description d
760     WHERE
761     (nm.parent = producer.id AND UPPER ( nm.value ) LIKE UPPER ( "$name" ) )
762     AND (d.parent = producer.id AND UPPER ( d.value ) LIKE UPPER ( "$description"
763 ) )
764     AND (producer.id IN ( SELECT classifiedObject FROM Classification WHERE
765 classificationNode IN ( SELECT id
766     FROM ClassificationNode WHERE path LIKE "/urn:uuid:3188a449-18ac-
767 41fb-be9f-
768 99a1adca02cb/RegistryObject/RegistryEntry/ExtrinsicObject/WSRP/P
769 roducer%" ) ) )
770     AND (portlet.id IN ( SELECT classifiedObject FROM Classification WHERE
771 classificationNode IN ( SELECT id
772     FROM ClassificationNode WHERE path LIKE "/urn:uuid:3188a449-18ac-
773 41fb-be9f-
774 99a1adca02cb/RegistryObject/RegistryEntry/ExtrinsicObject/WSRP/P
775 ortlet%" ) ) )
776     AND (ass.sourceObject = producer.id AND ass.targetObject = portlet.id AND
777 ass.associationType =
778 "${CANONICAL_CLASSIFICATION_NODE_HAS_PORTLET_ID}")
779     AND (Slot.parent = portlet, Slot.name =
780 "urn:oasis:names:tc:wsrp:v1:PortletDescription:portletHandle"
781     AND Slot.value LIKE "$portletHandle")
782     AND (Slot.parent = producer, Slot.name =
783 "urn:oasis:names:tc:wsrp:v1:ServiceDescription:requiresRegistration"
784     AND Slot.value LIKE "$ requiresRegistration")
785     AND (Slot.parent = producer, Slot.name =
786 "urn:oasis:names:tc:wsrp:v1:ServiceDescription:requiresInitCookie"
787     AND Slot.value LIKE "$ requiresInitCookie")
788
789

```

Listing 18: Complex Producer Service Discovery Query

790

## 791 792 4.2 Portlet Discovery

793 Portlets may be discovered using queries that may as general or as specific as needed.  
794 Simple queries are less specific while complex queries are most specific.

### 795 4.2.1 Find All Portlets

796 Listing 20 shows a query that finds all ebRIM Services that are classified as a Portlet  
797 Service.  
798

```

799
800     SELECT * from Service portlet
801     WHERE
802     (portlet.id IN ( SELECT classifiedObject FROM Classification WHERE
803     classificationNode IN ( SELECT id
804     FROM ClassificationNode WHERE path LIKE "/urn:uuid:3188a449-18ac-
805     41fb-be9f-
806     99a1adca02cb/RegistryObject/RegistryEntry/ExtrinsicObject/WSRP/P
807     ortlet%" ) ))
808
809

```

**Listing 20: Final All Portlets - Query**

#### 810 **4.2.2 Find All Portlets Supporting Specified WSRP Version**

811 Listing 22 shows a query that finds all ebRIM Services that are classified as a Portlet  
812 Service and that support the specified WSRP specification version. The query shows the  
813 WSRPVersion query parameter with the parameter name prefixed by a '\$'. This should  
814 be replaced with the actual parameter value.

```

815
816
817     SELECT * from Service portlet
818     WHERE
819     (portlet.id IN ( SELECT classifiedObject FROM Classification WHERE
820     classificationNode IN ( SELECT id
821     FROM ClassificationNode WHERE path LIKE "/urn:uuid:3188a449-18ac-
822     41fb-be9f-
823     99a1adca02cb/RegistryObject/RegistryEntry/ExtrinsicObject/WSRP/P
824     ortlet%" ) )) AND
825     AND
826     (portlet.id IN ( SELECT classifiedObject FROM Classification WHERE
827     classificationNode IN ( SELECT id
828     FROM ClassificationNode WHERE path LIKE "/urn:uuid:bd0c092a-cb38-
829     4578-8520-81274054f678/$WSRPVersion" ) ))

```

**Listing 22: Find All Portlets Supporting Specified WSRP Version - Query**

#### 831 **4.2.3 Find Portlet By Portlet Handle**

832 Listing 24 shows a query that finds all ebRIM Services that are classified as a Portlet  
833 Service and match the specified portletHandle.

834

835 The query shows the portletHandle query parameter with the parameter name prefixed by  
836 a '\$'. This should be replaced with the actual parameter value.

837

```

838
839     SELECT * from Service portlet, Slot slot
840     WHERE
841     (Slot.parent = portlet, Slot.name =
842     "urn:oasis:names:tc:wsrp:v1:PortletDescription:portletHandle"
843     AND Slot.value LIKE "$portletHandle")
844     AND (portlet.id IN ( SELECT classifiedObject FROM Classification WHERE
845     classificationNode IN ( SELECT id
846     FROM ClassificationNode WHERE path LIKE "/urn:uuid:3188a449-18ac-
847     41fb-be9f-
848     99a1adca02cb/RegistryObject/RegistryEntry/ExtrinsicObject/WSRP/P
849     ortlet%" ) ))
850

```

Listing 24: Find Portlet By Portlet Handle - Query

#### 852 4.2.4 Find All Portlets for a Producer

853 Listing 26 shows a query that finds all Portlets offered by a specified Producer.

854

855 The query shows the producerId query parameter with the parameter name prefixed by a  
856 '\$'. This should be replaced with the actual parameter value that identifies the producer  
857 Service. Note that a variation on this query could also specify the Producer by name,  
858 description or classification.

859

860

