

TM Forum Best Practice

API Data Model and Information Framework Mapping

Service Test Management API Mapping

TMF653A

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INTRODUCTION

This document aims to map the TMF653_Service_Test_Management_API_REST_Specification_R18.0.0 with the SID model Release 17.5.

Note:

- Recommendations highlighted in **Blue** correspond to SID recommendations
- Recommendations highlighted in **Yellow** correspond to API recommendations

API DATA MODEL SID MAPPING

SERVICE TEST RESOURCE AND SERVICE TEST SPECIFICATION RESOURCE

API RESOURCE MODEL REMINDER

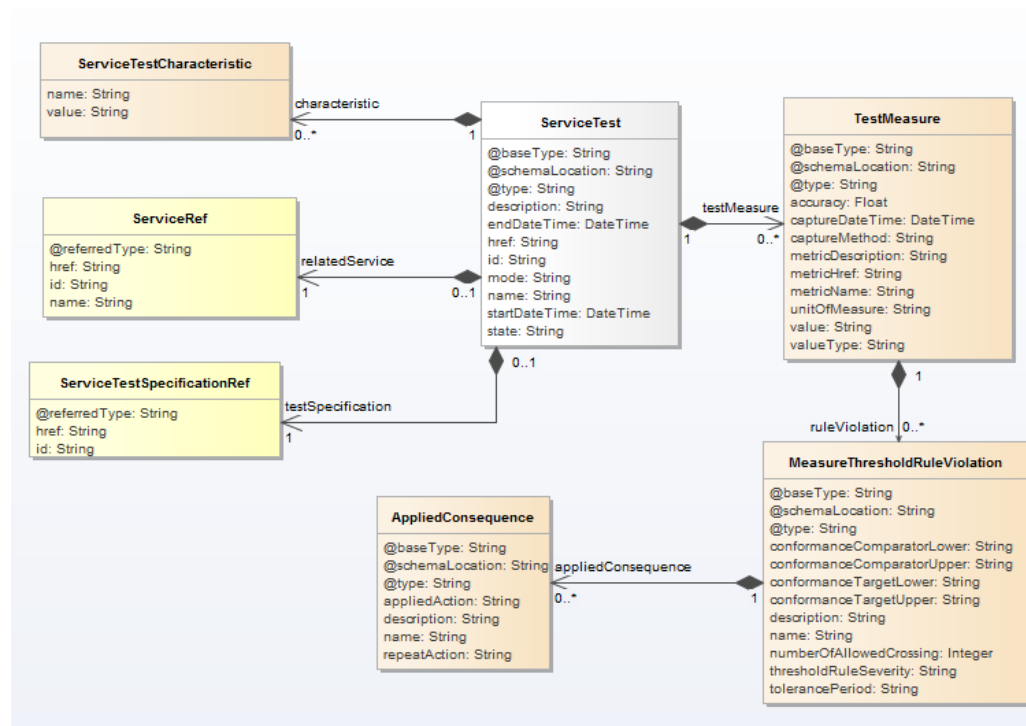


Figure 1. SERVICE TEST Resource

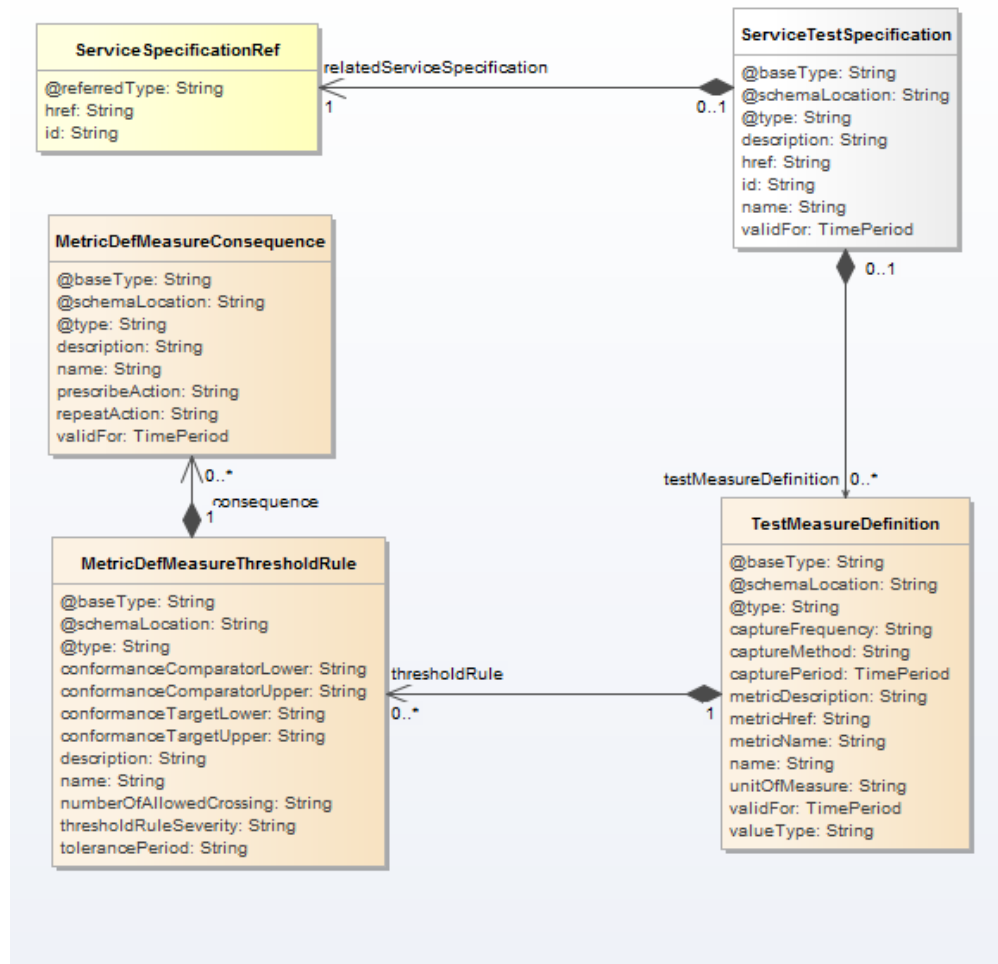


Figure 2. SERVICE TEST SPECIFICATION Resource

SID CORRESPONDING MODEL

The following models (From GB922_Test_R17.5.0) represent SID Entities corresponding to information carried in the API model by Service Test and Service Test Specification.

