

July 3, 2019

1 OSLC-ems		1
2 Module Docu	mentation	2
2.1 Entities .		2
	2.1.0.1 ogit/OSLC-ems/MeasureDistributionCell	2
	2.1.0.2 ogit/OSLC-ems/Map	2
	2.1.0.3 ogit/OSLC-ems/FinancialMetric	3
	2.1.0.4 ogit/OSLC-ems/PoissonDistribution	3
	2.1.0.5 ogit/OSLC-ems/SizeMetric	3
	2.1.0.6 ogit/OSLC-ems/UnitOfMeasure	3
	2.1.0.7 ogit/OSLC-ems/Mapping	4
	2.1.0.8 ogit/OSLC-ems/Baseline	4
	2.1.0.9 ogit/OSLC-ems/Scenario	5
	2.1.0.10 ogit/OSLC-ems/WbsFormat	5
	2.1.0.11 ogit/OSLC-ems/DimensionColumn	6
	2.1.0.12 ogit/OSLC-ems/FactTable	6
	2.1.0.13 ogit/OSLC-ems/TimeMetric	6
	2.1.0.14 ogit/OSLC-ems/DimensionMember	7
	2.1.0.15 ogit/OSLC-ems/FactDistributionTable	7
	2.1.0.16 ogit/OSLC-ems/ProbabilityDistribution	8
	2.1.0.17 ogit/OSLC-ems/Format	8
	2.1.0.18 ogit/OSLC-ems/Quantile	8
	2.1.0.19 ogit/OSLC-ems/DimensionCell	9
	2.1.0.20 ogit/OSLC-ems/Project	9
	2.1.0.21 ogit/OSLC-ems/QuantileFunction	9
	2.1.0.22 ogit/OSLC-ems/NormalDistribution	10
	2.1.0.23 ogit/OSLC-ems/FactDistribution	10
	2.1.0.24 ogit/OSLC-ems/TriangularDistribution	10
	2.1.0.25 ogit/OSLC-ems/Grain	11
	2.1.0.26 ogit/OSLC-ems/ProcessMetric	11
	2.1.0.27 ogit/OSLC-ems/CdfPoint	11
	2.1.0.28 ogit/OSLC-ems/Measure	12
	2.1.0.29 ogit/OSLC-ems/Service	12
	2.1.0.30 ogit/OSLC-ems/BaselineList	13
	2.1.0.31 ogit/OSLC-ems/Dimension	13
	2.1.0.32 ogit/OSLC-ems/ProductivityMetric	13
	2.1.0.33 ogit/OSLC-ems/WorkBreakdownStructure	14
	2.1.0.34 ogit/OSLC-ems/Fact	14
	2.1.0.35 ogit/OSLC-ems/Measurement	14
	2.1.0.36 ogit/OSLC-ems/MeasurementList	15
	2.1.0.37 ogit/OSLC-ems/ScenarioList	15
	2.1.0.38 ogit/OSLC-ems/Head	16

2.1.0.39 ogit/OS	SLC-ems/EffortMetric	16
2.1.0.40 ogit/OS	SLC-ems/ReliabilityMetric	16
2.1.0.41 ogit/OS	SLC-ems/MeasureColumn	17
2.1.0.42 ogit/OS	SLC-ems/CumulativeDistributionFunction	17
2.1.0.43 ogit/OS	SLC-ems/MeasureDistribution	17
2.1.0.44 ogit/OS	SLC-ems/Metric	18
2.1.0.45 ogit/OS	SLC-ems/PointEstimate	18
2.1.0.46 ogit/OS	SLC-ems/MeasureCell	18
2.1.0.47 ogit/OS	SLC-ems/ProjectList	19
2.1.0.48 ogit/OS	SLC-ems/Estimate	19
2.1.0.49 ogit/OS	SLC-ems/EstimateList	19
2.1.0.50 ogit/OS	SLC-ems/UniformDistribution	20
2.2 Verbs		21
2.2.0.1 ogit/OSL	_C-ems/observesWbs	21
2.2.0.2 ogit/OSL	C-ems/predicts	21
2.2.0.3 ogit/OSL	.C-ems/measureDistributionCell	21
2.2.0.4 ogit/OSL	_C-ems/map	21
2.2.0.5 ogit/OSL	C-ems/project	22
2.2.0.6 ogit/OSL	.C-ems/seeAlsoProject	22
2.2.0.7 ogit/OSL	.C-ems/to	22
2.2.0.8 ogit/OSL	.C-ems/grain	22
2.2.0.9 ogit/OSL	C-ems/dimensionMember	23
2.2.0.10 ogit/OS	SLC-ems/inColumn	23
2.2.0.11 ogit/OS	SLC-ems/projectList	23
2.2.0.12 ogit/OS	SLC-ems/quantile	23
2.2.0.13 ogit/OS	SLC-ems/scenarioList	24
2.2.0.14 ogit/OS	SLC-ems/observes	24
2.2.0.15 ogit/OS	SLC-ems/unitOfMeasure	24
2.2.0.16 ogit/OS	SLC-ems/memberScenario	25
2.2.0.17 ogit/OS	SLC-ems/predictsTable	25
_		25
2.2.0.19 ogit/OS	SLC-ems/assumesWbs	26
2.2.0.20 ogit/OS	SLC-ems/cdfPoint	26
2.2.0.21 ogit/OS	SLC-ems/observesTable	26
2.2.0.22 ogit/OS	SLC-ems/fact	27
_	SLC-ems/measureCell	27
2.2.0.24 ogit/OS	SLC-ems/extendsScenario	27
2.2.0.25 ogit/OS	SLC-ems/currentBaseline	27
2.2.0.26 ogit/OS	SLC-ems/memberProject	28
2.2.0.27 ogit/OS	SLC-ems/dimensionColumn	28
	SLC-ems/tableSource	28
2.2.0.29 ogit/OS	SLC-ems/measureColumn	29

