Core Information Model (CoreModel)

TR-512.DD

Data Dictionary

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Disclaimer

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Important note

This Technical Recommendations has been approved by the Project TST, but has not been approved by the ONF board. This Technical Recommendation is an update to a previously released TR specification, but it has been approved under the ONF publishing guidelines for 'Informational' publications that allow Project technical steering teams (TSTs) to authorize publication of Informational documents. The designation of '-info' at the end of the document ID also reflects that the project team (not the ONF board) approved this TR.

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Document History

Version	Date	Description of Change
1.0	March 30, 2015	Initial version of the base document of the "Core Information Model" fragment of the ONF Common Information Model (ONF-CIM).
1.1	November 24, 2015	Version 1.1
1.2	September 20, 2016	Version 1.2 [Note Version 1.1 was a single document whereas 1.2 is broken into a number of separate parts]
1.3	September 2017	Document name changed. Was TR-512.8 in Version 1.2. [Published via wiki only]
1.3.1	January 2018	Addition of text related to approval status.
1.4	November 2018	Aligned with 1.4 model content.
1.5	September 2021	Enhancements to model structure
1.6	January 2024	Aligned with 1.6 model content

1 Introduction to the document suite

This document is an addendum to the TR-512 ONF Core Information Model and forms part of the description of the ONF-CIM. For general overview material and references to the other parts refer to TR-512.1.

1.1 References

For a full list of references see TR-512.1.

1.2 Definitions

For a full list of definition see TR-512.1.

1.3 Conventions

See TR-512.1 for an explanation of:

- UML conventions
- Lifecycle Stereotypes
- Diagram symbol set

1.4 Viewing UML diagrams

Some of the UML diagrams are very dense. To view them either zoom (sometimes to 400%), open the associated image file (and zoom appropriately) or open the corresponding UML diagram via Papyrus (for each figure with a UML diagram the UML model diagram name is provided under the figure or within the figure).

1.5 Understanding the figures

Figures showing fragments of the model using standard UML symbols as well as figures illustrating application of the model are provided throughout this document. Many of the application-oriented figures also provide UML class diagrams for the corresponding model fragments (see TR-512.1 for diagram symbol sets). All UML diagrams depict a subset of the relationships between the classes, such as inheritance (i.e. specialization), association relationships (such as aggregation and composition), and conditional features or capabilities. Some UML diagrams also show further details of the individual classes, such as their attributes and the data types used by the attributes.

2 Data Dictionary

The data dictionary provides details of all classes, attributes and types in the model. The data dictionary is divided up into sections based upon the division of the CoreModel and maturity of work.

- Section 2.1 Core Network Model data dictionary: includes Forwarding, Termination, Topology and Resilience (see TR-512.2, TR-512.4 and TR-512.5)
- Section 2.2 Core Foundation Model data dictionary: includes naming, identification and states (see TR-512.3)
- Section 2.3 Core Physical Model data dictionary: includes including Equipment and Connector (see TR-512.6)
- Section 2.4 Core Specification Model data dictionary: covers specification (see TR-512.7)
- Section 2.5 General Processing Model data dictionary: covers the generalized representation of processing capability (see TR-512.11)
- Section 2.6 General Control Model data dictionary covers the generalized representation of control functionality (see TR-512.8)
- Section 2.7 Core Interactions Model data dictionary covers the generalized, outcome oriented, operations pattern (see TR-512.10)
- Section 2.8 Core Software Model data dictionary: covers the software model (see TR-512.12)
- Section 2.9 Location Model data dictionary: covers the location model (see TR-512.14)
- Section 2.10 Party Model data dictionary: covers the party model (see TR-512.13)
- Compute 2.11 Compute Model data dictionary: covers the compute model (see TR-512.15)
- Section 2.12 Temporal Model data dictionary: covers the temporal model (see TR-512.18)
- Section 2.13Model Patterns data dictionary (see TR-512.A.2)

2.1 Core Network Model data dictionary

This section provides the model details for Forwarding, Termination, Topology and Protection.

2.1.1 Classes

2.1.1.1 CascPort

Qualified Name: CoreModel::CoreNetworkModel::ConfigurationAndSwitchControl::CascPort

A port of a C&SC that can be used where there is significant asymmetry to be represented.
This can represent any combination of:
- the conveying of messaging to/from the C&SC
- the conveying of control action
- the providing of indications of state etc.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 1: Attributes for CascPort

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
portRole	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The role of the port of a C&SC. The interpretation of the role is provided by the C&SC spec. The C&SC spec will set out the role in the context of C&SC functions. The role will indicate how the port relates to the associated entity, e.g. is conveying messages.
_portRoleProperties	CascPortRoleProperties	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A link to properties associated with the port role as defined by the CascSpec.
_ltp	LogicalTerminationPoint	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The LTP that conveys the messages related to the port and/or is subject to control action and/or provides indications of state etc. For direct association, there may be up to 2 LTPs (to account for directionality differences). In the specification representation, there may be a number rules that provide further LTP relationships that are implicit in the instantiated model.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_encapsulatingCascPort	CascPort	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	In a case where there is nested C&SC the ports are also nested and this references the superior port.
isRelatedControlFlowDisabled	Boolean	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	If TRUE, then any Control signal flow related to this controller (to, from or drop-and-continue) is prevented from passing through the related LTP carrying the signaling for this controller. This can be considered as being realized using an FcSwitch in an FC embedded in the LP at the layer of signaling to disconnect the FcPort bidirectionally. This FcSwitch should be represented in the LTP spec. Note that the FcSwitch will be at the granularity of the relevant control signal and other flows may be passed uninterrupted.
isControlledFcPortDisabled	Boolean	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	If TRUE, then the related FcPort on the FC is disabled and hence signal will not flow through that FcPort. This is realized using an FcSwitch to disconnect the FcPort bidirectionally. Note that as the controller may control many FCs and may switch them all together as one, in an implementation the FcSwitch could be omitted from the FC instance model. Any omission should be explained by the FcSpec. This is equivalent to a blocked indication on the LTP used in other representations.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
isProtectionLockOut	Boolean	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The resource is configured to temporarily not be available for use in the protection scheme(s) it is part of. This overrides all other protection control states including forced. If the item is locked out, then it cannot be used under any circumstances. This causes isRelatedControlFlowDisabled to become TRUE and isControlledFcPortDisabled to become TRUE.

2.1.1.2 CascPortRoleProperties

Qualified Name: CoreModel::CoreNetworkModel::ConfigurationAndSwitchControl::CascPortRoleProperties

Container for properties associated with the port role as defined by the CascSpec.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 2: Attributes for CascPortRoleProperties

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
signallingFormat	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental Example	A reference to the definition of the signalling format used by the instance referenced by the related port. This is a placeholder for a more sophisticated capability.
monitoringDetails	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental Example	Information on what is being monitored in the instance referenced by the related port. This is a placeholder for a more sophisticated capability.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
controlDetails	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental Example	Information on what is being controlled in the instance referenced by the related port. This is a placeholder for a more sophisticated capability.

2.1.1.3 Clock

Qualified Name: CoreModel::CoreNetworkModel::Clock::Clock

Clock function processes the input sync information (frequency and ssm or time stamp and PTP announce messages) and provides the modified sync information to the sync distribution function.
If none of the inputs meet the quality defined by the controller the clock may enter a hold-over or free run mode.
The status of the clock will be reported to the controller.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- LocalClass

Table 3: Attributes for Clock

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
runMode	RunMode	1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The run-mode of the frequency system clock, such as free-run, locked, and holdover.
_encompassedClock	Clock	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A clock may be emergent from and may effectively encompass several clocks in a resilient solution.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_encapsulatedFc	ForwardingConstruct	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A Clock may encapsulate an FC related to resilience where the clock provides an output that is essentially that of one of several other clocks in the resilience scheme.
_syncLtp	LogicalTerminationPoint	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A clock may feed one or more LTPs with timing information to propagate across the network (it may feed no LTPs).
_encapsulatedCasc	ConfigurationAndSwitchControl	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The clock may encapsulate a complex FC where there is a resilience mechanism active and that FC will need to be controlled. The Casc to control the FC can be encapsulated in the Clock.
_phaseAlignedClock	Clock	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more clocks can be actively phase aligned (this is especially relevant in a hitless resilience scheme).
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.1.1.4 ConfigurationAndSwitchControl

Qualified Name: CoreModel::CoreNetworkModel::ConfigurationAndSwitchControl::ConfigurationAndSwitchControl

Represents the capability to control and coordinate switches, to add/delete/modify FCs and to add/delete/modify LTPs/LPs so as to realize a protection scheme.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Preliminary

Table 4: Attributes for ConfigurationAndSwitchControl

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
switchRule	ToBeDefined	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A sketch of the presence of complex rules governing the switch behavior.
_fcSwitch	FcSwitch	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The switch being controlled.
_controlParameters	ControlParameters_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	The control parameters to be applied if local parameters are used rather than profiles.
_profileProxy	To be defined	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Applied profiles.
_local_Pac	Local_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	See referenced class
_global_Pac	Global_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	See referenced class
isFrozen	Boolean	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Temporarily prevents any switch action to be taken and, as such, freezes the current state. Until the freeze is cleared, additional near-end external commands are rejected and fault condition changes and received APS messages are ignored. All administrative controls of any aspect of protection are rejected.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
isCoordinatedSwitchingBothEnds	Boolean	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The C&SC is operating such that switching at both ends of each flow across the FC is coordinated at both ingress and egress ends.
_subordinateControl	ConfigurationAndSwitchControl	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A C&SC that is fully or partially subordinate this C&SC. A peer is considered as partially subordinate in that the peer will respond to requests for action from this C&SC but will also make requests for action to be carried out by this C&SC. Where there is a peer relationship each controller in the peering will see the other controller as subordinate.
_cascSpec	ConfigurationAndSwitchControllerSpec	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_encapsulatedCasc	ConfigurationAndSwitchControl	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Where a C&SC is complex it may be decomposed into subordinate C&SC parts. The decomposition is described by the C&SC spec.
_cascPort	CascPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A reference to ports of a C&SC that can be used where there is significant asymmetry to be represented. The C&SC need not have ports.
_coordinatedFc	ForwardingConstruct	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
resilienceControlStatus	ResilienceControl	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The state of the control process.