```

861
862     SELECT * from Service portlet, Service producer, Association ass
863     WHERE
864     (portlet.id IN ( SELECT classifiedObject FROM Classification WHERE
865     classificationNode IN ( SELECT id
866     FROM ClassificationNode WHERE path LIKE "/urn:uuid:3188a449-18ac-
867     41fb-be9f-
868     99a1adca02cb/RegistryObject/RegistryEntry/ExtrinsicObject/WSRP/P
869     ortlet%" ) ))
870     AND (ass.sourceObject = producer.id AND ass.targetObject = portlet.id AND
871     ass.associationType = "
872     ${CANONICAL_CLASSIFICATION_NODE_HAS_PORTLET_ID}"
873     AND (producer.id IN ( SELECT classifiedObject FROM Classification WHERE
874     classificationNode IN ( SELECT id
875     FROM ClassificationNode WHERE path LIKE "/urn:uuid:3188a449-18ac-
876     41fb-be9f-
877     99a1adca02cb/RegistryObject/RegistryEntry/ExtrinsicObject/WSRP/P
878     roducer%" ) ))
879     AND (producer.id = $producerid)
880
881

```

Listing 26: Find All Portlets for a Producer - Query

882

883

#### 884 4.2.5 Complex Portlet Discovery Query

885 Listing 28 shows a query that finds all ebRIM Services that are classified as Portlets  
886 based upon zero or more of following criteria:

- 887 • Portlet displayName (specified as Name element of Portlet Service)
- 888 • Portlet description
- 889 • Portlet handle
- 890 • Supported markupType

891

892 The query shows all query parameters with the parameter name prefixed by a '\$'. These  
893 should be replaced with the actual parameter value. If a parameter is not relevant to the  
894 query then the entire query predicate for that parameter SHOULD be pruned.

895

896

```
897 SELECT * from Service portlet, Name nm, Description d, Slot slot
898 WHERE
899   (nm.parent = portlet.id AND UPPER ( nm.value ) LIKE UPPER ( "$name" ) )
900   AND (d.parent = portlet.id AND UPPER ( d.value ) LIKE UPPER ( "$description" ) )
901   AND (Slot.parent = portlet, Slot.name =
902   "urn:oasis:names:tc:wsrp:v1:PortletDescription:portletHandle"
903   AND Slot.value LIKE "$portletHandle")
904   AND (Slot.name =
905   "urn:oasis:names:tc:wsrp:v1:PortletDescription:markupType"
906   AND Slot.value LIKE "$markupType")
907   AND (portlet.id IN ( SELECT classifiedObject FROM Classification WHERE
908   classificationNode IN ( SELECT id
909   FROM ClassificationNode WHERE path LIKE "/urn:uuid:3188a449-18ac-
910   41fb-be9f-
911   99a1adca02cb/RegistryObject/RegistryEntry/ExtrinsicObject/WSRP/P
912   ortlet%" ) ))
913
```

914

Listing 28: Complex Portlet Discovery Query

915

## 916 **5 Lifecycle Management**

917 In addition to publish and discovery of WSRP Portlets and Producer Services, the  
918 ebXML Registry MAY also be used to perform the following life cycle management  
919 operations on WSRP Portlets and Producer Services.

### 920 **5.1 Approve Portlets and Producer Services**

921 WSRP Portlets and Producer Services MAY be approved using the  
922 ApproveObjectsRequest protocol defined by [ebRIM]. The request specifies Portlets and  
923 Producer Services to be approved using the id attribute of their Service instances. A  
924 publisher SHOULD approve WSRP Portlets and Producer Services once they feel the  
925 description is ready for deployment or broader use.

### 926 **5.2 Update of Portlets and Producer Services**

927 The metadata for WSRP Portlets and Producer Services MAY be updated using the  
928 UpdateObjectsRequest protocol defined by [ebRIM].

### 929 **5.3 Versioning of Portlets and Producer Services**

930 WSRP Portlets and Producer Services MAY be versioned using the  
931 SubmitObjectsRequest protocol defined by [ebRIM] to submit the new versions of the  
932 Service representing the Portlet or Producer Service. The new version MUST have a new  
933 unique id. The Service instance representing the new version MAY be associated with the  
934 Service instance of the next older version using an Association of association type  
935 “Supersedes”. The new Service MUST be the sourceObject while the old Service MUST  
936 be the targetObject.

### 937 **5.4 Deprecation of Portlets and Producer Services**

938 The ebXML registry allows marking objects as deprecated. Once an object is deprecated  
939 the registry will allow no new references to that object. This is the registry mechanism to  
940 mark an object as obsolete and on its way to deletion.

941  
942 WSRP Portlets and Producer Services MAY be deprecated using the  
943 DeprecateObjectsRequest protocol defined by [ebRIM]. The request specifies Portlets  
944 and Producer Services to be deprecated using the id attribute of their Service instances.

### 945 **5.5 Un-Deprecation of Portlets and Producer Services**

946 WSRP Portlets and Producer Services MAY be un-deprecated using the  
947 UndeprecateObjectsRequest protocol defined by [ebRIM]. The request specifies Portlets  
948 and Producer Services to be un-deprecated using the id attribute of their Service  
949 instances.  
950

951 **5.6 Deletion of Portlets and Producer Services**

952 WSRP Portlets and Producer Services MAY be deleted from the registry using the  
953 RemoveObjectsRequest protocol defined by [ebRIM]. The request specifies Portlets and  
954 Producer Services to be deleted using the id attribute of their Service instances.

## 955 **6 Event Notification**

956 A WSRP Consumer MAY wish to be notified when a WSRP Portlet or Producer Service  
957 is published or affected by any other life cycle event. The ebXML Registry allows  
958 content-based event notification to enable this use case. In most cases the Consumer  
959 MAY further narrow their interest to Portlets or Producer Services that match certain  
960 specific interest criteria (e.g. Portlets that support text/xml markup).

### 961 **6.1 Subscribing to Events**

962 A WSRP Consumer MAY create a subscription with a registry to receive notifications of  
963 events related to WSRP Portlets and Producer Services of interest. A Consumer creates a  
964 subscription by submitting an ebRIM Subscription instance to a registry using the  
965 SubmitObjectsRequest protocol.

966  
967 A Subscription instance references an ad hoc query that has been published to the registry  
968 by the Consumer. Such a persistent ad hoc query is similar in concept to stored  
969 procedures in relational databases. The role of this ad hoc query is to select events in the  
970 registry that the Consumer wishes to be notified of.

### 971 **6.2 Selector Query for WSRP Events**

972 The following query subscribes to all events on all Portlets and Producer Services within  
973 the registry. The Consumer MAY add additional predicates to narrow their interest.  
974

