Ontology Specification Introduction (Past GGF Meetings)

Access Services for RDF Data Resources

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Operational Model

- Possible alternatives:
  - *Graph-oriented*
  - ***Object-oriented***
- Operation types:
  - *Creation/removal*
  - *Retrieval*
  - *Attachment/detachment*
- Side issues:
  - Inference aware vs inference unaware operations

Recalling the design criteria (II)
Interface organization

- *Two layers:*
  - *Bulk access*
  - *Specialized access*
- *Interface types:*
  - **Native interfaces:** mimic classes of the RDF(S) data model
  - **Utility interfaces:** provide additional functionalities that enhance usability
- *Message definition:*
  - **Direct data access:**
    - Retrieval of directly associated information
    - Creation of new data (including *attachments*)
    - Deletion of existing data (including *detachments*)
  - **Indirect data access**
    - Delegation of access to services that provide specialized access to a subset of associated information

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Current status (I)
Data resources

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Current status (II)
Interface organization

Current status (III), Interfaces provided (I)
RepositorySelector

NEW

Definition

Imports

◄— ..\resources\spec\wsdai_core_porttypes.wsdl

Types

⇒ Ⓢ http://eu.ist.ontogrid.org/namespaces/ontologyaccess/WS-DAIOnt-RDF(S)

Services

Bindings

Port Types

- ⊟ 🅘 RepositorySelectorPT
  - ⊞ ⚙ AddRepository
  - ⊞ ⚙ GetRepositoryContents
  - ⊞ ⚙ GetRepositoryList
  - ⊞ ⚙ RemoveRepository
- ⊞ 🅘 RepositorySelectorFactoryPT
- ⊞ 🅘 CoreDataAccessPT
- ⊞ 🅘 CoreResourceListPT

Messages

- ⊞ ✉ AddRepositoryRequest
- ⊞ ✉ AddRepositoryResponse
- ⊞ ✉ DataResourceUnavailableFault
- ⊞ ✉ DestroyDataResourceRequest
- ⊞ ✉ DestroyDataResourceResponse
- ⊞ ✉ GenericQueryRequest
- ⊞ ✉ GenericQueryResponse
- ⊞ ✉ GetDataResourcePropertyDocumentRequest
- ⊞ ✉ GetDataResourcePropertyDocumentResponse
- ⊞ ✉ GetRepositoryContentsRequest
- ⊞ ✉ GetRepositoryContentsResponse
- ⊞ ✉ GetRepositoryFactoryRequest
- ⊞ ✉ GetRepositoryFactoryResponse
- ⊞ ✉ GetRepositoryListRequest
- ⊞ ✉ GetRepositoryListResponse

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Current status (III), Interfaces provided (II)
RepositorySelectorFactory

Current status (III), Interfaces provided (III)
Repository

CHANGED

Definition

Imports

◄ ..\resources\spec\wsdai_core_porttypes.wsdl

Types

⇒ S http://eu.ist.ontogrid.org/namespaces/ontologyaccess/WS-DAIOnt-RDF(S)

Services

Bindings

Port Types

- ⊟ 🛈 RepositoryPT
  - ⊞ ⚙ AddResource
  - ⊞ ⚙ GetRepositoryId
  - ⊞ ⚙ GetResources
  - ⊞ ⚙ RemoveResourceByURI
  - ⊞ ⚙ RemoveResourcesByType
- ⊞ 🛈 RepositoryFactoryPT
- ⊞ 🛈 CoreDataAccessPT
- ⊞ 🛈 CoreResourceListPT

Messages

- ⊞ ✉ AddResourceRequest
- ⊞ ✉ AddResourceResponse
- ⊞ ✉ DataResourceUnavailableFault
- ⊞ ✉ DestroyDataResourceRequest
- ⊞ ✉ DestroyDataResourceResponse
- ⊞ ✉ GenericQueryRequest
- ⊞ ✉ GenericQueryResponse
- ⊞ ✉ GetDataResourcePropertyDocumentRequest
- ⊞ ✉ GetDataResourcePropertyDocumentResponse
- ⊞ ✉ GetRepositoryIdRequest
- ⊞ ✉ GetRepositoryIdResponse
- ⊞ ✉ GetResourceFactoryRequest
- ⊞ ✉ GetResourceFactoryResponse
- ⊞ ✉ GetResourceListRequest
- ⊞ ✉ GetResourceListResponse

