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1 Preface

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

2 Terminology

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

Compliance: Mandatory – relevant to legal rules, regulations or laws. Compliancy is the act of complying with a specification and/or standard. Example: ISO 9001. IEEE defines as complying with laws and regulations.

Conformance: Not mandatory – ISO/IEC Guide 2 defines conformance or conformity as fulfillment of a product, process or service of specified requirements.

3 Conventions

Throughout the document XML code fragments are employed to define the data structures used. The following text formatting conventions are used to aide readability:

- Key value Placeholders
  Data structures may contain values which reference UDDI key values such as tModel keys, service keys and business keys. These keys uniquely identify the data structures within the UDDI repository. For convenience and better readability, these key values are replaced by meaningful textual variables to represent such keys. Another reason for using the placeholders is that some key values are not know yet, as the tModel keys are generated by the UDDI directory once a tModel is published and actual values may vary between registries.
  For example, the following placeholder refers to a tModel key identifying the WSRP Service Type tModel:
  
  `<tModel tModelKey="${TMODELKEY_WSRP_SERVICE_TYPE}"`
technical note for the WSRP Service Type tModel:

```xml
<tmModel tModelKey="${TMODELKEY_WSRP_SERVICE_TYPE}" >
  <name>
    urn:oasis:names:tc:wsrp:tmodel:wsrp_service_type
  </name>
</tmModel>
```

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

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

### 4 General Concepts

#### 4.1 WSRP Actors

The WSRP specification describes three major actors relevant to this technical note. WSRP Producers are presentation-oriented Web Services that host Portlets which are able to render markup fragments and process user interaction requests. Consumers use these Web Services to aggregate and present the generated markup to End-Users and manage the user’s interaction with the Portlet markup.

##### 4.1.1 Producers

Producers are modeled as Web Service containers hosting and managing Portlets. Producers provide Web Service PortTypes (interfaces) that allow Consumers to interact with the Producer and especially with Portlets hosted by that particular Producer (see Paragraph 4.2).

##### 4.1.2 Portlets

Portlets are hosted by Producer Web Services and generate markup and process user interactions with that markup. In general, a Portlet includes both code and a particular configuration of any settings or properties the Portlet exposes. Portlets are addressed by a Portlet Handle scoped by the Producer environment.
4.2 WSRP PortTypes and Bindings

The WSRP interfaces are factored into multiple PortTypes. Each PortType provides a certain functionality subset of the full WSRP protocol. Some PortTypes are optional. Each PortType is defined in the WSRP Interfaces WSDL file (see http://www.oasis-open.org/committees/wsrp/specifications/version1/wsrp_v1_interfaces.wsdl for v1 PortType definitions).

The following PortTypes are defined by the WSRP v1 specification:

1. **Service Description PortType**
   This PortType provides a means for the Consumer to discover capabilities of the Producer and its Portlets. This metadata MAY be context sensitive, for example, applying to a particular consumer registration. The Service Description PortType is mandatory.

2. **Markup PortType**
   WSRP compliant services MUST implement and expose this PortType which deals with the generation of markup and the user interaction with this markup.

3. **Registration PortType**
   Producer MAY choose to support in-band registration of Consumers and then must implement this PortType.

4. **Portlet Management PortType**
   In addition to “Producer offered Portlets” available through the service description, the Producer MAY expose this interface to allow Consumer to clone and customize Portlets. Such Portlets are referred to as “Consumer offered Portlets”.

For each of the above PortTypes, WSRP Producers define one or more Bindings. Producers must provide at least the default SOAP over HTTP/HTTPS bindings for the mandatory PortTypes. See http://www.oasis-open.org/committees/wsrp/specifications/version1/wsrp_v1_bindings.wsdl for the WSRP default bindings definitions.
4.3 WSRP WSDLs

The WSRP Web Service description is factored into three parts. Firstly, the Types XSD document defines the types used by the WSRP protocol. Secondly, the Interface WSDL document defines the PortTypes and their operations. It imports the Types XSD. Thirdly, the Bindings WSDL defines the Bindings used by this Producer. It imports the Interfaces WSDL and must include the standard SOAP HTTP(S) bindings.

