The Integrated Energy and Communication Systems Architecture

Volume III: Models

Appendix B:
IECSA UML/RM-ODP Mapping of Concepts

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Appendix B – IECSA UML/RM-ODP Mapping of Concepts

One of the charters of IECSA is to use a rigorous standardized modeling methodology. The IECSA team selected the Reference Model for Open Distributed Processing (RM-ODP) {TU-T Rec. X.901 | ISO/IEC 10746-1 to ITU-T Rec. X.904 | ISO/IEC 10746-4} to provide the methodology for the development of an architecture framework which will support distributed processing in heterogeneous environments.

By design RM-ODP does not prescribe any notational constructs for rendering the architecture in accordance with the methodology. Thus, the team selected the Unified Modeling Language (UML) as the notational construct for the architecture.

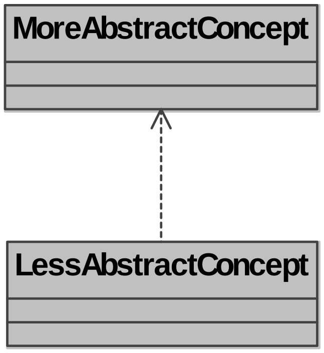
Since the methodology and the notational constructs are not shared, the project needs to define the mapping between the RM-ODP concepts and the corresponding UML notational constructs. The IECSA team was able to leverage bodies of work put forth by OMG, EDF and others in this area; however, more work is needed in the standards community to complete this mapping.

The remainder of this document outlines most of the RM-ODP concepts, and attempts to clearly define the mapping between the RM-ODP concept and the corresponding UML notational construct. Where possible, an example is provided for clarity. It should be noted that there are a substantial portion of RM-ODP concepts that are not mapped into UML notation. The team developed the mapping as the RM-ODP concept was encountered in the architecture framework development. As the architecture framework continues to develop, additional RM-ODP concepts will need explicit mapping into the corresponding UML notational constructs.

Table of Contents

Abstraction

ODP-Reference: 10746-2.6.3
ODP-Category: Basic Interpretation Concepts
ODP-Concept: **Abstraction**
ODP-Definition: The process of suppressing irrelevant detail to establish a simplified model, or the result of that process.
Status: Mapped.
UML-Reference: 2.5.2.1
UML-Mapping: Abstraction corresponds to a UML Dependency association using the predefined stereotype Abstraction association.
Example:



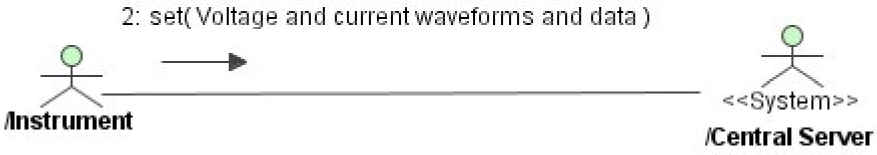
Access transparency

ODP-Reference: 10746-3.4.4.1.1
ODP-Category: Transparencies
ODP-Concept: **Access transparency**
ODP-Definition: A **distribution transparency** that masks differences in data representation and invocation mechanisms to enable **inter-working** between **objects**.
Status: Unmapped.

Action

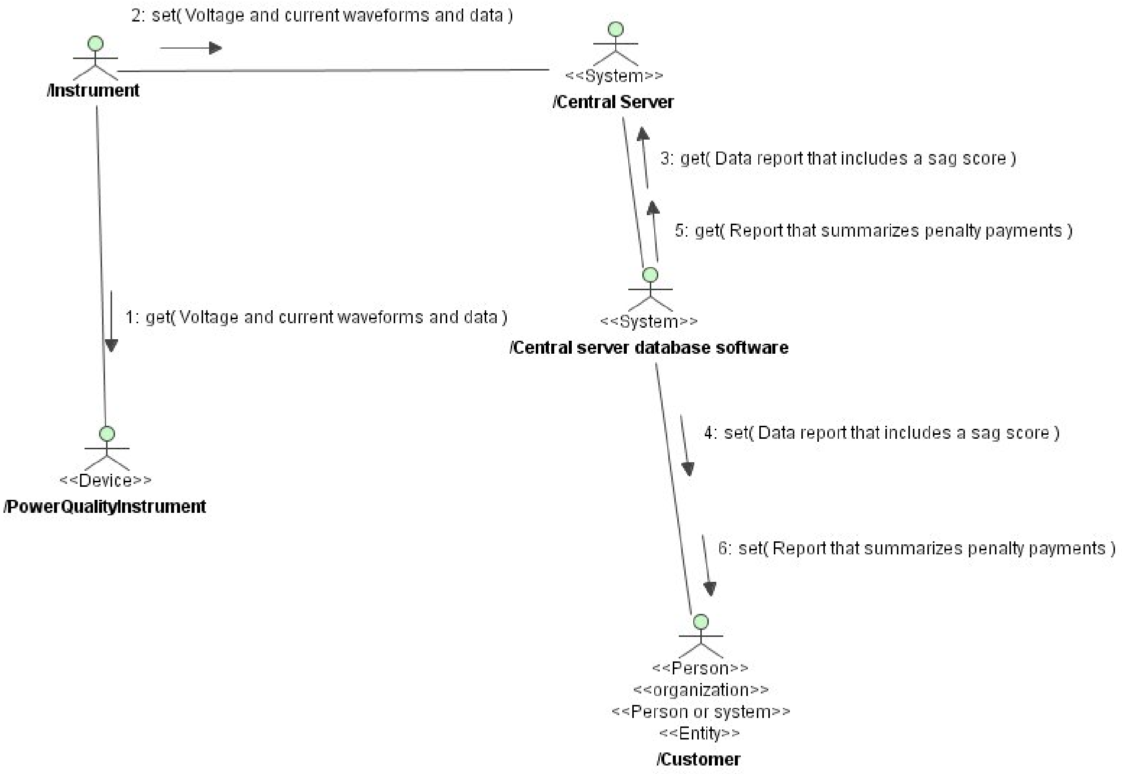
ODP-Reference:	10746-2.8.3
ODP-Category:	Basic Modeling Concepts
ODP-Concept:	**Action**
ODP-Definition:	Something which happens. An action occurrence. The set of actions associated with an object is partitioned into **internal actions** and **interactions**.
Status:	Mapped.
UML-Reference:	3.63
UML-Mapping:	An action corresponds to a UML Message bound to an operation that specifies communication between two instances. Note this is a refinement of a Step.

Example:



Activity

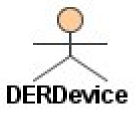
ODP-Reference:	10746-2.8.5
ODP-Category:	Basic Modeling Concepts
ODP-Concept:	**Activity**
ODP-Definition:	A single-**headed** directed acyclic graph of **actions**, where occurrence of each **action** in the graph is made possible by the occurrence of all immediately preceding **actions** (i.e. by all adjacent **actions** which are closer to the **head**).
Status:	Mapped.
UML-Reference:	3.65
UML-Mapping:	Activity corresponds to a UML Collaboration diagram.
Example:	


2: set(Voltage and current waveforms and data)
/Instrument
<<System>>
/Central Server
3: get(Data report that includes a sag score)
5: get(Report that summarizes penalty payments)
1: get(Voltage and current waveforms and data)
<<System>>
/Central server database software
4: set(Data report that includes a sag score)
6: set(Report that summarizes penalty payments)
<<Device>>
/PowerQualityInstrument
<<Person>>
<<organization>>
<<Person or system>>
<<Entity>>
/Customer

Actor (with respect to an action)

ODP-Reference: 15414-6.3.1
ODP-Category: Enterprise Behavior
ODP-Concept: **Actor (with respect to an action)**
ODP-Definition: An **enterprise object** that participates in the **action**.

Status: Mapped.
UML-Reference: 3.65
UML-Mapping: An ODP Actor corresponds to a UML Actor
Example:



Agent

ODP-Reference: 15414-6.5.7
ODP-Category: Enterprise Accountability Concepts
ODP-Concept: **Agent**
ODP-Definition: An **enterprise object** that has been **delegated** (authority, responsibility, a function, etc.) by and acts for another enterprise **object** (in exercising the authority, carrying out the responsibility, performing the function, etc.).
Status: Unmapped.
UML-Reference:
UML-Mapping:

Announcement

ODP-Reference: 10746-3.7.1.3
ODP-Category: Computational Concepts
ODP-Concept: **Announcement**
ODP-Definition: An interaction -- the **invocation** -- initiated by a **client object** resulting in the conveyance of information from that **client object** to a **server object**, requesting a function to be performed by that **server object**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Application management

ODP-Reference: 10746-2.14.1
ODP-Category: Management Concepts
ODP-Concept: **Application management**
ODP-Definition: The management of applications within an ODP system. Some aspects of applications management are common to all applications and are termed application independent management. Those aspects that are specific to a given application are termed application specific management.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Architecture (of a system)

ODP-Reference: 10746-2.6.6
ODP-Category: Basic Interpretation Concepts
ODP-Concept: **Architecture (of a system)**
ODP-Definition: A set of rules to define the structure of a **system** and the interrelationships between its parts.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Artifact (with respect to an action)

ODP-Reference: 15414-6.3.2
ODP-Category: Enterprise Behavior
ODP-Concept: **Artifact (with respect to an action)**
ODP-Definition: An **enterprise object** that is referenced in the **action**.

Status: Mapped.
UML-Reference: 2.5.2.2
UML-Mapping: An ODP Artifact corresponds to a UML Artifact

Atomicity

ODP-Reference: 10746-2.6.4
ODP-Category: Basic Interpretation Concepts
ODP-Concept: **Atomicity**
ODP-Definition: An **entity** is atomic at a given level of **abstraction** if it cannot be subdivided at that level of **abstraction**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Authorization

ODP-Reference: 15414-6.4.2
ODP-Category: Enterprise Policy Concepts
ODP-Concept: **Authorization**
ODP-Definition: A prescription that a particular **behavior** must not be prevented.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Basic engineering object

ODP-Reference: 10746-3.8.1.1
ODP-Category: Engineering Concepts
ODP-Concept: **Basic engineering object**
ODP-Definition: An **engineering object** that requires the support of a distributed infrastructure.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Behavior (of an object)

ODP-Reference: 10746-2.8.6
ODP-Category: Basic Modeling Concepts
ODP-Concept: **Behavior (of an object)**
ODP-Definition: A collection of **actions** with a set of constraints on when they may occur.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Behavioral compatibility

ODP-Reference: 10746-2.9.4
ODP-Category: Specification Concepts
ODP-Concept: **Behavioral compatibility**
ODP-Definition: An **object** is behaviorally compatible with a second **object** with respect to a set of criteria if the first **object** can replace the second object without the **environment** being able to notice the difference in the **objects' behavior** on the basis of the set of criteria.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Binder

ODP-Reference: 10746-3.8.1.10
ODP-Category: Engineering Concepts
ODP-Concept: **Binder**
ODP-Definition: An **engineering object** in a **channel**, which maintains a distributed **binding** between interacting **basic engineering objects**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Binding

ODP-Reference: 10746-2.13.4.2
ODP-Category: Establishing Behaviors
ODP-Concept: **Binding**
ODP-Definition: A **contractual context**, resulting from a given **establishing behavior**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Binding Behavior

ODP-Reference: 10746-2.13.4.1
ODP-Category: Establishing Behaviors
ODP-Concept: **Binding Behavior**
ODP-Definition: An **establishing behavior** between two or more **interfaces** (and hence between their supporting **objects**). "To bind" means "to execute a binding behavior".
Status: Unmapped.
UML-Reference:
UML-Mapping:

Binding endpoint identifier

ODP-Reference: 10746-3.8.1.15
ODP-Category: Engineering Concepts
ODP-Concept: **Binding endpoint identifier**
ODP-Definition: An **identifier**, in the **naming context** of a **capsule**, used by a **basic engineering object** to select one of the **bindings** in which it is involved, for the purpose of interaction.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Binding object

ODP-Reference: 10746-3.7.1.14

ODP-Category: Computational Concepts
ODP-Concept: **Binding object**
ODP-Definition: A **computational object** which supports a **binding** between a set of other **computational objects**.
Status: Unmapped.
UML-Reference:
UML-Mapping:
Example:

Binding precondition

ODP-Reference: 10746-2.13.4.3
ODP-Category: Establishing Behaviors
ODP-Concept: **Binding precondition**
ODP-Definition: A set of conditions required for the successful execution of a **binding behavior**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Capsule

ODP-Reference: 10746-3.8.1.4
ODP-Category: Engineering Concepts
ODP-Concept: **Capsule**
ODP-Definition: A **configuration** of **engineering objects** forming a single unit for the purpose of encapsulation of processing and storage.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Capsule manager

ODP-Reference: 10746-3.8.1.5
ODP-Category: Engineering Concepts
ODP-Concept: **Capsule manager**
ODP-Definition: An **engineering object** that manages the engineering **objects** in a **capsule**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Chain (of actions)