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Current status (III), Interfaces provided (IV) *RepositoryFactory*

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Current status (III), Interfaces provided (V)
Resource

CHANGED

Definition

Imports		Types
		⇒ S http://eu.ist.ontogrid.org/wsdaion

Port Types

```
⊟ ① ResourcePT
   ⊞ ⚙ AddComment
   ⊞ ⚙ AddIsDefinedBy
   ⊞ ⚙ AddLabel
   ⊞ ⚙ AddMember
   ⊞ ⚙ AddPropertyValue
   ⊞ ⚙ AddSeeAlso
   ⊞ ⚙ AddValue
   ⊞ ⚙ GetComments
   ⊞ ⚙ GetDefinableProperties
   ⊞ ⚙ GetDefinedProperties
   ⊞ ⚙ GetIsDefinedBy
   ⊞ ⚙ GetLabels
   ⊞ ⚙ GetMembers
   ⊞ ⚙ GetPropertyValues
```

Services · **Bindings** · **Mess**

```
① ResourcePT
⊞ ⚙ AddComment
⊞ ⚙ AddIsDefinedBy
⊞ ⚙ AddLabel
⊞ ⚙ AddMember
⊞ ⚙ AddPropertyValue
⊞ ⚙ AddSeeAlso
⊞ ⚙ AddValue
⊞ ⚙ GetComments
⊞ ⚙ GetDefinableProperties
⊞ ⚙ GetDefinedProperties
⊞ ⚙ GetIsDefinedBy
⊞ ⚙ GetLabels
⊞ ⚙ GetMembers
⊞ ⚙ GetPropertyValues
⊞ ⚙ GetSeeAlsos
⊞ ⚙ GetTypes
⊞ ⚙ GetValues
⊞ ⚙ IsPropertyDefinable
⊞ ⚙ IsPropertyDefined
⊞ ⚙ RemoveComments
⊞ ⚙ RemoveIsDefinedBy
⊞ ⚙ RemoveLabel
⊞ ⚙ RemoveMember
⊞ ⚙ RemovePropertyValues
⊞ ⚙ RemoveSeeAlsos
⊞ ⚙ RemoveValues
```

Current status (III), Interfaces provided (VI)
Class

CHANGED

Definition

Imports

⌐← ..\resources\spec\wsdai_core_porttypes.wsdl

Types

⇒ $ http://eu.ist.ontogrid.org/namespaces/ontologyaccess/WS-DAIOnt-RDF(S)

Services

Bindings

Port Types

- 🟣 ClassPT
  - ⊞ ✿ AddRelatedClass
  - ⊞ ✿ GetInstances
  - ⊞ ✿ GetRelatedClasses
  - ⊞ ✿ GetRelatedProperties
  - ⊞ ✿ IsInstance
  - ⊞ ✿ IsRelatedClass
  - ⊞ ✿ RemoveRelatedClasses
- ⊞ 🟣 CoreDataAccessPT
- ⊞ 🟣 CoreResourceListPT

Messages

- ⊞ ✉ AddRelatedClassRequest
- ⊞ ✉ AddRelatedClassResponse
- ⊞ ✉ DataResourceUnavailableFault
- ⊞ ✉ DestroyDataResourceRequest
- ⊞ ✉ DestroyDataResourceResponse
- ⊞ ✉ GenericQueryRequest
- ⊞ ✉ GenericQueryResponse
- ⊞ ✉ GetDataResourcePropertyDocumentRequest
- ⊞ ✉ GetDataResourcePropertyDocumentResponse
- ⊞ ✉ GetInstancesRequest
- ⊞ ✉ GetInstancesResponse
- ⊞ ✉ GetRelatedClassesRequest
- ⊞ ✉ GetRelatedClassesResponse
- ⊞ ✉ GetRelatedPropertiesRequest
- ⊞ ✉ GetRelatedPropertiesResponse

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Current status (III), Interfaces provided (VII)
Property