	2.2.0.30 ogit/OSLC-ems/baselineList	29
	2.2.0.31 ogit/OSLC-ems/useMap	29
	2.2.0.32 ogit/OSLC-ems/predictsWbs	29
	2.2.0.33 ogit/OSLC-ems/seeAlsoPerformance	30
	2.2.0.34 ogit/OSLC-ems/wbsSource	30
	2.2.0.35 ogit/OSLC-ems/mapping	30
	2.2.0.36 ogit/OSLC-ems/service	31
	2.2.0.37 ogit/OSLC-ems/metric	31
	2.2.0.38 ogit/OSLC-ems/distribution	31
	2.2.0.39 ogit/OSLC-ems/memberMeasurement	31
	2.2.0.40 ogit/OSLC-ems/seeAlsoPortfolio	32
	2.2.0.41 ogit/OSLC-ems/memberEstimate	32
	2.2.0.42 ogit/OSLC-ems/head	32
	2.2.0.43 ogit/OSLC-ems/measurementList	32
	2.2.0.44 ogit/OSLC-ems/dimension	33
	2.2.0.45 ogit/OSLC-ems/estimate	33
	2.2.0.46 ogit/OSLC-ems/wbsContent	33
	2.2.0.47 ogit/OSLC-ems/seeAlsoEstimation	33
	2.2.0.48 ogit/OSLC-ems/dimensionCell	34
	2.2.0.49 ogit/OSLC-ems/wbsFormat	34
	2.2.0.50 ogit/OSLC-ems/estimateList	34
	2.2.0.51 ogit/OSLC-ems/assumes	34
	2.2.0.52 ogit/OSLC-ems/assumesTable	35
2.3 Attributes		36
	2.3.0.1 ogit/OSLC-ems/numberOfQuantiles	36
	2.3.0.2 ogit/OSLC-ems/numericValue	36
	2.3.0.3 ogit/OSLC-ems/lambda	36
	2.3.0.4 ogit/OSLC-ems/from	36
	2.3.0.5 ogit/OSLC-ems/isClosed	37
	2.3.0.6 ogit/OSLC-ems/low	37
	2.3.0.7 ogit/OSLC-ems/probability	37
	2.3.0.8 ogit/OSLC-ems/mostLikely	37
	2.3.0.9 ogit/OSLC-ems/realProjectId	37
	2.3.0.10 ogit/OSLC-ems/scale	38
	2.3.0.11 ogit/OSLC-ems/high	38
	2.3.0.12 ogit/OSLC-ems/isActive	38

# **Chapter 1**

# **OSLC-ems**

 ${\tt OSLC} \ is \ a \ collection \ of \ specifications \ for \ software \ integration. \ This \ module \ contains \ entities \ for \ estimation \ management.$ 

## **Chapter 2**

## **Module Documentation**

## 2.1 Entities

## 2.1.0.1 ogit/OSLC-ems/MeasureDistributionCell

A measure distribution cell is a cell in a fact distribution row. It refers to its column (see ems:inColumn) and contains a measure distribution (see ems:distribution).

• id: http://www.purl.org/ogit/OSLC-ems/MeasureDistributionCell

• valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### 2.1.0.2 ogit/OSLC-ems/Map

Some key dimensions may define standard dimension member URIs which are used for data interchange. However, users may wish to use custom values. This class lets you define how custom values are mapped to standard URIs. You can include an map resource in the description of a dimension column of a fact table (see <a href="mailto:ems.">ems:useMap</a>).

We make the simplifying assumption that this mapping is many-to-one, that is, one or more custom dimension values may be mapped to the same standard dimension value. A map may contain one or more of these mappings (see <a href="mapping">ems:mapping</a>), but each custom dimension value must map to exactly one standard dimension value.

• id: http://www.purl.org/ogit/OSLC-ems/Map

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### outgoing edges

ogit/OSLC-ems/mapping => ogit/OSLC-ems/Mapping

## 2.1.0.3 ogit/OSLC-ems/FinancialMetric

A financial metric is a metric that measures the cost of an artifact or work effort. For example, total cost (metric:Cost) and labor cost (metric:LaborCost) are financial metrics.

• id: http://www.purl.org/ogit/OSLC-ems/FinancialMetric

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### 2.1.0.4 ogit/OSLC-ems/PoissonDistribution

A *Poisson distribution* is a probability distribution that gives the probability that a given number of events will occur in a fixed time period. This distribution is completely specified by a single parameter often denoted by the Greek letter *lambda*. Lambda is given by ems:lambda. id: http://www.purl.org/ogit/OSLC-ems/ $\leftarrow$  PoissonDistribution valid-from: Thu Sep 22 00:00:00 UTC 2016 creator: OG $\leftarrow$  IT Importer scope: NTO parent: http://www.purl.orgogit/Node"

#### 2.1.0.5 ogit/OSLC-ems/SizeMetric

A *size metric* is a metric that measures the magnitude, volume, bulk, or capability of some artifact such as software. For example, *lines of code* (metric:Sloc) and *story points* (metric:StoryPoints) are size metrics.

• id: http://www.purl.org/ogit/OSLC-ems/SizeMetric

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

• parent: ogit/Node

#### 2.1.0.6 ogit/OSLC-ems/UnitOfMeasure

A *unit of measure* specifies a procedure for associating a numeric value with some metric. For example, *month* (unit:Month) is a unit of measure for *duration* (metric:Duration).

• id: http://www.purl.org/ogit/OSLC-ems/UnitOfMeasure

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

• parent: ogit/Node

#### incoming edges

• ogit/OSLC-ems/unitOfMeasure <= ogit/OSLC-ems/Measure

#### 2.1.0.7 ogit/OSLC-ems/Mapping

This class describes a *mapping*. A mapping maps some custom string label value for a dimension (see ems:from) to a dimension member URI which may be a standard value defined in some vocabulary. (see ems:to).

• id: http://www.purl.org/ogit/OSLC-ems/Mapping

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

## incoming edges

• ogit/OSLC-ems/mapping <= ogit/OSLC-ems/Map

## outgoing edges

• ogit/OSLC-ems/to => ogit/OSLC-ems/DimensionMember

#### 2.1.0.8 ogit/OSLC-ems/Baseline

A baseline is a set of estimates, based on some scenario, that are used to track the performance of a project.

• id: http://www.purl.org/ogit/OSLC-ems/Baseline

• valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

## incoming edges

- ogit/OSLC-ems/currentBaseline <= ogit/OSLC-ems/Project
- ogit/OSLC-ems/memberBaseline <= ogit/OSLC-ems/BaselineList

#### 2.1.0.9 ogit/OSLC-ems/Scenario

A scenario is a set of assumptions about how a project will be executed. These assumptions are used as inputs to estimates.

• id: http://www.purl.org/ogit/OSLC-ems/Scenario

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

## incoming edges

- ogit/OSLC-ems/extendsScenario <= ogit/OSLC-ems/Scenario
- ogit/OSLC-ems/memberScenario <= ogit/OSLC-ems/ScenarioList

#### outgoing edges

- ogit/OSLC-ems/assumes => ogit/OSLC-ems/MeasureDistribution
- ogit/OSLC-ems/assumesTable => ogit/OSLC-ems/FactDistributionTable
- ogit/OSLC-ems/assumesWbs => ogit/OSLC-ems/WorkBreakdownStructure
- ogit/OSLC-ems/extendsScenario => ogit/OSLC-ems/Scenario

## 2.1.0.10 ogit/OSLC-ems/WbsFormat

A WBS format is a format that specifies the syntax of work breakdown structures. For example, http-://schemas.microsoft.com/project/2007 is the format for Microsoft Office Project 2007 XML Data Interchange Schema.