ODP-Reference: 10746-2.13.1.1
ODP-Category: Activity Structure
ODP-Concept: **Chain (of actions)**
ODP-Definition: A sequence of **actions** within an **activity** where, for each adjacent pair of **actions**, occurrence of the first **action** is necessary for the occurrence of the second **action**.
Status: Mapped.
UML-Reference: 2.10.4.2
UML-Mapping: UML correspondence rule: An ODP chain of actions is modeled as a UML interaction. The numbering of the sequence steps conveys the order and concurrency and iteration of the steps occur. Using a Dewey Decimal scheme, each level of nested procedure call is separated by a dot '.'. Within a level, the sequence number comprises an optional letter and an integer number. The letter specifies a concurrent sequence within the next higher level; all letter sequences are concurrent with other letter sequences. The number specifies the sequencing of messages in a given letter sequence. The absence of a letter is treated as a default 'main sequence' in parallel with the lettered sequences.
Example:

Chain of Actions 1:
1.1 - Do step 1
1.2A.1 - In parallel to activity 2 B do step 1
1.2A.2 - In parallel to activity 2 B do step 2
1.2B.1 - In parallel to activity 2 A do step 1
1.2B.2 - In parallel to activity 2 A do step 2
1.3 - Do step 3
1.3.1 - nested step 3.1
1.3.2 - nested step 3.2

Chain of Actions 2:
2.1 - Do step 1
2.2 – Do step 2

Channel

ODP-Reference: 10746-3.8.1.8
ODP-Category: Engineering Concepts
ODP-Concept: **Channel**
ODP-Definition: A **configuration** of **stubs, binders, protocol objects** and **interceptors** providing a **binding** between a set of **interfaces** to **basic engineering objects**, through which interaction can occur.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Checkpoint

ODP-Reference: 10746-3.8.1.20
ODP-Category: Engineering Concepts
ODP-Concept: **Checkpoint**
ODP-Definition: An **object template** derived from the **state** and structure of an **engineering object** that can be used to instantiate another **engineering object**, consistent with the **state** of the original **object** at the time of **check pointing**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Check-pointing

ODP-Reference: 10746-3.8.1.21
ODP-Category: Engineering Concepts
ODP-Concept: **Check-pointing**
ODP-Definition: Creating a **checkpoint**. **Checkpoints** can only be created when the **engineering object** involved satisfies a pre-condition stated in a check-pointing policy.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Class (of <X>s)

ODP-Reference: 10746-2.9.8
ODP-Category: Specification Concepts
ODP-Concept: **Class (of <X>s)**
ODP-Definition: The set of all <X>s satisfying a **type.** The elements of the set are referred to as members of the class.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Client object

ODP-Reference: 10746-2.13.3.5
ODP-Category: Causality
ODP-Concept: **Client object**
ODP-Definition: An **object** which requests that a function be performed by another **object**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Cloning

ODP-Reference: 10746-3.8.1.24
ODP-Category: Engineering Concepts
ODP-Concept: **Cloning**
ODP-Definition: Instantiating a **cluster** from a **cluster checkpoint**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Cluster

ODP-Reference: 10746-3.8.1.2
ODP-Category: Engineering Concepts
ODP-Concept: **Cluster**
ODP-Definition: A **configuration** of **basic engineering objects** forming a single unit for the purposes of **deactivation, check pointing, reactivation, recovery** and **migration**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Cluster checkpoint

ODP-Reference: 10746-3.8.1.22
ODP-Category: Engineering Concepts
ODP-Concept: **Cluster checkpoint**
ODP-Definition: A **cluster template** containing **checkpoints** of the **basic engineering objects** in a **cluster**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Cluster manager

ODP-Reference: 10746-3.8.1.3
ODP-Category: Engineering Concepts
ODP-Concept: **Cluster manager**
ODP-Definition: An **engineering object** that manages the basic engineering objects in a cluster.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Cluster template

ODP-Reference: 10746-3.8.1.19
ODP-Category: Engineering Concepts
ODP-Concept: **Cluster template**
ODP-Definition: An **object template** for a **configuration** of **objects** and any **activity** required to instantiate those **objects** and establish initial **bindings**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Commitment

ODP-Reference: 15414-6.5.2
ODP-Category: Enterprise Accountability Concepts
ODP-Concept: **Commitment**
ODP-Definition: An **action** resulting in an **obligation** by one or more of the participants in the act to comply with a rule or perform a **contract**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Communication

ODP-Reference: 10746-2.8.8
ODP-Category: Basic Modeling Concepts
ODP-Concept: **Communication**
ODP-Definition: The conveyance of information between two or more **objects** as a result of one or more interactions, possibly involving some intermediate **objects**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Communication interface

ODP-Reference: 10746-3.8.1.14
ODP-Category: Engineering Concepts
ODP-Concept: **Communication interface**
ODP-Definition: An **interface** of a **protocol object** that can be **bound** to an **interface** of either an **interceptor object** or another **protocol object** at an **inter-working reference point**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Communication management

ODP-Reference: 10746-2.14.2
ODP-Category: Management Concepts
ODP-Concept: **Communication management**
ODP-Definition: Management of **objects** which support the **communication** between **objects** within an ODP system.
Status: Unmapped.
UML-Reference:
UML-Mapping:

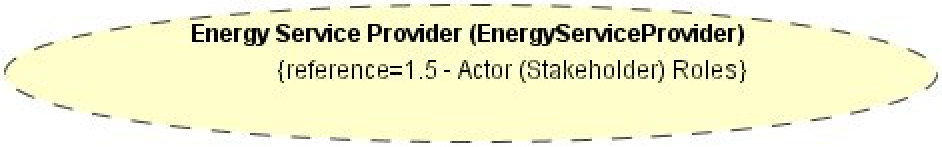
Communications domain

ODP-Reference: 10746-3.8.1.13
ODP-Category: Engineering Concepts
ODP-Concept: **Communications domain**
ODP-Definition: A set of **protocol objects** capable of inter-working.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Community

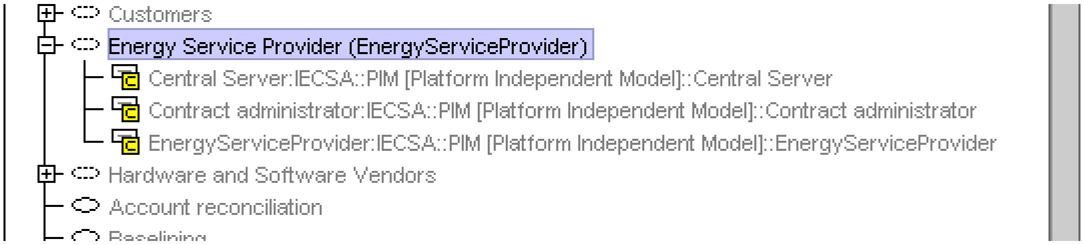
ODP-Reference: 10746-3.5.1.1
ODP-Category: Enterprise Language
ODP-Concept: **Community**
ODP-Definition: A **configuration** of **objects** formed to meet an objective. The objective is expressed as a **contract** that specifies how the objective can be met.
Status: Mapped.
UML-Reference: 3.66
UML-Mapping: UML defines collaboration as an abstract structure concept. The members of the collaboration represent cooperative elements that come together to meet a specific objective.

Example:


Energy Service Provider (EnergyServiceProvider)
{reference=1.5 - Actor (Stakeholder) Roles}

Community object

ODP-Reference: 15414-6.2.2
ODP-Category: Enterprise Community
ODP-Concept: **Community object**
ODP-Definition: A composite enterprise **object** that represents a **community**. Components of a **community object** are **objects** of the **community** represented.
Status: Mapped.
UML-Reference: 3.66
UML-Mapping: Owned elements of the collaboration.
Example:



- Customers
- Energy Service Provider (EnergyServiceProvider)
  - Central Server:IECSA::PIM [Platform Independent Model]::Central Server
  - Contract administrator:IECSA::PIM [Platform Independent Model]::Contract administrator
  - EnergyServiceProvider:IECSA::PIM [Platform Independent Model]::EnergyServiceProvider
- Hardware and Software Vendors
- Account reconciliation
- Baselining

Compliance

ODP-Reference: 10746-2.15.1(b)
ODP-Category: ODP Conformance
ODP-Concept: **Compliance**
ODP-Definition: Adherence to requirements for the necessary consistency of one member of the family of ODP standards with another (such as the RM-ODP). Compliance is established during the standardization process. If a specification is compliant, directly or indirectly, with some other standards then the **propositions** that are true in those standards are also true in a **conformant implementation** of the specification.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Composite object

ODP-Reference: 10746-2.9.2
ODP-Category: Specification Concepts
ODP-Concept: **Composite object**
ODP-Definition: An object expressed as a **composition**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Composition (of objects)

ODP-Reference: 10746-2.9.1(a)
ODP-Category: Specification Concepts
ODP-Concept: **Composition (of objects)**
ODP-Definition: A combination of two or more **objects** yielding a new **object**, at a different level of abstraction.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Composition (of behaviors)

ODP-Reference: 10746-2.9.1(b)
ODP-Category: Specification Concepts
ODP-Concept: **Composition (of behaviors)**
ODP-Definition: A combination of two or more **behaviors** yielding a new **behavior**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Computational interface template

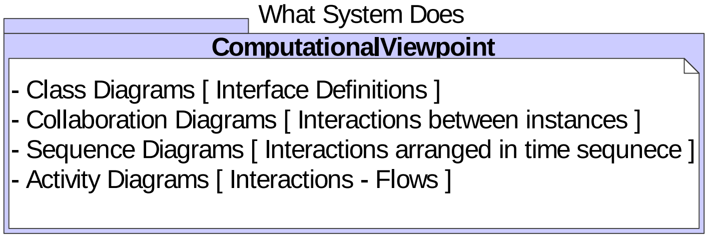
ODP-Reference: 10746-3.7.1.10
ODP-Category: Computational Concepts
ODP-Concept: **Computational interface template**
ODP-Definition: An **interface template** for either a **signal interface**, a **stream interface** or an **operation interface**. A computational interface template comprises a **signal**, a **stream** or an **operation interface signature** as appropriate, a **behavior** specification and an **environment contract** specification.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Computational object template

ODP-Reference: 10746-3.7.1.9
ODP-Category: Computational Concepts
ODP-Concept: **Computational object template**
ODP-Definition: An **object template** which comprises a set of **computational interface templates** which the **object** can instantiate, a **behavior** specification and an **environment contract** specification.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Computational viewpoint

ODP-Reference: 10746-3.4.1.1.3
ODP-Category: Viewpoint Concepts
ODP-Concept: **Computational viewpoint**
ODP-Definition: A **viewpoint** on an ODP system and its environment which enables distribution through functional decomposition of the system into objects which interact at interfaces.
Status: Mapped.
UML-Reference:
UML-Mapping: The computational viewpoint is primarily represented as class diagrams showing the interface definitions and the collaboration, sequence and activity diagrams showing the object flows.
Example:


What System Does
ComputationalViewpoint
- Class Diagrams [Interface Definitions]
- Collaboration Diagrams [Interactions between instances]
- Sequence Diagrams [Interactions arranged in time sequnece]
- Activity Diagrams [Interactions - Flows]

:

Configuration

ODP-Reference: 10746-2.10.2

ODP-Category: Organizational Concepts

ODP-Concept: **Configuration**

ODP-Definition: A collection of **objects** able to interact at **interfaces**. A configuration determines the set of **objects** involved in each interaction.

Status: Unmapped.

UML-Reference:

UML-Mapping:

Conformance

ODP-Reference: 10746-2.15.1(a)

ODP-Category: ODP Conformance

ODP-Concept: **Conformance**

ODP-Definition: Conformance relates an implementation to a standard. Any proposition that is true in the specification must be true in its implementation.

Status: Unmapped.

UML-Reference:

UML-Mapping:

Conformance point

ODP-Reference: 10746-2.10.7

ODP-Category: Organizational Concepts

ODP-Concept: **Conformance point**

ODP-Definition: A **reference point** at which **behavior** may be observed for the purposes of conformance testing.

Status: Unmapped.