2.1.1.5 ControlParameters_Pac

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::ControlParameters_Pac

A list of control parameters to apply to a switch.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Preliminary

Table 5: Attributes for ControlParameters_Pac

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
reversionMode	ReversionMode	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Indicates whether the protection scheme is revertive or non-revertive.
waitToRevertTime	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	If the protection system is revertive, this attribute specifies the time, in minutes, to wait after a fault clears on a higher priority (preferred) resource before switching to the preferred resource. If a further fault occurs on the preferred resource in the waitToRevertTime then the reversion attempt is cancelled. The WTR timer is overridden by the needs of a higher priority signal. Depending upon which resource is requested this may simply cancel the attempt to revert of may cause immediate reversion.
protType	ProtectionType	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	Indicates the protection scheme that is used for the ProtectionGroup.
holdOffTime	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	This attribute indicates the time, in milliseconds, between declaration of a switch trigger condition (e.g. signal degrade or signal fail), and the initialization of the protection switching algorithm.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_networkSchemeSpecification	To be defined	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.1.1.6 FcPort

Qualified Name: CoreModel::CoreNetworkModel::ForwardingConstruct::FcPort

The association of the FC to LTPs is always made via FcPorts.
In the case of media the association between FCs is made via their FcPorts and the association of an FC to the physical Pin is made via the FcPort.
The FcPort class models the access to the FC function.
The traffic forwarding between the associated FcPorts of the FC depends upon the type of FC and may be associated with FcSwitch object instances.
In cases where there is resilience, the FcPort may convey the resilience role of the access to the FC.
It can represent a protected (resilient/reliable) point or a protecting (unreliable working/main or protection/spare) point.
The FcPort replaces the Protection Unit of a traditional protection model (e.g., ITU-T).
The ForwardingConstruct can be considered as a component and the FcPort as a Port on that component.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Inherits properties from:

- LocalClass

Table 6: Attributes for FcPort

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_ltp	LogicalTerminationPoint	0..2	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The FcPort may be associated with more than one LTP when the FcPort is bidirectional and the LTPs are unidirectional. Multiple LTP - Bidirectional FcPort to two Uni-directional LTPs Zero LTP - BreakBeforeMake transition - Planned LTP not yet in place - Off-network LTP referenced through other mechanism.
role	PortRole	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Each FcPort of the FC has an assigned role (e.g., working, protection, protected, symmetric, hub, spoke, leaf, root) in the context of the FC with respect to the FC function. The role is fixed by the referenced FcSpec.
fcPortDirection	PortDirection	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The orientation of the defined flow at the FcPort.
isProtectionLockOut	Boolean	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: In protection context where the FcPort is to be excluded from use for protection. Preliminary	The resource is configured to temporarily not be available for use in the protection scheme(s) it is part of. This overrides all other protection control states including forced. If the item is locked out, then it cannot be used under any circumstances. Note: Only relevant when part of a protection scheme.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
selectionPriority	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	The preference priority of the resource in the protection scheme for a particular FC. The lower the value the higher the priority. A lower value of selection priority is preferred If two resources have the same value they are of equal priority. There is no preference between equal priorities. If a resource with the lowest value selection priority fails,, then the next lowest value available (may be the same value) is picked. Hence on failure of the current resource the next best available will be selected. If there are several equal values, the choice is essentially arbitrary. If the scheme is revertive then when a resource of higher priority than the currently selected resource recovers it will be selected. This is equivalent to working/protection but allows for all static scheme types with n:m capability. In simple schemes 0 = working and 1 = protecting. If selection priority of an FcPort is increased in value and the FC is currently selecting this FcPort then if another FcPort of a lower selection priority value is available, the wait to restore process will come into action as if the other FcPort had just become available. If selection priority of a FcPort is changed and the FC is not currently selecting this FcPort but is selecting an item that is now of a higher numeric value than the changed FcPort then the wait to restore process will come into action as if the other FcPort had just become available.
isInternalPort	Boolean	1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The FcPort is not exposed and cannot have associated LTPs. This form of FcPort is used to enable chaining of FcSwitches or FcRoutes in complex network protection scenarios.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_fcRouteFeedsFcPortEgress	FcRoute	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Identifies which route(s) currently actively forward to the FcPort to exit the FC to an LTP (or for an internal FcPort to propagate to the next internal switch/route).
_fcPort	FcPort	0..2	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	An FcPort may have a direct association to another FcPort where there is a transition from one domain to another but where there has been no termination.
_portOfInternalFc	FcPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_pin	Pin	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	For media FCs, the name of the pin that terminates the media.
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.1.1.7 FcRoute

Qualified Name: CoreModel::CoreNetworkModel::FcRoute::FcRoute

Each instance of an FC Route (FcRoute) class models an individual route of an FC. The route is an alternative view of the internal structure of the FC to FC aggregation (see FcHasLowerLeverFcs association).
There are cases where a route is the most appropriate representation and cases where the aggregation approach is the most appropriate representation.
The route of an FC object is represented by a list of FCs at a lower level with the implicit understanding that unmodeled link connections are interleaved between the lower level FCs.
Note that depending on the service supported by an FC, the FC can have multiple routes.
The FcRoute is also applicable where an NE level ForwardingDomain may be decomposed into subordinate ForwardingDomains.
Applies to both virtual and real NE cases.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Inherits properties from:

- GlobalClass

Table 7: Attributes for FcRoute

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_fc	ForwardingConstruct	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The list of FCs describing the route of an FC. In most cases the FcRoute has 2 or more FCs however there are some cases where a Route with one FC is valid.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
selectionPriority	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	The preference priority of the resource in the resilience scheme for a particular FC. The lower the value the higher the priority. A lower value of selection priority is preferred If two resources have the same value they are of equal priority. There is no preference between equal priorities. If a resource with the lowest value selection priority fails, then the next lowest value available (may be the same value) is picked. Hence on failure of the current resource the next best available will be selected. If there are several equal values, the choice is essentially arbitrary). If the scheme is revertive then when a resource of higher priority than the currently selected resource recovers it will be selected. This is equivalent to working/protection but allows for all static scheme types with n:m capability. In simple schemes 0 = working and 1 = protecting. If selection priority of a Route is increased in value and the Route is currently selecting this Route, then if another Route of a lower selection priority value is available the wait to restore process will come into action as if the other Route had just become available. If selection priority of a Route is changed and the FC is not currently selecting this Route but is selecting an item that is now of a higher numeric value than the changed Route, then the wait to restore process will come into action as if the other Route had just become available.
routeSelectionControl	RouteSelectionControl	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Degree of administrative control applied to the route selection.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
routeSelectionReason	RouteSelectionReason	1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	The reason for the current route selection.
_link	Link	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.1.1.8 FcSwitch

Qualified Name: CoreModel::CoreNetworkModel::ForwardingConstruct::FcSwitch

The FcSwitch class models the switched forwarding of traffic (traffic flow) between FcPorts and is present where there is protection functionality in the FC.
If an FC exposes protection (having two or more FcPorts that provide alternative identical inputs/outputs), the FC will have one or more associated FcSwitch objects to represent the alternative flow choices visible at the edge of the FC.
The FC switch represents and defines a protection switch structure encapsulated in the FC and essentially "decorates" FCs that are involved in resilience schemes that use switching in a protection mechanism.
Essentially FcSwitch performs one of the functions of the Protection Group in a traditional model. It associates 2 or more FcPorts each playing the role of a Protection Unit.
One or more protection, i.e. standby/backup, FcPorts provide protection for one or more working (i.e. regular/main/preferred) FcPorts

where either protection or working can feed one or more protected FcPort.
The switch may be used in revertive or non-revertive (symmetric) mode. When in revertive mode it may define a waitToRestore time.
It may be used in one of several modes including source switched, destination switched, source and destination switched etc. (covering cases such as 1+1 and 1:1).
It may be locked out (prevented from switching), force switched or manual switched.
It will indicate switch state and change of state.
The switch can be switched away from all sources such that it becomes open and hence two coordinated switches can both feed the same LTP so long as at least one of the two is switched away from all sources (is "open").
The ability for a Switch to be "high impedance" allows bidirectional ForwardingConstructs to be overlaid on the same bidirectional LTP where the appropriate control is enabled to prevent signal conflict.
This ability allows multiple alternate routes to be present that otherwise would be in conflict.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Inherits properties from:

- LocalClass

Table 8: Attributes for FcSwitch

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
holdOffTime	Integer	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	Moved to ControlParameter_Pac. This attribute indicates the time, in seconds, between declaration of unacceptable quality of signal on the currently selected FcPort, and the initialization of the protection switching algorithm.
protType	ProtectionType	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	Indicates the protection scheme that is used for the ProtectionGroup.
reversionMode	ReversionMode	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	Moved to ControlParameter_Pac. This attribute whether or not the protection scheme is revertive or non-revertive.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_selectedFcPort	FcPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Indicates which points are selected by the switch. Depending on the switch spec (via FcSpec) - more than one FcPort can be selected at any one time (e.g. egress switch, ingress packet switch) - zero FcPorts can be selected. For an ingress switch this indicates that the switch common (egress) is "high impedance" .
_profileProxy	To be defined	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Provides a set of predefined values for switch control in place of the direct values available via the FcSwitch or via _configurationAndSwitchControl.
_configurationAndSwitchControl	ConfigurationAndSwitchControl	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A ConfigurationAndSwitchController that is external to the switch (it is coordinating many switches and hence cannot be encapsulated in the FcSwitch.
_internalConfigurationAndSwitchControl	ConfigurationAndSwitchControl	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A ConfigurationAndSwitchController encapsulated in the FcSwitch that controls the FcSwitch alone.
switchControl	SwitchControl	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Degree of administrative control applied to the switch selection.
switchSelectsPorts	PortDirection	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Indicates whether the switch selects from ingress to the FC or to egress of the FC, or both.
switchSelectionReason	SwitchStateReason	1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	The reason for the current switch selection.
_controlParameters	ControlParameters_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
waitToRestoreTime	Integer	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	Moved to ControlParameter_Pac and changed to waitToRevert. If the protection system is revertive, this attribute specifies the amount of time, in seconds, to wait after the preferred FcPort returns to an acceptable state of operation (e.g. a fault has cleared) before restoring traffic to that preferred FcPort.
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.1.1.9 FdPort

Qualified Name: CoreModel::CoreNetworkModel::ForwardingDomain::FdPort

The association of the FD to LTPs may be direct for symmetric FDs and may be via FdPort for asymmetric FDs.
The FdPort class models the role of the access to the FD function.
The capability to set up FCs between the associated FdPorts of the FD depends upon the type of FD. It is asymmetry in this capability that brings the need for FdPort.
The FD can be considered as a component and the FdPort as a Port on that component.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Preliminary

Inherits properties from:

- LocalClass

Table 9: Attributes for FdPort

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_ltp	LogicalTerminationPoint	0..2	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An instance of FD is associated with zero or more LTP objects. The LTPs that bound the FD provide capacity for forwarding. For asymmetric FDs, the association to the LTP is via the FdPort.
role	PortRole	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Each FdPort of the FD has a role (e.g., symmetric, hub, spoke, leaf, root) in the context of the FD with respect to the FD capability.
fdPortDirection	PortDirection	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The orientation of the defined flow at the FdPort.
_fcPort	FcPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Where an FD is asymmetric and hence has FdPorts and where that FD and supports FCs, appropriate FdPorts of that FD support the corresponding FcPorts.
_pin	Pin	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	For media, a pin on the boundary of the FD.
_fdPort	FdPort	0..2	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	An FdPort may have a direct association to another FdPort where there is a transition from one domain to another but where there has been no termination.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.1.1.10 ForwardingConstruct

Qualified Name: CoreModel::CoreNetworkModel::ForwardingConstruct::ForwardingConstruct

The ForwardingConstruct (FC) represents enabled constrained potential for forwarding between two or more FcPorts at a particular specific layerProtocol .
The constraint is explained by the FcSpec. Even when an FC is in place enabling potential for flow, it is possible that no information is flowing as there is no flow matching the constraint, hence "potential".
Like the LTP, the FC supports any transport protocol including all analogue, circuit and packet forms.
The FC is used to effect forwarding of transport characteristic (layer protocol) information.
An FC can be in only one ForwardingDomain (FD).
The FC is a forwarding entity.
At a low level of the recursion, a FC represents a cross-connection within an NE. It may also represent a fragment of a cross-connection under certain circumstances.
The FC object can be used to represent many different structures including point-to-point (P2P), point-to-multipoint (P2MP), rooted-multipoint (RMP) and multipoint-to-multipoint (MP2MP) bridge and selector structures for linear, ring or mesh protection schemes.
When applied to media, the FC represents the ability for a flow/wave (potentially containing information), to be propagated between FcPorts.
The existence of a FC instance is independent of the presence (or absence) of a flow/wave (and any information encoded within it) where flow/wave covers the progressing of any analogue or digital (packet/frame etc.) structure.
A flow/wave cannot propagate in the absence of a FC instance.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Inherits properties from:

- GlobalClass
- ForwardingEntity

Table 10: Attributes for ForwardingConstruct

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
layerProtocolName	LayerProtocolNameAndQualifier	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The layerProtocol at which the FC enables the potential for forwarding.
_lowerLevelFc	ForwardingConstruct	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An FC object supports a recursive aggregation relationship such that the internal construction of an FC can be exposed as multiple lower level FC objects (partitioning). Aggregation is used as for the FD to allow changes in hierarchy. FC aggregation reflects FD aggregation. For example a low level FC could represent what would have traditionally been considered as a "Cross-Connection" in an "NE". The "Cross-Connection" in an "NE" is not necessarily the lowest level of FC partitioning.
_fcRoute	FcRoute	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An FC object can have zero or more routes, each of which is defined as a list of lower level FC objects describing the flow across the network.
_fcPort	FcPort	2..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The FcPorts define the boundary of the FC. The FC is accessed via the FcPorts. Flow within the FC is defined in terms of its FcPorts.
_fcSwitch	FcSwitch	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	If an FC exposes protection (having two FcPorts that provide alternative identical inputs/outputs), the FC will have one or more associated FcSwitch objects. The arrangement of switches for a particular instance is described by a referenced FcSpec.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_configurationAndSwitchControl	ConfigurationAndSwitchControl	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Reference to a ConfigurationAndSwitchController that coordinates switches encapsulated in the FC. The controller coordinates multiple switches in the same FC.
forwardingDirection	ForwardingDirection	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The directionality of the ForwardingConstruct. Is applicable to simple ForwardingConstructs where all FcPorts are BIDIRECTIONAL (the ForwardingConstruct will be BIDIRECTIONAL) or UNIDIRECTIONAL (the ForwardingConstruct will be UNIDIRECTIONAL). Is not present in more complex cases. In the case of media the FcPorts and FC may also be omni-directional.
isProtectionLockOut	Boolean	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: In protection context if server of protection where entire server is to be excluded from use for protection. Preliminary	The resource is configured to temporarily not be available for use in the protection scheme(s) it is part of. This overrides all other protection control states including forced. If the item is locked out then it cannot be used under any circumstances. Note: Only relevant when part of a protection scheme.
servicePriority	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Relevant where "service" FCs are competing for server resources. Used to determine which signal FC is allocated resource. The priority of the "service" with respect to other "services". Lower numeric value means higher priority. Covers cases such as pre-emptible in a resilience solution.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_fcSpecReference:ClassRef	Metaclass:Class	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY • condition: specTargetClass=ForwardingConstruct Experimental SpecReference	Reference to the specific FcSpec class that defines the properties that augment the instance of FC.
_supportedLink	Link	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	An FC that spans between LTPs that terminate the LayerProtocol usually supports one or more links in the client layer.
_multipleStrandSpan	MultipleStrandSpan	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_supportingPc	ProcessingConstruct	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The functionality supporting this entity.
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.
_riskParameter_Pac Inherited	RiskParameter_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if risk information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if risk is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class
_transferCost_Pac Inherited	TransferCost_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if cost information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if cost is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class
_transferTiming_Pac Inherited	TransferTiming_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if transfer timing information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if transfer timing is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_transferCapacity_Pac Inherited	TransferCapacity_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if transfer capacity information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if transfer capacity is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class
_transferIntegrity_Pac Inherited	TransferIntegrity_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if transfer integrity information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if transfer integrity is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class
_validation_Pac Inherited	Validation_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if validation information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if validation is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made. Note that validation may not be possible for the specific layer protocol or in the particular case.	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_layerTransition_Pac Inherited	LayerProtocolTransition_Pac	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if layer transition information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if layer transition is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made. Note that layer transition occurs in a limited number of cases.	See referenced class

2.1.1.11 ForwardingDomain

Qualified Name: CoreModel::CoreNetworkModel::ForwardingDomain::ForwardingDomain

The ForwardingDomain (FD) class models the topological component that represents a forwarding capability that provides the opportunity to enable forwarding (of specific transport characteristic information at one or more protocol layers) between points.
The FD object provides the context for and constrains the formation, adjustment and removal of FCs and hence offers the potential to enable forwarding.
The FCs may be formed between LTPs at the boundary of the FD or between AccessPorts at the boundary of the FD (for the most basic media layers cases - most media cases use LTPs).
A number of FDs (related by Links) may be grouped and abstracted to form an FD where that FD represents the effect of the underlying FDs but where the detailed structure is not apparent.
This grouping and abstraction is potentially recursive.
This aspect is essentially equivalent to ITU-T partitioning but this is an aggregation not a composition, so it allows an FD to be in multiple higher level FDs.
The notion of abstraction/grouping assumes that small things are brought together into larger things as opposed to ITU-T partitioning that assumes large things are broken down into smaller things.
An FD represents an abstraction of some combination of software behavior, electronic behavior and physical structure that provides a forwarding capability.
At a lower level of recursion an FD could represent a forwarding capability within a device.
A device may encompass two or more disjoint forwarding capabilities and may support more than one layer protocol, hence more than one FD.

A routing fabric may be logically partitioned to represent connectivity constraints, hence the FD representing the routing fabric may be partitioned into a number of FDs representing the constraints.
The FD represents a subnetwork [ITU-T G.800], FlowDomain [TMF 612] and a MultiLayerSubNetwork (MLSN) [TMF 612].
As in the TMF concept of MLSN the FD can support more than one layer-protocol.
Note that the ITU-T G.800 subnetwork is a single layer entity.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Inherits properties from:

- GlobalClass
- ForwardingEntity

Table 11: Attributes for ForwardingDomain

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
layerProtocolName	LayerProtocolNameAndQualifier	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	One or more protocol layers at which the FD represents the opportunity to enable forwarding between LTP that bound it.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_lowerLevelFd	ForwardingDomain	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The FD class supports a recursive aggregation relationship (HigherLevelFdEncompassesLowerLevelFds) such that the internal construction of an FD can be exposed as multiple lower level FDs and associated Links (partitioning). The aggregated FDs and Links form an interconnected topology that provides and describes the capability of the aggregating FD. Note that the model actually represents an aggregation of lower level FDs into higher level FDs as views rather than FD partition, and supports multiple views. Aggregation allow reallocation of capacity from lower level FDs to different higher level FDs as if the network is reorganized (as the association is aggregation not composition).
_fc	ForwardingConstruct	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An FD aggregates one or more FCs. An aggregated FC connects LTPs that bound the FD.
_ltp	LogicalTerminationPoint	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An instance of FD is associated with zero or more LTP objects. The LTPs that bound the FD provide capacity for forwarding. For asymmetric FDs, the association to the LTP is via the FdPort.
_lowerLevelLink	Link	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The FD encompasses Links that interconnect lower level FDs and collect Links that are wholly within the bounds of the FD. See also _lowerLevelFd.
_fdRuleSet	FdAndLinkRuleSet	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The rules related to an FD.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_fdSpec	ForwardingDomain	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_fdPort	FdPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	The association of the FD to LTPs is either made directly for symmetric FDs or via FdPort for asymmetric FDs.
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.
_riskParameter_Pac Inherited	RiskParameter_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if risk information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if risk is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_transferCost_Pac Inherited	TransferCost_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if cost information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if cost is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class
_transferTiming_Pac Inherited	TransferTiming_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if transfer timing information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if transfer timing is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class
_transferCapacity_Pac Inherited	TransferCapacity_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if transfer capacity information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if transfer capacity is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_transferIntegrity_Pac Inherited	TransferIntegrity_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if transfer integrity information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if transfer integrity is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class
_validation_Pac Inherited	Validation_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if validation information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if validation is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made. Note that validation may not be possible for the specific layer protocol or in the particular case.	See referenced class
_layerTransition_Pac Inherited	LayerProtocolTransition_Pac	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if layer transition information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if layer transition is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made. Note that layer transition occurs in a limited number of cases.	See referenced class

2.1.1.12 ForwardingEntity

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::ForwardingCommon::ForwardingEntity

A ForwardingEntity is an abstract representation of the emergent effect of the combined functioning of an arrangement of components (running hardware, software running on hardware etc.).
The effect can be considered as the realization of the potential for apparent communication adjacency for entities that are bound to the terminations at the boundary of the ForwardingEntity.
The ForwardingEntity enables the creation of constrained forwarding to achieve the apparent adjacency.
The apparent adjacency has intended performance degraded from perfect adjacency and a statement of that degradation is conveyed via the attributes of the packages associated with this class.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Table 12: Attributes for ForwardingEntity

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_riskParameter_Pac	RiskParameter_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if risk information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if risk is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_transferCost_Pac	TransferCost_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if cost information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if cost is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class
_transferTiming_Pac	TransferTiming_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if transfer timing information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if transfer timing is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class
_transferCapacity_Pac	TransferCapacity_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if transfer capacity information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if transfer capacity is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_transferIntegrity_Pac	TransferIntegrity_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if transfer integrity information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if transfer integrity is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class
_validation_Pac	Validation_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if validation information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if validation is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made. Note that validation may not be possible for the specific layer protocol or in the particular case.	See referenced class
_layerTransition_Pac	LayerProtocolTransition_Pac	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if layer transition information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if layer transition is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made. Note that layer transition occurs in a limited number of cases.	See referenced class

2.1.1.13 LayerProtocol

Qualified Name: CoreModel::CoreNetworkModel::LogicalTerminationPoint::LayerProtocol

The projection of an LTP into each transport layer is represented by a LayerProtocol (LP) instance. A LayerProtocol instance can be used for controlling termination and monitoring functionality.
It can also be used for controlling the adaptation (i.e. aggregation, encapsulation and/or multiplexing of client signal), tandem connection monitoring, traffic conditioning and/or shaping functionality at an intermediate point along a connection.
Where the client – server relationship is fixed 1:1 and immutable, the layers can be encapsulated in a single LTP instance. Where there is a n:1 relationship between client and server, the layers must be split over two separate instances of LTP.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Inherits properties from:

- LocalClass

Table 13: Attributes for LayerProtocol

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
layerProtocolName	LayerProtocolNameAndQualifier	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Indicate the specific layer-protocol described by the LayerProtocol entity.
configuredClientCapacity	ToBeDefined	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Provides a summarized view of the client capacity that is configurable for use. Note the client LTP association should provide all necessary detail hence this attribute is questionable.
lpDirection	TerminationDirection	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The overall directionality of the LP. - A BIDIRECTIONAL LP will have some SINK and/or SOURCE flows. - A SINK LP can only contain elements with SINK flows or CONTRA_DIRECTION_SOURCE flows - A SOURCE LP can only contain SOURCE flows or CONTRA_DIRECTION_SINK flows

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
terminationState	TerminationState	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Indicates whether the layer is terminated and if so how.
_configurationAndSwitchControl	ConfigurationAndSwitchControl	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	A switch controller external to the LayerProtocol. The controller will coordinate one or more switches in one or more FCs related to the LayerProtocol
isProtectionLockOut	Boolean	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The resource is configured to temporarily not be available for use in the protection scheme(s) it is part of. This overrides all other protection control states including forced. If the item is locked out, then it cannot be used under any circumstances. Note: Only relevant when part of a protection scheme.
fcBlocksSignalToLp	To be defined	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Indicates whether the associated FC is blocking signal to/from the LTP.
_lpSpecReference:ClassRef	Metaclass:Class	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY • condition: specTargetClass: LayerProtocol Experimental SpecReference	Reference to the specific LpSpec class that defines the properties that augment the instance of LP.
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.1.1.14 LayerProtocolTransition_Pac

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::ForwardingCommon::LayerProtocolTransition_Pac

The transition characteristics are relevant for a Link that is formed by abstracting one or more LTPs (in a stack) to focus on the flow and deemphasize the protocol transformation.
This abstraction is relevant when considering multi-layer routing.
The layer protocols of the LTP and the order of their application to the signal is still relevant and needs to be accounted for (this is

derived from the LTP spec details).
This Pac provides the relevant abstractions of the LTPs and provides the necessary association to the LTPs involved.
Links that include details in this Pac are often referred to as Transitional Links.