• id: http://www.purl.org/ogit/OSLC-ems/WbsFormat

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

• parent: ogit/Node

## incoming edges

• ogit/OSLC-ems/wbsFormat <= ogit/OSLC-ems/WorkBreakdownStructure

#### 2.1.0.11 ogit/OSLC-ems/DimensionColumn

This class describes a dimension column in a fact table. A dimension column has a dimension (see emsedimension) and grain (see ems:grain and may refer to a map (see ems:useMap.

• id: http://www.purl.org/ogit/OSLC-ems/DimensionColumn

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### 2.1.0.12 ogit/OSLC-ems/FactTable

This class is used to represent fact tables.

Consider the work performed on a project. Work may be analyzed according to attributes such as who performed the work, the task or activity that the work accomplished, when the work was performed, etc. These attributes are referred to as *dimensions*.

Work may be quantified by such metrics as its effort in person-hours, its cost in some currency, its duration in months, its peak staffing, etc. These quantities are referred to as *measures*.

The term dimension is used because the measures can be regarded as occupying cells in a multi-dimensional array (sometimes referred to as a *datacube*). It is frequently of interest to summarize the measures along a dimension, for example given the effort by activity, calculate the total effort for all activities. Conversely, given the total effort, it may be of interest to see how it is broken down by activity.

In general, set of related measures, analyzed along a set of dimensions may be organized into a fact table. Each row of a fact table contains a set of measures (e.g. effort and cost) for a given combination of dimension values (e.g. activity and month).

This resource MAY contain the actual measurements, provide a link to the source of the actual measurements, or contain both a link to the source and a copy of the actual measurements obtained from the source (i.e. a cached copy of the source).

• id: http://www.purl.org/ogit/OSLC-ems/FactTable

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### 2.1.0.13 ogit/OSLC-ems/TimeMetric

A *time metric* is a metric that describes some temporal aspect of a project, system, or thing. For example, *duration* (metric:Duration), *start* (metric:Start), and *finish* (metric:Finish) are time metrics.

• id: http://www.purl.org/ogit/OSLC-ems/TimeMetric

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

parent: ogit/Node

#### 2.1.0.14 ogit/OSLC-ems/DimensionMember

A dimension member is some subset of a dimension. For example, work on a project is performed by people in various roles. It is often of interest to break down an effort estimate or measurement by role. Members of the dimension role (dimension:Role) include manager (dimension-member:Manager and programmer (dimension-member:Programmer).

• id: http://www.purl.org/ogit/OSLC-ems/DimensionMember

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

• parent: ogit/Node

#### incoming edges

ogit/OSLC-ems/to <= ogit/OSLC-ems/Mapping</li>

#### 2.1.0.15 ogit/OSLC-ems/FactDistributionTable

A fact distribution table is a fact table that contains probability distributions instead of precise numeric values for its measures. Fact distribution tables are used in scenario assumptions (see ems:assumesTable) and estimate predictions (see ems:predictsTable).

A fact distribution table is similar to a fact table (see ems:FactTable), except that it has fact distribution rows (see ems:FactDistribution) instead of fact rows (see ems:Fact), and they have measure distribution cells (see ems:MeasureDistributionCell) instead of measure cells (see ems:MeasureCell).

• id: http://www.purl.org/ogit/OSLC-ems/FactDistributionTable

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importer

• scope: NTO

· parent: ogit/Node

## incoming edges

- ogit/OSLC-ems/assumesTable <= ogit/OSLC-ems/Scenario
- ogit/OSLC-ems/predictsTable <= ogit/OSLC-ems/Estimate

#### 2.1.0.16 ogit/OSLC-ems/ProbabilityDistribution

This class describes *probability distributions*. A probability distribution gives the likelihood that a measurement of some value (a random variable) will fall within some given range. Probability distributions are used in scenario assumptions (see ems:assumes) and estimate predictions (see ems:predicts).

• id: http://www.purl.org/ogit/OSLC-ems/ProbabilityDistribution

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

• parent: ogit/Node

#### 2.1.0.17 ogit/OSLC-ems/Format

A format is a specification of the syntax of an artifact.

• id: http://www.purl.org/ogit/OSLC-ems/Format

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### 2.1.0.18 ogit/OSLC-ems/Quantile

This class describes a *quantile* of a quantile function. The cumulative probability of a quantile is given by ems : probability. The cumulative probability MUST be greater than 0 and less than 1. The upper limit of the range of measurement values is given by ems: numericValue. The lower limit of the range of measurement values is given by the upper limit of the preceding quantiles.

The probability that a measurement gives a value less than or equal to the numeric value is equal to the cumulative probability.

• id: http://www.purl.org/ogit/OSLC-ems/Quantile

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### incoming edges

ogit/OSLC-ems/quantile <= ogit/OSLC-ems/QuantileFunction</li>

#### 2.1.0.19 ogit/OSLC-ems/DimensionCell

This class describes a dimension cell in a row of a fact table. A dimension cell refers to its column (see ems:incolumn and has a dimension member (see ems:dimensionMember).

• id: http://www.purl.org/ogit/OSLC-ems/DimensionCell

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### 2.1.0.20 ogit/OSLC-ems/Project

Within the scope of EMS, a project is any activity, system, or thing that can be the subject of a set of measurements. In practice, a project is often a time-bounded work effort that produces a unique result.

• id: http://www.purl.org/ogit/OSLC-ems/Project

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### incoming edges

ogit/OSLC-ems/memberProject <= ogit/OSLC-ems/ProjectList</li>

#### outgoing edges

• ogit/OSLC-ems/currentBaseline => ogit/OSLC-ems/Baseline

## 2.1.0.21 ogit/OSLC-ems/QuantileFunction

A *quantile function* is a probability distribution that breaks up a range of values into quantiles that each have the same probability. When the number of quantiles is 4, 10, or 100, we refer to them as *quartiles*, *deciles*, and *percentiles*. For example, there is a 25% probability that a measurement will fall within any given quartile. The number of quantiles is given by ems:numberOfQuantiles. The number of quantiles MUST be greater than one

The range of possible measurement values may be unbounded. If a lower bound exists, it is given by ems:low. If an upper bound exists, it is given by ems:high.

The graph of the quantile function is given by a set of measurement values that correspond to the equally spaced cumulative probabilities between 0 and 1. For example, for quartiles the cumulative probabilities are 25%, 50%, and 75%. The cumulative probability values are given by one or more ems: quantile properties.