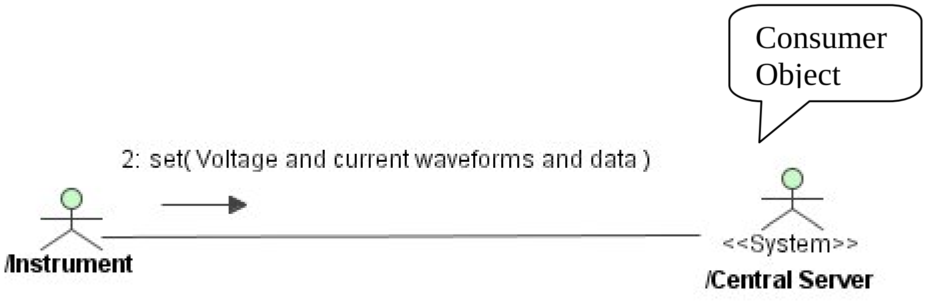
UML-Reference:

UML-Mapping:

Consumer object (with respect to a communication)

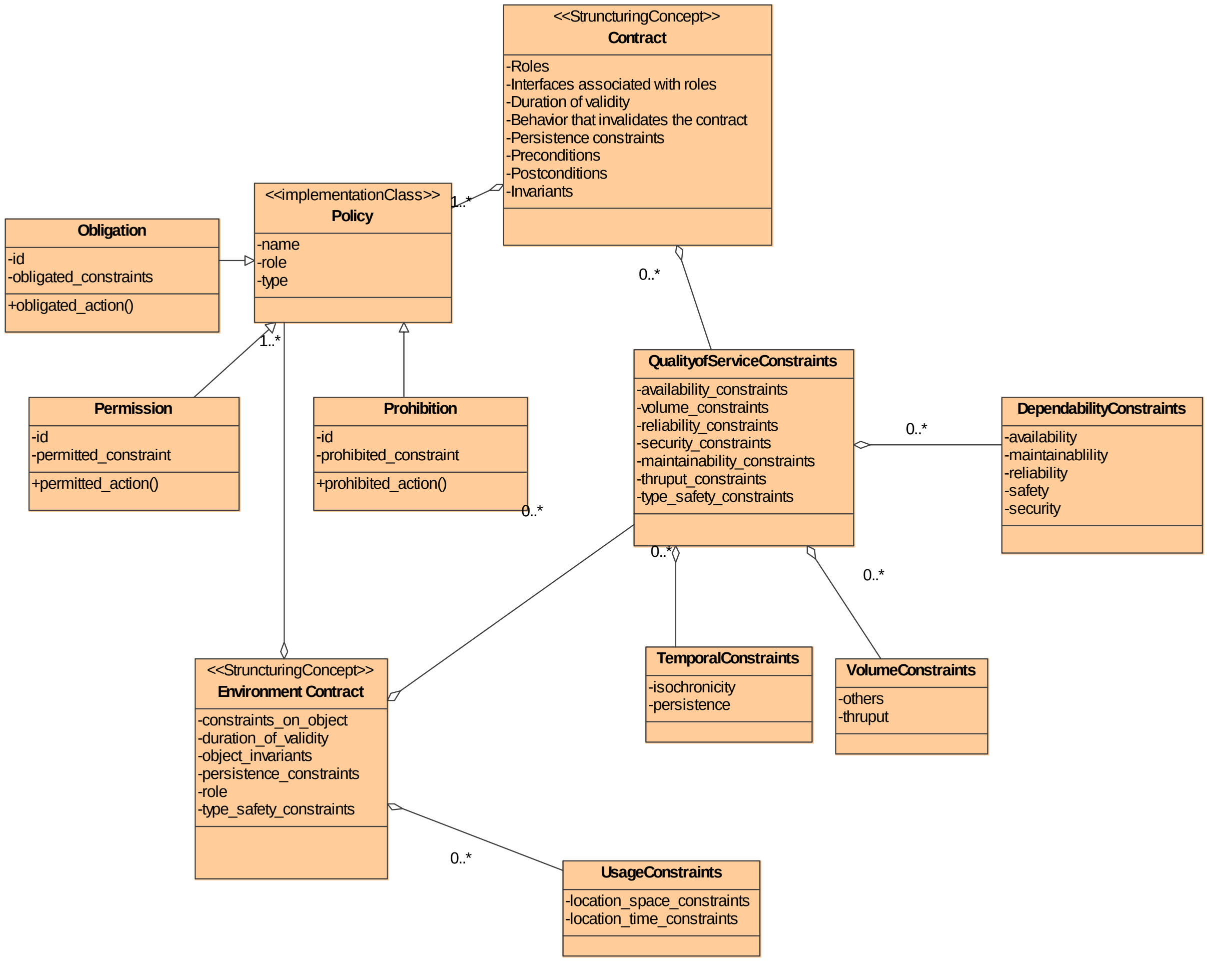
ODP-Reference:	10746-2.13.3.4
ODP-Category:	Causality
ODP-Concept:	**Consumer object (with respect to a communication)**
ODP-Definition:	An **object** that is a sink of the information conveyed.
Status:	Mapped.
UML-Reference:	3.63
UML-Mapping:	A producer object is on the supplier side of a UML Message that specifies communication between two instances.

Example:



Contract

ODP-Reference: 10746-2.11.2.1
ODP-Category: Policy Concepts
ODP-Concept: **Contract**
ODP-Definition: An agreement governing part of the collective **behavior** of a set of **objects**. A contract specifies **obligations**, **permissions and prohibitions** for the **objects** involved.
Status: Mapped.
UML-Reference:
UML-Mapping:
UML-Model:
Example:



Contracting party (with respect to a contract)

ODP-Reference: 15414-6.5.7
ODP-Category: Enterprise Accountability Concepts
ODP-Concept: **Contracting party (with respect to a contract)**
ODP-Definition: A **party** that agrees to that **contract**.

Status: Unmapped.
UML-Reference:
UML-Mapping:

Contractual context

ODP-Reference: 10746-2.13.2.3
ODP-Category: Contractual Behavior
ODP-Concept: **Contractual context**
ODP-Definition: The knowledge that a particular **contract** is in place, and thus that a particular **behavior** of a set of **objects** is required.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Creation (of an <X>)

ODP-Reference: 10746-2.9.15
ODP-Category: Specification Concepts
ODP-Concept: **Creation (of an <X>)**
ODP-Definition: Instantiating an <X>, when it is achieved by an **action** of **objects** in the model. <X> can be anything that can be instantiated, in particular **objects** and **interfaces**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Deactivation

ODP-Reference: 10746-3.8.1.23
ODP-Category: Engineering Concepts
ODP-Concept: **Deactivation**
ODP-Definition: **Check-pointing** a **cluster**, followed by deletion of the **cluster**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Declaration

ODP-Reference: 15414-6.5.3
ODP-Category: Enterprise Accountability Concepts
ODP-Concept: **Declaration**
ODP-Definition: An **action** that establishes a state of affairs in the **environment** of the **object** making the declaration.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Decomposition (of a behavior)

ODP-Reference: 10746-2.9.3(b)
ODP-Category: Specification Concepts
ODP-Concept: **Decomposition (of a behavior)**
ODP-Definition: The specification of a given **behavior** as a **composition**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Decomposition (of an object)

ODP-Reference: 10746-2.9.3(a)
ODP-Category: Specification Concepts
ODP-Concept: **Decomposition (of an object)**
ODP-Definition: The specification of a given **object** as a **composition**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Delegation

ODP-Reference: 15414-6.5.4
ODP-Category: Enterprise Accountability Concepts
ODP-Concept: **Delegation**
ODP-Definition: The **action** that assigns authority, responsibility or a function to another **object**.

Status: Unmapped.
UML-Reference:
UML-Mapping:

Deletion (of an <X>)

ODP-Reference: 10746-2.9.17
ODP-Category: Specification Concepts
ODP-Concept: **Deletion (of an <X>)**
ODP-Definition: The **action** of destroying an **instantiated** <X>. <X> can be anything that can be **instantiated**, in particular **objects** and **interfaces**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Derived class/ Base class

ODP-Reference: 10746-2.9.21
ODP-Category: Specification Concepts
ODP-Concept: **Derived class/ Base class**
ODP-Definition: If a **template** A is an incremental modification of a **template** B, then the **template class** CA of **instances** of A is a derived **class** of the **template class** CB of **instances** of B, and the CB is a base class of CA.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Distribution transparency

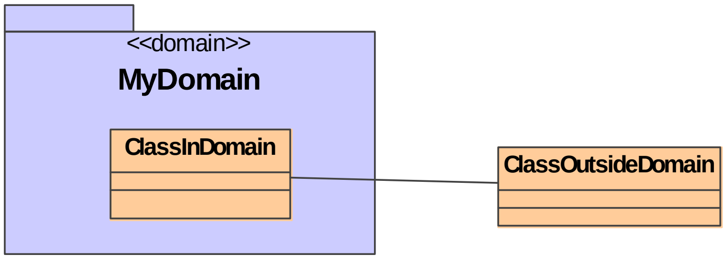
ODP-Reference: 10746-2.11.1
ODP-Category: Transparencies
ODP-Concept: **Distribution transparency**
ODP-Definition: The property of hiding from a particular user the potential **behavior** of some parts of a distributed system.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Dividing action

ODP-Reference: 10746-2.13.1.4
ODP-Category: Activity Structure
ODP-Concept: **Dividing action**
ODP-Definition: An **action** which enables two or more **chains**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Domain

ODP-Reference: 10746-2.10.3
ODP-Category: Organizational Concepts
ODP-Concept: **<X> Domain**
ODP-Definition: A set of **objects**, each of which is related by a characterizing relationship <X> to a controlling **object**.
Status: Mapped.
UML-Reference:
UML-Mapping: An ODP domain is modeled as a package in UML having the stereotype of <<domain>>.
Example:



Dynamic schema

ODP-Reference: 10746-3.6.1.3
ODP-Category: Information Concepts
ODP-Concept: **Dynamic schema**
ODP-Definition: A specification of the allowable **state** changes of one or more **information objects**, subject to the constraints of any **invariant schemata**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Enabled behavior

ODP-Reference: 10746-2.13.2.2
ODP-Category: Contractual Behavior
ODP-Concept: **Enabled behavior**
ODP-Definition: The **behavior** characterizing a set of **objects** which becomes possible as a result of **establishing behavior**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Engineering interface reference

ODP-Reference: 10746-3.8.1.16
ODP-Category: Engineering Concepts
ODP-Concept: **Engineering interface reference**
ODP-Definition: An **identifier**, in the context of an **engineering interface reference management domain**, for an **engineering object interface** that is available for distributed binding.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Engineering interface reference management domain

ODP-Reference: 10746-3.8.1.17
ODP-Category: Engineering Concepts
ODP-Concept: **Engineering interface reference management domain**
ODP-Definition: A set of **nodes** forming a **naming domain** for the purpose of assigning **engineering interface references**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Engineering interface reference management policy

ODP-Reference: 10746-3.8.1.18
ODP-Category: Engineering Concepts
ODP-Concept: **Engineering interface reference management policy**
ODP-Definition: A set of **permissions** and **prohibitions** that govern the **federation** of **engineering interface reference management domains**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Engineering viewpoint

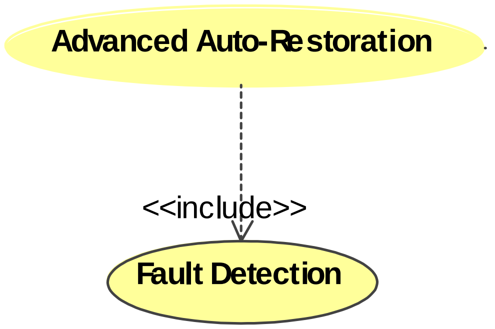
ODP-Reference: 10746-3.4.1.1.4
ODP-Category: Viewpoint Concepts
ODP-Concept: **Engineering viewpoint**
ODP-Definition: A **viewpoint** on an ODP system and its environment that focuses on the mechanisms and functions required to support distributed interaction between objects in the system.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Enterprise viewpoint

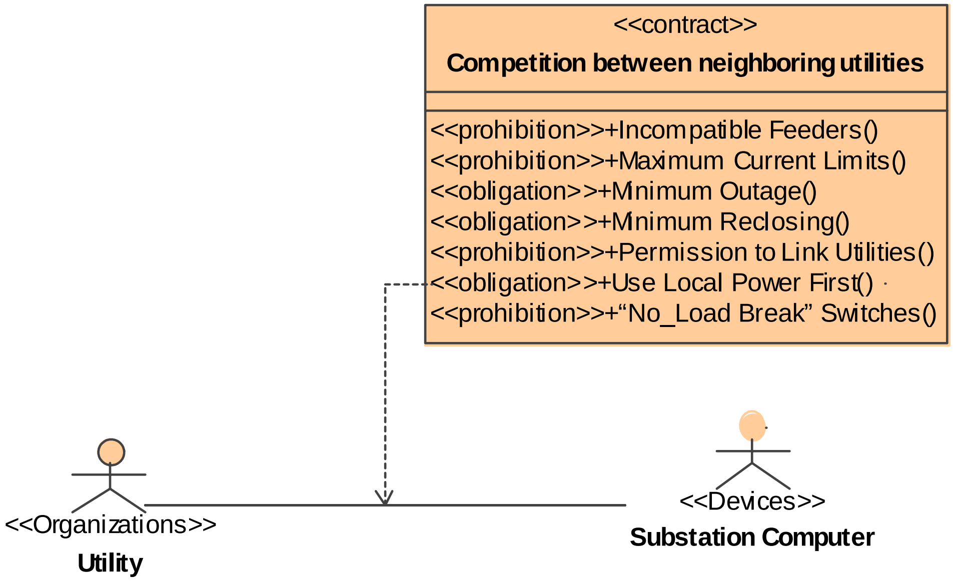
ODP-Reference: 10746-3.4.1.1.1
ODP-Category: Viewpoint Concepts
ODP-Concept: **Enterprise viewpoint**
ODP-Definition: A **viewpoint** on an ODP system and its environment that focuses on the purpose, scope and policies for that system.
Status: Mapped.
UML-Reference: 3.54
UML-Mapping: Enterprise viewpoint represents the purpose, scope and policies of the system and is primarily modeled with use case diagrams and class diagrams.