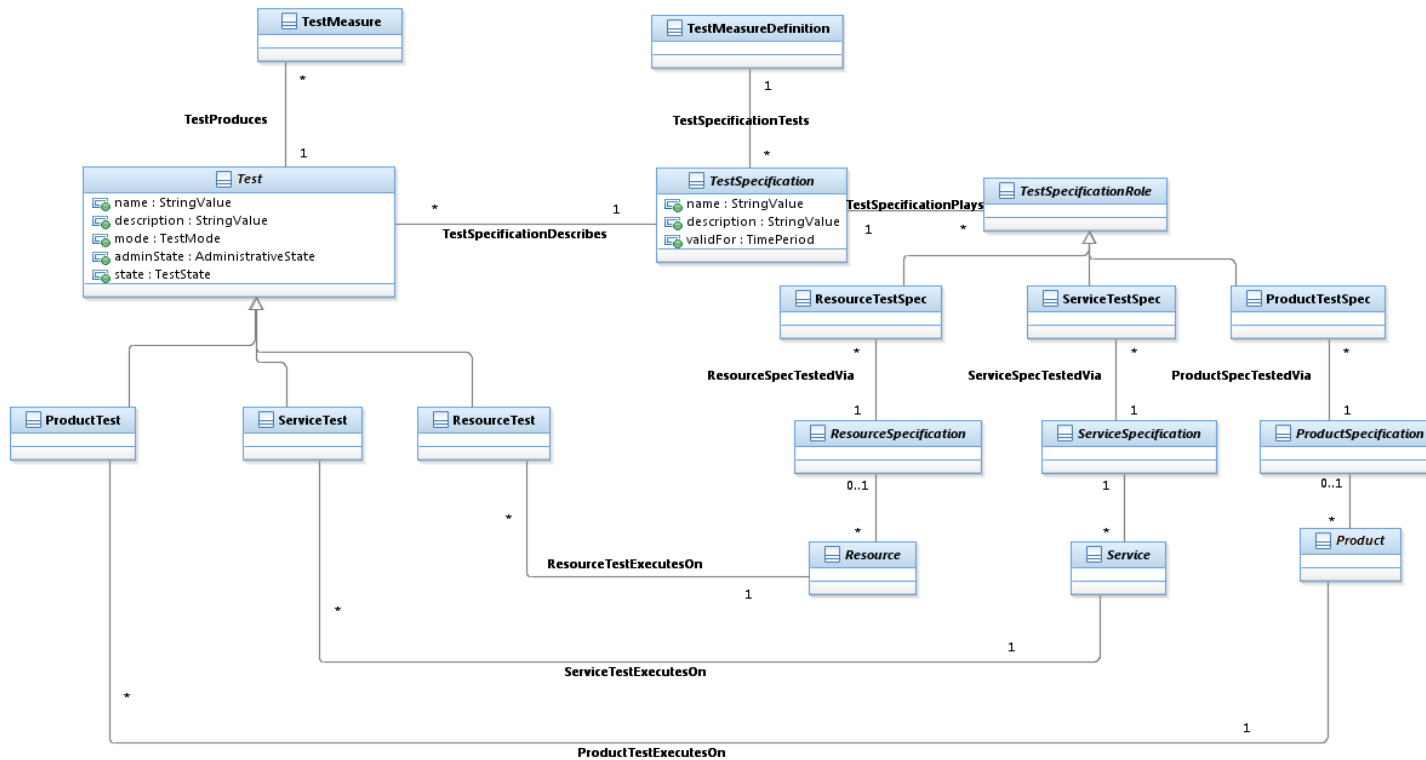


Figure 3. Product, Service, and Resource Test Entities



Figure 4. Basic Test Entities

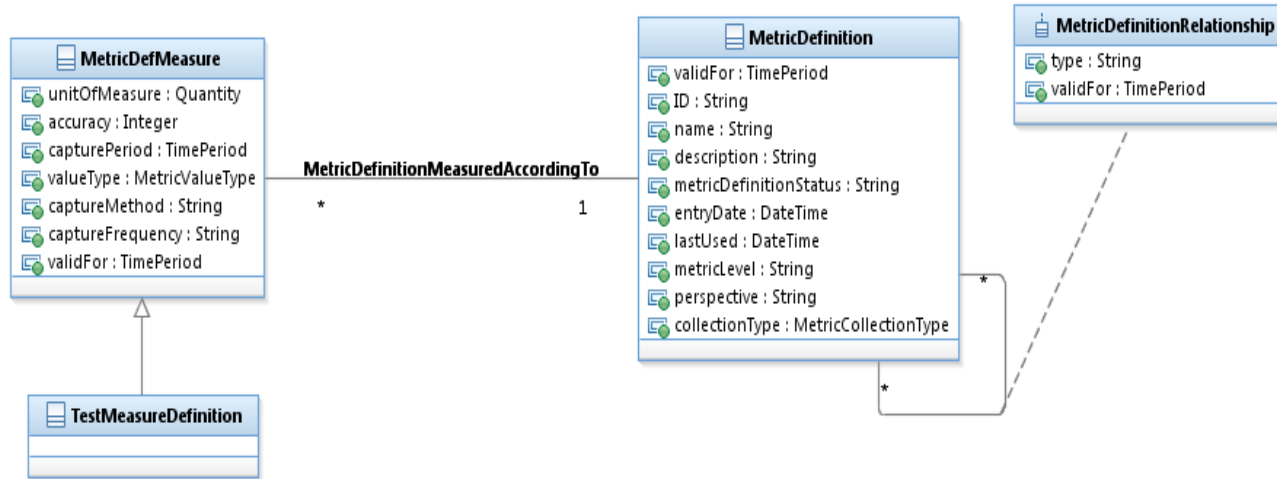


Figure 5. Test Measure Definition

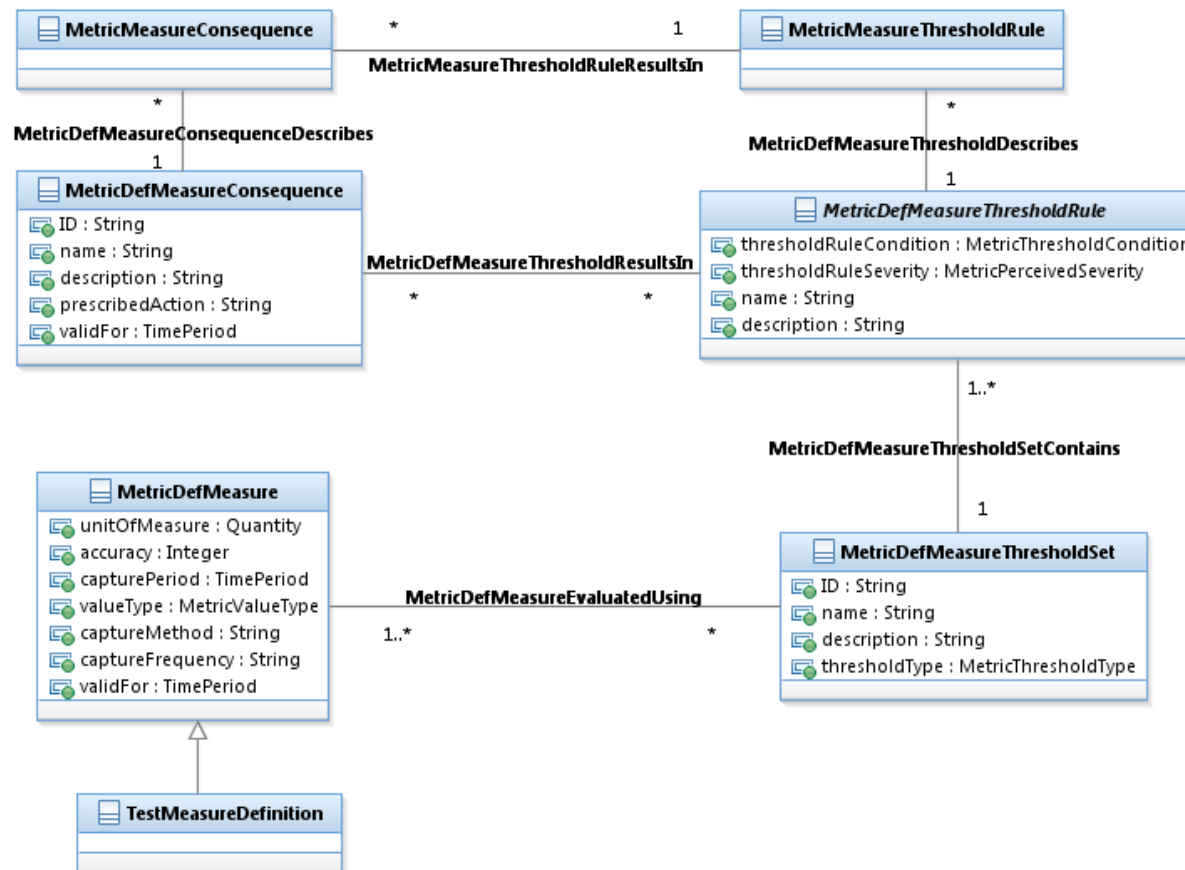


Figure 6. Test Measurement Thresholds

The following tables are from the SID html model 17.5 also represents SID Entities corresponding to information carried in the API model by Service Test and Service Test Specification.

Common Business Entities Domain::Metric ABE::Metric Definition ABE

Class MetricDefinition

















A set of basic facts that defines, or specifies, what a metric is, such as its name, description, and so forth.

Attributes		
MetricDefinitionMethodArgument	metricDefinitionMethodComponent	
«baseType» TimePeriod	validFor	The period of time for which the use of the
String	ID	A unique identifier for the MetricDefinition