```
975  
976 SELECT * from Service s  
977 WHERE  
978 AND (s.id IN ( SELECT classifiedObject FROM Classification WHERE  
979 classificationNode IN ( SELECT id  
980 FROM ClassificationNode WHERE path LIKE "/urn:uuid:3188a449-18ac-  
981 41fb-be9f-  
982 99a1adca02cb/RegistryObject/RegistryEntry/ExtrinsicObject/WSRP/  
983 %" ) ) )  
984
```

985 **Listing 30: Simple Selector Query for WSRP Events**

986  
987

### 988 **6.3 Receiving Notification of Events**

989 A Consumer MAY receive notification of WSRP related events of interest by email or by  
990 providing a NotificationListener web service. The web service needs to be compatible  
991 with the WSDL described for EventListeners in [ebRS]. A Consumer MAY also wish to  
992 receive notifications to an email address. Listing 31 covers both scenarios.

## 993 6.4 A Complete Subscription Example

994 Listing 31 shows a complete example of publishing a Subscription to receive events  
995 related to WSRP Portlets and Producer Services.

```

996 <SubmitObjectsRequest>
997   <rim:RegistryObjectList>
998     <rim:Subscription id="{SUBSCRIPTION1_ID}"
999     objectType="{CANONICAL_OBJECT_TYPE_SUBSCRIPTION_ID}"
1000     selector="{WSRP_EVENT_SELECTOR_QUERY1_ID}">
1001       <!-- Next endPoint is an email address -->
1002       <rim:NotifyAction notificationOption="Objects" endPoint="mailto:farrukh.najmi@sun.com"/>
1003       <!-- Next endPoint is a service via reference to its ServiceBinding object -->
1004       <rim:NotifyAction notificationOption="Objects"
1005       endPoint="{NOTIFICATION_LISTENER_SERVICE_BINDING_ID}"/>
1006     </rim:Subscription>
1007     <!--The query used as a selector for Subscription. -->
1008     <query:SQLQuery id="{WSRP_EVENT_SELECTOR_QUERY1_ID}">
1009       <query:QueryString>
1010         SELECT * from Service s, Name nm, Description d, Slot slot
1011         WHERE
1012         AND (nm.parent = portlet.id AND UPPER ( nm.value ) LIKE UPPER ( "$name" ) )
1013         AND (d.parent = portlet.id AND UPPER ( d.value ) LIKE UPPER ( "$description" ) )
1014         AND (Slot.parent = portlet, Slot.name =
1015         "urn:oasis:names:tc:wsrp:v1:PortletDescription:portletHandle"
1016         AND Slot.value LIKE "$portletHandle")
1017         AND (Slot.name = 'urn:oasis:names:tc:wsrp:v1:PortletDescription:markupType'
1018         AND Slot.value LIKE "$markupType"
1019         AND (portlet.id IN ( SELECT classifiedObject FROM Classification WHERE classificationNode IN ( SELECT id
1020         FROM ClassificationNode WHERE path LIKE "/urn:uuid:3188a449-18ac-41fb-be9f-
1021         99a1adca02cb/RegistryObject/RegistryEntry/ExtrinsicObject/WSRP/Portlet%" ) ) )
1022       </query:QueryString>
1023     </query:SQLQuery>
1024     <!--The listener service and its binding-->
1025     <rim:Service id="{NOTIFICATION_LISTENER_SERVICE_ID}">
1026       <rim:Name>
1027         <rim:LocalizedString value="WSRP Event Listener Service" xml:lang="en-US"/>
1028       </rim:Name>
1029       <rim:Description>
1030         <rim:LocalizedString value="Consumer provided WSRP Listener Service" xml:lang="en-US"/>
1031       </rim:Description>
1032       <rim:ServiceBinding
1033       accessURI="http://listener.consumer.com:8080/NotificationListener/notificationListener"
1034       id="{NOTIFICATION_LISTENER_SERVICE_BINDING_ID}">
1035         <rim:Name>
1036           <rim:LocalizedString value="WSRP Event Listener Service binding" xml:lang="en-US"/>
1037         </rim:Name>
1038         <rim:ServiceBinding>
1039         </rim:ServiceBinding>
1040       </rim:Service>
1041     </rim:RegistryObjectList>
1042 </SubmitObjectsRequest>
1043
1044

```

**Listing 31: A Complete Example of a Publishing a Subscription for WSRP Events**



## 1045 **Appendix A Canonical Metadata**

1046 This section described the canonical metadata defined by this document. Such metadata  
1047 is used to enable the publishing, management and discovery of WSRP Portlets and  
1048 Producer Services.

### 1049 **A.1 New Object Types Defined**

1050 The ebXML Registry defines a Canonical ObjectType ClassificationScheme  
1051 (taxonomy). It further allows clients to extend the canonical object type definitions in a  
1052 domain specific manner.

1053  
1054 This document defines new ClassificationNodes (nodes) tree within the ObjectType  
1055 ClassificationScheme under the existing ExtrinsicObject object type as follows:

- 1056  
1057 • **WSRP:** Base node for all WSRP object types
  - 1058 ○ **Portlet:** Object type representing a Portlet
  - 1059 ○ **Producer:** Object type representing a Producer Service

1060  
1061 This document defines a new WSRPVersion ClassificationScheme as follows:

- 1062  
1063 • **WSRPVersion:** Defines versions for WSRP specification(s).
  - 1064 ○ **1.0:** WSRP version 1.0 specification

1065  
1066

### 1067 **A.2 New Association Types Defined**

1068 The ebXML Registry defines a Canonical AssociationType ClassificationScheme  
1069 (taxonomy) that allows giving meaning to an Association between two objects. It further  
1070 allows clients to extend the canonical association type definitions in a domain specific  
1071 manner.

1072  
1073 This document defines a new ClassificationNodes (nodes) tree within the ObjectType  
1074 ClassificationScheme as follows:

- 1075  
1076 • **HasPortlet:** Used to Associate a Producer Service as sourceObject to a Portlet  
1077 Service as targetObject. Indicates that a Producer Service has specified Portlets.

1078

### 1079 **A.3 Canonical Data to Publish**

1080 Listing 33 gives the complete request to publish WSRP canonical metadata to an ebXML  
1081 Registry. Note that all id attribute values are canonical and MUST be exactly as  
1082 specified.

1083 `<?xml version="1.0" encoding="UTF-8"?>`