This class is abstract.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY

Table 14: Attributes for LayerProtocolTransition_Pac

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
transitionedLayerProtocol	String	2..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Provides the ordered structure of layer protocol transitions encapsulated in the ForwardingEntity. The list starts with the client side as the first entry and includes all layer-protocol names (hence the smallest number is 2 as otherwise the Link is not transitional). The ordering relates also to the LinkPort role (which emphasizes the orientation). Where the transitional link is multi-ported and layer asymmetric the list includes the superset of layer-protocol names. Transitional links can only be applied where the transition for each port is such that all transitions between any ports are subsequences of the list. The specific subsequence is determined by the LayerProtocols of the LTP associated with the LinkPort and the role of the LinkPort.
_ltp	LogicalTerminationPoint	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Lists the LTPs that define the layer protocol transition of the transitional link.

2.1.1.15 Link

Qualified Name: CoreModel::CoreNetworkModel::Link::Link

The Link class models effective adjacency between two or more ForwardingDomains (FD).
For digital layer networks, in its basic form (i.e., point-to-point Link) it associates a set of LTP clients on one FD with an equivalent set of LTP clients on another FD.
Like the FC, the Link has ports (LinkPort) which take roles relevant to the constraints on flows offered by the Link (e.g., Root role or leaf role for a Link that has a constrained Tree configuration).
The Link is an abstraction of underlying network complexity which may include resilience schemes etc.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Inherits properties from:

- GlobalClass
- ForwardingEntity

Table 15: Attributes for Link

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
layerProtocolName	LayerProtocolNameAndQualifier	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The Link can support multiple transport layer protocols via the associated LTP object. For implementation optimization, where appropriate, multiple layer-specific Links can be merged and represented as a single Link instance as the Link can represent a list of layer protocols. A Link may support different layer protocols at each of its LinkPorts when it is a transitional Link.
_fd	ForwardingDomain	2..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The Link associates with two or more FDs. This association provides a direct summarization of the association via LinkPort and LTP.
_linkPort	LinkPort	2..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The association of the Link to LTPs is made via LinkPort (essentially the ports of the Link).

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_lowerLevelLink	Link	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A Link may be formed from subordinate links (similar FD formations from subordinate FDs). This association is intended to cover concepts such as serial compound links.
linkDirection	ForwardingDirection	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The directionality of the Link. Is applicable to simple Links where all LinkPorts are BIDIRECTIONAL (the Link will be BIDIRECTIONAL) or UNIDIRECTIONAL (the Link will be UNIDIRECTIONAL). Is not present in more complex cases.
_fdRuleSet	FdAndLinkRuleSet	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The rules related to a Link.
isProtectionLockOut	Boolean	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: In protection context if server of protection where entire server is to be excluded from use for protection. Preliminary	The resource is configured to temporarily not be available for use in the protection scheme(s) it is part of. This overrides all other protection control states including forced. If the item is locked out, then it cannot be used under any circumstances. Note: Only relevant when part of a protection scheme.
_fc	ForwardingConstruct	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A Link contains one or more FCs. A contained FC connects LTPs that bound the Link. This FC represents the traditional link connection. It is often not supported in implementations as it can be inferred from FCs in the corresponding FDs.
_lowerLevelFd	ForwardingDomain	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	FD(s) that form part of a serial compound Link.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_linkSpec	Link	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_linkSpecReference:ClassRef	Metaclass:Class	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY • condition: specTargetClass=Link Experimental SpecReference	See referenced class
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.
_riskParameter_Pac Inherited	RiskParameter_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if risk information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if risk is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_transferCost_Pac Inherited	TransferCost_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if cost information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if cost is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class
_transferTiming_Pac Inherited	TransferTiming_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if transfer timing information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if transfer timing is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class
_transferCapacity_Pac Inherited	TransferCapacity_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if transfer capacity information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if transfer capacity is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_transferIntegrity_Pac Inherited	TransferIntegrity_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if transfer integrity information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if transfer integrity is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made.	See referenced class
_validation_Pac Inherited	Validation_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if validation information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if validation is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made. Note that validation may not be possible for the specific layer protocol or in the particular case.	See referenced class
_layerTransition_Pac Inherited	LayerProtocolTransition_Pac	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_OPTIONAL • condition: Present if layer transition information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if layer transition is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made. Note that layer transition occurs in a limited number of cases.	See referenced class

2.1.1.16 LinkPort

Qualified Name: CoreModel::CoreNetworkModel::Link::LinkPort

The association of the Link to LTPs is made via LinkPort.
The LinkPort class models the access to the Link function.
The traffic forwarding between the associated LinkPorts of the Link depends upon the type of Link.
In cases where there is resilience, the LinkPort may convey the resilience role of the access to the Link.
The Link can be considered as a component and the LinkPort as a Port on that component.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Inherits properties from:

- LocalClass

Table 16: Attributes for LinkPort

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_ltp	LogicalTerminationPoint	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The LinkPort may be associated with more than one LTP when the LinkPort is bidirectional and the LTPs are unidirectional. Multiple LTP - Bidirectional LinkPort to two Uni-directional LTPs Zero LTP - BreakBeforeMake transition - Planned LTP not yet in place - Off-network LTP referenced through other mechanism.
role	PortRole	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Each LinkPort of the Link has a role (e.g., symmetric, hub, spoke, leaf, root) in the context of the Link with respect to the Link capability.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
offNetworkAddress	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A freeform opportunity to express a reference for a Port of the Link that is not visible and hence is outside the scope of the control domain (off-network). This attribute is expected to convey a foreign identifier/name/address or a shared reference for some mid-span point at the boundary between two administrative domains. This is a reference shared between the parties either side of the network boundary. The assumption is that the provider knows the mapping between network port and offNetworkAddress and the client knows the mapping between the client port and the offNetworkAddress and that the offNetworkAddress references some common point or pool of points. It may represent some physical location where the hand-off takes place. This attribute is used when an LTP cannot be referenced. A Link with an Off-network end cannot be encompassed by an FD.
linkPortDirection	PortDirection	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The orientation of the defined flow at the LinkPort.
_fcPort	FcPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Where a Link supports FCs each LinkPort of that Link supports the corresponding FcPorts.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.1.1.17 LogicalTerminationPoint

Qualified Name: CoreModel::CoreNetworkModel::LogicalTerminationPoint::LogicalTerminationPoint

The LogicalTerminationPoint (LTP) class encapsulates the termination and adaptation functions of one or more transport layers represented by instances of LayerProtocol.
The encapsulated transport layers have a simple fixed 1:1 client-server relationship defined by association end ordering.
The structure of LTP supports all transport protocols including analogue, circuit and packet forms.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Inherits properties from:

- GlobalClass

Table 17: Attributes for LogicalTerminationPoint

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_serverLtp	LogicalTerminationPoint	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	References contained LTPs representing servers of this LTP in an inverse multiplexing configuration (e.g. VCAT).
_clientLtp	LogicalTerminationPoint	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	References contained LTPs representing client traffic of this LTP for normal cases of multiplexing.
_lp	LayerProtocol	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Ordered list of LayerProtocols that this LTP is comprised of where the first entry in the list is the lowest server layer (e.g. physical).

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_connectedLtp	LogicalTerminationPoint	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Applicable in a simple context where two LTPs are associated via a non-adjustable enabled forwarding. Reduces clutter removing the need for two additional LTPs and an FC with a pair of FcPorts.
_peerLtp	LogicalTerminationPoint	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	References contained LTPs representing the reversal of orientation of flow where two LTPs are associated via a non-adjustable enabled forwarding and where the referenced LTP is fully dependent on this LTP.
physicalPortReference	String	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	One or more text labels for the unmodeled physical port associated with the LTP. In many cases there is no associated physical port.
_ltpInOtherView	LogicalTerminationPoint	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	References one or more LTPs in other views that represent this LTP. The referencing LTP is the provider of capability.
ltpDirection	TerminationDirection	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The overall directionality of the LTP. - A BIDIRECTIONAL LTP must have at least some LPs that are BIDIRECTIONAL but may also have some SINK and/or SOURCE LPs. - A SINK LTP can only contain SINK LPs - A SOURCE LTP can only contain SOURCE LPs
_accessPort	AccessPort	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Provides a reference to the place where the signal is accessed. It may represent a physical place (some part of one or more connectors) or a virtual equivalent where there is no further protocol layering (visible).

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_transferCapacity_Pac	TransferCapacity_Pac	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The LTP has as an inherent capacity derived from underlying capability. The capacity of a particular LTP may be dependent upon other uses of resource in the device and hence it may vary over time. The capacity of a Link is dependent upon the capacity of the LTPs at its ends. An LTP may be an abstraction and virtualization of a subset of the underlying capability offered in a view or may be directly reflecting the underlying realization.
_ltpSpecReference:ClassRef	Metaclass:Class	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY • condition: specTargetClass: LogicalTerminationPoint Experimental SpecReference	Provides a reference to a specification which is in the form of a class definition. An instance of LTP will reference a class (by a universally unique id) that provides definition that extends the LTP including attributes and structure that are present in the LTP instance but that are not defined in the native LTP class.
_fdRuleGroup	ForwardingDomain	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	An LTP can reference FD rules that the FD that aggregates it also references so that the rules can then apply to the LTP.
_embeddedClock	Clock	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_supportingPc	ProcessingConstruct	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The functionality supporting this entity.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.1.1.18 RiskParameter_Pac

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::ForwardingCommon::RiskParameter_Pac

The risk characteristics of a ForwardingEntity come directly from the underlying physical realization.
The risk characteristics propagate from the physical realization to the client and from the server layer to the client layer; this propagation may be modified by protection.
A ForwardingEntity may suffer degradation or failure as a result of a problem in a part of the underlying realization.
The realization can be partitioned into segments which have some relevant common failure modes.
There is a risk of failure/degradation of each segment of the underlying realization.
Each segment is a part of a larger physical/geographical unit that behaves as one with respect to failure (i.e. a failure will have a high probability of impacting the whole unit (e.g. all cables in the same duct).
Disruptions to that larger physical/geographical unit will impact (cause failure/errors to) all ForwardingEntities that use any part of that larger physical/geographical entity.
Any ForwardingEntity that uses any part of that larger physical/geographical unit will suffer impact and hence each ForwardingEntity shares risk.
The identifier of each physical/geographical unit that is involved in the realization of each segment of a ForwardingEntity can be listed in the RiskParameter_Pac of that ForwardingEntity.
A segment has one or more risk characteristic.
Shared risk between two ForwardingEntities compromises the integrity of any solution that use one of those ForwardingEntity as a

backup for the other.
Where two ForwardingEntities have a common risk characteristic they have an elevated probability of failing simultaneously compared to two ForwardingEntities that do not share risk characteristics.

This class is abstract.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY

Table 18: Attributes for RiskParameter_Pac

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
riskCharacteristic	RiskCharacteristic	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	A list of risk characteristics for consideration in an analysis of shared risk. Each element of the list represents a specific risk consideration.

2.1.1.19 TransferCapacity_Pac
Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::ForwardingCommon::TransferCapacity_Pac

The ForwardingEntity derives capacity from the underlying realization.
A ForwardingEntity may be an abstraction and virtualization of a subset of the underlying capability offered in a view or may be directly reflecting the underlying realization.
A ForwardingEntity may be directly used in the view or may be assigned to another view for use.
The clients supported by a multi-layer ForwardingEntity may interact such that the resources used by one client may impact those available to another. This is derived from the LTP spec details.
Represents the capacity available to user (client) along with client interaction and usage.
A ForwardingEntity may reflect one or more client protocols and one or more members for each profile.

This class is abstract.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY

Table 19: Attributes for TransferCapacity_Pac

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
totalPotentialCapacity	Capacity	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	An optimistic view of the capacity of the ForwardingEntity assuming that any shared capacity is available to be taken.
availableCapacity	Capacity	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Capacity available to be assigned.
capacityAssignedToUserView	Capacity	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Capacity already assigned.
capacityInteractionAlgorithm	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A reference to an algorithm that describes how various chunks of allocated capacity interact (e.g. when shared).