Example:

Use Case:
As shown in the Use Case Diagram, “Advanced Auto-Restoration” is an IECSA enterprise activity that includes “Fault Detection” service. The two use cases are linked through a “<<include>>” dependency.



Class Diagram
The class diagram is used to expose the contractual bindings of the actors.


<<contract>>
Competition between neighboring utilities
<<prohibition>>+Incompatible Feeders()
<<prohibition>>+Maximum Current Limits()
<<obligation>>+Minimum Outage()
<<obligation>>+Minimum Reclosing()
<<prohibition>>+Permission to Link Utilities()
<<obligation>>+Use Local Power First()
<<prohibition>>+“No_Load Break” Switches()
<<Organizations>>
Utility
<<Devices>>
Substation Computer

As shown in the figure, the two actors are associated with each other with a contract called “Competition between neighboring utilities” binding the interface. The UML “permission” association shows the binding.

Entity

ODP-Reference:	10746-2.6.1
ODP-Category:	Basic Interpretation Concepts
ODP-Concept:	**Entity**
ODP-Definition:	Any concrete or abstract thing of interest.
Status:	Mapped.
UML-Reference:	
UML-Mapping:	An ODP Entity is modeled as any one of UML’s Modeling Elements.

Environment (of an object)

ODP-Reference:	10746-2.8.2
ODP-Category:	Basic Modeling Concepts
ODP-Concept:	**Environment (of an object)**
ODP-Definition:	The part of the model which is not part of that object.
Status:	Mapped.
UML-Reference:	3.66
UML-Mapping:	UML defines collaboration as an abstract structure concept. The members of the collaboration represent cooperative elements that come together to meet a specific objective.

Example:

Intra-Control Center

Environment contract

ODP-Reference:	10746-2.11.2.3
ODP-Category:	Policy Concepts
ODP-Concept:	**Environment contract**
ODP-Definition:	A contract between an object and its environment, including quality of service constraints, usage and management constraints.
Status:	Unmapped.
UML-Reference:	
UML-Mapping:	Association <<environmentContract>>

Epoch

ODP-Reference:	10746-2.10.5
ODP-Category:	Organizational Concepts
ODP-Concept:	**Epoch**
ODP-Definition:	A period of time for which an **object** displays a particular **behavior**. Any one **object** is in a single epoch at one time, but interacting **objects** may be in different epochs at the time of interaction.
Status:	Unmapped.
UML-Reference:	
UML-Mapping:	

Error

ODP-Reference: 10746-2.13.5.2
ODP-Category: Dependability
ODP-Concept: **Error**
ODP-Definition: Part of an **object state** which is liable to lead to **failures**. A manifestation of a **fault** in an **object**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Establishing behavior

ODP-Reference: 10746-2.13.2.1
ODP-Category: Contractual Behavior
ODP-Concept: **Establishing behavior**
ODP-Definition: The **behavior** by which a given **contract** is put in place between given **objects**. An establishing behavior can be a) explicit, resulting from the interactions of **objects** that will take part in the **contract**; or b) implicit, being performed by an external agency (e.g. a third party **object**, not taking part in the contract) or having been performed in a previous **epoch**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Evaluation

ODP-Reference: 15414-6.5.5
ODP-Category: Enterprise Accountability Concepts
ODP-Concept: **Evaluation**
ODP-Definition: An **action** that assesses the value of something.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Failure

ODP-Reference: 10746-2.13.5.1
ODP-Category: Dependability
ODP-Concept: **Failure**
ODP-Definition: Violation of a **contract**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Failure transparency

ODP-Reference: 10746-3.4.4.1.2
ODP-Category: Transparencies
ODP-Concept: **Failure transparency**
ODP-Definition: A **distribution transparency** which masks, from an **object**, the failure and possible recovery of other **objects** (or itself), to enable **fault** tolerance.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Fault

ODP-Reference: 10746-2.13.5.3
ODP-Category: Dependability
ODP-Concept: **Fault**
ODP-Definition: A situation that may cause **errors** to occur in an **object**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Federation

ODP-Reference: 10746-3.5.1.2
ODP-Category: Enterprise Language
ODP-Concept: **<X> Federation**
ODP-Definition: A **community** of <x> **domains**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

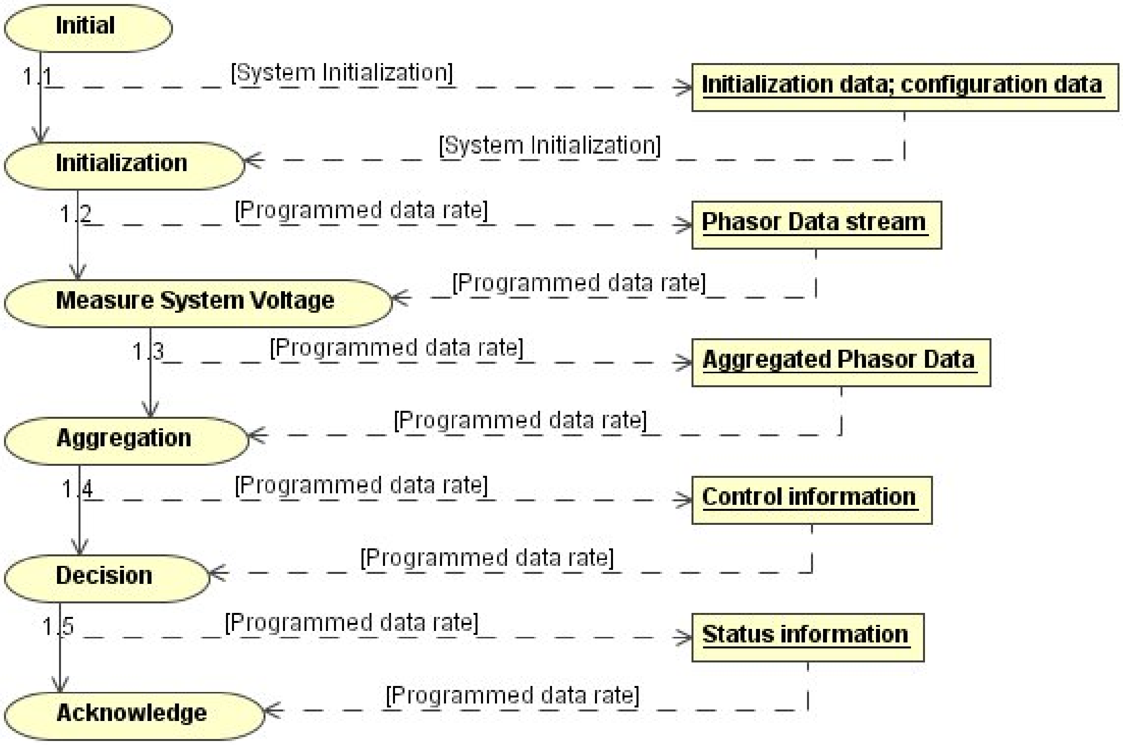
Field of Application (of a specification)

ODP-Reference: 15414-6.1.2
ODP-Category: Enterprise System
ODP-Concept: **Field of Application (of a specification)**
ODP-Definition: The properties the **environment** of the ODP system must have for the Specification of that system to be used.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Flow

ODP-Reference:	10746-3.7.1.5
ODP-Category:	Computational Concepts
ODP-Concept:	**Flow**
ODP-Definition:	An **abstraction** of a sequence of interactions, resulting in conveyance of information from a producer **object** to a consumer **object**. A flow may be used to abstract over, for example, the exact structure of a sequence of interactions, or over a continuous interaction including the special case of an analogue information flow.
Status:	Mapped.
UML-Reference:	3.90
UML-Mapping:	ODP Flow corresponds to UML Action Object Flow conveyed in a UML Collaboration Diagram. Flow is also related to the UML Collaboration diagram showing the Actors involved as the producer and consumer objects.

Example:



Forking action

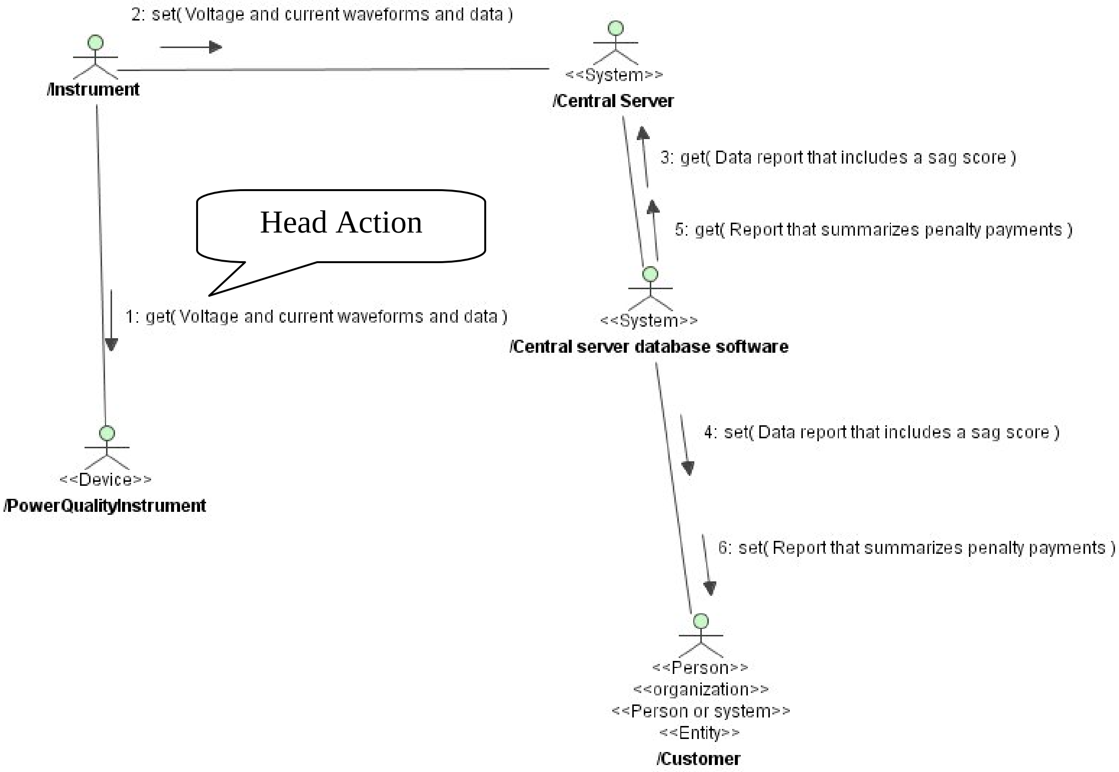
ODP-Reference: 10746-2.13.1.5
ODP-Category: Activity Structure
ODP-Concept: **Forking action**
ODP-Definition: A **dividing action**, where the enabled **chains** must (subject to failure) eventually join each other, i.e. the enabled **chains** cannot join other **chains** and they cannot terminate separately.
Status: Mapped.
UML-Mapping: See Chain of Action.