CHANGED

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Current status (III), Interfaces provided (VIII)
Statement
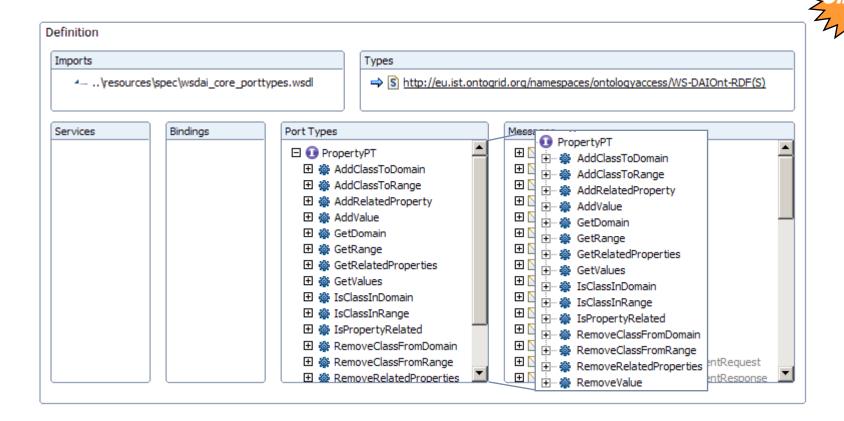
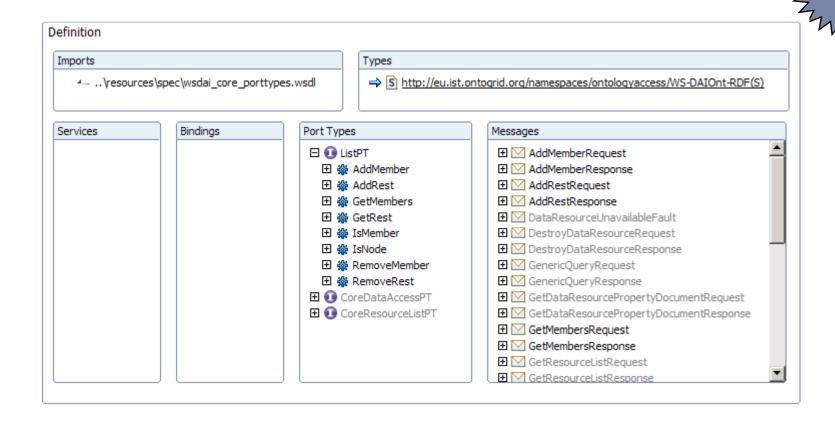www.ogf.org

UPDATED

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Current status (III), Interfaces provided (XI)
Container

UPDATED

Definition

Imports

◄— ..\resources\spec\wsdai_core_porttypes.wsdl

Types

⇒ [S] http://eu.ist.ontogrid.org/namespaces/ontologyaccess/WS-DAIOnt-RDF(S)

Services

Bindings

Port Types

- ☐ ① ContainerPT
  - ⊞ ⚙ AddMember
  - ⊞ ⚙ GetContainerType
  - ⊞ ⚙ GetMembers
  - ⊞ ⚙ GetNumberOfMembers
  - ⊞ ⚙ IsMember
  - ⊞ ⚙ RemoveMembers
- ⊞ ① ContainerFactoryPT
- ⊞ ① ContainerIteratorPT
- ⊞ ① CoreDataAccessPT
- ⊞ ① CoreResourceListPT