Both the Bindings and the PortTypes adhere to the following naming schema:

```
SPEC_VERSION_FACTOR_WSDLTYPE[.TYPESPECIFIC]
```

Where

```
SPEC = WSRP
VERSION = v1
FACTOR = ServiceDescription | Markup | Registration
         | PortletManagement
WSDLTYPE = Binding | PortType
TYPESPECIFIC = SOAP or ...
```

Note that, additional standard Bindings may be added in future which define SOAP attachments mechanisms such as SwA/MIME or DIME. Such additional Bindings will add new TYPESPECIFIC binding names.

Each Producer service has to provide its own Service Implementation WSDL which contains a Service definition containing Ports for the various Bindings. This WSDL MUST import the WSRP Binding WSDL. The WSRP Bindings and Interfaces WSDLs are published on the OASIS web site (http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wsrp).

4.4 Publishing Web Services in UDDI

In the domain of UDDI specifications, two documents can be identified which describe how WSDLs and their contents can be published to UDDI registries. The best practices document “Using WSDL in a UDDI Registry, Version 1.08” [3] clarifies the relationship between WSDL and UDDI and describes how WSDL can be used to help create UDDI business service descriptions. The technical note “Using WSDL in a UDDI Registry, Version 2.0” [2] describes a more sophisticated mapping of WSDL elements and UDDI data structures. This enables more specific and flexible UDDI queries based on WSDL artifacts and metadata.

Both UDDI technical notes mandate the UDDI registry as the authoritative source for WSDL artifacts especially all Web Services end points are to be retrieved from UDDI artifacts.
4.5 UDDI Version Considerations

We base our recommendation on version 2 of the UDDI specifications; however the basic model is independent of UDDI API version and applies to V2 and V3 UDDI. The main difference in V3 is that UDDI entities will have V3 keys, the accessPoint has a useType attribute rather than an URLType attribute and entities can have publisher-assigned keys.
5 Publishing WSRP Services to UDDI

The WSRP Publish Find Bind Abstract Model [10] provides guidelines for publishing WSRP Producers and Portlets as services in registries. This technical note adheres to the guidelines and maps the abstract model to UDDI specific schemes and data structures.

Compared to many Web Services scenarios, WSRP services prove more complex. Firstly, the WSRP Producer can be considered as a Web Service on its own, exposing multiple Bindings and PortTypes. One can view the WSRP Producer as the actual Web Service described through the WSRP WSDLs.

Secondly, Portlets can also be understood to be services. In contrast to Producers, Portlets are not full services in a Web Service sense. They do not explicitly expose PortTypes, bindings or access points. Rather, a Portlet is exposed by its Producer. The Consumer interacts indirectly with Portlets through the Producer’s infrastructure. The WSRP Portlet is addressed by a Portlet Handle defined in the Producer’s scope.

In addition to the WSDL interface specification, WSRP services carry metadata which describes both the Producer and its Portlets. Prior to using a Producer or its Portlets the metadata has to be obtained.

The WSRP PFB abstract model mandates that the Producer’s Service WSDL is the authoritative source to obtain information about the service’s actual end-points. Also replication of meta-data should be avoided to protect systems against update inconsistencies.

The publishing scheme used in this document follows this guidance; however it does not rule out the application of the WSDL in UDDI technical notes ([2], [3]). For Producers – which actually can be considered Web Services – a means is defined to simply publish the Service WSDL as the authoritative source as well as metadata required for WSRP use. Services which require the additional capabilities provided by the UDDI technical notes can refer to these.

The goals for this tech note are:

1. Enable the automatic publishing of WSRP Producers and Portlets to UDDI registries using tooling support.
2. Enable manual publishing of WSRP Producers and optionally Portlets to UDDI registries.
3. Keep the approach simple.
4. Provide a means to publish the Producer Service WSDL as the authoritative source.
5. Avoid replication of meta-data which is obtainable via the Service Description PortType/binding unless it is useful for query use cases identified by the WSRP PFB Abstract Model.
6. Enable WSRP Service consumers to query UDDI registries for WSRP services according to the use cases identified by the WSRP PFB Abstract Model.
7. Provide a common model for both UDDI Version 2 and Version 3.
8. Allow the model to be extensible to and compatible with the WSDL in UDDI technical notes.
5.1 Overview

The businessEntity structure represents all known information about a business or entity that publishes descriptive information about the entity as well as the services that it offers. The businessService is the top level data structure.