String	name	A word, term, or phrase by which a Metric
EntityIdentification	entityIdentification	
EntitySpecCharUse	entitySpecCharUse	
MetricDefinitionHierarchyMember	metricDefinitionHierarchyMember	
MetricDefinitionHierarchyMember	metricDefinitionHierarchyMember2	
MetricDefinitionCategory	metricDefinitionCategory	
RootEntityType	rootEntityType	
String	description	A narrative that explains in detail what the
MetDefDescExtension	metDefDescExtension	
MetricDefDimValueUse	metricDefAssignedDimValue	
MetricDefinitionInvolvement	metricDefinitionInvolvement	
MetricDefMeasure	metricDefMeasure	
String	metricDefinitionStatus	The condition of the MetricDefinition:: <ul style="list-style-type: none"> o Active: the metric is a current and valid o Deprecated: the metric is no longer acti o Delete: the metric is not active; its may
DateTime	entryDate	The date when MetricDefintion was define
DateTime	lastUsed	The date when the MetricDefinition was la the metric is over time. If the lastUsed data was. No value means no use of this MetricI utility has not been demonstrated. This is derived based on its use as describe
CharacteristicValue	characteristicValue	
String	metricLevel	A number assigned to a MetricDefinition ba
MetDefBusinessValue	metDefBusinessValue	
EntitySpecification	specification	
MetricDefinitionDimensionUse	metricDefinitionDimensionUse	
String	perspective	The point of view for the MetricDefMeasu
MetricCollectionType	collectionType	The type of the collection such as: gauge, c

Common Business Entities Domain::Metric ABE::Metric Definition Measure ABE

Class MetricDefMeasure

A MetricDefMeasure specifies a measure of a specific aspect of an entity, such as lost packets or dealer sales target achievement, defined (MetricDefMeasureConsequence) if a threshold (MetricDefMeasureThreshold) is crossed.