```
1084 <!-- $Header:
1085 /cvsroot/ebxmlrr/omar/misc/samples/demoDB/SubmitObjectsRequest_WSRPCanonical.xml,v
1086 1.2 2004/03/31 19:12:07 farrukh_najmi Exp $ -->
1087 <SubmitObjectsRequest xmlns="urn:oasis:names:tc:ebxml-regrep:xsd:lcm:3.0"
1088 xmlns:lcm="urn:oasis:names:tc:ebxml-regrep:xsd:lcm:3.0"
1089 xmlns:query="urn:oasis:names:tc:ebxml-regrep:xsd:query:3.0"
1090 xmlns:rjm="urn:oasis:names:tc:ebxml-regrep:xsd:rjm:3.0"
1091 xmlns:rs="urn:oasis:names:tc:ebxml-regrep:xsd:rs:3.0"
1092 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" >
1093   <rim:RegistryObjectList>
1094     <!-- Add canonical objectType tree for WSRP -->
1095     <rim:ClassificationNode code="WSRP" id="urn:uuid:88f464d7-5488-4720-9b52-
1096 a1119f6807f7" parent="urn:uuid:baa2e6c8-873e-4624-8f2d-b9c7230eb4f8">
1097       <rim:Name>
1098         <rim:LocalizedString charset="UTF-8" value="WSRP"/>
1099       </rim:Name>
1100       <rim:Description>
1101         <rim:LocalizedString charset="UTF-8" value="Base node for all WSRP
1102 object types."/>
1103       </rim:Description>
1104       <rim:ClassificationNode code="Portlet" id="urn:uuid:68be52c4-63ab-43ec-
1105 976b-aa5dfc00af23">
1106         <rim:Name>
1107           <rim:LocalizedString charset="UTF-8" value="Portlet"/>
1108         </rim:Name>
1109       </rim:ClassificationNode>
1110       <rim:ClassificationNode code="Producer" id="urn:uuid:5ba75b99-ea59-4bcf-
1111 8921-ecfbc8d00031">
1112         <rim:Name>
1113           <rim:LocalizedString charset="UTF-8" value="Producer"/>
1114         </rim:Name>
1115       </rim:ClassificationNode>
1116     </rim:ClassificationNode>
1117     <!-- Add canonical associationTypes tree for WSRP -->
1118     <rim:ClassificationNode code="HasPortlet" id="urn:uuid:b2522e35-b2e3-4fc5-
1119 8c33-b565900c3969" parent="urn:uuid:6902675f-2f18-44b8-888b-c91db8b96b4d">
1120       <rim:Name>
1121         <rim:LocalizedString charset="UTF-8" value="HasPortlet"/>
1122       </rim:Name>
1123       <rim:Description>
1124         <rim:LocalizedString charset="UTF-8" value="The Producer Service
1125 identified by the sourceObject hosts the Portlet identified by targetObject."/>
1126       </rim:Description>
1127     </rim:ClassificationNode>
1128     <!--Add new canonical WSRPVersion canonical scheme -->
1129     <rim:ClassificationScheme nodeType="urn:uuid:bd0c092a-cb38-4578-8520-
1130 81274054f678" isInternal="true" id="urn:uuid:c03bed66-f554-40ec-9ed4-a9033d7a51cd">
1131       <rim:Name>
1132         <rim:LocalizedString value="WSRPVersion" charset="UTF-8" xml:lang="en-
1133 US"/>
1134       </rim:Name>
1135       <rim:Description>
1136         <rim:LocalizedString value="Defines valid versions for the WSRP
1137 Specification." charset="UTF-8" xml:lang="en-US"/>
1138       </rim:Description>
1139       <rim:ClassificationNode parent="urn:uuid:c03bed66-f554-40ec-9ed4-
1140 a9033d7a51cd" code="1.0" id="urn:uuid:8d8ffcd3-2430-40c6-bf57-fcdaac0ec391">
1141         <rim:Name>
1142           <rim:LocalizedString value="1.0" charset="UTF-8" xml:lang="en-US"/>
1143         </rim:Name>
1144         <rim:Description>
1145           <rim:LocalizedString value="WSRP 1.0 specification." charset="UTF-8"
1146 xml:lang="en-US"/>
1147         </rim:Description>
1148       </rim:ClassificationNode>
```

```
1149         </rim:ClassificationScheme>
1150     </rim:RegistryObjectList>
1151 </SubmitObjectsRequest>
1152
```

**Listing 33: WSRP Canonical Metadata**

## Appendix B The Complete Example

1153

