

# Functional Specification For RRD MA

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Date	08-12-2006
Current Version	1.2

## Document Change Log

As SA3-WI15 Document			
Version number	Date	Description of change	People
1.0	08-12-06	First draft issued	Szymon Trocha
1.1	08-12-06	Introduction added and message types updated	Szymon Trocha
1.2	08-12-06	Modified message types based on Roman's email comments	Loukik Kudarimoti

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## 1. General information

**Service Name:** RRD-MA-1.1

**Service Type:** MA

**Version/release:** 1.0

**Service Description:** Measurement Archive service using Round Robin Database

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## 2. Introduction

This document details functionalities supported by Round Robin Database Measurement Archive service. Each section describes specific functionality as well as provides success and failures factors. It also lists message types implementing this functionality. For detailed interface specifications see “Interface Specification for RRD Measurement Archive” document.

## 3. Functional specifications

### 3.1. *Functionality handle-metadata*

#### **Description**

This functionality allows processing metadata in order to determine the Key. Metadata, literally "data about data," is associated with monitored interface for purposes of its description. The Key is a pointer to the location of the RRD file along with the data source and the unit format in which data is stored. The service takes metadata from the request and based on the content of metadata configuration file returns the Key along with whole metadata.

#### **Success Factors**

The service returns the Key when metadata provided in the request is matched to some entry in the metadata configuration file.

#### **Failure Factors**

Processing metadata requests requires existing of metadata configuration file in a location specified in service configuration parameters. The request also fails when no metadata is provided in the request or corresponding metadata is not found in the metadata configuration file.

#### **Interface specification**

MetadataKeyRequest

MetadataKeyResponse

## **3.2. *Functionality handle-data***

### **Description**

This functionality allows providing the data that holds the information obtained from RRD files as well as store new data in RRD file. The service implementing this functionality locates data and retrieves stored data. To do so, it must issue a MeasurementArchiveRequest request message which results in the delivery of SetupDataResponse message. The contents of request message can consist of the metadata or Key, a combination of metadata and some filtering parameters or a combination of both. In addition to it this functionality it provides a mean for the requestor to store measurement data provided as a part of the MeasurementArchiveStoreRequest message.

### **Success Factors**

The service returns data either when a Key is provided or metadata is provided. The Key must correspond to existing RRD file while metadata must describe measurement data in the way it is described in metadata configuration file. When the MeasurementArchiveRequest applies some filter to the data start and/or end time for measurements must fall within the valid timeframe of collected data stored in RRD file.

Measurement data storage requires MeasurementArchiveStoreRequest to contain either metadata to identify proper RRD file to store data or directly a Key. The service writes data to the archive only when the data timestamp is not older then the last entry in the archive.

### **Failure Factors**

When wrong Key is provided in the MeasurementArchiveRequest message, pointing to non-existing RRD file the service will return error. The same applies when the Key doesn't contain a valid data source value. The service will also be unable to locate measurement data when metadata is not found in the metadata configuration file. When MeasurementArchiveStoreRequest message is sent it will return error when data timestamp is earlier then the last entry in the RRD file it has to write in.

### **Interface specification**

- SetupDataRequest
- SetupDataResponse
- MeasurementArchiveStoreRequest
- MeasurementArchiveStoreResponse

### **3.3. *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 RRD MA service doesn't know Lookup Service access point stored in RRD MA service configuration. Deregistration will fail if none or wrong key is provided in LSDeregisterRequest message.

#### **Interface specification**

- LSRegisterRequest
- LSRegisterResponse
- LSDeregisterRequest
- LSDeregisterResponse