Messages

- ⊞ ✉ AddMemberRequest
- ⊞ ✉ AddMemberResponse
- ⊞ ✉ DataResourceUnavailableFault
- ⊞ ✉ DestroyDataResourceRequest
- ⊞ ✉ DestroyDataResourceResponse
- ⊞ ✉ GenericQueryRequest
- ⊞ ✉ GenericQueryResponse
- ⊞ ✉ GetAltFactoryRequest
- ⊞ ✉ GetAltFactoryResponse
- ⊞ ✉ GetContainerIteratorFactoryRequest
- ⊞ ✉ GetContainerIteratorFactoryResponse
- ⊞ ✉ GetContainerTypeRequest
- ⊞ ✉ GetContainerTypeResponse
- ⊞ ✉ GetDataResourcePropertyDocumentRequest
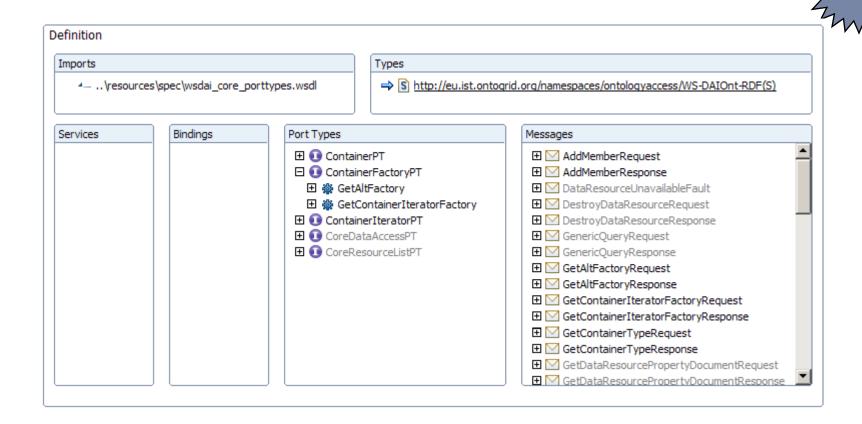- ⊞ ✉ GetDataResourcePropertyDocumentResponse

Current status (III), Interfaces provided (XII)
ContainerFactory

UPDATED

Current status (III), Interfaces provided (XIII)
ContainerIterator

UPDATED

Definition

Imports

..\resources\spec\wsdai_core_porttypes.wsdl

Types

http://eu.ist.ontogrid.org/namespaces/ontologyaccess/WS-DAIOnt-RDF(S)

Services

Bindings

Port Types

- ContainerPT
- ContainerFactoryPT
- ContainerIteratorPT
  - GetNextMember
  - GetNextMemberSet
  - GetPreviousMember
  - GetPreviousMemberSet
  - HasNextMember
  - HasNextMemberSet
  - HasPreviousMember
  - HasPreviousMemberSet
- CoreDataAccessPT
- CoreResourceListPT

Messages

- AddMemberRequest
- AddMemberResponse
- DataResourceUnavailableFault
- DestroyDataResourceRequest
- DestroyDataResourceResponse
- GenericQueryRequest
- GenericQueryResponse
- GetAltFactoryRequest
- GetAltFactoryResponse
- GetContainerIteratorFactoryRequest
- GetContainerIteratorFactoryResponse
- GetContainerTypeRequest
- GetContainerTypeResponse
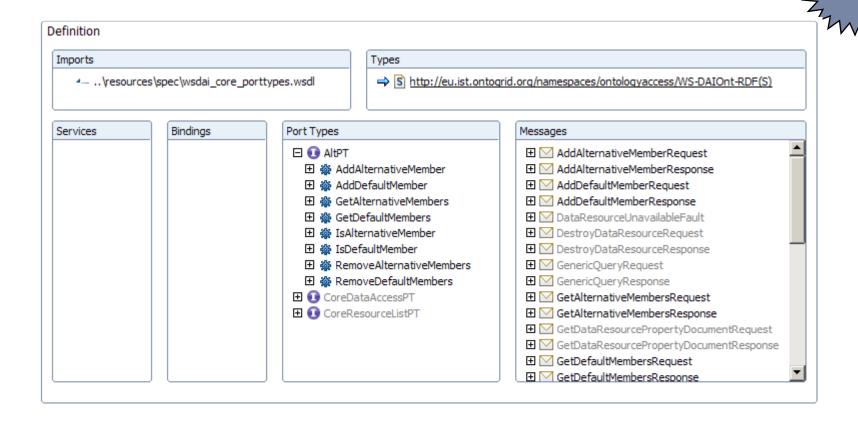- GetDataResourcePropertyDocumentRequest
- GetDataResourcePropertyDocumentResponse

Current status (III), Interfaces provided (XIV)
Alt

Future Work

- Behavioural aspects
  - Static properties
  - Configurable properties

- Test suite

- Sample use cases

- Glossary of terms

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