```

1154 <?xml version="1.0" encoding="UTF-8"?>
1155 <!-- $Header: /cvroot/ebxmlrr/omar/misc/samples/demoDB/SubmitObjectsRequest_WSRP.xml,v 1.3 2004/05/16
1156 21:17:31 farrukh_najmi Exp $ -->
1157 <SubmitObjectsRequest xmlns="urn:oasis:names:tc:ebxml-regrep:xsd:lcm:3.0"
1158 xmlns:lcm="urn:oasis:names:tc:ebxml-regrep:xsd:lcm:3.0" xmlns:query="urn:oasis:names:tc:ebxml-
1159 regrep:xsd:query:3.0" xmlns:rim="urn:oasis:names:tc:ebxml-regrep:xsd:rim:3.0"
1160 xmlns:rs="urn:oasis:names:tc:ebxml-regrep:xsd:rs:3.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
1161 instance">
1162   <rim:RegistryObjectList>
1163     <!--The main Producer Service. The Portlets it hosts are modeled as related Services-->
1164     <rim:Service id="{ACME_PRODUCER_SERVICE_ID}">
1165       <rim:Name>
1166         <rim:LocalizedString value="ACME WSRP Producer Service" xml:lang="en-US"/>
1167       </rim:Name>
1168       <rim:Description>
1169         <rim:LocalizedString value="A WSRP Producer Service. Contains news and stock Portlets"
1170 xml:lang="en-US"/>
1171       </rim:Description>
1172       <!--Slot for the requiresRegistration attribute-->
1173       <rim:Slot
1174 name="urn:oasis:names:tc:wsrp:v1:ServiceDescription:requiresRegistration">
1175         <rim:ValueList>
1176           <rim:Value>false</rim:Value>
1177         </rim:ValueList>
1178       </rim:Slot>
1179       <!--Slot for the requiresInitCookie attribute-->
1180       <rim:Slot
1181 name="urn:oasis:names:tc:wsrp:v1:ServiceDescription:requiresInitCookie">
1182         <rim:ValueList>
1183           <rim:Value>perUser</rim:Value>
1184         </rim:ValueList>
1185       </rim:Slot>
1186       <!--Classify this Service with the canonical objectType for a Producer Service -->
1187       <rim:Classification id="{PRODUCER_CLASSIFICATION_ID}"
1188 classificationNode="{CANONICAL_CLASSIFICATION_NODE_PRODUCER_ID}"
1189 classifiedObject="{ACME_PRODUCER_SERVICE_ID}">
1190         <rim:Name>
1191           <rim:LocalizedString value="Producer" xml:lang="en-US"/>
1192         </rim:Name>
1193         </rim:Classification>
1194       <!--Classify this Service as supporting version 1.0 of WSRP specs -->
1195       <rim:Classification id="{WSRP_VERSION_CLASSIFICATION_ID}"
1196 classificationNode="{CANONICAL_CLASSIFICATION_NODE_VERSION1.0_ID}"
1197 classifiedObject="{ACME_PRODUCER_SERVICE_ID}">
1198         <rim:Name>
1199           <rim:LocalizedString value="1.0" charset="UTF-8" xml:lang="en-US"/>
1200         </rim:Name>
1201         </rim:Classification>
1202         <rim:ServiceBinding accessURI="http://content.acme.com/producer_service"
1203 id="{PRODUCER_SERVICE_SOAP_BINDING_ID}">
1204           <rim:Name>
1205             <rim:LocalizedString value="ACME WSRP Producer Service SOAP binding" xml:lang="en-
1206 US"/>
1207           </rim:Name>
1208           <rim:Description>
1209             <rim:LocalizedString value="SOAP binding to ACME WSRP Producer Service" xml:lang="en-
1210 US"/>
1211           </rim:Description>
1212           <rim:SpecificationLink id="{PRODUCER_SERVICE_SOAP_BINDING_SPECLINK_ID}"
1213 specificationObject="{V1_TYPES_XSD_ID}">
1214             <rim:Name>
1215               <rim:LocalizedString value="Link to ACME Producer Service WSDL" xml:lang="en-US"/>