Group

ODP-Reference: 10746-2.10.1
ODP-Category: Organizational Concepts
ODP-Concept: **<X> Group**
ODP-Definition: A set of **objects** with a particular characterizing relationship <X>. The relationship <X> characterizes either the structural relationship among **objects** or an expected common **behavior** of the **objects**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Head action

ODP-Reference: 10746-2.13.1.7
ODP-Category: Activity Structure
ODP-Concept: **Head action**
ODP-Definition: In a given **activity**, an **action** that has no predecessor.
Status: Mapped.
Status: Mapped.
UML-Reference: 3.65
UML-Mapping: The Head Action is the First Action in a UML Collaboration diagram.
Example:


2: set(Voltage and current waveforms and data)
/Instrument
<<System>>
/Central Server
3: get(Data report that includes a sag score)
Head Action
5: get(Report that summarizes penalty payments)
1: get(Voltage and current waveforms and data)
<<System>>
/Central server database software
4: set(Data report that includes a sag score)
<<Device>>
/PowerQualityInstrument
6: set(Report that summarizes penalty payments)
<<Person>>
<<organization>>
<<Person or system>>
<<Entity>>
/Customer

Identifier

ODP-Reference: 10746-2.12.4.2
ODP-Category: Naming Concepts
ODP-Concept: **Identifier**
ODP-Definition: An unambiguous **name**, in a given **naming context**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Implementable standard

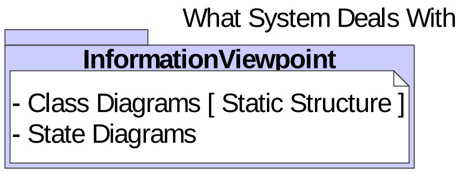
ODP-Reference:	10746-3.9.1.1
ODP-Category:	Technology Concepts
ODP-Concept:	**Implementable standard**
ODP-Definition:	A **template** for a **technology object**.
Status:	Unmapped.
UML-Reference:	
UML-Mapping:	

Implementation

ODP-Reference:	10746-3.9.1.2
ODP-Category:	Technology Concepts
ODP-Concept:	**Implementation**
ODP-Definition:	A process of instantiation whose validity can be subject to test.
Status:	Unmapped.
UML-Reference:	
UML-Mapping:	

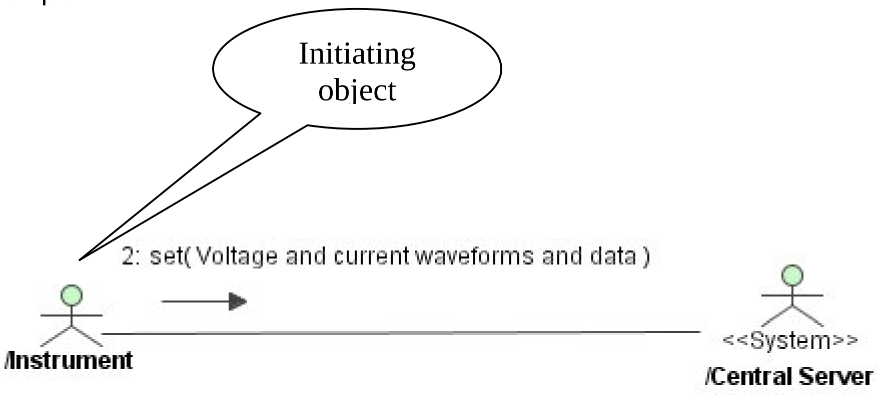
Information viewpoint

ODP-Reference: 10746-3.4.1.1.2
ODP-Category: Viewpoint Concepts
ODP-Concept: **Information viewpoint**
ODP-Definition: A **viewpoint** on an ODP system and its environment that focuses on the semantics of information and information processing.
Status: Mapped.
UML-Reference:
UML-Mapping: The information viewpoint is primarily mapped to class diagrams showing the data model – and state diagrams depicting the different states the objects can be in.
Example:



Initiating object (with respect to a communication)

ODP-Reference: 10746-2.13.3.1
ODP-Category: Causality
ODP-Concept: **Initiating object (with respect to a communication)**
ODP-Definition: An **object** causing a **communication**.
Status: Mapped.
UML-Reference: 3.63
UML-Mapping: An ODP initiating object corresponds to a UML Object corresponding to the supplier side of a Message / Stimulus
Example:



Instance

ODP-Reference: 10746-2.9.18
ODP-Category: Specification Concepts
ODP-Concept: **Instance**
ODP-Definition: An <X> that satisfies the **type**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Instantiation (of an <X> Template)

ODP-Reference: 10746-2.9.13
ODP-Category: Specification Concepts
ODP-Concept: **Instantiation (of an <X> Template)**
ODP-Definition: An <X> produced from a given <X> **template** and other necessary information. This <X> exhibits the features specified in the <X> **template**. <X> can be anything that has a **type**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Interaction point

ODP-Reference: 10746-2.8.11
ODP-Category: Basic Modeling Concepts
ODP-Concept: **Interaction point**
ODP-Definition: A location at which there exists a set of **interfaces**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Interceptor

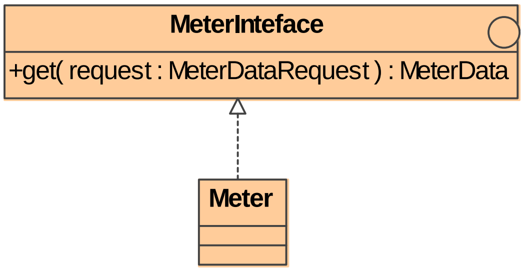
ODP-Reference: 10746-3.8.1.11
ODP-Category: Engineering Concepts
ODP-Concept: **<X> interceptor**
ODP-Definition: An **engineering object** in a **channel**, placed at a boundary between <x> **domains**. An <x> interceptor performs checks to enforce or monitor policies on permitted interactions between **basic engineering objects** in different **domains**; performs transformations to mask differences in interpretation of data by **basic engineering objects** in different **domains**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Interchange reference point

ODP-Reference: 10746-2.15.3.4
ODP-Category: Classes of Reference Points
ODP-Concept: **Interchange reference point**
ODP-Definition: A **reference point** at which an external physical storage medium can be introduced into the system. An interchange conformance requirement is stated in terms of the **behavior** (access methods and formats) of some physical medium so that information can be recorded on one system and then physically transferred, directly or indirectly, to be used on another system.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Interface

ODP-Reference: 10746-2.8.4
ODP-Category: Basic Modeling Concepts
ODP-Concept: **Interface**
ODP-Definition: An abstraction of the **behavior** of an **object** that consists of a subset of the interactions of those object together with a set of constraints on when they may occur.
Status: Mapped.
UML-Reference: 3.29
UML-Mapping: An ODP interface type is modeled as a UML *interface*.
Example:



Interface role

ODP-Reference: 15414-6.3.4
ODP-Category: Enterprise Behavior
ODP-Concept: **Interface role**
ODP-Definition: A role of a community identifying behavior which takes place with the participation of objects that are not a members of that community.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Interface signature

ODP-Reference: 10746-2.9.12
ODP-Category: Specification Concepts
ODP-Concept: **Interface signature**
ODP-Definition: The set of **action templates** associated with the interactions of an interface.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Interrogation

ODP-Reference: 10746-3.7.1.4
ODP-Category: Computational Concepts
ODP-Concept: **Interrogation**
ODP-Definition: An interaction consisting of one interaction -- the **invocation** -- initiated by a **client object**, resulting in the conveyance of information from that **client object** to a **server object**, requesting a function to be performed by the **server object**, followed by a second interaction -- the **termination** -- initiated by the **server object**, resulting in the conveyance of information from the **server object** to the **client object** in response to the invocation.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Inter-working reference point

ODP-Reference: 10746-2.15.3.3
ODP-Category: Classes of Reference Points
ODP-Concept: **Inter-working reference point**
ODP-Definition: A **reference point** at which an **interface** can be established to allow **communication** between two or more systems. An inter-working conformance requirement is stated in terms of the exchange of information between two or more systems. Inter-working conformance involves interconnection of **reference points**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Introduction (of an <X>)

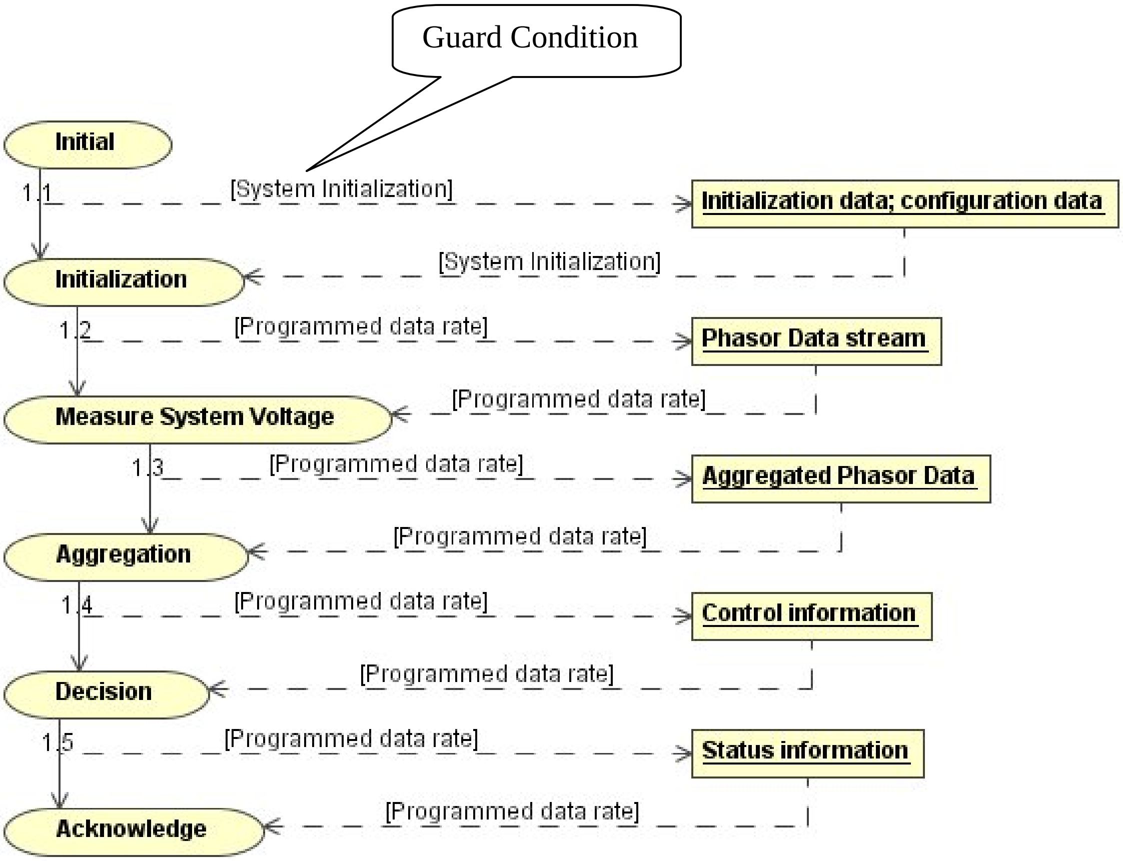
ODP-Reference: 10746-2.9.16
ODP-Category: Specification Concepts
ODP-Concept: **Introduction (of an <X>)**
ODP-Definition: Instantiating an <X> when it is not achieved by an **action** of **objects** in the model.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Invariant

ODP-Reference: 10746-2.9.22
ODP-Category: Specification Concepts
ODP-Concept: **Invariant**
ODP-Definition: A predicate that a specification requires being true for the entire lifetime of a set of **objects**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Invariant schema

ODP-Reference: 10746-3.6.1.1
ODP-Category: Information Concepts
ODP-Concept: **Invariant schema**
ODP-Definition: A set of predicates on one or more **information objects** that must always be true. The predicates constrain the possible states and **state** changes of the **objects** to which they apply.
Status: Mapped.
UML-Reference: 3.85
UML-Mapping: Guard condition is one of the predicates that constrain state changes..
Example: These Guard conditions can be seen in Activity diagrams



Isochronicity

ODP-Reference: 10746-2.11.3.2
ODP-Category: Temporal Properties
ODP-Concept: **Isochronicity**
ODP-Definition: A sequence of actions is isochronous if every adjacent pair of **actions** in the sequence occupies unique, equally sized, adjacent intervals in time.
Status: Unmapped.
UML-Reference:
UML-Mapping:

IXIT

ODP-Reference: 10746-3.9.1.3
ODP-Category: Technology Concepts
ODP-Concept: **IXIT**
ODP-Definition: **Implementation** eXtra Information for Testing.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Joining action

ODP-Reference: 10746-2.13.1.3
ODP-Category: Activity Structure
ODP-Concept: **Joining action**
ODP-Definition: An **action** shared between two or more **chains** resulting in a single **chain**.
UML-Mapping: See Chain of Action.

Liaison

ODP-Reference: 10746-2.13.2.4
ODP-Category: Contractual Behavior
ODP-Concept: **Liaison**
ODP-Definition: The relationship between a set of **objects** which results from the performance of some **establishing behavior**; the state of having a **contractual context** in common.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Location in space

ODP-Reference: 10746-2.8.9
ODP-Category: Basic Modeling Concepts
ODP-Concept: **Location in space**
ODP-Definition: An interval of arbitrary size in space at which an **action** can occur.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Location in time

ODP-Reference: 10746-2.8.10
ODP-Category: Basic Modeling Concepts
ODP-Concept: **Location in time**
ODP-Definition: An interval of arbitrary size in time at which an **action** can occur.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Location transparence

ODP-Reference: 10746-3.4.4.1.3
ODP-Category: Transparencies
ODP-Concept: **Location transparence**
ODP-Definition: A **distribution transparency** which masks the use of information about **location in space** when identifying and **binding** to **interfaces**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Managed role

ODP-Reference: 10746-2.14.4
ODP-Category: Management Concepts
ODP-Concept: **Managed role**
ODP-Definition: The view of the management **interface** of an **object** that is being managed within an ODP system.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Management information

ODP-Reference:	10746-2.14.3
ODP-Category:	Management Concepts
ODP-Concept:	**Management information**
ODP-Definition:	Knowledge concerning **objects** which are of relevance to management.
Status:	Unmapped.
UML-Reference:	
UML-Mapping:	

Managing role

ODP-Reference:	10746-2.14.5
ODP-Category:	Management Concepts
ODP-Concept:	**Managing role**
ODP-Definition:	The view of an **object** which is performing managing **actions**.
Status:	Unmapped.
UML-Reference:	
UML-Mapping:	

Migration

ODP-Reference:	10746-3.8.1.27
ODP-Category:	Engineering Concepts
ODP-Concept:	**Migration**
ODP-Definition:	Moving a **cluster** to a different **capsule**.
Status:	Unmapped.
UML-Reference:	
UML-Mapping:	

Migration transparency

ODP-Reference: 10746-3.4.4.1.4
ODP-Category: Transparencies
ODP-Concept: **Migration transparency**
ODP-Definition: A **distribution transparency** which masks, from an **object**, the ability of a system to change the location of that **object**. Migration is often used to achieve load balancing and reduce latency.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Name

ODP-Reference: 10746-2.12.4.1
ODP-Category: Naming Concepts
ODP-Concept: **Name**
ODP-Definition: A **term** which, in a given **naming context**, refers to an **entity**.
Status: Mapped.
UML-Reference: 3.7
UML-Mapping: An ODP Name corresponds to a UML name that identifies a model element uniquely within a given scope.