UDDI allows services to be published in the context of a business entity, as businessServices. In this model WSRP services, i.e. Producers and Portlets, are published as businessServices.

Since Portlets are not services that stand on their own, a reference is required to the hosting producer in order to allow service consumers to obtain all necessary data to access and address a Portlet.

In this model we do not rule out that Portlet services may be published under a different businessEntity then the hosting Producer.

In Figure 1: Publishing WSRP Services two different businessEntities are shown representing two companies. Producer 1 is published as a businessService managed by Business A while Producer 2 is published in the domain of Business B. In this example the Producer 1 Service hosts 3 Portlets (1A-1C) while Producer 2 provides 1 Portlet (2A). Portlets 1A and 1B are logically published in the domain of Business A which is expected to be the usual case.

In contrast Portlet 1C is published under Business B but is served by Producer 1. This model allows covering the “Portlet Service Provider” scenario, where a Producer is run by a service provider company while another Business is making use of the Portlet services.

Figure 1: Publishing WSRP Services
5.2 Publishing Producers

In essence WSRP Producers are Web Services. They expose PortTypes and Bindings a Consumer can interact with. These PortTypes and their Bindings are described in the WSRP WSDLs. Thus publishing a Producer basically corresponds to the publishing of the service WSDL along with some metadata.

Generally, to publish a Producer the following steps need to be taken:

1. Publish the WSRP v1 Bindings WSDL as a tModel. This tModel represents the technical fingerprint of the WSRP protocol.
2. Publish a “WSRP Service Type” tModel. This tModel allows categorizing businessServices as WSRP Producers to allow for easy searching within the registry independent of technical details like protocol versions or bindings supported.
3. Publish a businessService categorized as WSRP Producer.
4. Publish the address of the Service Implementation WSDL as the authoritative source containing the actual service endpoints of the WSRP Producer service.

Note: The tModels defined by this technical note are already published into the Universal Business Registry by the WSRP TC and do not need to be re-published.

Figure 2: Publishing Producers below shows the UDDI data structures used to publish WSRP Producers into a registry. Please note that the figure shows only the relevant elements in the structures to visualize the scheme used, also the businessEntity structure is omitted here.
Basically, Producers are published as businessServices below the businessEntity structure (not shown here). The businessService structure uses a bindingTemplate to provide the required WSDL information. The access point element of the Producer bindingTemplate points to the URL of the Service Implementation WSDL providing the actual service endpoints (WSDL is the authoritative source).

The bindingTemplate refers to the WSRP_v1_Bindings tModel. This tModel is indicating that the Producer implements at least the mandatory WSRP v1 PortTypes (it may implement other portTypes as well) and provides the mandatory WSRP v1 Bindings.

The Producer businessService structure contains a categoryBag which references the WSRP Service Type tModel (see section 6.1). The keyValue of the keyed reference holds the string “Producer”. This way the businessService is being tagged as a WSRP Producer.

### 5.2.1 Producer businessService

A WSRP Producer MUST be published using a UDDI businessService structure. Since there is no name or description of a Producer carried in its metadata, no explicit mapping between WSRP and UDDI needs to take place.

```xml
<businessService
    serviceKey="${SERVICEKEY_THIS_PRODUCER}"
    businessKey="${BUSINESSKEY_THIS_SERVICE_BELONGS_TO}"
>
  <name xml:lang="en">YourCo Producer</name>
  <description xml:lang="en">
    This is the WSRP Producer hosted by YourCo. This Producer offers some cool WSRP demo Portlets.
  </description>
  <categoryBag>
    <keyedReference
       tModelKey="${TMODELKEY_WSRP_SERVICE_TYPE}"
       keyValue="Producer"
    >
  </categoryBag>
  <bindingTemplates>
  </bindingTemplates>
</businessService>
```