```

```

1216         </rim:Name>
1217         <rim:Description>
1218             <rim:LocalizedString value="Link to ACME Producer Service WSDL" xml:lang="en-US"/>
1219         </rim:Description>
1220     </rim:SpecificationLink>
1221 </rim:ServiceBinding>
1222 </rim:Service>
1223 <!--Associate Org and Service with OffersService canonical associationType -->
1224 <rim:Association associationType="{CANONICAL_CLASSIFICATION_NODE_OFFERS_SERVICE}"
1225 id="{OFFERS_SERVICE_ASSOCIATION1_ID}" sourceObject="{ACME_ORG_ID}"
1226 targetObject="{ACME_PRODUCER_SERVICE_ID}"/>
1227 <!--The News Portlet-->
1228 <rim:Service id="{ACME_PORTLET_SERVICE_ID}">
1229     <rim:Name>
1230         <rim:LocalizedString value="ACME News Portlet" xml:lang="en-US"/>
1231     </rim:Name>
1232     <rim:Description>
1233         <rim:LocalizedString value="A WSRP Portlets that provides News." xml:lang="en-US"/>
1234     </rim:Description>
1235     <!--Provide portletHandle for this Portlet-->
1236     <rim:Slot name="urn:oasis:names:tc:wsrp:v1:PortletDescription:portletHandle">
1237         <rim:ValueList>
1238             <rim:Value>NewsPortlet</rim:Value>
1239         </rim:ValueList>
1240     </rim:Slot>
1241     <!--Provide MarkupTypes supported by this Portlet-->
1242     <rim:Slot name="urn:oasis:names:tc:wsrp:v1:PortletDescription:markupType">
1243         <rim:ValueList>
1244             <rim:Value>text/html</rim:Value>
1245             <rim:Value>text/xml</rim:Value>
1246         </rim:ValueList>
1247     </rim:Slot>
1248     <!--Classify this Service with the canonical objectType for a Portlet -->
1249     <rim:Classification id="{PORTLET_CLASSIFICATION_ID}"
1250 classificationNode="{CANONICAL_CLASSIFICATION_NODE_PORTLET_ID}"
1251 classifiedObject="{ACME_PORTLET_SERVICE_ID}">
1252         <rim:Name>
1253             <rim:LocalizedString value="Portlet" xml:lang="en-US"/>
1254         </rim:Name>
1255     </rim:Classification>
1256     <!--Classify this Service as supporting version 1.0 of WSRP specs -->
1257     <rim:Classification id="{WSRP_VERSION_CLASSIFICATION_ID_2}"
1258 classificationNode="{CANONICAL_CLASSIFICATION_NODE_VERSION1.0_ID}"
1259 classifiedObject="{ACME_PORTLET_SERVICE_ID}">
1260         <rim:Name>
1261             <rim:LocalizedString value="1.0" charset="UTF-8" xml:lang="en-US"/>
1262         </rim:Name>
1263     </rim:Classification>
1264 </rim:Service>
1265 <!--Associate host Producer service with Portlet service. Association type is HasPortlet. -->
1266 <rim:Association associationType="{CANONICAL_CLASSIFICATION_NODE_HAS_PORTLET_ID}"
1267 id="{HAS_PORTLET_ASSOCIATION1_ID}" sourceObject="{ACME_PRODUCER_SERVICE_ID}"
1268 targetObject="{ACME_PORTLET_SERVICE_ID}"/>
1269 <!--The Stock Portlet-->
1270 <rim:Service id="{STOCK_PORTLET_SERVICE_ID}">
1271     <rim:Name>
1272         <rim:LocalizedString value="ACME Stock Portlet" xml:lang="en-US"/>
1273     </rim:Name>
1274     <rim:Description>
1275         <rim:LocalizedString value="A WSRP Portlets that provides Stock quotes." xml:lang="en-US"/>
1276     </rim:Description>
1277     <!--Provide portletHandle for this Portlet-->
1278     <rim:Slot name="urn:oasis:names:tc:wsrp:v1:PortletDescription:portletHandle">
1279         <rim:ValueList>

```