Attributes		
«baseType» Quantity	 unitOfMeasure	The unit of measure for the Metric values associated
Integer	 accuracy	The number of digits of accuracy captured for Metri
«baseType» TimePeriod	 capturePeriod	The period during which Metrics associated with a M Note: This may be replaced by a set of entities simil:
MetricValueType	 valueType	A kind of value that the Metric value associated with
String	 captureMethod	The method used to capture the Metrics associated v Note: This may be replaced by a set of entities simil:
String	 captureFrequency	The frequency of capture for the MetricDefMeasure. Note: This may be replaced by a set of entities simil:
«baseType» TimePeriod	 validFor	The period for which the MetricDefMeasure is valid
MetricDefinition	 metricDefinition	
MetricDefMeasureThresholdSet	 metricDefinitionThresholdSet	
MetricDefinitionDeterminationMethod	 metricDefinitionDeterminationMethod	
PreDefinedMetricThresholdRuleParam	 predefinedMetricThresholdRuleParam	
MetricDefMeasureGroup	 metricDefMeasureGroup	
MetricMeasurementJob	 metricMeasurementJob	
MetricMeasure	 metricMeasure	
MetricDefMeasureExpression	 metricDefMeasureExpression	
MetricDefMeasureApplicability	 metricApplicability	

Metric Definition Measure Threshold ABE

The Metric Definition Measure Threshold ABE contains all entities describing the threshold used for MetricDefMeasure.

Classifiers
MetricDefMeasureThreshConsDependency
MetricDefMeasureThresholdConsequence
MetricDefMeasureThresholdRelationship
MetricDefMeasureThresholdRule
MetricDefMeasureThresholdSet
MetricPerceivedSeverity
MetricThresholdComparator
MetricThresholdCondition
MetricThresholdRuleDefinition
MetricThresholdType
PreDefinedMetricThresholdRule
PreDefinedMetricThresholdRuleParam

Common Business Entities Domain::Metric ABE::Metric Definition Measure ABE::Metric Definition Measure Threshold ABE

Class MetricThresholdRuleDefinition















Various types of threshold logic can be implemented by this entity. For example: Indicator > Value.

Attributes		
long	conformanceTargetLower	A value used to determine if the threshold is crossed or ceases to be crossed. It represents the Lower limit. The value should be less than the conformanceTargetUpper. The conformance comparators should also be logically defined so as to not lead to a logically impossible condition.
MetricThresholdComparator	conformanceComparatorLower	An operator that when applied on a value specifies whether a threshold is crossed or ceased to be crossed. This operator is used to compare with the conformanceTargetLower.
long	conformanceTargetUpper	A value used to determine if the threshold is crossed or ceases to be crossed. It represents the Upper limit. The value should be greater than the conformanceTargetLower. The conformance comparators should also be logically defined so as to not lead to a logically impossible condition.
MetricThresholdComparator	conformanceComparatorUpper	An operator that when applied on a value specifies whether a threshold is crossed or ceased to be crossed. This operator is used to compare with the conformanceTargetUpper.
«baseType» Duration	tolerancePeriod	An interval of time of allowed crossing occurrences before a consequence being initiated.
Integer	numberOfAllowedCrossing	The number of allowed crossing occurrences in reference to the tolerancePeriod without a consequence being initiated.

Common Business Entities Domain::Metric ABE::Metric Definition Measure ABE::Metric Definition Measure Threshold ABE

Class **MetricDefMeasureThresholdRule**

A **MetricDefMeasureThresholdRule** is a rule that defines the condition (raise or clear) to achieve to apply consequences when a threshold (**MetricDefMeasureThreshold**) reaches the severity of the raise or clear of the threshold.