**Fields:**

- **serviceKey**: The key value identifying this businessService entity.
- **businessKey**: The key of the business entity that is the parent of this businessService.
- **name**: A human readable name of the Producer accompanied by a unique xml:lang value. At least one name element SHOULD be provided.
- **description**: A language locale qualified text describing the Producer. This field is optional.
5.2.2 Producer WSDL address bindingTemplate

The Producer service’s bindingTemplate is used to provide the URL of the Service Implementation WSDL holding the actual access points of the Producer. It refers to the WSRP v1 Bindings tModel which indicates that the published businessService is a WSRP v1 Producer implementing the mandatory PortTypes and providing the mandatory Bindings.

```xml
<bindingTemplate
  bindingKey="${BINDINGKEY_OF_THIS_BINDINGTEMPLATE}'
  serviceKey="${SERVICEKEY_OF_THIS_PRODUCER}'">
  <description xml:lang="en">
    Provides the Address of the Service Impl. WSDL
  </description>
  <accessPoint useType="other">
    http://yourco.com/producer/service.wsdl
  </accessPoint>
  <tModelInstanceDetails>
    <tModelInstanceInfo
      tModelKey="${TMODELKEY_WSRP_V1_BINDINGS}'
    />
  </tModelInstanceDetails>
</bindingTemplate>
```

Fields:
- bindingKey: Key value identifying this bindingTemplate.
- serviceKey: The key of the businessService that contains this bindingTemplate.
- description: A language locale qualified text describing the usage of this bindingTemplate. This field is optional.
- accessPoint: The bindingTemplate MUST contain this field. The accessPoint MUST hold the URL of the http(s) resource providing the authoritative Service Implementation WSDL of the Producer. The value of the useType attribute MUST be “other”. The Service Implementation WSDL MUST contain only one wsdl:service element. The wsdl:service MUST contain port definitions for the mandatory WSRP V1 PortTypes and Bindings.
- tModelInstanceDetails: This container MUST contain a tModelInstanceInfo structure referring to the WSRP_v1_Bindings tModel defined in section 6.2.

5.2.3 Producer’s Metadata

Producer metadata is not directly published to UDDI. The metadata must be retrieved using the ServiceDescription PortType published by the Producer.

Comment: Do we want to restrict the service WSDLs to only one <service> element? We could use xpointer notation here...keep it as a discussion item for the F2F
Currently there is no desire to duplicate this metadata by also publishing it to registries. However, in future, use-cases might come up which desire to search for Producers defining certain metadata values in UDDI and which would require publishing Producer metadata to UDDI.

Such considerations are deferred to later versions of this document.

### 5.3 Publishing Portlets

By publishing Producers there is already a means for Consumers to discover the Portlets a Producer offers outside UDDI, by using the Producer’s Service Description PortType. However, to enhance the end-user experience and allow a direct search for Portlets in registries the publisher MAY additionally publish one or more Portlets. We recommend that all “Producer offered Portlets” exposed in the Producer’s service description are also published to the UDDI registry.

Portlets are different from Producer services. They don’t expose interfaces, access points or bindings directly. A Consumer interacts with Portlets indirectly via the Producer, addressing them by their Portlet Handles.. Therefore Portlets are not be published as Web Services by re-exposing the Producer’s access point and bindings. Instead Portlets are published as resources accompanied by metadata and reference the Producer that manages them.

The following sections describe how the UDDI data structures are utilized to publish Portlets.

Basically the following steps need to be taken to publish a Portlet:

1. Publish the “WSRP Service Type” tModel. This tModel allows categorizing businessServices as WSRP Portlets to allow for easy searching within the registry.
2. Publish a “WSRP Producer Service Reference” tModel. This categorization tModel can be used as a means to model the relationship between Portlets and hosting Producers.
3. Publish the WSRP Portlet Handle tModel to the registry. This tModel provides a means to publish the Portlet Handle into UDDI registries.
4. Publish a businessService representing the Portlet and providing the meta-data.

Note: The tModels defined by this technical note are already published into the Universal Business Registry by the WSRP TC and do not need to be re-published.