2.1.1.20 TransferCost_Pac

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::ForwardingCommon::TransferCost_Pac

The cost characteristics of a ForwardingEntity not necessarily correlated to the cost of the underlying physical realization.
They may be quite specific to the individual ForwardingEntity (e.g. opportunity cost) and relates to layer capacity
There may be many perspectives from which cost may be considered for a particular ForwardingEntity and hence many specific costs and potentially cost algorithms.
Using an entity will incur a cost.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Table 20: Attributes for TransferCost_Pac

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
costCharacteristic	CostCharacteristics	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY • condition:	The list of costs where each cost relates to some aspect of the ForwardingEntity.

2.1.1.21 TransferIntegrity_Pac

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::ForwardingCommon::TransferIntegrity_Pac

Transfer integrity characteristic covers expected/specified/acceptable characteristic of degradation of the transferred signal.
It includes all aspects of possible degradation of signal content as well as any damage of any form to the total ForwardingEntity and to the carried signals.
Note that the statement is of total impact to the ForwardingEntity so any partial usage of the ForwardingEntity (e.g. a signal that does not use full capacity) will only suffer its portion of the impact.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Table 21: Attributes for TransferIntegrity_Pac

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
errorCharacteristic	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL • condition: Present if errorCharacteristic information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if errorCharacteristic is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made. Note that this only applies to TDM. Preliminary	Describes the degree to which the signal propagated can be errored. Applies to TDM systems as the errored signal will be propagated and not packet as errored packets will be discarded.
lossCharacteristic	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL • condition: Present if lossCharacteristic information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if lossCharacteristic is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made. Note that this only applies to packet systems. Preliminary	Describes the acceptable characteristic of lost packets where loss may result from discard due to errors or overflow. Applies to packet systems and not TDM (as for TDM errored signals are propagated unless grossly errored and overflow/underflow turns into timing slips).

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
repeatDeliveryCharacteristic	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL • condition: Present if repeatDeliveryCharacteristic information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if repeatDeliveryCharacteristic is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made. Note that this primarily applies to packet systems where a packet may be delivered more than once (in fault recovery for example). Note that it can also apply to TDM where several frames may be received twice due to switching in a system with a large differential propagation delay. Preliminary	Primarily applies to packet systems where a packet may be delivered more than once (in fault recovery for example). It can also apply to TDM where several frames may be received twice due to switching in a system with a large differential propagation delay.
deliveryOrderCharacteristic	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL • condition: Present if deliveryOrderCharacteristic information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if deliveryOrderCharacteristic is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made. Note that this only applies to packet systems. Preliminary	Describes the degree to which packets will be delivered out of sequence. Does not apply to TDM as the TDM protocols maintain strict order.
unavailableTimeCharacteristic	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Describes the duration for which there may be no valid signal propagated.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
serverIntegrityProcessCharacteristic	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL • condition: Present if serverIntegrityProcessCharacteristic information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if serverIntegrityProcessCharacteristic is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made. Note that this only applies where the server has some error recovery mechanism alters the characteristics of the link from a normal distribution. Preliminary	Describes the effect of any server integrity enhancement process on the characteristics of the ForwardingEntity.

2.1.1.22 TransferTiming_Pac

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::ForwardingCommon::TransferTiming_Pac

A ForwardingEntity will suffer effects from the underlying physical realization related to the timing of the information passed by the ForwardingEntity.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Table 22: Attributes for TransferTiming_Pac

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
fixedLatencyCharacteristic	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	A ForwardingEntity suffers delay caused by the realization of the servers (e.g. distance related; FEC encoding etc.) along with some client specific processing. This is the total average latency effect of the ForwardingEntity.
jitterCharacteristic	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL • condition: Present if jitterCharacteristic information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if jitterCharacteristic is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made. Note that this only applies to TDM.	High frequency deviation from true periodicity of a signal and therefore a small high rate of change of transfer latency. Applies to TDM systems (and not packet).
wanderCharacteristic	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL • condition: Present if wanderCharacteristic information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. Note that if wanderCharacteristic is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made. Note that this only applies to TDM.	Low frequency deviation from true periodicity of a signal and therefore a small low rate of change of transfer latency. Applies to TDM systems (and not packet).

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
queuingLatencyCharacteristic	QueuingLatency	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL • condition: Present if queuingLatencyCharacteristic information is relevant to usage and statement can be made that applies equally to all flows that can be supported by the ForwardingEntity. There may be more than one instance if the queuing behavior depends upon traffic properties. Note that if queuingLatencyCharacteristic is relevant but consistent statement cannot be made then the ForwardingEntity should be described in terms of subordinate parts against which coherent statements can be made. Note that this only applies to packet system. Preliminary	The effect on the latency of a queuing process. This only has significant effect for packet based systems and has a complex characteristic.

2.1.1.23 Validation_Pac

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::ForwardingCommon::Validation_Pac

Validation covers the various adjacency discovery and reachability verification protocols. Also may cover Information source and degree of integrity.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Table 23: Attributes for Validation_Pac

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
validationMechanism	ValidationMechanism	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Provides details of the specific validation mechanism(s) used to confirm the presence of an intended ForwardingEntity.

2.1.1.24 ViewAbstractionRules

Qualified Name: CoreModel::CoreNetworkModel::LogicalTerminationPoint::ViewAbstractionRules

Provides rules and access to policies that govern and explain the view abstraction.
At this point it appears that this is not necessary however it has been left in the model as there is still some view abstraction work to be done.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 24: Attributes for ViewAbstractionRules

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
__ltpRelatestToLtpInOtherView	LtpRelatestToLtpInOtherView	0..*	RW		See referenced class

2.1.2 Data Types

2.1.2.1 Capacity

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::ForwardingCommon::Capacity

Information on capacity of a particular ForwardingEntity.

Applied stereotypes:

No stereotypes applied

Table 25: Attributes for Capacity

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
totalSize	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Total capacity of the ForwardingEntity in Mbits/s.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
numberOfClientInstances	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Where there is some limit to the number of client (e.g. in a channelized case).
maximumClientSize	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Where a client is of variable capacity but due to some underlying realization the maximum size of the client is smaller than the totalSize.
numberingRange	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Method for identifying units of capacity via some numbering scheme.

2.1.2.2 CostCharacteristics

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::ForwardingCommon::CostCharacteristics

The information for a particular cost characteristic.

Applied stereotypes:

No stereotypes applied

Table 26: Attributes for CostCharacteristics

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
costName	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	The cost characteristic is related to some aspect of the ForwardingEntity (e.g. $ cost, routing weight). This aspect will be conveyed by the costName.
costValue	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	The specific cost.
costAlgorithm	ToBeDefined	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The cost may vary based upon some properties of the ForwardingEntity. The rules for the variation are conveyed by the costAlgorithm.

2.1.2.3 Global_Pac

Qualified Name: CoreModel::CoreNetworkModel::ConfigurationAndSwitchControl::Global_Pac

Provides the properties of a GlobalClass via composition.

Applied stereotypes:

- Preliminary

Inherits properties from:

- GlobalClass

2.1.2.4 LayerProtocolNameAndQualifier

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::LayerProtocolNameAndQualifier

Provides a controlled list of layer protocol names and indicates the naming authority.

Note that it is expected that attributes will be added to this structure to convey the naming authority name, the name of the layer protocol using a human readable string and any particular standard reference.

Layer protocol names include:

- Layer 1 (L1): OTU, ODU
- Layer 2 (L2): Carrier Grade Ethernet (ETY, ETH), MPLS-TP (MT)

Applied stereotypes:

- Preliminary

Table 27: Attributes for LayerProtocolNameAndQualifier

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
layerProtocolQualifier	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Qualifies the use of the LayerProtocol where the same LayerProtocol may be used recursively such that each recursion has the same characteristic information in the main traffic path but where there is some distinction in some other aspect. An example of use is in the case of the PHOTONIC_MEDIA LayerProtocol. All photonic media is of the same characteristic in the main traffic path, just a channel that enables the flow of photons, but may differ in overhead and with respect to level of nesting. For the PHOTONIC_MEDIA, qualifiers may include OMS (Optical Multiplex Section), OTS (Optical Transmission Section) and NMCA (Network Media Channel Assembly).
layerProtocolName	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The name of the LayerProtocol chosen from a controlled list. LayerProtocol names include: - PHOTONIC_MEDIA - ODU - ETHERNET

2.1.2.5 Local_Pac

Qualified Name: CoreModel::CoreNetworkModel::ConfigurationAndSwitchControl::Local_Pac

Provides the properties of a LocalClass via composition.

Applied stereotypes:

- Preliminary

Inherits properties from:

- LocalClass

2.1.2.6 PortRole

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::PortRole

The role of a port in the context of the function of the forwarding entity that it bounds.

Applied stereotypes:

- Preliminary

Table 28: Attributes for PortRole

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
roleName	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The name of the role of the port of the FC.

2.1.2.7 ProtectionType

Qualified Name: CoreModel::CoreNetworkModel::ConfigurationAndSwitchControl::ProtectionType

Identifies the type of protection of an FcSwitch.

Applied stereotypes:

- Obsolete

2.1.2.8 QueuingLatency

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::ForwardingCommon::QueuingLatency

Provides information on latency characteristic for a particular stated trafficProperty.

Applied stereotypes:

No stereotypes applied

Table 29: Attributes for QueuingLatency

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
trafficProperty	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The identifier of the specific traffic property to which the queuing latency applies.
latencyForTrafficWithProperty	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The specific queuing latency for the traffic property.

2.1.2.9 RiskCharacteristic

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::ForwardingCommon::RiskCharacteristic

The information for a particular risk characteristic where there is a list of risk identifiers related to that characteristic.

Applied stereotypes:

No stereotypes applied

Table 30: Attributes for RiskCharacteristic

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
riskCharacteristicName	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The name of the risk characteristic. The characteristic may be related to a specific degree of closeness. For example, a particular characteristic may apply to failures that are localized (e.g. to one side of a road) where as another characteristic may relate to failures that have a broader impact (e.g. both sides of a road that crosses a bridge). Depending upon the importance of the traffic being routed different risk characteristics will be evaluated.
riskIdentifier	String	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	A list of the identifiers of each physical/geographic unit (with the specific risk characteristic) that is related to a segment of the ForwardingEntity.

2.1.2.10 ValidationMechanism

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::ForwardingCommon::ValidationMechanism

Identifies the validation mechanism and describes the characteristics of that mechanism.

Applied stereotypes:

No stereotypes applied

Table 31: Attributes for ValidationMechanism

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
validationMechanism	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Name of mechanism used to validate adjacency.
layerProtocolAdjacencyValidated	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	State of validation.
validationRobustness	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Quality of validation (i.e. how likely is the stated validation to be invalid).

2.1.3 Enumeration Types

2.1.3.1 ExtendedTerminationDirection

Qualified Name: CoreModel::CoreNetworkModel::LogicalTerminationPoint::ExtendedTerminationDirection

Extended to include contra-direction considerations. Only applies to LP and elements of LP not to LTP.

Applied stereotypes:

- Experimental

Inherits literals from:

- TerminationDirection

Contains Enumeration Literals:

- CONTRA_DIRECTION_SINK:
  - The essential flow of the Termination entity is SINK (i.e. up the layer stack) but the INPUT flow of the Termination entity was provided by a SOURCE OUTPUT or taken from a SOURCE INPUT (duplicating the input signal) hence reversing the flow orientation from down the layer stack to up the layer stack.
  - Applied stereotypes:
- CONTRA_DIRECTION_SOURCE:
  - The essential flow of the Termination entity is SOURCE (i.e. down the layer stack) but the OUTPUT flow of the Termination entity was fed to (and replaces) a SINK OUTPUT or was fed to a SINK INPUT (replacing the normal flow) hence reversing the flow orientation from down the layer stack to up the layer stack.
  - Applied stereotypes:

2.1.3.2 ForwardingDirection

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::ForwardingDirection

The directionality of a Forwarding entity.