Attributes		
MetricPerceivedSeverity	 thresholdRuleSeverity	A threshold can be generated in different severity levels. A possibly trigger a different consequence.
MetricDefMeasureConsequence	 metricDefMeasureConsequence	
MetricDefMeasureThresholdSet	 metricDefMeasureThreshold	
MetricMeasureThresholdRule	 metricMeasureThreshold	
String	 name	Name for the MetricDefMeasureThresholdRule .
String	 description	Description for the MetricDefMeasureThresholdRule .
MetricDefMeasureApplicability	 metricApplicability	
MetricDefMeasureExpression	 metricDefMeasureExpression	
MetricDefMeasureThresholdRelationship	 metricDefMeasureThresholdRelationship	
MetricDefMeasureThresholdRelationship	 metricDefMeasureThresholdRelationship2	
MetricDefMeasureThreshConsDependency	 metricDefMeasureThreshConsDependency	
MetricDefMeasureThresholdConsequence	 metricDefMeasureThresholdConsequence	
MetricDefMeasureConsequence	 metricDefMeasureConsequence	
MetricDefMeasureConsequence	 metricDefMeasureConsequence2	

ENTITY MAPPING

API Entity	Mapping Pattern	SID Entities	Comment	Recommended Action
ServiceTest	flattening inheritance hierarchy	ServiceTest		
ServiceTestSpecification	flattening inheritance hierarchy	ServiceTestSpec		
TestMeasure,	flattening inheritance hierarchy	TestMeasure/MetricMeasure, MetricDefinition		
TestMeasureDefinition	flattening inheritance hierarchy	TestMeasureDefinition /MetricDefMeasure, MetricDefinition		
MetricDefMeasureConsequence,	Same	MetricDefMeasureConsequence		
<i>AppliedConsequence</i>	renaming	MetricMeasureConsequence		
MetricDefMeasureThresholdRule,	Same	MetricDefMeasureThresholdRule		
MeasureThresholdRuleViolation	renaming	MetricMeasureThresholdRule		

RELATIONSHIPS MAPPING

API relationships mapped with SID relationships

From API Entity	To API Entity	API relationship	Mapping Pattern	SID Relationships	Comment	Recommended Action
ServiceTest	ServiceTestSpecification	relatedServiceTestSpecification	flattening inheritance hierarchy / Entity renaming / Property Capture / Association Simplification	TestSpecificationDescribes		
ServiceTest	TestMeasure	testMeasure	flattening inheritance hierarchy / Entity renaming / Property Capture / Association Simplification	TestProduces		
ServiceTestSpecification	TestMeasureDefinition	testMeasure	flattening inheritance hierarchy / Entity renaming / Property Capture / Association Simplification	testSpecificationTests		
TestMeasureDefinition	MetricDefinitionThresholdRule	metricDefinitionThresholdRule	flattening inheritance hierarchy / Entity renaming / Property Capture / Association Simplification	MetricDefinitionThresholdRuleUsing		
TestMeasure	MetricDefinitionThresholdRuleViolation	MetricDefinitionThresholdRuleViolation	flattening inheritance hierarchy / Entity renaming / Property Capture / Association Simplification	MetricDefinitionThresholdRuleViolationUsing		

From API Entity	To API Entity	API relationship	Mapping Pattern	SID Relationships	Comment	Recommended Action
			Association Simplification			
MetricDefMeasureThresholdRule	MetricDefMeasureConsequence	MetricDefMeasureConsequence	flattening inheritance hierarchy / Entity renaming / Property Capture / Association Simplification	MetricMeasureThresholdRuleResultsIn		
MetricDefMeasureThresholdRuleViolation	AppliedConsequence	appliedConsequence	flattening inheritance hierarchy / Entity renaming / Property Capture / Association Simplification	MetricMeasureThresholdRuleResultsIn		
ServiceTest	ServiceRef	relatedService	flattening inheritance hierarchy / Entity renaming / Property Capture / Association Simplification	ServiceTestExecutesOn		

ATTRIBUTE MAPPING

ENTITY ServiceTest mapped with ServiceTest

Attribute Name	SID Entities	SID Attribute	Comment	Recommended Action
description	Test	description	ServiceTest is generalization of the abstract Test class.	
href			Calculated	
id			Not found in SID	SID: To be added to the SID. To be checked if it is considered as a system or business attribute.
mode	Test, ServiceTest	mode		
name	Test, ServiceTest	name		
state	Test, ServiceTest	state		
startDateTime		adminState	No description for AdministrativeState	SID: Replace adminState with startDateTime and endDateTime in Test entity
endDateTime		adminState	No description for AdministrativeState	

ENTITY ServiceTestSpecification mapped with ServiceTestSpec

Attribute Name	SID Entities	SID Attribute	Comment	Recommended Action
description	TestSpecification,ServiceTestSpec	description		
href			Calculated	
id			Not found in SID	SID: To be added to the SID. To be checked if it is considered as a system or business attribute.
name	TestSpecification,ServiceTestSpec	name		
validFor	TestSpecification,ServiceTestSpec	validFor		

ENTITY TestMeasureDefinition mapped with TestMesureDefinition (Inherit from MetricDefMeasure), MetricDefinition

Attribute Name	SID Entities	SID Attribute	Comment	Recommended Action
id			Doesn't exist in SID and API	SID: consider adding the ID API: Consider adding the ID for having a main Entity that can be managed.
name				SID: Add name to MetricDefMeasure class in SID.