Figure 3: Publishing Portlets below shows the UDDI data structures used to publish WSRP Portlets to a registry. Please note that the figure shows only the relevant elements in the structures to visualize the scheme used.

Basically, Portlets are published as businessServices below the businessEntity structure (not shown here). The relevant meta-data is published using categorization schemes. First the businessService is tagged as a Portlet. Second a reference to the hosting Producer is provided. Third the Portlet handle is published.

By resolving the reference to the Producer the access points of the Producer can be obtained. Together with the Portlet handle all data is available to the Consumer to address a specific Portlet.
5.3.1 Portlet businessService

A WSRP Portlet service MUST be published using a UDDI businessService structure. In order to retrieve the Producer that is hosting the Portlet, a reference to the Producer service must be set up. The tModel “WSRP Producer Service Reference” provides a means to establish this reference. This technical note does not rule out other means to reference a Producer like inter-registry references. However, for interoperability reasons it is strongly recommended that at least the intra-registry method described here is being used.

Although the authoritative source of the Portlet metadata is the WSRP PortletDescription structure, which must be obtained through the Producer’s Service Description PortType, it is advantageous to map some of the fields from the WSRP PortletDescription structure to appropriate fields in the businessService structure for query/search based discovery.
<businessService
  serviceKey="${SERVICEKEY_OF_THIS_PORTLET}"
  businessKey="${BUSINESSKEY_THIS_SERVICE_BELongs_TO}">

  <name xml:lang="en">StockQuote Portlet</name>
  <description xml:lang="en">
    This Portlet is the one and only Portlet displaying stock quotes.
  </description>

  <categoryBag>
    <keyedReference
      tModelKey="${TMODELKEY_WSRP_SERVICE_TYPE"
      keyName="WSRP Service Type"
      keyValue="Portlet"
    >
    <keyedReference
      tModelKey="${TMODELKEY_WSRP_PRODUCER_SERVICE_REFERENCE}"
      keyName="WSRP Producer Service Reference"
      keyValue="${SERVICEKEY_PRODUCER}"
    >
    <keyedReference
      tModelKey="${TMODELKEY_WSRP_PORTLET_HANDLE}"
      keyName="WSRP Portlet Handle"
      keyValue="ExamplePortlet-Handle"
    >
  </categoryBag>

</businessService>

Fields:

- **serviceKey**: The key value identifying this businessService entity.
- **businessKey**: The key of the business entity that contains this businessService.
- **name**: A human readable name of the Portlet accompanied by a non-duplicated xml:lang value. At least one name element SHOULD be provided. The name field with the correct localized language attribute SHOULD be mapped to the title field of the WSRP PortletDescription structure.
- **description**: A language qualified text describing the Portlet. This field is optional. The description element with the matching localized language attribute SHOULD be mapped to the description field of the WSRP PortletDescription structure.
- **categoryBag**: The category MUST at least contain the following keyedReferences:
  1. Reference to the WSRP Service Type tModel (see section 6.1). The keyValue MUST contain the string “Portlet”. The keyName SHOULD contain the string “WSRP Service Type”.
  2. Reference to the WSRP Producer Service Reference tModel. The keyValue MUST contain the service key of the businessService entity in the same UDDI registry representing the Producer providing this Portlet. The keyName SHOULD contain the string “WSRP Producer Service Reference”.
  3. Reference to the WSRP Portlet Handle tModel. The keyValue MUST contain the Portlet handle. The keyName SHOULD contain the string “WSRP Portlet Handle”.

Comment: Enforce at least one name?
5.3.2 Portlet’s Metadata

Besides the Portlet Handle, the Portlet title and textual description, all further Portlet metadata is not directly published to UDDI. All remaining metadata must be retrieved using the ServiceDescription or PortletManagement PortType exposed by the Producer.

Currently there is no need foreseen to require publishing this metadata. However, in future, use-cases might arise which require searching for Portlets defining certain metadata values in UDDI and thus need additional mapping to UDDI.

This will be deferred to later versions of this document.
6 Canonical tModels

This technical note introduces various canonical tModels used to represent the relationships and meta-data. This section describes these tModels.