```

1280         <rim:Value>StockPortlet</rim:Value>
1281     </rim:ValueList>
1282 </rim:Slot>
1283 <!--Provide MarkupTypes supported by this Portlet-->
1284 <rim:Slot name="urn:oasis:names:tc:wsrp:v1:PortletDescription:markupType">
1285     <rim:ValueList>
1286         <rim:Value>text/html</rim:Value>
1287         <rim:Value>text/xml</rim:Value>
1288     </rim:ValueList>
1289 </rim:Slot>
1290 <!--Classify this Service with the canonical objectType for a Portlet -->
1291 <rim:Classification id="{STOCK_PORTLET_OBJECT_TYPE_CLASSIFICATION_ID}"
1292 classificationNode="{CANONICAL_CLASSIFICATION_NODE_PORTLET_ID}"
1293 classifiedObject="{STOCK_PORTLET_SERVICE_ID}">
1294     <rim:Name>
1295         <rim:LocalizedString value="Portlet" xml:lang="en-US"/>
1296     </rim:Name>
1297 </rim:Classification>
1298 <!--Classify this Service as supporting version 1.0 of WSRP specs -->
1299 <rim:Classification id="{STOCK_PORTLET_WSRP_VERSION_CLASSIFICATION_ID}"
1300 classificationNode="{CANONICAL_CLASSIFICATION_NODE_VERSION1.0_ID}"
1301 classifiedObject="{STOCK_PORTLET_SERVICE_ID}">
1302     <rim:Name>
1303         <rim:LocalizedString value="1.0" charset="UTF-8" xml:lang="en-US"/>
1304     </rim:Name>
1305 </rim:Classification>
1306 </rim:Service>
1307 <!--Associate host Producer service with Portlet service. Association type is HasPortlet. -->
1308 <rim:Association associationType="{CANONICAL_CLASSIFICATION_NODE_HAS_PORTLET_ID}"
1309 id="{HAS_PORTLET_ASSOCIATION2_ID}" sourceObject="{ACME_PRODUCER_SERVICE_ID}"
1310 targetObject="{STOCK_PORTLET_SERVICE_ID}">
1311     <rim:Organization id="{ACME_ORG_ID}" primaryContact="{ACME_PRIMARY_CONTACT_ID}">
1312         <rim:Name>
1313             <rim:LocalizedString value="ACME Content Inc." xml:lang="en-US"/>
1314         </rim:Name>
1315         <rim:Description>
1316             <rim:LocalizedString value="Provides WSRP Producer service for news and stock content."
1317 xml:lang="en-US"/>
1318         </rim:Description>
1319         <!--Classify Organization by geography of United States-->
1320         <rim:Classification id="{US_CLASSIFICATION_ID}"
1321 classificationNode="{CANONICAL_CLASSIFICATION_NODE_GEO_US}"
1322 classifiedObject="{ACME_ORG_ID}">
1323             <rim:Name>
1324                 <rim:LocalizedString value="United States" xml:lang="en-US"/>
1325             </rim:Name>
1326             <rim:Classification>
1327                 <rim:Address city="Burlington" country="USA" postalCode="01867" stateOrProvince="MA"
1328 street="Network Dr." streetNumber="1"/>
1329                 <rim:TelephoneNumber areaCode="123" countryCode="1" number="456-7890"/>
1330             </rim:Organization>
1331         <!-- ClassificationNode for "United States" -->
1332         <rim:ObjectRef id="{CANONICAL_CLASSIFICATION_NODE_GEO_US}">
1333             <!--Reference the URL to wsrp_v1_types.xsd -->
1334             <rim:ExternalLink externalURI="http://www.oasis-
1335 open.org/committees/wsrp/specifications/version1/wsrp_v1_types.xsd"
1336 id="{EXTERNAL_LINK_TYPES_ID}">
1337                 <rim:Name>
1338                     <rim:LocalizedString value="WSRP WSDL Data Type Definition"/>
1339                 </rim:Name>
1340                 <rim:Description>
1341                     <rim:LocalizedString value="Defines data types used by WSRP WSDL"/>
1342                 </rim:Description>
1343             </rim:ExternalLink>

```