Name resolution

ODP-Reference: 10746-2.12.4.8
ODP-Category: Naming Concepts
ODP-Concept: **Name resolution**
ODP-Definition: The process by which, given an initial **name** and an initial **naming context**, an association between a **name** and the **entity** designated by the initial **name** can be found.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Name space

ODP-Reference: 10746-2.12.4.3
ODP-Category: Naming Concepts
ODP-Concept: **Name space**
ODP-Definition: A set of **terms** usable as **names.**
Status: Mapped.
UML-Reference: 3.13
UML-Mapping: An ODP Name space corresponds to a UML Package. Owned elements of a package must be named uniquely.

Naming action

ODP-Reference:	10746-2.12.4.5
ODP-Category:	Naming Concepts
ODP-Concept:	**Naming action**
ODP-Definition:	An **action** that associates a **term** from a **name space** with a given **entity**.
Status:	Unmapped.
UML-Reference:	
UML-Mapping:	

Naming context

ODP-Reference:	10746-2.12.4.4
ODP-Category:	Naming Concepts
ODP-Concept:	**Naming context**
ODP-Definition:	A relation between a set of **names** and a set of **entities**. The set of **names** belongs to a single **name space**.
Status:	Unmapped.
UML-Reference:	
UML-Mapping:	

Naming domain

ODP-Reference:	10746-2.12.4.6
ODP-Category:	Naming Concepts
ODP-Concept:	**Naming domain**
ODP-Definition:	A subset of a **naming context** such that all **naming actions** are performed by the controlling **object** of the **domain** (the name authority object).
Status:	Unmapped.
UML-Reference:	
UML-Mapping:	

Naming graph

ODP-Reference:	10746-2.12.4.7
ODP-Category:	Naming Concepts
ODP-Concept:	**Naming graph**
ODP-Definition:	A directed graph where each vertex denotes a **naming context**, and where each edge denotes an association between a **name** appearing in the **naming context**, and the target-naming **context**.
Status:	Unmapped.
UML-Reference:	
UML-Mapping:	

Node

ODP-Reference: 10746-3.8.1.7
ODP-Category: Engineering Concepts
ODP-Concept: **Node**
ODP-Definition: A **configuration** of **engineering objects** forming a single unit for the purpose of **location in space**, and which embodies a set of processing, storage and communication functions.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Notification

ODP-Reference: 10746-2.14.6
ODP-Category: Management Concepts
ODP-Concept: **Notification**
ODP-Definition: An interaction initiated by an **object** operating in a managed **role**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Nucleus

ODP-Reference: 10746-3.8.1.6
ODP-Category: Engineering Concepts
ODP-Concept: **Nucleus**
ODP-Definition: An engineering object that coordinates processing, storage and communications functions for use by other engineering objects within the node to which it belongs.
Status: Unmapped.
UML-Reference:
UML-Mapping:
Example:

Object

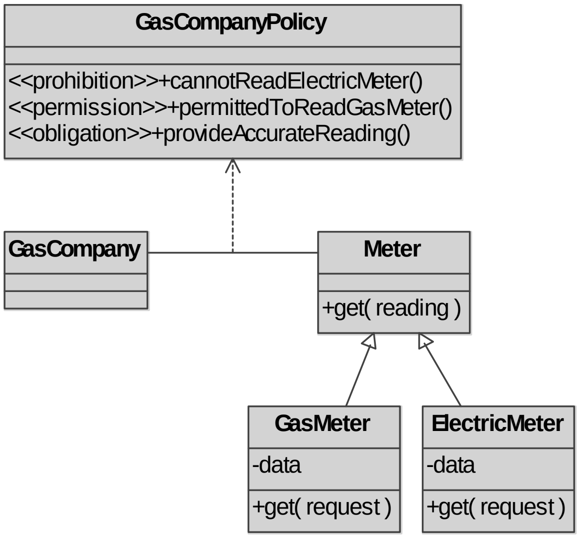
ODP-Reference: 10746-2.8.1
ODP-Category: Basic Modeling Concepts
ODP-Concept: **Object**
ODP-Definition: A model of an **entity**. An object interacts with its environment at its **interaction points.**
Status: Mapped.
UML-Reference:
UML-Mapping: An ODP object is modeled as a UML object.

Objective

ODP-Reference: 15414-6.2.1
ODP-Category: Enterprise Community
ODP-Concept: **Objective**
ODP-Definition: Practical advantage or intended effect, expressed as preferences about future states.
Status: Unmapped.
UML-Reference:
UML-Mapping:

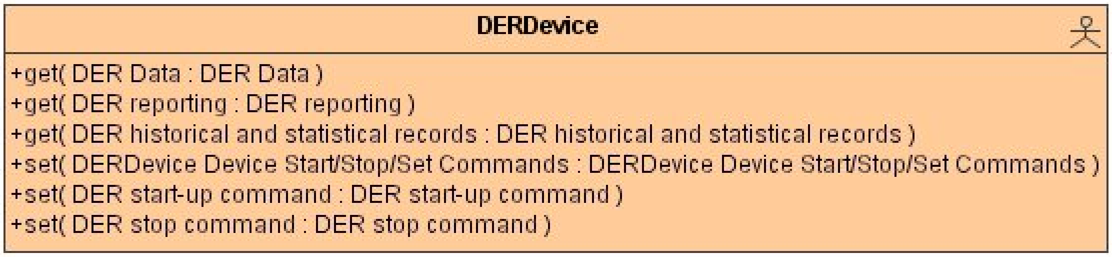
Obligation

ODP-Reference: 10746-2.11.2.4
ODP-Category: Policy Concepts
ODP-Concept: **Obligation**
ODP-Definition: A prescription that a particular **behavior** is required. An obligation is fulfilled by the occurrence of the prescribed behavior.
Status: Mapped.
UML-Reference: 2.5.2.15
UML-Mapping: Obligation is modeled in UML as a directed Dependency relationship using the stereotyped <<permission>> that is predefined by the UML specification. The Dependency association extends from the Policy or Operations reflecting the obligation (supplier element – or arrow head) to the element affected by the obligation (client – or arrow tail). The operation defined in the policy reflecting the operation shall be stereotyped as <<obligation>>.
Example: The figure illustrates a policy between a gas company and a meter, where the gas company is permitted to read the gas meter, but prohibited from reading the electric meter.


GasCompanyPolicy
<<prohibition>>+cannotReadElectricMeter()
<<permission>>+permittedToReadGasMeter()
<<obligation>>+provideAccurateReading()
GasCompany
Meter
+get(reading)
GasMeter
-data
+get(request)
ElectricMeter
-data
+get(request)

Operation

ODP-Reference: 10746-3.7.1.2
ODP-Category: Computational Concepts
ODP-Concept: **Operation**
ODP-Definition: An interaction between a **client object** and a **server object** which is either an **interrogation** or an **announcement**.
Status: Unmapped.
UML-Reference: 2.36
UML-Mapping: An ODP operation corresponds to a UML Operation
Example:



```
DERDevice
+get( DER Data : DER Data )
+get( DER reporting : DER reporting )
+get( DER historical and statistical records : DER historical and statistical records )
+set( DERDevice Device Start/Stop/Set Commands : DERDevice Device Start/Stop/Set Commands )
+set( DER start-up command : DER start-up command )
+set( DER stop command : DER stop command )
```

Operation interface

ODP-Reference: 10746-3.7.1.7
ODP-Category: Computational Concepts
ODP-Concept: **Operation interface**
ODP-Definition: An **interface** in which all the interactions are **operations**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Operation interface signature

ODP-Reference: 10746-3.7.1.12
ODP-Category: Computational Concepts
ODP-Concept: **Operation interface signature**
ODP-Definition: An **interface signature** for an **operation interface**. An operation interface signature comprises a set of **announcement** and **interrogation** signatures as appropriate, one for each **operation type** in the **interface**, together with an indication of causality (client or server, but not both) for the interface as a whole, with respect to the object which instantiates the **template**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Party

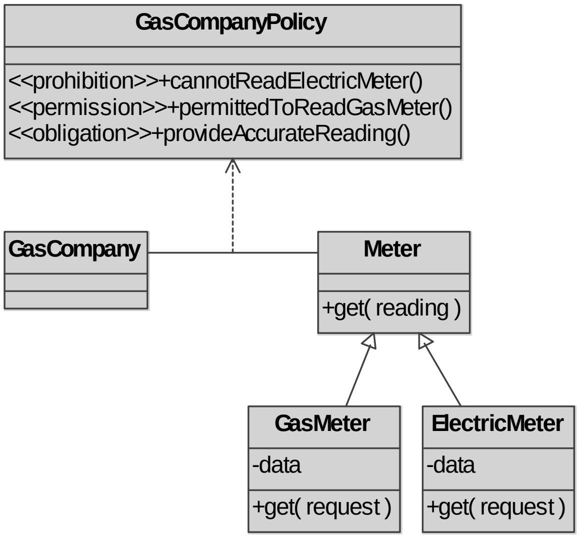
ODP-Reference: 15414-6.5.1
ODP-Category: Enterprise Accountability Concepts
ODP-Concept: **Party**
ODP-Definition: An **enterprise object** modeling a natural person or any other **entity** considered to have some of the rights, powers and duties of a natural person.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Perceptual reference point

ODP-Reference: 10746-2.15.3.2
ODP-Category: Classes of Reference Points
ODP-Concept: **Perceptual reference point**
ODP-Definition: A reference point at which there is some interaction between the system and the physical world.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Permission

ODP-Reference:	10746-2.11.2.5
ODP-Category:	Policy Concepts
ODP-Concept:	**Permission**
ODP-Definition:	A prescription that a particular **behavior** is allowed to occur. Permission is equivalent to there being no **obligation** for the **behavior** not to occur.
Status:	Mapped.
UML-Reference:	2.5.2.15
UML-Mapping:	Permission is modeled in UML as a directed Dependency relationship using the stereotyped <<permission>> that is predefined by the UML specification. The Dependency association extends from the Policy or Operations reflecting the permission (supplier element – or arrow head) to the element affected by the permission (client – or arrow tail). The operation defined in the policy reflecting the operation shall be stereotyped as <<permission>>.
Example:	The figure illustrates a policy between a gas company and a meter, where the gas company is permitted to read the gas meter, but prohibited from reading the electric meter.