Applied stereotypes:

No stereotypes applied

Contains Enumeration Literals:

- BIDIRECTIONAL:
  - The Forwarding entity supports both BIDIRECTIONAL flows at all Ports (i.e. all Ports have both an INPUT flow and an OUTPUT flow defined).
- UNIDIRECTIONAL:
  - The Forwarding entity has Ports that are either INPUT or OUTPUT. It has no BIDIRECTIONAL Ports.
- UNDEFINED_OR_UNKNOWN:
  - Not a normal state. The system is unable to determine the correct value.
- OMNIDIRECTIONAL:

2.1.3.3 LayerProtocolName

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::LayerProtocolName

A controlled list of LayerProtocol names.

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- PHOTONIC_MEDIA:
  - The characteristic information is that of a channel able to carry photons and of the photon source/sink.
  - Applied stereotypes:
    - Experimental
- OTU_AND_ODU:
  - The characteristic information is that of a channel able to carry ODU/OTU protocol (OTN) and of the ODU/OTU source/sink.
  - Applied stereotypes:
    - Experimental
- ETHERNET:
  - The characteristic information is that of a channel able to carry Ethernet protocol and of the Ethernet protocol source/sink.
  - Applied stereotypes:
    - Experimental

2.1.3.4 PortDirection

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::PortDirection

The orientation of flow at the Port of a Forwarding entity.

Applied stereotypes:

No stereotypes applied

Contains Enumeration Literals:

- BIDIRECTIONAL:

    - The Port has both an INPUT flow and an OUTPUT flow defined.
- INPUT:
    - The Port only has definition for a flow into the Forwarding entity (i.e. an ingress flow).
- OUTPUT:
    - The Port only has definition for a flow out of the Forwarding entity (i.e. an egress flow).
- UNIDENTIFIED_OR_UNKNOWN:
    - Not a normal state. The system is unable to determine the correct value.
- OMNIDIRECTIONAL:

2.1.3.5 ProtectionReason

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::ProtectionReason

The cause of the current protection state.

Applied stereotypes:
- Preliminary

Contains Enumeration Literals:
- WAIT_TO_REVERT:
    - The resource is selected as control is waiting to restore to a preferred resource.
    - Applied stereotypes:
        - Preliminary
- SIGNAL_DEGRADE:
    - The resource is selected as the best preferred resource is in signal degrade.
    - Applied stereotypes:
        - Preliminary
- SIGNAL_FAIL:
    - The resource is selected as the best preferred resource is in signal fail.
    - Applied stereotypes:
        - Preliminary

2.1.3.6 ResilienceControl

Qualified Name: CoreModel::CoreNetworkModel::ConfigurationAndSwitchControl::ResilienceControl

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- QUIESCENT:
  - Applied stereotypes:
    - Experimental
- RESTORING:
  - Applied stereotypes:
    - Experimental
- RECOVERY_FAILED:
  - Applied stereotypes:
    - Experimental
- UNKNOWN:
  - Applied stereotypes:
    - Experimental

2.1.3.7 ReversionMode

Qualified Name: CoreModel::CoreNetworkModel::NetworkCommon::ReversionMode

The reversion mode associated with protection.

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- REVERTIVE:
  - An FC switched to a lower priority (non-preferred) resource will revert to a higher priority (preferred) resource when that recovers (potentially after some hold-off time).

    - Applied stereotypes:
        - Experimental
- NON-REVERTIVE:
    - An FC switched to a lower priority (non-preferred) resource will not revert to a higher priority (preferred) resource when that recovers.
    - Applied stereotypes:
        - Experimental

2.1.3.8 RouteSelectionControl

Qualified Name: CoreModel::CoreNetworkModel::FcRoute::RouteSelectionControl

Possible degrees of administrative control applied to the Route selection.

Applied stereotypes:
- Preliminary

Inherits literals from:
- SwitchControl

Contains Enumeration Literals:
- LOCK_OUT:
    - The resource is configured to temporarily not be available for use in the protection scheme(s) it is part of.
      This overrides all other protection control states including forced.
      If the item is locked out, then it cannot be used under any circumstances.
      Note: Only relevant when part of a protection scheme.
      Note: if a protection process that has a relationship to the item (i.e. is one of the options the protection process may choose) is deactivated by being isFrozen = true) then the lockout request will be rejected.
    - Applied stereotypes:
        - Preliminary

2.1.3.9 RouteSelectionReason

Qualified Name: CoreModel::CoreNetworkModel::FcRoute::RouteSelectionReason

The cause of the current route selection.

Applied stereotypes:

- Preliminary

Inherits literals from:

- RouteSelectionControl
- ProtectionReason

2.1.3.10 RunMode

Qualified Name: CoreModel::CoreNetworkModel::Clock::RunMode

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- FREE_RUN:
  - The clock is not synchronized to another clock.
  - Applied stereotypes:
    - Experimental
- LOCKED:
  - The clock is synchronized to another clock.
  - Applied stereotypes:
    - Experimental
- HOLD_OVER:
  - The clock was previously synchronized to another clock but that timing input has been lost. The clock is set to the last known synchronization.
  - Applied stereotypes:

        - Experimental

2.1.3.11 SwitchControl

Qualified Name: CoreModel::CoreNetworkModel::ForwardingConstruct::SwitchControl

Applied stereotypes:

- Preliminary

Contains Enumeration Literals:

- NORMAL:
    - No administrative control applied to the switch.
    - Applied stereotypes:
        - Preliminary
- MANUAL:
    - Resource temporarily chosen by control configuration where the resource is not the preferred resource.
      Preferred resource has highest priority.
      Temporarily overrides reversion.
      If this resource fails, it will switch to best available resource.
      If resource selected is shared and another FC requires the resource, then the selection control will change to Normal and switch to best available based upon normal rules.
      Cannot manually switch a Forced switch, cannot remove a forced switch, cannot switch to a locked out item and will be rejected if the protection process is deactivated by being Freeze = true).
      A manual switch/route that is selecting an FcPort, LTP, FC, Link or Route that is subsequently set to LOCK_OUT will have the manual removed (changed to NORMAL) and will switch away from the FcPort with LOCK_OUT to best available based upon normal rules.
      A manual switch that is selecting an FcPort that is subsequently selected by a Forced switch will be restored to normal operation and the manual will be removed.
      A manual switch/route that is selecting an FcPort, LTP, FC, Link or Route that is subsequently manual selected by another switch/route will have the manual removed and will switch away from the FcPort.
      Can be returned to NORMAL by configuration action.
    - Applied stereotypes:
        - Preliminary

- FORCED:
  - Resource temporarily chosen by control configuration where the resource is not the preferred resource.
    Preferred resource has highest priority.
    Temporarily overrides reversion.
    If this resource fails it will NOT switch.
    If resource selected is shared and another FC requires the resource through a FORCE on that FC and the FC is of a higher FcPriority then the selection control on this FC will change to NORMAL and switch to best available based upon normal rules.
    If the resource selected is then set to LOCK_OUT then the selection control will change to NORMAL and switch to best available based upon normal rules.
    Can be returned to NORMAL by configuration action.
  - Applied stereotypes:
    - Preliminary

2.1.3.12 SwitchStateReason

Qualified Name: CoreModel::CoreNetworkModel::ForwardingConstruct::SwitchStateReason

Explains the reason for the current switch state.

Applied stereotypes:
- Preliminary

Inherits literals from:
- ProtectionReason
- SwitchControl

2.1.3.13 TerminationDirection

Qualified Name: CoreModel::CoreNetworkModel::LogicalTerminationPoint::TerminationDirection

The directionality of a termination entity.

Applied stereotypes:

No stereotypes applied

Contains Enumeration Literals:

- BIDIRECTIONAL:
  - A Termination with both SINK and SOURCE flows.
- SINK:
  - The flow is up the layer stack from the server side to the client side.
    Considering an example of a Termination function within the termination entity, a SINK flow:
    - will arrive at the base of the termination function (the server side) where it is essentially at an INPUT to the termination component
    - then will be decoded and deconstructed
    - then relevant parts of the flow will be sent out of the termination function (the client side) where it is essentially at an OUTPUT from the termination component
    A SINK termination is one that only supports a SINK flow.
    A SINK termination can be bound to an OUTPUT Port of a Forwarding entity
- SOURCE:
  - The flow is down the layer stack from the client side to the server side.
    Considering an example of a Termination function within the termination entity, a SOURCE flow:
    - will arrive at the top of the termination function (the client side) where it is essentially at an INPUT to the termination component
    - then will be assembled with various overheads etc. and will be coded
    - then coded form of the assembly of flow will be sent out of the termination function (the server side) where it is essentially at an OUTPUT from the termination component
    A SOURCE termination is one that only supports a SOURCE flow.
    A SOURCE termination can be bound to an INPUT Port of a Forwarding entity
- UNDEFINED_OR_UNKNOWN:
  - Not a normal state. The system is unable to determine the correct value.

2.1.3.14 TerminationState

Qualified Name: CoreModel::CoreNetworkModel::LogicalTerminationPoint::TerminationState

Provides support for the range of behaviors and specific states that an LP can take with respect to termination of the signal.
Indicates to what degree the LayerTermination is terminated.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- LP_CAN_NEVER_TERMINATE:
  - A non-flexible case that can never be terminated.
  - Applied stereotypes:
    - Experimental
- LP_NOT_TERMINATED:
  - A flexible termination that can terminate but is currently not terminated.
  - Applied stereotypes:
    - Experimental
- TERMINATED_SERVER_TO_CLIENT_FLOW:
  - A flexible termination that is currently terminated for server to client flow only.
  - Applied stereotypes:
    - Experimental
- TERMINATED_CLIENT_TO_SERVER_FLOW:
  - A flexible termination that is currently terminated for client to server flow only.
  - Applied stereotypes:
    - Experimental
- TERMINATED_BIDIRECTIONAL:
  - A flexible termination that is currently terminated in both directions of flow.
  - Applied stereotypes:
    - Experimental
- LP_PERMENANTLY_TERMINATED:
  - A non-flexible termination that is always terminated (in both directions of flow for a bidirectional case and in the one direction of flow for both unidirectional cases).
  - Applied stereotypes:
    - Experimental
- TERMINATION_STATE_UNKNOWN:
  - There TerminationState cannot be determined.
  - Applied stereotypes:

- Experimental

2.1.4 Primitive Types

2.2 Core Foundation Model data dictionary

This section provides the model details for the foundation.

2.2.1 Classes

2.2.1.1 Address

Qualified Name: CoreModel::CoreFoundationModel::SuperClassesAndCommonPackages::ObjectClasses::Address

Provides an opportunity to state the location of the entity via one or more hierarchies of narrowing contexts.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Table 32: Attributes for Address

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.2.1.2 AdministrativeState

Qualified Name: CoreModel::CoreFoundationModel::StateModel::StateMachines::AdministrativeState::AdministrativeState

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

- Mature

2.2.1.3 ConditionalPackage

Qualified Name: CoreModel::CoreFoundationModel::SuperClassesAndCommonPackages::ObjectClasses::ConditionalPackage

The base class for conditional packages.

This class is abstract.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:
- Extension
- Label

2.2.1.4 Extension

Qualified Name: CoreModel::CoreFoundationModel::SuperClassesAndCommonPackages::ObjectClasses::Extension

Extension provides an opportunity to define properties not declared in the class that extend the class enabling a realization with simple ad-hoc extension of standard classes to be conformant.

This class is abstract.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY

Table 33: Attributes for Extension

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
extension	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.

2.2.1.5 FixedCapacitySharedResource

Qualified Name: CoreModel::CoreFoundationModel::StateModel::StateMachines::AssignmentState::FixedCapacitySharedResource::FixedCapacitySharedResource

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

2.2.1.6 GlobalClass

Qualified Name: CoreModel::CoreFoundationModel::SuperClassesAndCommonPackages::ObjectClasses::GlobalClass

Represents a type of thing (an Entity) that has instances which can exist in their own right (independently of any others).

Entity: Has identity, defined boundary, properties, functionality and lifecycle in a global context.

