

Service Description (SD)

DeviceDiscovery

April 12, 2018

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1 Service Description Overview

This document describes the DeviceDiscovery service shown in Figure 1 including the interfaces, functions and information model. The DeviceDiscovery service allows to register and unregister devices including their systems, and find devices among the registered devices.

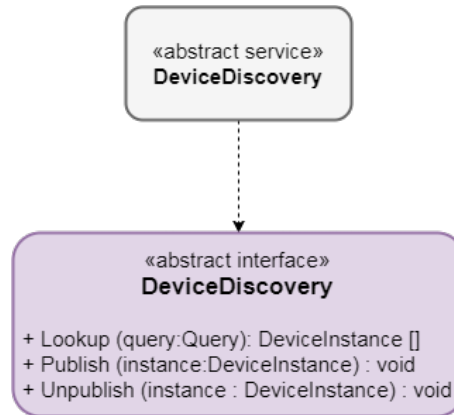


Figure 1: The DeviceDiscovery service interface

2 Abstract Interfaces

2.1 DeviceDiscovery

The DeviceDiscovery interface shown in Figure 2 provides the service interfaces and the data types.

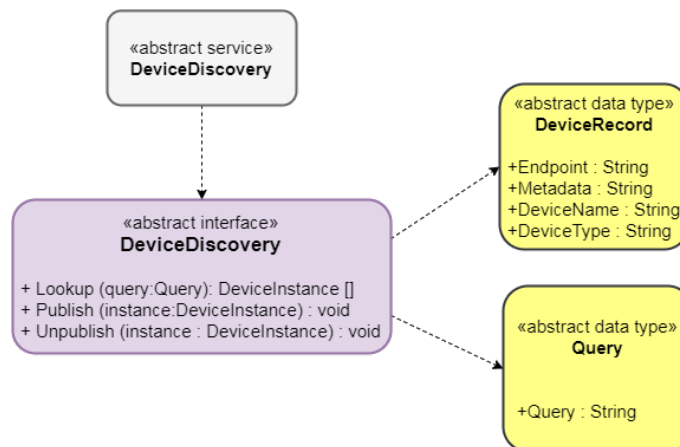


Figure 2: The DeviceDiscovery service interface and the abstract data types

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2.1.1 Functions

Publish The *Publish* function is used to register a device. The device will contain a symbolic name. The instance parameter represents the endpoint information that should be registered.

Unpublish The *Unpublish* function is used to unregister a device that no longer should be used. The instance parameter contains information necessary to find the device that should be removed.

Lookup The *Lookup* function is used to find and translate a symbolic device name into a physical endpoint, such as IP address, hostname and port.

3 Abstract Information Model

The abstract information model of the DeviceDiscovery contains DeviceRecord and Query data types as shown in Figure 3 and explained in Table 1.

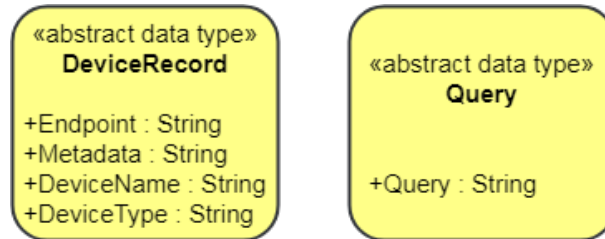


Figure 3: The DeviceDiscovery abstract information model

Table 1: Data type description

Field	Description
DeviceRecord	The DeviceRecord data type contains information of a device, such as name, IP address, port and MAC address. Device metadata can also be added here. Metadata should be provided through DNS TXT record using key pairs such as, <i>encode = syntax</i> , e.g., <i>encode = xml</i> , <i>compress = algorithm</i> , e.g., <i>compress = exi</i> , <i>semantix = XX</i> , e.g., <i>semantic = senml</i>
Query	The Query datatype represents a query that can be sent to the device provider in order to filter the stored devices to return a proper subset.

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4 Non-functional Requirements

Not specified

5 References

6 Revision history

6.1 Amendments

No.	Date	Version	Subject of Amendments	Author
1	2017-09-10	1.0	Initial Version	Ani Bicaku
2	2017-11-15	1.1	Initial Version	Ani Bicaku

6.2 Quality Assurance

No.	Date	Version	Approved by
1			
2			