GasCompanyPolicy
<<prohibition>>+cannotReadElectricMeter()
<<permission>>+permittedToReadGasMeter()
<<obligation>>+provideAccurateReading()
GasCompany
Meter
+get(reading)
GasMeter
-data
+get(request)
ElectricMeter
-data
+get(request)

Persistence

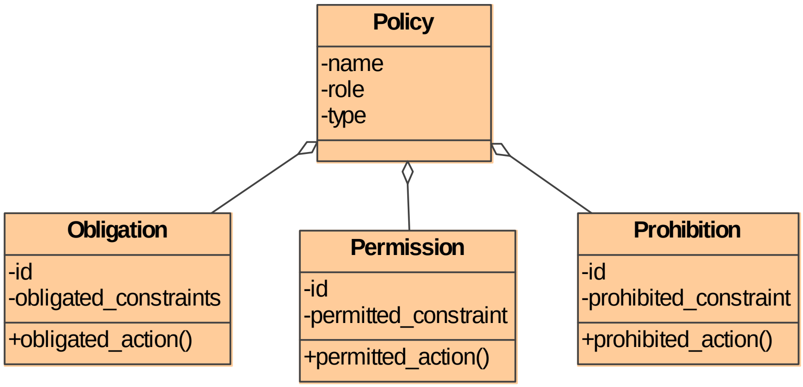
ODP-Reference: 10746-2.11.3.1
ODP-Category: Temporal Properties
ODP-Concept: **Persistence**
ODP-Definition: The property that an **object** continues to exist across changes of **contractual context** or of **epoch**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Persistence transparency

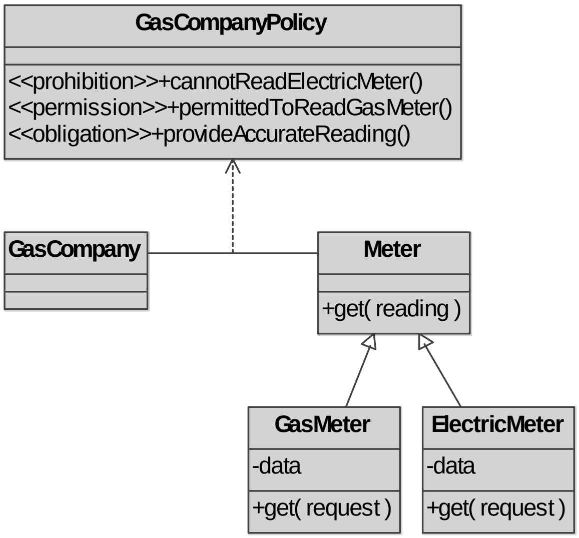
ODP-Reference: 10746-3.4.4.1.7
ODP-Category: Transparencies
ODP-Concept: **Persistence transparency**
ODP-Definition: A **distribution transparency** which masks, from an **object**, the deactivation and reactivation of other **objects** (or itself). Deactivation and reactivation are often used to maintain the persistence of an **object** when a system is unable to provide it with processing, storage and communication functions continuously.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Policy

ODP-Reference: 10746-2.11.2.7
ODP-Category: Policy Concepts
ODP-Concept: **Policy**
ODP-Definition: A set of rules related to a particular purpose. A rule can be expressed as an **obligation**, **permission** or a **prohibition**.
Status: Mapped.
UML-Model:



UML-Reference:
UML-Mapping: The IECSA Team has concluded a way to characterize RM-ODP policies in a verifiable manner is to represent the policy as a classifier having stereotyped operations corresponding to <<prohibitions>>, <<permissions>> and <<obligations>>. The policy is associated with the associations, operations, classifiers, actors or interfaces using a Dependency relationship. The Dependency association extends from clients or entities to the Policy or supplier affecting the entity.
Example: The figure illustrates a policy between a gas company and a meter, where the gas company is permitted to read the gas meter, but prohibited from reading the electric meter.


GasCompanyPolicy
<<prohibition>>+cannotReadElectricMeter()
<<permission>>+permittedToReadGasMeter()
<<obligation>>+provideAccurateReading()
GasCompany
Meter
+get(reading)
GasMeter
-data
+get(request)
ElectricMeter
-data
+get(request)

Post-condition

ODP-Reference: -
ODP-Category: Specification Concepts
ODP-Concept: **Post-condition**
ODP-Definition: A predicate that a specification requires to be true immediately after the occurrence of an **action**.
Status: Mapped.
UML-Reference: 3.16
UML-Mapping: An ODP Post-Condition corresponds to a UML constraint.

Precondition

ODP-Reference: 10746-2.9.23
ODP-Category: Specification Concepts
ODP-Concept: **Precondition**
ODP-Definition: A predicate that a specification requires to be true for an **action** to occur.
Status: Mapped.
UML-Reference: 3.16
UML-Mapping: An ODP Pre-Condition corresponds to a UML constraint.

Prescription

ODP-Reference: 15414-6.5.6
ODP-Category: Enterprise Accountability Concepts
ODP-Concept: **Prescription**
ODP-Definition: An act that establishes a rule.

Status: Unmapped.
UML-Reference:
UML-Mapping:

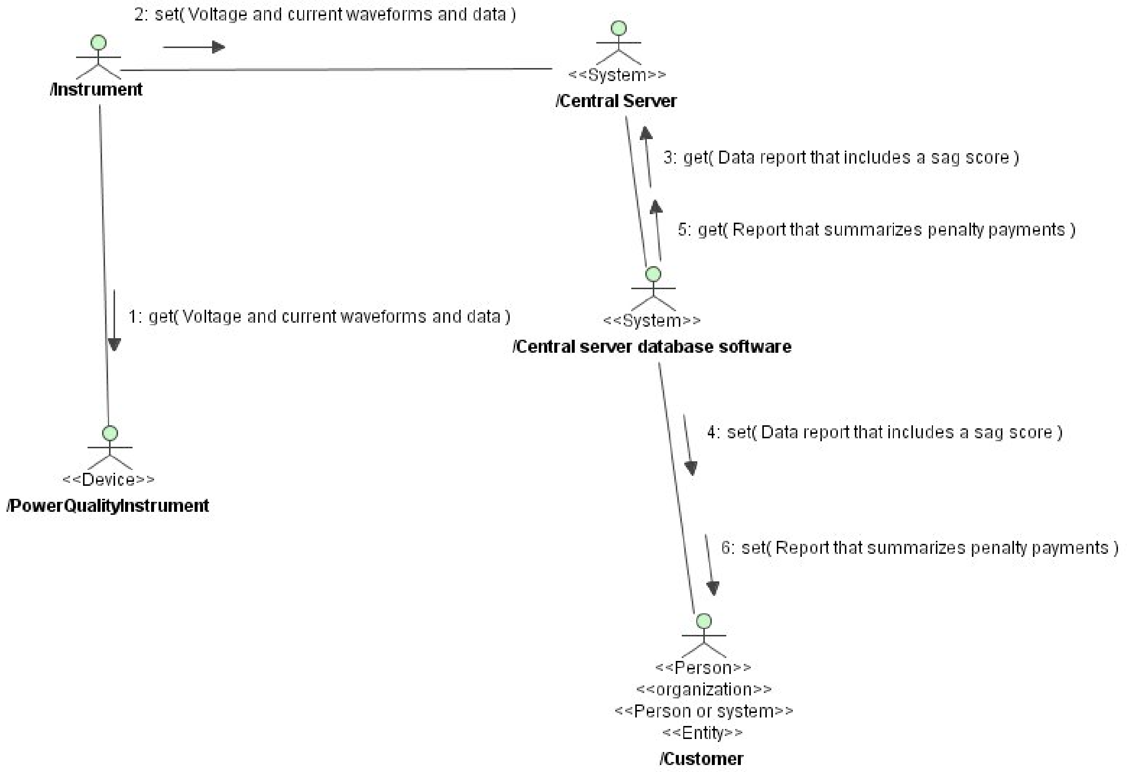
Principal

ODP-Reference: 15414-6.5.7
ODP-Category: Enterprise Accountability Concepts
ODP-Concept: **Principal**
ODP-Definition: A **party** that has delegated (authority, a function, etc.) to another.

Status: Unmapped.
UML-Reference:
UML-Mapping:

Process

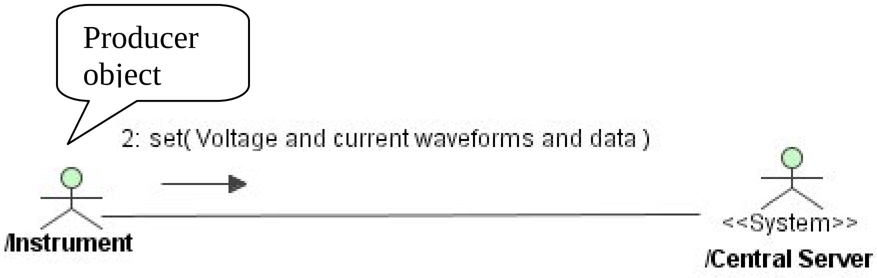
ODP-Reference: 15414-6.3.5
ODP-Category: Enterprise Behavior
ODP-Concept: **Process**
ODP-Definition: A collection of **steps** taking place in a prescribed manner and leading to an **objective**.
Status: Mapped.
UML-Reference: 3.65
UML-Mapping: Process corresponds to a UML Collaboration diagram.
Example:


2: set(Voltage and current waveforms and data)
/Instrument
<<System>>
/Central Server
3: get(Data report that includes a sag score)
5: get(Report that summarizes penalty payments)
1: get(Voltage and current waveforms and data)
<<System>>
/Central server database software
<<Device>>
/PowerQualityInstrument
4: set(Data report that includes a sag score)
6: set(Report that summarizes penalty payments)
<<Person>>
<<organization>>
<<Person or system>>
<<Entity>>
/Customer

Producer object (with respect to a communication)

ODP-Reference:	10746-2.13.3.3
ODP-Category:	Causality
ODP-Concept:	**Producer object (with respect to a communication)**
ODP-Definition:	An **object** that is the source of the information conveyed.
Status:	Mapped.
UML-Reference:	3.63
UML-Mapping:	A producer object is on the supplier side of a UML Message that specifies communication between two instances.

Example:

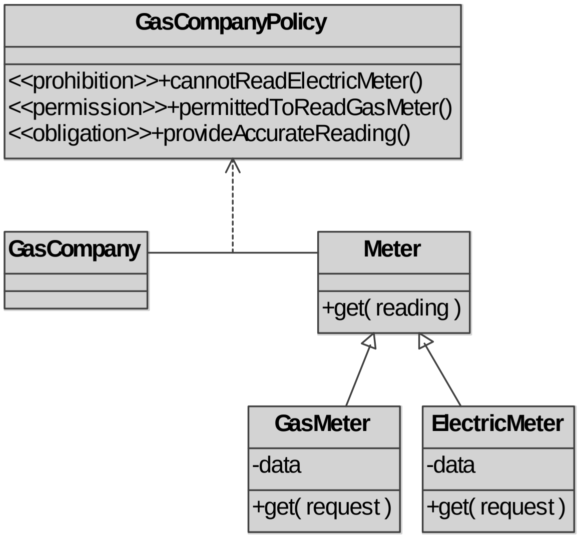


Programmatic reference point

ODP-Reference: 10746-2.15.3.1
ODP-Category: Classes of Reference Points
ODP-Concept: **Programmatic reference point**
ODP-Definition: A **reference point** at which a programmatic **interface** can be established to allow access to a function. A programmatic **conformance** requirement is stated in terms of a **behavioral** compatibility with the intent that one **object** be replaced by another. A programmatic **interface** is an **interface** that is realized through a programming language **binding**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Prohibition

ODP-Reference:	10746-2.11.2.6
ODP-Category:	Policy Concepts
ODP-Concept:	**Prohibition**
ODP-Definition:	A prescription that a particular **behavior** must not occur. A prohibition is equivalent to there being an **obligation** for the **behavior** not to occur.
Status:	Mapped.
UML-Reference:	2.5.2.15
UML-Mapping:	Prohibition is modeled in UML as a directed Dependency relationship using the stereotyped <<permission>> that is predefined by the UML specification. The Dependency association extends from the Policy or Operations reflecting the prohibition (supplier element – or arrow head) to the element affected by the prohibition (client – or arrow tail). The operation defined in the policy reflecting the operation shall be stereotyped as <<prohibition>>.
Example:	The figure illustrates a policy between a gas company and a meter, where the gas company is permitted to read the gas meter, but prohibited from reading the electric meter.


GasCompanyPolicy
<<prohibition>>+cannotReadElectricMeter()
<<permission>>+permittedToReadGasMeter()
<<obligation>>+provideAccurateReading()
GasCompany
Meter
+get(reading)
GasMeter
-data
+get(request)
ElectricMeter
-data
+get(request)

Proposition

ODP-Reference: 10746-2.6.2
ODP-Category: Basic Interpretation Concepts
ODP-Concept: **Proposition**
ODP-Definition: An observable fact or state of affairs involving one or more **entities**, of which it is possible to assert or deny that it holds for those **entities**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Protocol object

ODP-Reference: 10746-3.8.1.12
ODP-Category: Engineering Concepts
ODP-Concept: **Protocol object**
ODP-Definition: An **engineering object** in a **channel**, which communicates with other protocol objects in the same **channel** to achieve interaction between **basic engineering objects** (possibly in different **clusters**, possibly in different **capsules**, possibly in different **nodes**).
Status: Unmapped.
UML-Reference:
UML-Mapping:

Quality of Service

ODP-Reference: 10746-2.11.2.2
ODP-Category: Policy Concepts
ODP-Concept: **Quality of Service**
ODP-Definition: A set of quality requirements on the collective **behavior** of one or more **objects**.
Status: Mapped.
UML-Reference: 2.6.2.5
UML-Mapping: Quality of Service corresponds to UML Tagged Values representing the collective requirements for the collective behavior of the identified object.