(This should be considered in the context of a Class: (usage) The representation of a thing that may be an entity or an inseparable Entity Feature).

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Inherits properties from:

- State_Pac
- Address

- Extension
- Name
- Label

Table 34: Attributes for GlobalClass

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.2.1.7 Label

Qualified Name: CoreModel::CoreFoundationModel::SuperClassesAndCommonPackages::ObjectClasses::Label

A property of an entity with a value that is not expected to be unique and is allowed to change. A label carries no semantics with respect to the purpose of the entity and has no effect on the entity behavior or state.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Table 35: Attributes for Label

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
label	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.

2.2.1.8 LocalClass

Qualified Name: CoreModel::CoreFoundationModel::SuperClassesAndCommonPackages::ObjectClasses::LocalClass

A LocalClass represents a Feature of an Entity. It is inseparable from a GlobalClass but is a distinct feature of that GlobalClass such that the instances of LocalClass are able to have associations to other instances.
Feature of an Entity: An inseparable, externally distinguishable part of an entity.
The mandatory LocalId of the LocalClass instance is unique in the context of the GlobalClass from which it is inseparable.
(This should be considered in the context of a Class: (usage) The representation of a thing that may be an entity or an inseparable feature of an entity.)

This class is abstract.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY

Inherits properties from:
- State_Pac
- Address
- Extension
- Name
- Label

Table 36: Attributes for LocalClass

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.2.1.9 Name

Qualified Name: CoreModel::CoreFoundationModel::SuperClassesAndCommonPackages::ObjectClasses::Name

Name: A property of an entity with a value that is unique in some namespace but may change during the life of the entity. A name carries no semantics with respect to the purpose of the entity.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Table 37: Attributes for Name

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
name	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.

2.2.1.10 NameAndValueAuthority

Qualified Name: CoreModel::CoreFoundationModel::SuperClassesAndCommonPackages::ObjectClasses::NameAndValueAuthority

Represents the authority that controls the legal values for the names and values of a name/value attribute.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Preliminary

Table 38: Attributes for NameAndValueAuthority

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
uuid	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The UUID for the NameAndValueAuthority.

2.2.1.11 OperationalState

Qualified Name: CoreModel::CoreFoundationModel::StateModel::StateMachines::OperationalState::OperationalState

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Mature

2.2.1.12 PermanentDedicatedResource

Qualified Name: CoreModel::CoreFoundationModel::StateModel::StateMachines::AssignmentState::PermanentDedicatedResource::PermanentDedicatedResource

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

2.2.1.13 State_Pac

Qualified Name: CoreModel::CoreFoundationModel::StateModel::ObjectClasses::State_Pac

Provides general state attributes.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Preliminary

Table 39: Attributes for State_Pac

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
operationalState	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

2.2.1.14 UniversalIdAuthority

Qualified Name: CoreModel::CoreFoundationModel::SuperClassesAndCommonPackages::ObjectClasses::UniversalIdAuthority

Represents the authority that controls the allocation of UUIDs.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Preliminary

Table 40: Attributes for UniversalIdAuthority

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
uuid	UniversalId	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The UUID for the UUID authority.

2.2.1.15 VariableCapacitySharedResource

Qualified Name: CoreModel::CoreFoundationModel::StateModel::StateMachines::AssignmentState::VariableCapacitySharedResource::VariableCapacitySharedResource

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

2.2.2 Data Types

2.2.2.1 Address

Qualified Name: CoreModel::CoreFoundationModel::SuperClassesAndCommonPackages::TypeDefinitions::Address

A description of location via a hierarchy of narrowing contexts.

Applied stereotypes:

- Experimental

Table 41: Attributes for Address

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
addressName	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The name of the address (to allow the specific hierarchy to be distinguished from others for the same entity).

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
addressElement	AddressElement	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The elements of the address that form the recursive scope narrowing.

2.2.2.2 AddressElement

Qualified Name: CoreModel::CoreFoundationModel::SuperClassesAndCommonPackages::TypeDefinitions::AddressElement

One element of a hierarchy of elements.
Note that the element must have one and only one value chosen from a list of potential value types.

Applied stereotypes:

- Experimental
- Choice

Table 42: Attributes for AddressElement

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
addressElementName	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The name of the address element (e.g. "shelf" as an element of a shelf/slot/port addressing scheme). The remainder of the structure has the reference for the shelf.
localId	LocalIdAndClass	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	If the element is a localId (where the element above in the hierarchy must be the context in which the specific localId is relevant).
uuid	UniversalId	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	If the element is a uuid (where this element could be the top of a hierarchy but may also be at some level in the hierarchy where address navigation is considered necessary to assist in location of the UUID).
name	NameAndClass	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	If the element is a name.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_address	Address	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
arbitraryElement	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Where the element is from some external model that is not formally represented in this model.

2.2.2.3 DateAndTime

Qualified Name: CoreModel::CoreFoundationModel::TypeDefinitions::DateAndTime

This primitive type defines the date and time according to the following structure:
"yyyyMMddhhmmss.s[Z|{+|-}HHMm]" where:

yyyy	"0000".."9999"	year
MM	"01".."12"	month
dd	"01".."31"	day
hh	"00".."23"	hour
mm	"00".."59"	minute
ss	"00".."59"	second
s	".0".".9"	tenth of second (set to ".0" if EMS or NE cannot support this granularity)
Z	"Z"	indicates UTC (rather than local time)
{+|-}	"+" or "-"	delta from UTC
HH	"00".."23"	time zone difference in hours
Mm	"00".."59"	time zone difference in minutes.

Applied stereotypes:
No stereotypes applied

2.2.2.4 LocalIdAndClass

Qualified Name: CoreModel::CoreFoundationModel::SuperClassesAndCommonPackages::TypeDefinitions::LocalIdAndClass

The localId and the class of entity that it identifies.

Applied stereotypes:

- Experimental

Table 43: Attributes for LocalIdAndClass

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
classOfInstance	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The class to which the name refers.
localId	NameAndValue	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The localId of the entity.

2.2.2.5 NameAndClass

Qualified Name: CoreModel::CoreFoundationModel::SuperClassesAndCommonPackages::TypeDefinitions::NameAndClass

The name and the class of entity that it names.

Applied stereotypes:

- Experimental

Table 44: Attributes for NameAndClass

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
classOfInstance	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The class to which the name refers.
name	NameAndValue	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	If the element is a name.

2.2.2.6 NameAndValue

Qualified Name: CoreModel::CoreFoundationModel::SuperClassesAndCommonPackages::TypeDefinitions::NameAndValue

A scoped name-value pair.

Applied stereotypes:
No stereotypes applied

Table 45: Attributes for NameAndValue

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
valueName	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The name of the value. The value need not have a name.
value	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The value.
_nameAndValueAuthority	NameAndValueAuthority	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The authority that defines the named value.
_globalClass	GlobalClass	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The scope of the name uniqueness.
_localClass	LocalClass	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The scope of the name uniqueness.

2.2.2.7 ToBeDefined

Qualified Name: CoreModel::CoreFoundationModel::TypeDefinitions::ToBeDefined

This type is used when the actual type of the attribute is expected to be complex but where the type has not yet been developed. This type should only be used for attributes that are experimental.

Applied stereotypes:
No stereotypes applied

2.2.2.8 UniversalId

Qualified Name: CoreModel::CoreFoundationModel::SuperClassesAndCommonPackages::TypeDefinitions::UniversalId

The universal ID value where the mechanism for generation is defined by some authority not directly referenced in the structure. An example structure is [IETF RFC4122].

Applied stereotypes:
No stereotypes applied

Table 46: Attributes for UniversalId

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
value	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The specific value of the universal id.

2.2.3 Enumeration Types

2.2.3.1 AdministrativeState

Qualified Name: CoreModel::CoreFoundationModel::StateModel::TypeDefinitions::AdministrativeState

The administrative state is used to show whether use of a resource is allowed or prohibited.
The administrative state can be observed and directly controlled by certain operational roles.
Typically, only a user with administrative privileges is allowed to write the administrative state, any other users are restricted to read only.

Applied stereotypes:
- Mature

Contains Enumeration Literals:
- LOCKED:
  - Users are administratively prohibited from making use of the resource.
  - Applied stereotypes:
    - Mature
- UNLOCKED:
  - Users are allowed to use the resource.
  - Applied stereotypes:

        - Mature
- SHUTTING_DOWN:
    - The resource is administratively restricted to existing instances of use only. There may be specific actions to remove existing uses. No new instances of use can be enabled.
      The resource automatically transitions to "locked" when the last user quits.
      The assignment state PENDING_WITHDRAWAL should be used to indicate to the client that the provider intends to withdraw the resource from service.

    - Applied stereotypes:
        - Preliminary

2.2.3.2 AssignmentState

Qualified Name: CoreModel::CoreFoundationModel::StateModel::TypeDefinitions::AssignmentState

This state is used to track the planned deployment, allocation to clients and withdrawal of resources.

Applied stereotypes:
- Preliminary

Contains Enumeration Literals:
- PLANNED:
    - The resource is planned but is not present in the network or has not been made available for use.

      The following additional information may also be provided:
      - Time: An indication of when the resources are expected to be available for use.
      - Comments on the status of the plan: For example:
      --- Preliminary – Initial plan, subject to change
      --- Committed
      --- Installation in progress
      --- Client request

    - Applied stereotypes:
        - Preliminary

- POTENTIAL_AVAILABLE:
  - The supporting resources are present in the network and available for use. The resources are shared with other clients but are not currently in use.
    A temporal expression is used to indicate when the resource will allocated to the client.
    (1) When a potential resource is configured and allocated to a client it is moved to the SCHEDULED_WITHDRAWAL state for that client.
    (2) If the potential resource has been consumed (e.g., allocated to another client) it is moved to the POTENTIAL_BUSY state for all other clients.
  - Applied stereotypes:
    - Preliminary
- POTENTIAL_BUSY:
  - The supporting resources are either present in the network but are not available for use by this client or, the resources have not been installed.
    - A temporal expression is used to indicate when the resource will free (i.e., POTENTIAL_AVAILABLE) or will be allocated to the client (i.e., will be moved to SCHEDULED_WITHDRAWAL for the client).

  - Applied stereotypes:
    - Preliminary
- INSTALLED:
  - The resource is present in the network has been allocated to the client (i.e., the resource is not shared) and should be capable of providing the service.

    Note that if a resource is shared, then the SCHEDULED_WITHDRAWAL or SCHEDULED_CAPACITY_CHANGE enumeration is used (instead of INSTALLED) to indicate that the resource has been allocated to the client for a defined period of time and should be capable of providing service.
  - Applied stereotypes:
    - Preliminary
- PENDING_WITHDRAWAL:
  - The resource has been marked for withdrawal (e.g., to allow maintenance or removal of the resource). Should include
    - Withdrawal Time: Indicates when the resources will be withdrawn
    - Return Time: Indicates when the resources are expected to be made available for use.
    If the resource will not be returned to service, then the return time is empty.

Notes:
- If the return time is empty the abstraction (including the UUID) should be deleted after the resource is withdrawn
- If a return time is defined the abstraction should be moved to the UNAVAILABLE state after the resource is withdrawn

  - Applied stereotypes:
    - Preliminary
- UNAVAILABLE:
  - The resource is present in the network but is unable to provide service for a predefined period of time (e.g., maintenance is being performed on the resource).
    Should include:
    - Time: Indicates when the resource is expected to be available for use.

  - Applied stereotypes:
    - Preliminary
- PENDING_WITHDRAWAL_FREE:
  - - Only used in a dependent abstraction or a client abstraction
    - The resource is not currently in use and the provider may be withdraw the resource
    (without causing disruption to the client service).

  - Applied stereotypes:
    - Preliminary
- SCHEDULED_CAPACITY_CHANGE:
  - The resource is present in the network. It is shared with other clients and the capacity available to the client changes over time.
    - A temporal express is used to indicate when the capacity allocated to the client will be changed.