• id: http://www.purl.org/ogit/OSLC-ems/QuantileFunction

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

scope: NTO

parent: ogit/Node

#### outgoing edges

• ogit/OSLC-ems/quantile => ogit/OSLC-ems/Quantile

#### 2.1.0.22 ogit/OSLC-ems/NormalDistribution

A normal distribution (also known as a *Gaussian distribution* is a probability distribution that naturally arises as the limit of many random factors. It is symmetric about its mean and has a certain scale. The mean is given by ems:mu. Its scale (also known as its standard deviation) is given by ems:scale.

• id: http://www.purl.org/ogit/OSLC-ems/NormalDistribution

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### 2.1.0.23 ogit/OSLC-ems/FactDistribution

A fact distribution is a row of a fact distribution table (see ems:FactDistributionTable). It contains one or more dimension cells (see ems:dimensionCell) and one or more measure distribution cells (see ems:measureDistributionCell).

• id: http://www.purl.org/ogit/OSLC-ems/FactDistribution

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

## 2.1.0.24 ogit/OSLC-ems/TriangularDistribution

A triangular distribution is a probability distribution that concentrated between high and low values, and that linearly rises to and falls from to an intermediate most likely value. The low value is given by ems:low. The most likely value is given by ems:mostLikely. The high value is given by ems:high.

• id: http://www.purl.org/ogit/OSLC-ems/TriangularDistribution

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### 2.1.0.25 ogit/OSLC-ems/Grain

Dimensions may be aggregated into subsets of various sizes. A *grain* is a unit of aggregation of a dimension. For example, *month* (grain:CalendarMonth) and *week* (grain:CalendarWeek) are grain sizes for the dimension *time* (dimension:Time).

• id: http://www.purl.org/ogit/OSLC-ems/Grain

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### 2.1.0.26 ogit/OSLC-ems/ProcessMetric

A process metric is a metric that measures the process used to create an artifact such as software. For example, build (metric:Builds) and test executions (metric:TestExecutions) are process metrics.

• id: http://www.purl.org/ogit/OSLC-ems/ProcessMetric

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

## 2.1.0.27 ogit/OSLC-ems/CdfPoint

This class describes a point on the graph of a cumulative probability function. The cumulative probability at a point is given by <code>ems:probability</code>. The cumulative probability MUST be greater than 0 and less than 1. The measurement value is given by <code>ems:numericValue</code>.

The probability that a measurement gives a value less than or equal to the numeric value is equal to the cumulative probability.

• id: http://www.purl.org/ogit/OSLC-ems/CdfPoint

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### incoming edges

ogit/OSLC-ems/cdfPoint <= ogit/OSLC-ems/CumulativeDistributionFunction</li>

#### 2.1.0.28 ogit/OSLC-ems/Measure

A measure, as in the idiom take the measure of, is the result of observing some numerically quantifiable aspect of a project, system, or thing. For example, a duration of 12 months or a size of 10 KLOC are measures. The aspect being measured, e.g. duration or size, is referred to as the metric and is given by the property emsemetric. The scale of measurement, e.g. months or KLOC, is referred to as the unit of measure and is given by the property ems:unitOfMeasure. The numeric value of an observation, e.g. 12 or 10, is given by the property ems:numericValue.

```
id: http://www.purl.org/ogit/OSLC-ems/Measure
valid-from: Thu Sep 22 00:00:00 UTC 2016
creator: OGIT Importer
scope: NTO
parent: ogit/Node
```

#### outgoing edges

oqit/OSLC-ems/unitOfMeasure => oqit/OSLC-ems/UnitOfMeasure

## 2.1.0.29 ogit/OSLC-ems/Service

An EMS *service* hosts and manages a set of resources that describe projects, scenarios, estimates, measurements, and baselines. Each instance of an service has a set of resource containers that contain resources of a given type.

```
• id: http://www.purl.org/ogit/OSLC-ems/Service
```

• valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### outgoing edges

- ogit/OSLC-ems/baselineList => ogit/OSLC-ems/BaselineList
- ogit/OSLC-ems/estimateList => ogit/OSLC-ems/EstimateList
- ogit/OSLC-ems/measurementList => ogit/OSLC-ems/MeasurementList
- ogit/OSLC-ems/projectList => ogit/OSLC-ems/ProjectList
- ogit/OSLC-ems/scenarioList => ogit/OSLC-ems/ScenarioList

#### 2.1.0.30 ogit/OSLC-ems/BaselineList

A baseline list is a container for baseline resources.

• id: http://www.purl.org/ogit/OSLC-ems/BaselineList

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### incoming edges

• ogit/OSLC-ems/baselineList <= ogit/OSLC-ems/Service

#### outgoing edges

• ogit/OSLC-ems/memberBaseline => ogit/OSLC-ems/Baseline

#### 2.1.0.31 ogit/OSLC-ems/Dimension

A dimension is some aspect of an aggregated quantity which lets the aggregate be analyzed. For example, the total effort expended in a project can be analyzed by week or month. Therefore time (dimension:Time) is a dimension of effort (metric:Effort).

• id: http://www.purl.org/ogit/OSLC-ems/Dimension

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

## 2.1.0.32 ogit/OSLC-ems/ProductivityMetric

A productivity metric is a metric that measures the rate at which some artifact, such as software, is produced. For example, lines of code per unit time (metric:EslocPerTime) and team velocity (metric:TeamVelocity) are productivity metrics.

• id: http://www.purl.org/ogit/OSLC-ems/ProductivityMetric

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

• scope: NTO

parent: ogit/Node

#### 2.1.0.33 ogit/OSLC-ems/WorkBreakdownStructure

This class describes work breakdown structures. A work breakdown structure (WBS) is a common way to represent the work to be performed in a project. In EMS, a WBS may be used as an assumption in an scenario, as a prediction in an estimate, or as an observation in a measurement.

A WBS has a format (see ems:wbsFormat), and may either include (see ems:wbsContent) or link to (see ems:wbsSource) its content. The included or linked WBS content MUST be in the specified format.

• id: http://www.purl.org/ogit/OSLC-ems/WorkBreakdownStructure

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### incoming edges

• ogit/OSLC-ems/assumesWbs <= ogit/OSLC-ems/Scenario

• ogit/OSLC-ems/predictsWbs <= ogit/OSLC-ems/Estimate

#### outgoing edges

ogit/OSLC-ems/wbsFormat => ogit/OSLC-ems/WbsFormat

## 2.1.0.34 ogit/OSLC-ems/Fact

This class describes a row of a fact table (see ems:FactTable). Each fact row has a set of dimension cells (see ems:DimensionCell) and measure cells (see ems:MeasureCell). These MUST match the description of the columns given in the head of the fact table (see ems:Head).