Attribute Name	SID Entities	SID Attribute	Comment	Recommended Action
	TestMeasureDefinition / MetricDefMeasure	accuracy	Lost in API	API:add the attribute accuracy to TestMeasureDefinition Entity . SID: explain and illustrate accuracy in the SID
captureMethod	TestMeasureDefinition / MetricDefMeasure	captureMethod		
captureFrequency	TestMeasureDefinition / MetricDefMeasure	captureFrequency		
capturePeriod	TestMeasureDefinition / MetricDefMeasure	capturePeriod		
captureDateTime	TestMeasureDefinition / MetricDefMeasure			SID: Add captureStartDate to MetricDefMeasure in SID. API:Add captureStartDate to TestMeasureDefinition entity.
metricDescription	MetricDefinition	Description		
metricHref	MetricDefinition			
metricName	MetricDefinition	Name		

Attribute Name	SID Entities	SID Attribute	Comment	Recommended Action
unitOfMeasure	TestMeasureDefinition / MetricDefMeasure	unitOfMeasure	Data type are not consistent.	<p>API: Analyze if Quantity could be used as type for unitOfMeasure</p> <p>SID: Enable to capture decimal values with Quantity</p>
valueType	TestMeasureDefinition / MetricDefMeasure	valueType		
validFor	MetricDefMeasure	validFor		

ENTITY TestMeasure, mapped with TestMesureDefinition (Inherit from MetricDefMeasure) and TestMeasure (Inherit from MetricMeasure)

API General: Instead of merging TestMeasureDefinition and MetricMeasure (SID entities) in only one Entity TestMeasure in the API, it would be better to have the Entity TestMeasureDefinitionRef in the TestMeasure Resource model and a relationship between TestMeasure and TestMeasureDefinitionRef.

Attribute Name	SID Entities	SID Attribute	Comment	Recommended Action
accuracy	TestMeasureDefinition / MetricDefMeasure	accuracy	<p>Data type are not consistent.</p> <p>Accuracy of API is in Float but in Integer.</p>	<p>API: Remove from TestMeasure and refer to TestMeasureDefinitionRef</p>

Attribute Name	SID Entities	SID Attribute	Comment	Recommended Action
captureMethod	TestMeasureDefinition	captureMethod		API: Remove from TestMeasure and refer to TestMeasureDefinitionRef
captureDateTime	TestMeasure	capturePeriod		API: Replace captureDateTime with capturePeriod.
metricDescription	MerticDefinition	Description		
metricHref	MerticDefinition			
metricName	MerticDefinition	Name		
unitOfMeasure	TestMeasureDefinition	unitOfMeasure	Data type are not consistent.	API: Remove from TestMeasure and refer to TestMeasureDefinitionRef
value	TestMeasure	value	Description in API: The value of Metric in the test. This also could be a document to record all values got during the service test.	
valueType	TestMeasureDefinition / MetricDefMeasure	valueType		API: Remove from TestMeasure and refer to TestMeasureDefinitionRef

ENTITY MetricDefMeasureThresholdRule , mapped with MetricDefMeasureThresholdRule / MetricThresholdRuleDefinition

A MetricDefMeasureThresholdRule is a rule that defines the condition (raise or clear) to achieve to apply consequences when a threshold is crossed or ceased to be crossed. It also defines the severity of the raise or clear of the threshold.

API: Consider adding more complex MetricDefMeasureThresholdRules as described in SID by PreDefinedMeasureThresholdRule Entity and related entity PreDefinedMetricThresholdRuleParam.