6.1 WSRP Service Type tModel

6.1.1 Purpose

The WSRP Service Type tModel is used to categorize a businessService as a WSRP Producer or Portlet. Using this tagging WSRP Producers or Portlets can easily be found in registries regardless of more detailed technical fingerprints like version, supported bindings, etc.

6.1.2 Definition

Name: urn:oasis:names:tc:wsrp:tmodel:wsrp_service_type

Description: Tags business services as WSRP Producer or Portlet

UDDI V3 key: oasis-open.org/committees/wsrp/tmodel/wsrp_service_type

UDDI V1,V2 key: TBD

Categorization: categorization

Checked: no

6.1.2.1 UDDI V2 tModel Structure

Fields:

- tModelKey: The key value identifying the tModel.
- name: The tModel name. Note that, the name MUST NOT have a language attribute.
- description: A language locale qualified description of this tModel.
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- overviewURL: The URL MUST hold the location of this note on the OASIS web site.

6.1.3 Valid Value

The category system is unchecked. However, only two values SHOULD be used with this category system.

<table>
<thead>
<tr>
<th>Key Value</th>
<th>Description</th>
<th>UDDI Entity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Producer</td>
<td>Tags the businessService as a WSRP Producer</td>
<td>businessService</td>
</tr>
<tr>
<td>Portlet</td>
<td>Tags the businessService as a WSRP Portlet</td>
<td>businessService</td>
</tr>
</tbody>
</table>

6.2 WSRP v1 Bindings tModel

6.2.1 Purpose

This tModel is used to indicate conformance to the WSRP v1 specification. A bindingTemplate that refers to this tModel states that the Web Service is implementing at least the mandatory v1 WSRP PortTypes and providing the default SOAP Bindings for these PortTypes. In addition the bindingTemplates accessPoint points to the Service Implementation WSDL of the Producer.

6.2.2 Definition

Name:         urn:oasis:names:tc:wsrp:tmodel:wsrp_v1_bindings
Description:  Indicates WSRP v1 conformance
UDDI V3 key:  oasis-open.org/committees/wsrp/tmodel/wsrp_v1_bindings
UDDI V1,V2 key: TBD
Categorization: none
Checked:      no
6.2.2.1 UDDI V2 tModel Structure

```xml
<tModel tModelKey="${TMODELKEY_WSRP_V1_BINDINGS}"

  <name>
    urn:oasis:names:tc:wsrp:tmodel:wsrp_v1_bindings
  </name>

  <description xml:lang="en">
    The purpose of this tModel is to indicate that a service conforms to the WSRP v1 specification
    and that the accessPoint holds the URL of the authoritative Service Implementation WSDL.
  </description>

  <overviewDoc>
    <overviewURL>
      http://www.oasis-open.org/committees/wsrp/specifications/version1/wnsrp_v1_bindings.wsdl
    </overviewURL>
  </overviewDoc>

  <categoryBag>
    <keyedReference
      tModelKey="uuid:C1ACF26D-9672-4404-9D70-39B756E62AB4"
      keyName="uddi-org:types"
      keyValue="wsdlSpec"
    >
    </keyedReference>
  </categoryBag>
</tModel>
```

Fields:
- tModelKey: The key value identifying the tModel.
- name: The tModel name. Note that, the name MUST NOT have a language attribute.
- description: A language qualified description of this tModel.
- overviewURL: The URL MUST hold the location of the WSRP v1 Bindings WSDL.
- categoryBag: The categoryBag MUST contain a keyedReference to the uddi-org:types taxonomy tModel. The keyValue of this keyedReference MUST be “wsdlSpec”.