• id: http://www.purl.org/ogit/OSLC-ems/Fact

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### 2.1.0.35 ogit/OSLC-ems/Measurement

A measurement is a set of observations of numerically quantifiable aspects of a project, system, or thing.

• id: http://www.purl.org/ogit/OSLC-ems/Measurement

• valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

parent: ogit/Node

#### incoming edges

• ogit/OSLC-ems/memberMeasurement <= ogit/OSLC-ems/MeasurementList

#### 2.1.0.36 ogit/OSLC-ems/MeasurementList

A measurement list is a container for measurement resources.

```
• id: http://www.purl.org/ogit/OSLC-ems/MeasurementList
```

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

## incoming edges

ogit/OSLC-ems/measurementList <= ogit/OSLC-ems/Service</li>

## outgoing edges

• ogit/OSLC-ems/memberMeasurement => ogit/OSLC-ems/Measurement

## 2.1.0.37 ogit/OSLC-ems/ScenarioList

A scenario list is a container for scenario resources.

• id: http://www.purl.org/ogit/OSLC-ems/ScenarioList

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

## incoming edges

ogit/OSLC-ems/scenarioList <= ogit/OSLC-ems/Service</li>

#### outgoing edges

• ogit/OSLC-ems/memberScenario => ogit/OSLC-ems/Scenario

#### 2.1.0.38 ogit/OSLC-ems/Head

This class defined the columns of a fact table. A fact table MUST have one or more dimension columns, e.g. date or role, and one or more measure columns, e.g. cost or effort. The dimension columns contain dimension values. Dimension columns SHOULD contain standard dimension values when they exist, e.g. for roles. The creator of the fact table MAY use custom dimension dimension values and record how these custom values are mapped to the standard values.

• id: http://www.purl.org/ogit/OSLC-ems/Head

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

## 2.1.0.39 ogit/OSLC-ems/EffortMetric

An effort metric is a metric that measures the effort of effort required to perform some task. For example, effort as measured in person-months, person-years, etc. (metric:Effort), average staffing (metric:Staffing), peak staffing (metric:PeakStaffing), and full-time equivalents (metric:FullTimeEquivalent) are effort metrics.

• id: http://www.purl.org/ogit/OSLC-ems/EffortMetric

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

## 2.1.0.40 ogit/OSLC-ems/ReliabilityMetric

A reliability metric is a metric that measures the correctness or absence of failures in a system such as a software system. For example defects (metric:Defects), failures (metric:Failures), and mean time to failure (metric:MeanTimeToFailure) are reliability metrics.

• id: http://www.purl.org/ogit/OSLC-ems/ReliabilityMetric

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importer

· scope: NTO

• parent: ogit/Node

#### 2.1.0.41 ogit/OSLC-ems/MeasureColumn

This class describes a measure column of a fact table. A measure column has a metric (see ems:metric and a unit of measure (see ems:unitOfMeasure.

• id: http://www.purl.org/ogit/OSLC-ems/MeasureColumn

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### 2.1.0.42 ogit/OSLC-ems/CumulativeDistributionFunction

A *cumulative distribution function* (cdf) is a probability distribution defined by giving the cumulative probability at an increasing sequence of measurement values. The range of possible measurement values may be unbounded. If a lower bound exists, it is given by ems:low. If an upper bound exists, it is given by ems:high.

The graph of the cumulative distribution function is given by a set of measurement values at an increasing sequence of cumulative probabilities between 0 and 1. The cumulative probability values are given by one or more emsecdfPoint properties.

• id: http://www.purl.org/ogit/OSLC-ems/CumulativeDistributionFunction

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### outgoing edges

ogit/OSLC-ems/cdfPoint => ogit/OSLC-ems/CdfPoint

#### 2.1.0.43 ogit/OSLC-ems/MeasureDistribution

A measure distribution is like a measure (see ems:Measure) except that it gives a probability distribution for the numeric value of a measure instead of a precise numeric value. Measure distributions are used in scenario assumptions (see ems:assumes and ems:assumesTable) and estimate predications (see ems:predicts and ems:predictsTable).

• id: http://www.purl.org/ogit/OSLC-ems/MeasureDistribution

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

• scope: NTO

parent: ogit/Node

#### incoming edges

- ogit/OSLC-ems/assumes <= ogit/OSLC-ems/Scenario
- ogit/OSLC-ems/predicts <= ogit/OSLC-ems/Estimate

#### 2.1.0.44 ogit/OSLC-ems/Metric

A *metric* is a procedure or algorithm for quantifying or measuring some aspect of a thing, system, event, etc. For example *duration* is a metric that measures the amount of time an activity takes.

• id: http://www.purl.org/ogit/OSLC-ems/Metric

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

## 2.1.0.45 ogit/OSLC-ems/PointEstimate

A *point estimate* is a probability distribution that is concentrated at a single value. The single value is given by ems:numericValue.

• id: http://www.purl.org/ogit/OSLC-ems/PointEstimate

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### 2.1.0.46 ogit/OSLC-ems/MeasureCell

This class descibes measure cells. A measure cell refers to a measure column (see ems:inColumn) and has a numeric value (see ems:numericValue.

• id: http://www.purl.org/ogit/OSLC-ems/MeasureCell

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

• parent: ogit/Node

#### 2.1.0.47 ogit/OSLC-ems/ProjectList

A project list is a container for projects.

• id: http://www.purl.org/ogit/OSLC-ems/ProjectList

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

#### incoming edges

• ogit/OSLC-ems/projectList <= ogit/OSLC-ems/Service

#### outgoing edges

• ogit/OSLC-ems/memberProject => ogit/OSLC-ems/Project

## 2.1.0.48 ogit/OSLC-ems/Estimate

An estimate is a probabilistic prediction, based on a scenario, for a set of measurements.

• id: http://www.purl.org/ogit/OSLC-ems/Estimate

• valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

## outgoing edges

- ogit/OSLC-ems/predicts => ogit/OSLC-ems/MeasureDistribution
- ogit/OSLC-ems/predictsTable => ogit/OSLC-ems/FactDistributionTable
- ogit/OSLC-ems/predictsWbs => ogit/OSLC-ems/WorkBreakdownStructure

## 2.1.0.49 ogit/OSLC-ems/EstimateList

An estimate list is a container for estimate resources.

• id: http://www.purl.org/ogit/OSLC-ems/EstimateList

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

· scope: NTO

· parent: ogit/Node

## incoming edges

• ogit/OSLC-ems/estimateList <= ogit/OSLC-ems/Service

## 2.1.0.50 ogit/OSLC-ems/UniformDistribution

A *uniform distribution* is a probability distribution that is evenly spread between a *high* and a *low* value. The high value is given by ems:high. The low value is given by ems:low.

