PingER service functional specification

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Document Change Log

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General information

Service Name: perfSONAR-PS-PingER-1.0

Service Type: MA and MP

Version/release: 1.0

Service Description: perfSONAR-PS PingER service, contains Measurement Archive and Measurement Point

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1. Introduction

This document presents functional specification of the PingER service. In the following text the functionality of the PingER Measurement Archive and Measurement Point will be described. For detailed interface specifications see "PingER service Interface Specification" document and for protocol specifications see "PingER service Protocol Specification"

2. MA Functionality specifications

2.1. Functionality `handle-metadata`

Description

This functionality allows processing metadata in order to determine the Key. PingER metadata described completely by the set of static parameters associated with ping facility in order to provide Layer3 monitoring capabilities for the pair of two end nodes. The pair of end nodes can be described by Layer3 or Layer4 topology elements.The Key is a metaID - primary key in the metaData table of the metadata storage SQL database. The service takes metadata from the request and based on the content of metadata entry in the metaData SQL table returns the Key along with whole metadata.

Success Factors

The service returns the metaID Key when metadata provided in the request is matched to some entry in the metaData table of the service storage database.

Failure Factors

Processing metadata requests requires presence of the service's storage database and existing of metaData SQL table in such database. The request also fails when no metadata is provided in the request or there is no matched data element in the request.

Interface specification

MetadataKeyRequest
MetadataKeyResponse

2.2. Functionality `handle-data`

Description

This functionality implements publishing of the PingER monitoring data in form of the XML response message to the SetupDataRequest. The PingER MA service can accept request with metadata Key or chain (filter or unfiltered) of the metadata elements and return all found metadata elements and data chunks identified by found metaID of the metadata elements for requested time range.

Success Factors

The service returns data either when a Key is provided or metadata is provided. The Key must correspond to existing metaID primary Key in the metadata storage SQL database while metadata must describe measurement parameters data in the way it is described in metaData SQL table.

Failure Factors

When wrong Key is provided in the SetupDataRequest message, pointing to non-existing metaID the service will return error. The service will also be unable to locate measurement data when metadata is not found in the metaData table.

Interface specification

SetupDataRequest
SetupDataResponse

2.3. Functionality `handle-LS-interaction`

Description

This functionality allows a service to become known to other services. The service implementing this functionality registers itself to the Lookup Service with the use of LSRegisterRequest message. The content of this message consist of lookup information which details service parameters. As a part of Lookup Service interaction

functionality service enables de-registration which removes all entries about the service from the Lookup Service. Once registered, to communicate the changes of the lookup information issue LSRegisterRequest messages sequence.

Success Factors

The service registers itself provided that the metadata configuration file is filled and available as lookup information is taken from this source. The interaction with Lookup Service is possible provided that the Lookup Service to register to is up and running. Successful registration is confirmed with a key of data stored in Lookup Service contained in the LSRegisterResponse message.

Failure Factors

Registration fails if Lookup Service is not available or the PingER service doesn't know Lookup Service access point stored in PingER service configuration. Deregistration will fail if none or wrong key is provided in LSDeregisterRequest message.

Interface specification

LSRegisterRequest
LSRegisterResponse
LSDeregisterRequest
LSDeregisterResponse

3. MP Functionality specifications

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