6.2.3 Valid Values
None since this tModel is just a marker.

6.3 WSRP Producer Service Reference tModel

6.3.1 Purpose
The WSRP Producer Service Reference tModel provides the means to express the relationship of a Portlet businessService to a Producer businessService in the same UDDI registry. Using this categorization scheme one can find a Producer businessService entry representing the Producer hosting this particular Portlet. Together with the published Portlet handle all necessary data is available to address the Portlet.
6.3.2 Definition

Name: urn:oasis:names:tc:wsrp:tmodel:wsrpportlet_handle
Description: Means to publish a portlet handle
UDDI V3 key: oasis-open.org/committees/wsrp/tmodel/wsrpportlet_handle
UDDI V1,V2 key: TBD
Categorization: categorization
Checked: no

6.3.2.1 UDDI V2 tModel Structure

Fields:
- tModelKey: The key value identifying the tModel.
- name: The tModel name. Note that, the name MUST NOT be accompanied with a language attribute.
- description: A language locale qualified description of this tModel.
- overviewURL: The URL MUST hold the location of this note on the OASIS web site.

6.3.3 Valid Values

The valid values for this categorization system are serviceKeys. The serviceKey MUST be the key of the businessService structure within the registry representing the Producer hosting that particular Portlet (see section 5.2.1).
### 6.4 WSRP Portlet Handle tModel

#### 6.4.1 Purpose

The WSRP Portlet Handle tModel provides the means publish the Portlet handle into the registry. Together with the published producer service reference all necessary data is available to address the Portlet.

#### 6.4.2 Definition

Name: urn:oasis:names:tc:wsrp:tmodel:wsrp_portlet_handle

Description: Means to publish a WSRP Portlet handle

UDDI V3 key: oasis-open.org/committees/wsrf/tmodel/wsrf_portlet_handle

UDDI V1,V2 key: TBD

Categorization: categorization

Checked: no

#### 6.4.2.1 UDDI V2 tModel Structure

```xml
<tModel tModelKey="${TMODELKEY_WSRP_PORTLET_HANDLE}" >
  <name>
    urn:oasis:names:tc:wsrp:tmodel:wsrp_portlet_handle
  </name>
  <description xml:lang="eng">
    This tModel provides a means to publish a WSRP Portlet handle.
  </description>
  <overviewDoc>
    <overviewURL>
    </overviewURL>
  </overviewDoc>
  <categoryBag>
    <keyedReference
tModelKey="uuid:7c1acf26d-9672-4404-9d70-39b756e62ab4"
    keyValue="categorization" />
    <keyedReference
tModelKey="uuid:7c1acf26d-9672-4404-9d70-39b756e62ab4"
    keyValue="Unchecked" />
  </categoryBag>
</tModel>
```

**Fields:**

- **tModelKey**: The key value identifying the tModel.
- **name**: The tModel name. Note that, the name MUST NOT be accompanied with a language attribute.
- **description**: A language locale qualified description of this tModel.
- **overviewURL**: The URL MUST hold the location of this note on the OASIS web site.

**Comment:** Generate key from V3 key

**Comment:** Need to change that once we figured out how this will work with the oasis repository

**Comment:** Change later here
6.4.3 Valid Values

The valid values for this categorization system are Portlet Handles.
7 Sample Queries

This section describes how to perform UDDI Version 2 API queries based on this model.

7.1 Find WSRP Producers

There are two ways to find Producers within the registry. The first query allows finding Producers in a WSRP version agnostic way, the second allows to search for Producers explicitly supporting WSRP Version 1.

7.1.1 Find WSRP Producers Independent of the Version Supported

Search for businessServices categorized as WSRP Producer. Additionally the search can be limited to businessServices contained in a certain businessEntity or to businessService names matching a pattern.

```xml
<find_service generic="2.0"
    xmlns="urn:uddi-org:api_v2">
  <categoryBag>
    <keyedReference
      tModelKey="${TMODELKEY_WSRP_SERVICE_TYPE}"
      keyName="WSRP Service Type"
      keyValue="Producer">
    </keyedReference>
  </categoryBag>
</find_service>
```

The query should return a list of businessServices categorized as WSRP Producers. From this list a particular businessService, i.e. its key, can be chosen and used for further queries (see 7.2).