 $\bullet \ id: \verb|http://www.purl.org/ogit/OSLC-ems/UniformDistribution|\\$ 

· valid-from: Thu Sep 22 00:00:00 UTC 2016

• creator: OGIT Importer

• scope: NTO

• parent: ogit/Node

## 2.2 Verbs

## 2.2.0.1 ogit/OSLC-ems/observesWbs

This property links a measurement to the observed work breakdown structure.

```
• id: http://www.purl.org/ogit/OSLC-ems/observesWbs
```

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### 2.2.0.2 ogit/OSLC-ems/predicts

This property links an estimate to the predicted value for some measure, e.g. duration, size. The predicted value is a probability distribution.

```
• id: http://www.purl.org/ogit/OSLC-ems/predicts
```

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### **Allowed Connection**

• ogit/OSLC-ems/Estimate => ogit/OSLC-ems/MeasureDistribution

## 2.2.0.3 ogit/OSLC-ems/measureDistributionCell

This property links a fact distribution row to a measure distribution cell.

```
• id: http://www.purl.org/ogit/OSLC-ems/measureDistributionCell
```

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

## 2.2.0.4 ogit/OSLC-ems/map

This property links a fact table head to an ems: Map resource that defines how custom dimension values are mapped to standard values. The scope of this mapping is local to the fact table.

```
• id: http://www.purl.org/ogit/OSLC-ems/map
```

· valid-from: Thu Sep 22 00:00:00 UTC 2016

#### 2.2.0.5 ogit/OSLC-ems/project

The property links a resource to a project.

• id: http://www.purl.org/ogit/OSLC-ems/project

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### 2.2.0.6 ogit/OSLC-ems/seeAlsoProject

This property links a project to a corresponding resource in a project management application.

```
• id: http://www.purl.org/ogit/OSLC-ems/seeAlsoProject
```

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

## 2.2.0.7 ogit/OSLC-ems/to

This property links a mapping to its dimension member URI. Many mappings MAY map to the same dimension member URI.

```
• id: http://www.purl.org/ogit/OSLC-ems/to
```

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### **Allowed Connection**

• ogit/OSLC-ems/Mapping => ogit/OSLC-ems/DimensionMember

## 2.2.0.8 ogit/OSLC-ems/grain

This property links a resource to a grain.

```
• id: http://www.purl.org/ogit/OSLC-ems/grain
```

• valid-from: Thu Sep 22 00:00:00 UTC 2016

#### 2.2.0.9 ogit/OSLC-ems/dimensionMember

This property links a dimension cell to its dimension member.

• id: http://www.purl.org/ogit/OSLC-ems/dimensionMember

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### 2.2.0.10 ogit/OSLC-ems/inColumn

This property links a cell to its column. Dimension cells (see ems:DimensionCell) are linked to dimension columns (see ems:DimensionColumn). Measure cells (see ems:MeasureCell) are linked to measure columns (see ems:MeasureColumn).

```
• id: http://www.purl.org/ogit/OSLC-ems/inColumn
```

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

## 2.2.0.11 ogit/OSLC-ems/projectList

This property links a service to its project list.

```
• id: http://www.purl.org/ogit/OSLC-ems/projectList
```

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

## **Allowed Connection**

• ogit/OSLC-ems/Service => ogit/OSLC-ems/ProjectList

## 2.2.0.12 ogit/OSLC-ems/quantile

This property links a quantile function resource to one or more quantiles.

```
• id: http://www.purl.org/ogit/OSLC-ems/quantile
```

valid-from: Thu Sep 22 00:00:00 UTC 2016

#### **Allowed Connection**

• ogit/OSLC-ems/QuantileFunction => ogit/OSLC-ems/Quantile

#### 2.2.0.13 ogit/OSLC-ems/scenarioList

This property links a service to its scenario list.

• id: http://www.purl.org/ogit/OSLC-ems/scenarioList

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### **Allowed Connection**

• ogit/OSLC-ems/Service => ogit/OSLC-ems/ScenarioList

#### 2.2.0.14 ogit/OSLC-ems/observes

This property links a measurement to the observed value of a measure. In an EMS service, the measurement is a resource of type <a href="mailto:ems:Measurement">ems:Measurement</a> which may observe zero or more measures. For example, a measurement at the end of a project may observe a duration of 12 months and a cost of 200,000 USD.

• id: http://www.purl.org/ogit/OSLC-ems/observes

• valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

## 2.2.0.15 ogit/OSLC-ems/unitOfMeasure

This property gives the unit of measure. For example, the measure *duration of 12 months* has a unit of measure *months*.

• id: http://www.purl.org/ogit/OSLC-ems/unitOfMeasure

• valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

## **Allowed Connection**

ogit/OSLC-ems/Measure => ogit/OSLC-ems/UnitOfMeasure

#### 2.2.0.16 ogit/OSLC-ems/memberScenario

This property links a scenario list to its member scenarios.

• id: http://www.purl.org/ogit/OSLC-ems/memberScenario

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### **Allowed Connection**

• ogit/OSLC-ems/ScenarioList => ogit/OSLC-ems/Scenario

## 2.2.0.17 ogit/OSLC-ems/predictsTable

This property links an estimate to the predicted value for some fact table of measures, e.g. staffing by week. The predicted fact table contains probability distributions.

• id: http://www.purl.org/ogit/OSLC-ems/predictsTable

• valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importer

· cardinality: many2many

## **Allowed Connection**

• ogit/OSLC-ems/Estimate => ogit/OSLC-ems/FactDistributionTable

## 2.2.0.18 ogit/OSLC-ems/memberBaseline

This property links a baseline list to its member baselines.

• id: http://www.purl.org/ogit/OSLC-ems/memberBaseline

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importer

· cardinality: many2many

## **Allowed Connection**

• ogit/OSLC-ems/BaselineList => ogit/OSLC-ems/Baseline

#### 2.2.0.19 ogit/OSLC-ems/assumesWbs

This property links a scenario to the assumed work breakdown structure.

• id: http://www.purl.org/ogit/OSLC-ems/assumesWbs

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### **Allowed Connection**

• ogit/OSLC-ems/Scenario => ogit/OSLC-ems/WorkBreakdownStructure

## 2.2.0.20 ogit/OSLC-ems/cdfPoint

This property links a cumulative probability function resource to one or more points on its graph.

• id: http://www.purl.org/ogit/OSLC-ems/cdfPoint

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### **Allowed Connection**

 $\bullet \ \ ogit/OSLC\text{-}ems/Cumulative Distribution Function => ogit/OSLC\text{-}ems/CdfPoint}$ 

## 2.2.0.21 ogit/OSLC-ems/observesTable

This property links a measurement to the observed fact table. The fact table analyzes the measurement along one or more dimensions.

