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qualityEvaluation

Service Description

Abstract

This document provides service description for the **qualityEvaluation** service.

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1 Overview

This document describes the **qualityEvaluation** service, which provides system KPI evaluation features in order to assist in finding the best service provider.

The **qualityEvaluation** service contains the following operations:

- *filter* drops out any systems from a given list that are not compliant with given requirements;

- *sort* ranks a given list of systems according to given requirements;

The rest of this document is organized as follows. In Section 2, we describe the abstract message operations provided by the service. In Section 3, we end the document by presenting the data types used by the mentioned operations.

1.1 How This Service Is Meant to Be Used

Consumer or service orchestrator systems can use this service to take service quality requirements into account as well when looking for the best-matching provider. The **qualityEvaluation** service is a common service definition for various Quality of Service considerations implemented by different evaluator systems. Consumer or service orchestrator systems may consume this service to filter or sort a service provider candidate list multiple times from various evaluator systems that implement different service quality evaluation strategies.

1.2 Important Delimitations

The consumer has to identify itself to use any of the operations.

1.3 Access policy

Available for anyone within the local cloud.

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2 Service Operations

This section describes the abstract signatures of each operations of the service. The **qualityEvaluation** service is used to *filter* or *sort* a given service provider candidate list. In particular, each subsection names an operation, an input type and one or two output types (unsuccessful operations can return different structure), in that order. The input type is named inside parentheses, while the output type is preceded by a colon. If the operation has two output types, they are separated by a slash. Input and output types are only denoted when accepted or returned, respectively, by the operation in question. All abstract data types named in this section are defined in Section 3.

2.1 operation filter (QoSEvaluationRequest) : QoSEvaluationFilterResponse / Error-Response

Operation *filter* drops out any systems from a given list that are not compliant with given requirements

2.2 operation sort (QoSEvaluationRequest) : QoSEvaluationSortResponse / Error-Response

Operation *sort* ranks a given list of systems according to given requirements.

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3   Information Model

Here, all data objects that can be part of the **qualityEvaluation** service are listed and must be respected by the hosting System. Note that each subsection, which describes one type of object, begins with the *struct* keyword, which is used to denote a collection of named fields, each with its own data type. As a complement to the explicitly defined types in this section, there is also a list of implicit primitive types in Section 3.8, which are used to represent things like hashes and identifiers.

3.1   struct QoSEvaluationRequest

Field	Type	Mandatory	Description
authentication	Identity	yes	The requester of the operation.
providers	List<SystemName>	yes	System names that are required to be evaluated.
configuration	Metadata	no	Specifies the QoS evaluation method specific properties.

3.2   struct Identity

An Object which describes the identity of a system. It also contains whether the identified system has higher level administrative rights.

3.3   struct Metadata

An Object which maps String keys to primitive, Object or list values.

3.4   struct QoSEvaluationFilterResponse

Field	Type	Description
passedProviders	List<SystemName>	List of compliant systems.
droppedProviders	List<SystemName>	List of non-compliant systems.
warnings	WarningMap	System names with warning list.

3.5   struct WarningMap

An Object which maps SystemName keys to List<String> values.

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3.6   struct QoSEvaluationSortResponse

Field	Type	Description
sortedProviders	List<SystemName>	Systems sorted according to QoS scores. (First is the best)
warnings	WarningMap	System names with warning list.

3.7   struct ErrorResponse

Field	Type	Description
status	OperationStatus	Status of the operation.
errorMessage	String	Description of the error.
errorCode	Number	Numerical code of the error.
type	ErrorType	Type of the error.
origin	String	Origin of the error.

3.8   Primitives

Types and structures mentioned throughout this document that are assumed to be available to implementations of this service. The concrete interpretations of each of these types and structures must be provided by any IDD document claiming to implement this service.

Type	Description
ErrorType	Any suitable type chosen by the implementor of service.
List<A>	An *array* of a known number of items, each having type A.
Number	Decimal number.
Object	Set of primitives and possible further objects.
OperationStatus	Logical, textual or numerical value that indicates whether an operation is a success or a failure. Multiple values can be used for success and error cases to give additional information about the nature of the result.
String	A chain of characters.
SystemName	A string identifier that is intended to be both human and machine-readable. Must follow PascalCase naming convention.

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4 References

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5 Revision History

5.1 Amendments

No.	Date	Version	Subject of Amendments	Author
1	YYYY-MM-DD	5.2.0		Xxx Yyy

5.2 Quality Assurance

No.	Date	Version	Approved by
1	YYYY-MM-DD	5.2.0	