```

1344     <!--Association of associationType ExternallyLinks-->
1345     <rim:Association associationType="{CANONICAL_ASSOCIATION_TYPE_EXTERNALLY_LINKS_ID}"
1346     id="{ASSOCIATION_EXTERNALLY_LINKS_TYPES_ID}" sourceObject="{EXTERNAL_LINK_TYPES_ID}"
1347     targetObject="{ACME_PRODUCER_SERVICE_ID}"/>
1348     <!--Reference the URL to wsrp_v1_interfaces.xsd -->
1349     <rim:ExternalLink externalURI="http://www.oasis-
1350     open.org/committees/wsrp/specifications/version1/wsrp_v1_interfaces.xsd"
1351     id="{EXTERNAL_LINK_INTERFACES_ID}">
1352         <rim:Name>
1353             <rim:LocalizedString value="WSRP WSDL Interface Definition"/>
1354         </rim:Name>
1355         <rim:Description>
1356             <rim:LocalizedString value="Defines abstract interfaces or PortTypes for WSRP WSDL"/>
1357         </rim:Description>
1358     </rim:ExternalLink>
1359     <!--Association of associationType ExternallyLinks-->
1360     <rim:Association associationType="{CANONICAL_ASSOCIATION_TYPE_EXTERNALLY_LINKS_ID}"
1361     id="{ASSOCIATION_EXTERNALLY_LINKS_INTERFACES_ID}"
1362     sourceObject="{EXTERNAL_LINK_INTERFACES_ID}" targetObject="{ACME_PRODUCER_SERVICE_ID}"/>
1363     <!--Reference the URL to wsrp_v1_bindings.xsd -->
1364     <rim:ExternalLink externalURI="http://www.oasis-
1365     open.org/committees/wsrp/specifications/version1/wsrp_v1_bindings.xsd"
1366     id="{EXTERNAL_LINK_BINDINGS_ID}">
1367         <rim:Name>
1368             <rim:LocalizedString value="WSRP WSDL Bindings Definition"/>
1369         </rim:Name>
1370         <rim:Description>
1371             <rim:LocalizedString value="Defines Service Bindings for WSRP WSDL"/>
1372         </rim:Description>
1373     </rim:ExternalLink>
1374     <!--Association of associationType ExternallyLinks-->
1375     <rim:Association associationType="{CANONICAL_ASSOCIATION_TYPE_EXTERNALLY_LINKS_ID}"
1376     id=" ASSOCIATION_EXTERNALLY_LINKS_BINDINGS_ID " sourceObject="{EXTERNAL_LINK_BINDINGS_ID}"
1377     targetObject="{ACME_PRODUCER_SERVICE_ID}"/>
1378     </rim:RegistryObjectList>
1379 </SubmitObjectsRequest>

```

1380

1381

1382

**Listing 35: Complete Example of a Publishing a WSDL Producer Service, Portlets and Organization**

1383

1384

## Appendix C Revision History

Rev	Date	By Whom	What
0.1	Feb 7, 2004	Farrukh Najmi	Initial version.
0.2	Feb 12, 2004	Farrukh Najmi	Minor changes based on comments received.
0.3	Mar 2, 2004	Farrukh Najmi	Version reviewed at WSRP f2f
0.4	June 3, 2004	Farrukh Najmi	Changes based on f2f review feedback
0.5	July 1, 2004	Farrukh Najmi	Changes based upon review in PFB meeting and Andre's comment. Adds several new queries based upon PFB Abstract Model 1.02. Added new WSRPVersion canonical ClassificationScheme.
0.6	Sep 10, 2004	Farrukh Najmi	Changes to conform to WSRP specification notational convention. All listing were updated to conform.
Draft-1.0	Sep 22. 2004	Farrukh Najmi	Added OASIS logo, updated version number and added link to comments form after final SC review.
1.0-final	Sep 30, 2004	Farrukh Najmi	Added Notices Appendix and changed status from Draft to TC approved. Updated link to primer to latest version.

1385



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## 1420 **References**

### 1421 **6.5 Normative**

1422 [RFC2119] S. Bradner, Key words for use in RFCs to Indicate Requirement Levels, IETF  
1423 RFC 2119, March 1997.

1424 <http://www.ietf.org/rfc/rfc2119.txt>

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1426 [WSRP] web services for Remote Portlets Specification version 1.0

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1432 [ebRIM] ebXML Registry Information Model version 2.5

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### 1446 **6.6 Informative**

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