• id: http://www.purl.org/ogit/OSLC-ems/observesTable

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importer

· cardinality: many2many

#### 2.2.0.22 ogit/OSLC-ems/fact

This property links a fact table to its fact rows. In general, a fact table will have many fact rows. If the fact table has an <a href=#tableSource">ems:tableSource property, then the rows of the fact table MUST be a copy of the data values received in the response of an HTTP GET request of the URL of the remote table source.

• id: http://www.purl.org/ogit/OSLC-ems/fact

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### 2.2.0.23 ogit/OSLC-ems/measureCell

This property links a fact row to one or more of its measure cells.

• id: http://www.purl.org/ogit/OSLC-ems/measureCell

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### 2.2.0.24 ogit/OSLC-ems/extendsScenario

This property links a scenario a base scenario that it extends. The base scenario contains assumptions that can be included in several other extended scenarios.

• id: http://www.purl.org/ogit/OSLC-ems/extendsScenario

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### **Allowed Connection**

ogit/OSLC-ems/Scenario => ogit/OSLC-ems/Scenario

#### 2.2.0.25 ogit/OSLC-ems/currentBaseline

This property links a project to its current baseline.

• id: http://www.purl.org/ogit/OSLC-ems/currentBaseline

valid-from: Thu Sep 22 00:00:00 UTC 2016

#### **Allowed Connection**

ogit/OSLC-ems/Project => ogit/OSLC-ems/Baseline

#### 2.2.0.26 ogit/OSLC-ems/memberProject

This property links a project list to its member projects.

• id: http://www.purl.org/ogit/OSLC-ems/memberProject

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### **Allowed Connection**

ogit/OSLC-ems/ProjectList => ogit/OSLC-ems/Project

#### 2.2.0.27 ogit/OSLC-ems/dimensionColumn

This property links the head of a fact table to one or more ems:DimensionColumn resources that define dimension columns. Every fact table MUST have at least one dimension column.

• id: http://www.purl.org/ogit/OSLC-ems/dimensionColumn

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### 2.2.0.28 ogit/OSLC-ems/tableSource

Fact tables contain actual measurements for projects, systems, or things. In practice, there may be many measurements and they may be updated frequently. The measurements may be at a finer level of granularity than the estimates, e.g. a project may estimate total defects found per month, whereas the actual number found may be collected daily. Furthermore, these measurements are often collected automatically by software development tools such as bug tracking systems or source code control systems. It may therefore be useful to simply refer to the source of the measurements rather than copy the actual measurements into the EMS service provider, e.g. a dynamic query on a software tool may generate the fact table on demand.

This property lets you refer to the remote source of the fact table data via a URL. An HTTP GET request on this URL MUST return an ems:FactTable resource whose dcterms:title and ems:head properties match this resource.

• id: http://www.purl.org/ogit/OSLC-ems/tableSource

valid-from: Thu Sep 22 00:00:00 UTC 2016

#### 2.2.0.29 ogit/OSLC-ems/measureColumn

This property links the head of a fact table to one or more ems: MeasureColumn resources that define measure columns. Every fact table MUST have at least one measure column.

• id: http://www.purl.org/ogit/OSLC-ems/measureColumn

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### 2.2.0.30 ogit/OSLC-ems/baselineList

This property links a service to its baseline list.

• id: http://www.purl.org/ogit/OSLC-ems/baselineList

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### **Allowed Connection**

ogit/OSLC-ems/Service => ogit/OSLC-ems/BaselineList

#### 2.2.0.31 ogit/OSLC-ems/useMap

This property links a resource to a map.

• id: http://www.purl.org/ogit/OSLC-ems/useMap

• valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

## 2.2.0.32 ogit/OSLC-ems/predictsWbs

This property links an estimate to the predicted work breakdown structure.

• id: http://www.purl.org/ogit/OSLC-ems/predictsWbs

• valid-from: Thu Sep 22 00:00:00 UTC 2016

#### **Allowed Connection**

• ogit/OSLC-ems/Estimate => ogit/OSLC-ems/WorkBreakdownStructure

#### 2.2.0.33 ogit/OSLC-ems/seeAlsoPerformance

This property links a project to a corresponding resource in a performance management application.

• id: http://www.purl.org/ogit/OSLC-ems/seeAlsoPerformance

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### 2.2.0.34 ogit/OSLC-ems/wbsSource

This property links a WBS resource to a resource that contains the WBS XML content. This content MUST be in the XML format specified by the WBS resource. When this link is deferenced using an HTTP GET request, the response MUST be the WBS. If this property is absent, then the WBS resource MUST have a <code>ems:wbsContent</code> property.

• id: http://www.purl.org/ogit/OSLC-ems/wbsSource

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

## 2.2.0.35 ogit/OSLC-ems/mapping

This property links a map to a mapping. A map may have one or more mappings.

• id: http://www.purl.org/ogit/OSLC-ems/mapping

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### **Allowed Connection**

• ogit/OSLC-ems/Mapping

#### 2.2.0.36 ogit/OSLC-ems/service

This property is used to link a resource to the EMS service instance that hosts it.

```
• id: http://www.purl.org/ogit/OSLC-ems/service
```

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

## 2.2.0.37 ogit/OSLC-ems/metric

This property links a measure to its metric. For example, the measure duration of 12 months has the metric duration.

```
• id: http://www.purl.org/ogit/OSLC-ems/metric
```

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

## 2.2.0.38 ogit/OSLC-ems/distribution

This property links a resource, e.g. ems: MeasureDistribution to a probability distribution.

```
• id: http://www.purl.org/ogit/OSLC-ems/distribution
```

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### 2.2.0.39 ogit/OSLC-ems/memberMeasurement

This property links a measurement list to its member measurements.

```
• id: http://www.purl.org/ogit/OSLC-ems/memberMeasurement
```

• valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

## Allowed Connection

ogit/OSLC-ems/MeasurementList => ogit/OSLC-ems/Measurement

#### 2.2.0.40 ogit/OSLC-ems/seeAlsoPortfolio

This property links a project to a corresponding resource in a portfolio management application.