7.1.2 Find WSRP Producers Supporting Version 1

Search for businessServices whose bindingTemplates refer to the WSRP v1 Bindings tModel. Additionally the search can be limited to businessServices contained in a certain businessEntity or to businessService names matching a pattern.

```xml
<find_service generic="2.0"
    xmlns="urn:uddi-org:api_v2">
  <tModelBag>
    <tModelKey>${TMODELKEY_WSRP_V1_BINDINGS}</tModelKey>
  </tModelBag>
</find_service>
```

The query should return a list of businessServices whose bindingTemplates indicate that the service implements the WSRP v1 bindings. From this list a particular businessService, i.e. its key, can be chosen and used for further queries (see 7.2).
7.2 Get WSRP Producer Service WSDL URL

Search for bindingTemplates of a particular businessService referring to the WSRP v1 Bindings tModel.

```
<find_binding serviceKey="$SERVICEKEY_PRODUCER"
generic="2.0"
xmllns="urn:uddi-org:api_v2">
  <tModelBag>
    <tModelKey>${TMODELKEY_WSRP_V1_BINDINGS}</tModelKey>
  </tModelBag>
</find_binding>
```

This query should return the binding details containing the WSDL URL.

7.3 Find WSRP Portlets

Searching for Portlets is similar to search for Producers. Basically it is a query for businessServices categorized as WSRP Portlets. Additionally the search can be limited to businessServices contained in a certain businessEntity or to businessService names matching a pattern.

```
<find_service generic="2.0"
xmllns="urn:uddi-org:api_v2">
  <categoryBag>
    <keyedReference
      tModelKey="$TMODELKEY_WSRP_SERVICE_TYPE"
      keyName="WSRP Service Type"
      keyValue="Portlet"
    />
  </categoryBag>
</find_service>
```

The query should return a list of businessServices categorized as WSRP Portlets. From this list a particular businessService, i.e. its key, can be chosen and used for further queries (see 7.5).
7.4 Find WSRP Portlets Hosted by a Particular Producer

It can be convenient to find all Portlets within the registry that are hosted by a particular Producer. This query is a search for businessServices having a Producer service reference in their category bag pointing to the hosting Producer service.

```xml
<find_service generic="2.0"
   xmlns="urn:uddi-org:api_v2">
  <categoryBag>
    <keyedReference
      tModelKey="${TMODELKEY_WSRP_PRODUCER_SERVICE_REFERENCE}"
      keyName="WSRP Producer Service Reference"
      keyValue="${SERVICEKEY_PRODUCER}"/>
  </categoryBag>
</find_service>
```

This query should return a list of businessServices representing Portlets hosted by the specified Producer service. From this list a particular businessService, i.e. its key, can be chosen and used for further queries (see 7.6).

7.5 Find WSRP Portlets by Portlet Handle

This query is a search for businessServices having WSRP Portlet Handle tModel in their category bag with a matching Portlet handle keyValue.

```xml
<find_service generic="2.0"
   xmlns="urn:uddi-org:api_v2">
  <categoryBag>
    <keyedReference
      tModelKey="${TMODELKEY_WSRP_PORTLET_HANDLE}"
      keyName="WSRP Portlet Handle"
      keyValue="SampleHandle"/>
  </categoryBag>
</find_service>
```

This query should return a businessServices representing the Portlet with the matching Portlet handle. This businessService, i.e. its key, can be used for further queries (see 7.6).
7.6 Get WSRP Portlet Access Information

Once a businessService representing a Portlet is found, the necessary data to address the Portlet – the Portlet handle and the hosting Producer service – can be obtained by retrieving the service details.

```
<get_serviceDetail generic="2.0"
 xmlns="urn:uddi-org:api_v2">
 <serviceKey>${SERVICEKEY_PORTLET}</serviceKey>
</get_serviceDetail>
```

This query should return the service detail of the service requested. To obtain the Producer reference and the Portlet handle the returned businessService structure and the contained categoryBag need to be crawled (see 5.3.1).

8 Private UDDI Registries Considerations

Do we want to mention this and describe the caveats?
References

8.1 Normative


Comment: Need to update references.
### Revision History

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<td>Richard Jacob</td>
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<td>Added publishing of Portlets</td>
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<td>01/16/04</td>
<td>Andre Kramer</td>
<td>Editorial suggestions, added Producer Service Reference Binding</td>
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<td>added figures and descriptions for Producer and Portlet publishing</td>
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