Reactivation

ODP-Reference: 10746-3.8.1.26
ODP-Category: Engineering Concepts
ODP-Concept: **Reactivation**
ODP-Definition: **Cloning** a **cluster** following its **deactivation**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Recovery

ODP-Reference: 10746-3.8.1.25
ODP-Category: Engineering Concepts
ODP-Concept: **Recovery**
ODP-Definition: **Cloning** a **cluster** after **cluster failure** or **deletion**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Reference point

ODP-Reference: 10746-2.10.6
ODP-Category: Organizational Concepts
ODP-Concept: **Reference point**
ODP-Definition: An **interaction point** defined in an **architecture** for selection as a **conformance point** in a specification that is compliant with that **architecture**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Refinement

ODP-Reference: 10746-2.9.5
ODP-Category: Specification Concepts
ODP-Concept: **Refinement**
ODP-Definition: The process of transforming one specification into a more detailed specification. Specifications and their refinements typically do not coexist in the same system description.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Relocation transparency

ODP-Reference: 10746-3.4.4.1.5
ODP-Category: Transparencies
ODP-Concept: **Relocation transparency**
ODP-Definition: A **distribution transparency** which masks relocation of an **interface** from other **interfaces bound** to it.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Replication transparency

ODP-Reference: 10746-3.4.4.1.6
ODP-Category: Transparencies
ODP-Concept: **Replication transparency**
ODP-Definition: A **distribution transparency** which masks the use of a group of mutually behaviorally compatible **objects** to support an **interface**. Replication is often used to enhance performance and availability.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Resource

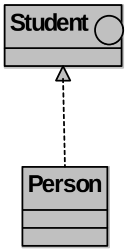
ODP-Reference: 15414-6.3.3
ODP-Category: Enterprise Behavior
ODP-Concept: **Resource**
ODP-Definition: An **enterprise object** which is essential to some **behavior** and which requires allocation or may become unavailable.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Responding object

ODP-Reference: 10746-2.13.3.2
ODP-Category: Causality
ODP-Concept: **Responding object**
ODP-Definition: An **object** taking part in a **communication**, which is not the **initiating object**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Role

ODP-Reference: 10746-2.9.14
ODP-Category: Specification Concepts
ODP-Concept: **Role**
ODP-Definition: Identifier for a **behavior**, which may appear as a parameter in a **template** for a **composite object**, and which is associated with one of the component **objects** of the **composite object**.
Status: Mapped.
UML-Reference: 3.29.2
UML-Mapping: Role as an Interface, where a role represents a behavioral concept instead of an identifier.
Example: The role of Student is modeled as a UML interface that is assumed by the class Person. The association of Person to Student corresponds to a UML Realization



Scope (of a system)

ODP-Reference: 15414-6.1.1
ODP-Category: Enterprise System
ODP-Concept: **Scope**
(of a system)
ODP-Definition: The behavior that system is expected to exhibit.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Sentence

ODP-Reference: 10746-2.7.2
ODP-Category: Basic Linguistic Concepts
ODP-Concept: **Sentence**
ODP-Definition: A linguistic construct containing one or more **terms** and predicates; a sentence may be used to express a **proposition** about the **entities** to which the **terms** refer.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Server object

ODP-Reference: 10746-2.13.3.6
ODP-Category: Causality
ODP-Concept: **Server object**
ODP-Definition: An **object** which performs some function on behalf of a **client object**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Signal

ODP-Reference: 10746-3.7.1.1
ODP-Category: Computational Concepts
ODP-Concept: **Signal**
ODP-Definition: An atomic shared **action** resulting in one-way **communication** from an initiating **object** to a responding **object**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Signal interface

ODP-Reference: 10746-3.7.1.6
ODP-Category: Computational Concepts
ODP-Concept: **Signal interface**
ODP-Definition: An **interface** in which all the interactions are **signals**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Signal interface signature

ODP-Reference: 10746-3.7.1.11
ODP-Category: Computational Concepts
ODP-Concept: **Signal interface signature**
ODP-Definition: An **interface signature** for a **signal interface**. A signal interface signature comprises a finite set of **action templates**, one for each **signal type** in the interface. Each **action template** comprises the **name** for the **signal**, the number, names and **types** of its parameters and an indication of causality (**initiating** or **responding**, but not both) with respect to the **object** which instantiates the **template**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Spawn action

ODP-Reference: 10746-2.13.1.6
ODP-Category: Activity Structure
ODP-Concept: **Spawn action**
ODP-Definition: A **dividing action**, where the enabled **chains** will not join. The enabled **chains** may interact and they may terminate separately.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Stability

ODP-Reference: 10746-2.13.5.4
ODP-Category: Dependability
ODP-Concept: **Stability**
ODP-Definition: The property that an **object** has with respect to a given **failure** mode if it cannot exhibit that **failure** mode.
Status: Unmapped.
UML-Reference:
UML-Mapping:

State (of an object)

ODP-Reference: 10746-2.8.7
ODP-Category: Basic Modeling Concepts
ODP-Concept: **State (of an object)**
ODP-Definition: At a given instant in time, the condition of an **object** that determines the set of all sequences of **actions** in which the **object** can take part.
Status: Mapped.
UML-Reference: 3.75
UML-Mapping: An ODP State corresponds to a UML State

Static schema

ODP-Reference: 10746-3.6.1.2
ODP-Category: Information Concepts
ODP-Concept: **Static schema**
ODP-Definition: A specification of the **state** of one or more **information objects**, at some point in time, subject to the constraints of any **invariant schemata**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Step

ODP-Reference: 15414-6.3.6

ODP-Category: Enterprise Behavior

ODP-Concept: **Step**

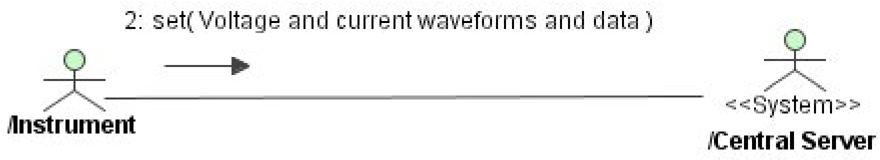
ODP-Definition: An **abstraction** of an **action**, used in a **process**, that may leave unspecified **objects** that participate in that **action**.

Status: Mapped.

UML-Reference: 3.63

UML-Mapping: An step corresponds to a UML Message that specifies communication between two instances.

Example:



Stream interface

ODP-Reference: 10746-3.7.1.8

ODP-Category: Computational Concepts

ODP-Concept: **Stream interface**

ODP-Definition: An **interface** in which all the interactions are **flows**.

Status: Unmapped.

UML-Reference:

UML-Mapping:

Stream interface signature

ODP-Reference: 10746-3.7.1.13

ODP-Category: Computational Concepts

ODP-Concept: **Stream interface signature**

ODP-Definition: An **interface signature** for a **stream interface**. A **stream interface** comprises a finite set of **action templates**, one for each **flow type** in the **stream interface**. Each **action template** for a **flow** contains the name of the **flow**, the information **type** of the **flow**, and an indication of causality for the **flow** (i.e., producer or consumer but not both) with respect to the **object** which instantiates the **template**.

Status: Unmapped.

UML-Reference:

UML-Mapping:

Stub

ODP-Reference: 10746-3.8.1.9
ODP-Category: Engineering Concepts
ODP-Concept: **Stub**
ODP-Definition: An **engineering object** in a **channel**, which interprets the interactions conveyed by the **channel**, and performs any necessary transformation or monitoring based on this interpretation.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Sub-activity

ODP-Reference: 10746-2.13.1.8
ODP-Category: Activity Structure
ODP-Concept: **Sub-activity**
ODP-Definition: A subgraph of an **activity** which is itself an **activity** and which satisfies the following condition. For any pair of **fork-join actions** in the parent **activity**, if one of these **actions** is included in the subgraph, then both must be included in the subgraph.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Subclass/Superclass

ODP-Reference: 10746-2.9.10
ODP-Category: Specification Concepts
ODP-Concept: **Subclass/Superclass**
ODP-Definition: One class A is a subclass of another class B, and B is a superclass of A, precisely when the **type** associated with A is a **subtype** of the **type** associated with B.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Subdomain

ODP-Reference: 10746-2.10.4
ODP-Category: Organizational Concepts
ODP-Concept: **Subdomain**
ODP-Definition: A **domain** which is a subset of a given **domain**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Subtype/Supertype

ODP-Reference: 10746-2.9.9
ODP-Category: Specification Concepts
ODP-Concept: **Subtype/Supertype**
ODP-Definition: A **type** A is a subtype of a **type** B, and B is a supertype of A, if every <X> which satisfies A also satisfies B.
Status: Unmapped.
UML-Reference:
UML-Mapping:

System

ODP-Reference: 10746-2.6.5
ODP-Category: Basic Interpretation Concepts
ODP-Concept: **System**
ODP-Definition: Something of interest as a whole or as comprised of parts. Therefore a system may be referred to as an **entity**. A component of a system may itself be a system, in which case it may be called a **subsystem**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Technology viewpoint

ODP-Reference: 10746-3.4.1.1.5
ODP-Category: Viewpoint Concepts
ODP-Concept: **Technology viewpoint**
ODP-Definition: A **viewpoint** on an ODP system and its environment that focuses on the choice of technology in that system.
Status: Mapped.
UML-Reference: 2.6.2.5
UML-Mapping: Technology recommendations are made through the use of Tagged Value references.

Template

ODP-Reference: 10746-2.9.11
ODP-Category: Specification Concepts
ODP-Concept: **<X> Template**
ODP-Definition: The specification of the common features of a collection of <X>s in sufficient detail that an <X> can be instantiated using it. <X> can be anything that has a **type**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Template class (of an <X>)

ODP-Reference: 10746-2.9.20
ODP-Category: Specification Concepts
ODP-Concept: **Template class (of an <X>)**
ODP-Definition: The set of all <X>s satisfying an <X> **template type**, i.e. the set of <X>s which are **instances** of the <X> **template**. <X> can be anything that has a **type**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Template type (of an <X>)

ODP-Reference: 10746-2.9.19
ODP-Category: Specification Concepts
ODP-Concept: **Template type**
(of an <X>)
ODP-Definition: A predicate defined in a **template** that holds for all the **instantiations** of the **template** and that expresses the requirements the **instantiations** of the **template** are intended to fulfill.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Term

ODP-Reference: 10746-2.7.1
ODP-Category: Basic Linguistic Concepts
ODP-Concept: **Term**
ODP-Definition: A linguistic construct which may be used to refer to an **entity**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Terminating behavior

ODP-Reference: 10746-2.13.2.5
ODP-Category: Contractual Behavior
ODP-Concept: **Terminating behavior**
ODP-Definition: The **behavior** which breaks down a **liaison** and repudiates the corresponding **contractual context** and the corresponding **contract**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Testing

ODP-Reference: 10746-2.15.2
ODP-Category: Testing
ODP-Concept: **Testing**
ODP-Definition: The truth of a statement in an **implementation** can only be determined by testing and is based on a mapping from **terms** in the specification to observable aspects of the **implementation**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Thread

ODP-Reference: 10746-2.13.1.2
ODP-Category: Activity Structure
ODP-Concept: **Thread**
ODP-Definition: A **chain** of **actions**, where at least one **object** participates in all the **actions** of the **chain**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Trace

ODP-Reference: 10746-2.9.6
ODP-Category: Specification Concepts
ODP-Concept: **Trace**
ODP-Definition: A record of an **object's** interactions, from its initial **state** to some other **state**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Trading

ODP-Reference: -
ODP-Category: Establishing Behaviors
ODP-Concept: **Trading**
ODP-Definition: The interaction between **objects** in which information about new or potential **contracts** is exchanged via a third party **object**. Trading involves: a) exporting: the provision of an **identifier** to an **interface** which is claimed to meet some statement of requirements (i.e. offer a potential **contract**); b) importing: the provision of an **identifier** to an **interface** which matches a given statement of requirements, allowing a future **binding behavior** to take place (i.e. the establishment of a **contract**).
Status: Unmapped.
UML-Reference:
UML-Mapping:

Transaction transparency

ODP-Reference: 10746-3.4.4.1.8
ODP-Category: Transparencies
ODP-Concept: **Transaction transparency**
ODP-Definition: A **distribution transparency** which masks coordination of **activities** amongst a configuration of **objects** to achieve consistency.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Type (of an <X>)

ODP-Reference: 10746-2.9.7
ODP-Category: Specification Concepts
ODP-Concept: **Type (of an <X>)**
ODP-Definition: A predicate characterizing a collection of <X>s. An <X> is of the type, or satisfies the type, if the predicate holds for that <X>. In RM-ODP, types are needed for, at least, **objects**, **interfaces** and **actions**.
Status: Unmapped.
UML-Reference:
UML-Mapping: An ODP object type is modeled as a UML *class* with stereotype, ***«typ***e».

Unbinding behavior

ODP-Reference: 10746-2.13.4.4
ODP-Category: Establishing Behaviors
ODP-Concept: **Unbinding behavior**
ODP-Definition: A **behavior** that terminates a **binding**, i.e. a **terminating behavior** for the **binding**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

<Viewpoint> language

ODP-Reference: 10746-3.4.2.1.1
ODP-Category: ODP Viewpoint Languages
ODP-Concept: **<Viewpoint> language**
ODP-Definition: Definitions of concepts and rules for the specification of an ODP system from the <viewpoint> viewpoint; thus: **engineering language**: definitions of concepts and rules for the specification of an ODP system from the **engineering viewpoint**.
Status: Unmapped.
UML-Reference:
UML-Mapping:

Violation

ODP-Reference:	15414-6.4.3
ODP-Category:	Enterprise Policy Concepts
ODP-Concept:	**Violation**
ODP-Definition:	An **action** contrary to a rule.
Status:	Unmapped.
UML-Reference:	
UML-Mapping:	

Index of RM-ODP Mapping of Concepts

References

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