• id: http://www.purl.org/ogit/OSLC-ems/seeAlsoPortfolio

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

## 2.2.0.41 ogit/OSLC-ems/memberEstimate

This property links an estimate list to its member estimates.

```
• id: http://www.purl.org/ogit/OSLC-ems/memberEstimate
```

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

## 2.2.0.42 ogit/OSLC-ems/head

This property links a fact table to an ems: Head resource that describes the columns of the table.

```
• id: http://www.purl.org/ogit/OSLC-ems/head
```

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### 2.2.0.43 ogit/OSLC-ems/measurementList

This property links a service to its measurement list.

```
• id: http://www.purl.org/ogit/OSLC-ems/measurementList
```

• valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### **Allowed Connection**

ogit/OSLC-ems/Service => ogit/OSLC-ems/MeasurementList

## 2.2.0.44 ogit/OSLC-ems/dimension

This property links a resource to a dimension.

• id: http://www.purl.org/ogit/OSLC-ems/dimension

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### 2.2.0.45 ogit/OSLC-ems/estimate

The property links a resource to an estimate.

• id: http://www.purl.org/ogit/OSLC-ems/estimate

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

## 2.2.0.46 ogit/OSLC-ems/wbsContent

This property gives the literal XML WBS content of a WBS resource. This content MUST be in the XML format specified by the WBS resource. If this property is absent, then <code>ems:wbsSource</code> MUST be present. If this property and <code>ems:wbsSource</code> are present, then the value of this property SHOULD be the XML document representation returned in the HTTP GET response for the link given in <code>ems:wbsSource</code>.

• id: http://www.purl.org/ogit/OSLC-ems/wbsContent

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

## 2.2.0.47 ogit/OSLC-ems/seeAlsoEstimation

This property links a project to a corresponding resource in an estimation application.

• id: http://www.purl.org/ogit/OSLC-ems/seeAlsoEstimation

· valid-from: Thu Sep 22 00:00:00 UTC 2016

#### 2.2.0.48 ogit/OSLC-ems/dimensionCell

This property links a fact row to one or more of its dimension cells.

• id: http://www.purl.org/ogit/OSLC-ems/dimensionCell

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### 2.2.0.49 ogit/OSLC-ems/wbsFormat

This property links a WBS resource to the XML format of its content. EMS does not define a format for WBS content. Instead, this property identifies the specification that defines the XML format of the WBS content.

```
• id: http://www.purl.org/ogit/OSLC-ems/wbsFormat
```

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

#### **Allowed Connection**

• ogit/OSLC-ems/WorkBreakdownStructure => ogit/OSLC-ems/WbsFormat

#### 2.2.0.50 ogit/OSLC-ems/estimateList

This property links a service to its estimate list.

```
• id: http://www.purl.org/ogit/OSLC-ems/estimateList
```

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

## **Allowed Connection**

ogit/OSLC-ems/Service => ogit/OSLC-ems/EstimateList

## 2.2.0.51 ogit/OSLC-ems/assumes

This property links a scenario to the assumed value for some measure, e.g. duration, size. The assumed value is a probability distribution.

```
• id: http://www.purl.org/ogit/OSLC-ems/assumes
```

valid-from: Thu Sep 22 00:00:00 UTC 2016

## **Allowed Connection**

• ogit/OSLC-ems/Scenario => ogit/OSLC-ems/MeasureDistribution

## 2.2.0.52 ogit/OSLC-ems/assumesTable

This property links a scenario to the assumed value for some fact table of measures, e.g. staffing by week. The assumed fact table contains probability distributions.

• id: http://www.purl.org/ogit/OSLC-ems/assumesTable

· valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importercardinality: many2many

## **Allowed Connection**

• ogit/OSLC-ems/Scenario => ogit/OSLC-ems/FactDistributionTable

2.3 Attributes 36

## 2.3 Attributes

## 2.3.0.1 ogit/OSLC-ems/numberOfQuantiles

This property gives the *number of quantiles* parameter value of a probability distribution.

```
• id: http://www.purl.org/ogit/OSLC-ems/numberOfQuantiles
```

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

#### 2.3.0.2 ogit/OSLC-ems/numericValue

This property gives the numeric value of a resource. For example, the numeric value of the measure *duration of 12 months* is 12. The datatype of this property is typically xsd:double.

```
• id: http://www.purl.org/ogit/OSLC-ems/numericValue
```

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

#### 2.3.0.3 ogit/OSLC-ems/lambda

This property gives the *lambda* parameter value of a Poission distribution.

```
• id: http://www.purl.org/ogit/OSLC-ems/lambda
```

· valid-from: Thu Sep 22 00:00:00 UTC 2016

• creator: OGIT Importer

## 2.3.0.4 ogit/OSLC-ems/from

This property links a mapping to its custom label value. The value MUST be unique within its enclosing map resource.

```
• id: http://www.purl.org/ogit/OSLC-ems/from
```

• valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

2.3 Attributes 37

#### 2.3.0.5 ogit/OSLC-ems/isClosed

This boolean property indicates if the project is closed. No further activities or measurements are done on closed projects. The measurements of closed projects can be used to calibrate the estimates for new projects. When a project is completed and all measurements on it have been performed, it is marked as closed by setting this property to true.

```
• id: http://www.purl.org/ogit/OSLC-ems/isClosed
```

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

#### 2.3.0.6 ogit/OSLC-ems/low

This property gives the *low* parameter value of a probability distribution.

```
• id: http://www.purl.org/ogit/OSLC-ems/low
```

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importer

## 2.3.0.7 ogit/OSLC-ems/probability

This property gives the cumulative probability. For example, the cumulative probability of the third quartile is 75%.

```
• id: http://www.purl.org/ogit/OSLC-ems/probability
```

valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

#### 2.3.0.8 ogit/OSLC-ems/mostLikely

This property gives the *most likely* parameter value of a probability distribution.

```
• id: http://www.purl.org/ogit/OSLC-ems/mostLikely
```

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

#### 2.3.0.9 ogit/OSLC-ems/realProjectId

This property links a project to an identifier of the project as a real-world object.

```
• id: http://www.purl.org/ogit/OSLC-ems/realProjectId
```

valid-from: Thu Sep 22 00:00:00 UTC 2016

creator: OGIT Importer

2.3 Attributes 38

#### 2.3.0.10 ogit/OSLC-ems/scale

This property gives the *scale* parameter value of a probability distribution. This parameter is also known as the *standard deviation* and is often denoted by the Greek letter sigma.

• id: http://www.purl.org/ogit/OSLC-ems/scale

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

## 2.3.0.11 ogit/OSLC-ems/high

This property gives the *high* parameter value of a probability distribution.

• id: http://www.purl.org/ogit/OSLC-ems/high

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer

## 2.3.0.12 ogit/OSLC-ems/isActive

This boolean property indicates if a scenario is under active consideration. When a scenario has been ruled out, it is marked as inactive by setting this property to false.

• id: http://www.purl.org/ogit/OSLC-ems/isActive

· valid-from: Thu Sep 22 00:00:00 UTC 2016

· creator: OGIT Importer