NORDUGRID-TECH-XX
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ARC Information System

Documentation and developer's guide

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Design Overview

Chapter 2

ISIS

2.1 Registration handling

2.1.1 Functionality

Main functionality of ISIS service visible from outside of ISIS cloud is to accept registration and provide collected information to clients. For that ISIS implements operations described in following section. The seingle ISIS service accepts Registration Records pushed to it by other services (including ISIS services too) and stores them in local XML database. Stored records can be queried by clients using mandatory and service-specific attributes for selection criteria.

2.1.2 Interface

Operation Register

Input

Header

RequesterID Identifier of the client.

MessageGenerationTime Time when following set of RegEntry was generated. There may be multiple RegEntry elements.

RegEntry

SrcAdv

Type Type of service being registered. This element is opaque string for now. There shall be service types defined later.

EPR Endpoint Reference of service being registered in terms of WS-Addressing.

SSPair Set of key/value pairs representing service specific information.

MetaSrcAdv

ServiceID Globally unique and persistent identifier of the service.

GenTime Time when this RegEntry was generated

Expiration Validity period of this registration record.

Output

Fault Optional element describing fault which occured while performing registration. If missing registration succeeded.

Faults

none No specific faults are defined

This operation is usually called by service which wants to register it's presence in ISIS. Service must supply mandatory information. `Endpoint Reference` is used to contact service. Only required element is contact URL of service. `Type` specifies kind of service and is used to find out functionality nad interface of service. `ServiceID` is used to distinguish between registered services and to deal with case of service changing it's contact URL.

As result of this operation new Registration Record is stored inside ISIS internal database and eventually propagated to other ISISes. If registration record of same ID already existed it will be renewed.

This operation is also used by ISIS services to propagate Registration Records inside ISIS cloud.

Operation RemoveRegistrations

Input

MessageGenerationtime
ServiceID Multiple identifiers of services, whose recordds has to be removed.

Output

RemoveRegistrationResponseElement
ServiceID Identifier of service whose record was not removed
Fault Description of failure reason

Faults

none No specific faults are defined

This operation is used to explicitely erase Registration Records associated with specified ServiceID values. If corresponding record does not exist it's identifier will be present in response message together with corresponding Fault element.

Operation GetISISList

Input

none

Output

EPR Multiple Endpoint References of known ISIS services

Faults

none No specific faults are defined

In response to this operation the EndpointReferences to all known ISIS services are returned.

Operation Query

Input

QueryString XPath query expression

Output

any Result of query

Faults

none No specific faults are defined

This operation allows any XPath queries to be performed on stored Registration Records. The records are treated as merged in one XML document with each record being equivalent to `RegEntry` element of `Register` operation. In response all elements produced by XPath query are returned.

2.2 Peer-to-Peer

2.2.1 Functionality

2.2.2 Interface

Chapter 3

Service

3.1 Information

3.2 Registration