Attribute Name	SID Entities	SID Attribute	Comment	Recommended Action
conformanceTargetLower	MetricDefMeasureThresholdRule / MetricThresholdRuleDefinition	conformanceTargetLower		
conformanceTargetUpper	MetricDefMeasureThresholdRule / MetricThresholdRuleDefinition	conformanceTargetUpper		
conformanceComparatorLower	MetricDefMeasureThresholdRule / MetricThresholdRuleDefinition	conformanceComparatorLower		
conformanceComparatorUpper	MetricDefMeasureThresholdRule / MetricThresholdRuleDefinition	conformanceComparatorUpper		
description	MetricDefMeasureThresholdRule	description		
name	MetricDefMeasureThresholdRule	name		

Attribute Name	SID Entities	SID Attribute	Comment	Recommended Action
numberOfAllowedCrossing	MetricDefMeasureThresholdRule / MetricThresholdRuleDefinition	numberOfAllowedCrossing		
thresholdRuleSeverity	MetricDefMeasureThresholdRule	thresholdRuleSeverity		
tolerancePeriod	MetricDefMeasureThresholdRule / MetricThresholdRuleDefinition	tolerancePeriod		

ENTITY, MeasureThresholdRuleViolation mapped with MetricMeasureThresholdRule/ MetricThresholdRuleDefinition

A measureThresholdRuleViolation is a violation of a rule that is defined by a MericDefMeasureThresholdRule.

Attribute Name	SID Entities	SID Attribute	Comment	Recommended Action
conformanceTargetLower	<i>MetricDefMeasureThresholdRule / MetricThresholdRuleDefinition</i>	conformanceTargetLower		
conformanceTargetUpper	<i>MetricDefMeasureThresholdRule / MetricThresholdRuleDefinition</i>	conformanceTargetUpper		
conformanceComparatorLower	<i>MetricDefMeasureThresholdRule / MetricThresholdRuleDefinition</i>	conformanceComparatorLower		

Attribute Name	SID Entities	SID Attribute	Comment	Recommended Action
conformanceComparatorUpper	<i>MetricDefMeasureThresholdRule / MetricThresholdRuleDefinition</i>	conformanceComparatorUpper		
description	<i>MetricDefMeasureThresholdRule</i>	description		
name	<i>MetricDefMeasureThresholdRule</i>	name		
numberOfAllowedCrossing	<i>MetricDefMeasureThresholdRule/ MetricThresholdRuleDefinition</i>	numberOfAllowedCrossing		
thresholdRuleSeverity	<i>MetricDefMeasureThresholdRule</i>	thresholdRuleSeverity		
tolerancePeriod	<i>MetricDefMeasureThresholdRule / MetricThresholdRuleDefinition</i>	tolerancePeriod		

ENTITY *MetricDefMeasureConsequence* mapped with *MetricDefMeasureConsequence*

A *MetricDefMeasureConsequence* defines the action (prescribed action or notification) to take when a *MetricDefMeasureThresholdRule* is crossed.

Attribute Name	SID Entities	SID Attribute	Comment	Recommended Action
	<i>MetricDefMeasureConsequence</i>	ID	Not exist in API.	API:add attribute id to <i>MetricDefMeasureConsequence</i> entity.

Attribute Name	SID Entities	SID Attribute	Comment	Recommended Action
name	metricDefMeasureConsequence	name		
description	metricDefMeasureConsequence	description		
prescribeAction	metricDefMeasureConsequence	prescribedAction		API: fix typo on the attribute name
validFor	metricDefMeasureConsequence	validFor		
repeatAction	metricDefMeasureConsequence	repeatAction		

ENTITY AppliedConsequence mapped with metricDefMeasureConsequence

An Applied Consequence defines the action (prescribed action or notification) to take when a MeasureThresholdRuleViolation occurs.

API: Consider adding MetricDefMeasureConsequenceRef in the TestMeasure model instead of merging MetricDefMeasureConsequence into AppliedConsequence.

Attribute Name	SID Entities	SID Attribute	Comment	Recommended Action
Name	MetricDefMeasureConsequence	Name		API: remove this attribute
Description	MetricDefMeasureConsequence	Description		API: remove this attribute
validFor	MetricDefMeasureConsequence	validFor		API: remove this attribute

Attribute Name	SID Entities	SID Attribute	Comment	Recommended Action
repeatAction	MetricDefMeasureConsequence	repeatAction		API: remove this attribute
appliedAction	MetricMeasureConsequence	prescribedAction		API: remove this attribute
applicationDate			Doesn't exist in SID and API	SID: Consider adding the applicationDate API: Consider adding the applicationDate

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DOCUMENT HISTORY

VERSION HISTORY

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1.0	24-01-2018	Hongxia Hao,Huawei	First issue of document
1.0.1	13-06-2018	Hongxia Hao,Huawei Cecile Ludwichowsk, Orange	Final version validated by SID / Open API Team and the API producer.

RELEASE HISTORY

Release	Document version	Date	Modified By	Purpose
18.0	1.0.1	13-06/2018	Hongxia Hao,Huawei Cecile Ludwichowsk, Orange	First version of the mapping.

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