  - Applied stereotypes:
    - Preliminary
- SCHEDULED_WITHDRAWAL:
  - The resource is present in the network and is capable of providing the service for the client for a predefined period of time.

- A temporal expression is used to indicate when the resource will be (temporarily) withdrawn.

- Applied stereotypes:
  - Preliminary

2.2.3.3 OperationalState

Qualified Name: CoreModel::CoreFoundationModel::StateModel::TypeDefinitions::OperationalState

The operational state is used to indicate whether or not the resource is installed and working.

Applied stereotypes:
- Mature

Contains Enumeration Literals:
- DISABLED:
  - The resource is unable to meet the SLA of the user of the resource.
    If no (explicit) SLA is defined the resource is disabled if it is totally inoperable and unable to provide service to the user.
  - Applied stereotypes:
    - Mature
- ENABLED:
  - The resource is partially or fully operable and available for use.
  - Applied stereotypes:
    - Mature

2.2.4 Primitive Types

2.2.4.1 BitString

Qualified Name: CoreModel::CoreFoundationModel::TypeDefinitions::BitString

This primitive type defines a bit oriented string.
The size of the BitString will be defined in the valueRange property of the attribute; according to ASN.1 (X.680).
The semantic of each bit position will be defined in the Documentation field of the attribute.

Applied stereotypes:
- Obsolete

2.2.4.2 PrintableString
Qualified Name: CoreModel::CoreFoundationModel::TypeDefinitions::PrintableString

A string that only includes printable characters.

Applied stereotypes:
- Obsolete

2.3 Core Physical Model data dictionary

This section provides the details for the model of physical things including equipment and connectors.

2.3.1 Classes

2.3.1.1 AccessPort
Qualified Name: CoreModel::CorePhysicalModel::ConnectorAndPin::ObjectClasses::AccessPort

A group of pins that together support a signal group where any one pin removed from the group will prevent all signals of the signal group from flowing successfully.

This class is abstract.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:
- PinGroup

2.3.1.2 ActualEquipment

Qualified Name: CoreModel::CorePhysicalModel::ExpectedAndActual::ObjectClasses::ActualEquipment

The equipment that is actually present in the physical network.
It will expose all dynamic properties and some critical static properties.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- EquipmentDetail

2.3.1.3 ActualHolder

Qualified Name: CoreModel::CorePhysicalModel::ExpectedAndActual::ObjectClasses::ActualHolder

A holder in the ActualEquipment.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- HolderDetails

2.3.1.4 AggregateFunction

Qualified Name: CoreModel::CorePhysicalModel::EquipmentToFunction::ObjectClasses::AggregateFunction

Represents some assembly of atomic functions that can be considered as useful from some perspective. Can be viewed as one or more functional blocks (essential leading to a recursive cycle of Block --> Atomic --> Aggregate --> Block).
Each of the functional entities in the model is a view of a single AggregateFunction.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Obsolete

Table 47: Attributes for AggregateFunction

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_atomicFunction	AtomicFunction	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	See referenced class
_functionBlock	FunctionBlock	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	See referenced class
_atomicFunctionView	AtomicFunction	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	See referenced class

2.3.1.5 AtomicFunction

Qualified Name: CoreModel::CorePhysicalModel::EquipmentToFunction::ObjectClasses::AtomicFunction

Represents the micro-function that is the largest function of the functional block that will not need to be subdivided when forming the relevant abstract views (i.e., it can just be assembled).

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Obsolete

Table 48: Attributes for AtomicFunction

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_aggregateFunction	AggregateFunction	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	See referenced class

2.3.1.6 Cable

Qualified Name: CoreModel::CorePhysicalModel::EquipmentPatternStructure::ObjectClasses::Cable

Basic model representing a cable with connectors fitted at the cable ends as appropriate.
The cable may be an abstraction where the apparent ends are actually ends of two different cables that are connected indirectly by other cables and where that cable detail is not relevant or is not known.
This is intentionally a very basic representation of a cable.
The model does not account for any outside plant considerations.
In a more sophisticated representation cable ends might be represented that then associate to the attached connector.
At this point it is assumed that the basic model is sufficient.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- GroupOfStrands
- GlobalClass

Table 49: Attributes for Cable

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_connector	Connector	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	A connector that terminates the Cable to support the cable and/or allow signal flow into/out of the Cable.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_mechanicalFeatures	MechanicalFeatures	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_strand	Strand	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_bundledCable	Cable	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.3.1.7 CableDetails

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::PatternClassDetail::CableDetails

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Table 50: Attributes for CableDetails

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_spatialPropertiesOfType	SpatialPropertiesOfType	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_physicalCharacteristics	PhysicalCharacteristics	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_manufacturedThing	ManufacturedThing	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.3.1.8 Connector

Qualified Name: CoreModel::CorePhysicalModel::EquipmentPatternStructure::ObjectClasses::Connector

Represents a connector that may be fully exposed (e.g. to plug in a cable or on the end of a cable) or partially exposed (e.g. backplane to plug in another piece of equipment such as a module).
A physical port on the Equipment. A place where signals produced by the functionality of the Equipment may be accessed.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Preliminary

Inherits properties from:

- LocalClass
- PinGroup

Table 51: Attributes for Connector

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_connector	Connector	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	The Connector that is attached to this Connector so as to join the Equipment/Cable with this Connector to another Equipment/Cable. This may provide physical support and/or allow signal flow.
_pin	Pin	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
orientation	ConnectorAndPinOrientation	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The physical orientation of the connector, such as whether it is a male, or female, or neutral structure.
_pinLayout	PinLayout	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
connectorType	ToBeDefined	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The type of the connector.
role	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The purpose of the Connector in the physical space and the functional space.
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.
_pin	Pin	1..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.3.1.9 ConnectorCableEnd

Qualified Name: CoreModel::CorePhysicalModel::RuleModels::ConnectorRules::ObjectClasses::ConnectorCableEnd

A rule class (an abstract specialization of Connector) that represents a connector on the end of a cable.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- Connector

Table 52: Attributes for ConnectorCableEnd

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_connectorOnEquipmentForCable	ConnectorOnEquipmentForCable	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The cable connector is plugged into a connector on an Equipment.
_connectorOnCableEnd	ConnectorCableEnd	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The cable is joined to another cable via connectors.
_connector Inherited	Connector	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	The Connector that is attached to this Connector so as to join the Equipment/Cable with this Connector to another Equipment/Cable. This may provide physical support and/or allow signal flow.
_pin Inherited	Pin	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
orientation Inherited	ConnectorAndPinOrientation	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The physical orientation of the connector, such as whether it is a male, or female, or neutral structure.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_pinLayout Inherited	PinLayout	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
connectorType Inherited	ToBeDefined	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The type of the connector.
role Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The purpose of the Connector in the physical space and the functional space.
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.
_pin Inherited	Pin	1..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.3.1.10 ConnectorDetails

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::PatternClassDetail::ConnectorDetails

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Table 53: Attributes for ConnectorDetails

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_position	Position	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_mechanicalFeatures	MechanicalFeatures	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_manufacturedThing	ManufacturedThing	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.3.1.11 ConnectorInHolder

Qualified Name: CoreModel::CorePhysicalModel::RuleModels::ConnectorRules::ObjectClasses::ConnectorInHolder

A rule class (an abstract specialization of Connector) that represents a connector that are only accessible to an equipment inserted in the holder.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- Connector

Table 54: Attributes for ConnectorInHolder

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_connectorOnEquipmentForHolder	ConnectorOnEquipmentForHolder	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The holder connector has a connector from the referenced equipment plugged into it.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_connector Inherited	Connector	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	The Connector that is attached to this Connector so as to join the Equipment/Cable with this Connector to another Equipment/Cable. This may provide physical support and/or allow signal flow.
_pin Inherited	Pin	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
orientation Inherited	ConnectorAndPinOrientation	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The physical orientation of the connector, such as whether it is a male, or female, or neutral structure.
_pinLayout Inherited	PinLayout	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
connectorType Inherited	ToBeDefined	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The type of the connector.
role Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The purpose of the Connector in the physical space and the functional space.
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.
_pin Inherited	Pin	1..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.3.1.12 ConnectorOnEquipmentForCable

Qualified Name: CoreModel::CorePhysicalModel::RuleModels::ConnectorRules::ObjectClasses::ConnectorOnEquipmentForCable

A rule class (an abstract specialization of Connector) that represents a connector exposed on an equipment such that a cable may be plugged in.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- Connector

Table 55: Attributes for ConnectorOnEquipmentForCable

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_connectorCableEnd	ConnectorCableEnd	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The connector on an equipment has a cable plugged into it.
_connector Inherited	Connector	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	The Connector that is attached to this Connector so as to join the Equipment/Cable with this Connector to another Equipment/Cable. This may provide physical support and/or allow signal flow.
_pin Inherited	Pin	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
orientation Inherited	ConnectorAndPinOrientation	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The physical orientation of the connector, such as whether it is a male, or female, or neutral structure.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_pinLayout Inherited	PinLayout	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
connectorType Inherited	ToBeDefined	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The type of the connector.
role Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The purpose of the Connector in the physical space and the functional space.
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.
_pin Inherited	Pin	1..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.3.1.13 ConnectorOnEquipmentForHolder

Qualified Name: CoreModel::CorePhysicalModel::RuleModels::ConnectorRules::ObjectClasses::ConnectorOnEquipmentForHolder

A rule class (an abstract specialization of Connector) that represents a connector on an equipment that is intended to mate with a connector in a holder.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- Connector

Table 56: Attributes for ConnectorOnEquipmentForHolder

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_connectorInHolder	ConnectorInHolder	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The equipment connector is plugged into the referenced holder connector.
_connector Inherited	Connector	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	The Connector that is attached to this Connector so as to join the Equipment/Cable with this Connector to another Equipment/Cable. This may provide physical support and/or allow signal flow.
_pin Inherited	Pin	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
orientation Inherited	ConnectorAndPinOrientation	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The physical orientation of the connector, such as whether it is a male, or female, or neutral structure.
_pinLayout Inherited	PinLayout	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
connectorType Inherited	ToBeDefined	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The type of the connector.
role Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The purpose of the Connector in the physical space and the functional space.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.
_pin Inherited	Pin	1..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.3.1.14 ElementalSignals

Qualified Name: CoreModel::CorePhysicalModel::ConnectorAndPin::ObjectClasses::ElementalSignals

The elemental (sub-atomic) parts of an "indivisible" signal where processing in the LTP is required to extract the elemental signals.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 57: Attributes for ElementalSignals

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_pin	Pin	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.3.1.15 EnvironmentalRating

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::InvariantDetails::EnvironmentalRating

Represents the invariant physical operational boundaries for the equipment/holder type.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 58: Attributes for EnvironmentalRating

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
thermalRating	ThermalRating	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	This attribute represents the thermal characteristics (preferred maximum/minimum, absolute maximum/minimum etc) that the entity can tolerate.
powerRating	PowerRating	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	This attribute represents the power chracteristics (peak and mean per power source) of the entity. For an Equipment this is the power consumption. For a Holder this is the power that can be conveyed.
humidityRating	ToBeDefined	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	This attribute represents the humidity characteristics (preferred maximum/minimum, absolute maximum/minimum etc.) that the entity can tolerate.

2.3.1.16 Equipment

Qualified Name: CoreModel::CorePhysicalModel::EquipmentPatternStructure::ObjectClasses::Equipment

Represents any relevant physical thing.
Can be either field replaceable or not field replaceable.
Note: The model is currently constrained to inside plant.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

- Mature

Inherits properties from:

- GlobalClass

Table 59: Attributes for Equipment

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_connector	Connector	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	A Connector on the Equipment.
_containedHolder	Holder	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	References the Holder in an Equipment that is available to take other Equipments. For example: - Slot in a sub-rack - Slot in a Field Replaceable Unit that can take a small form-factor pluggable.
_addressedByHolder	Holder	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A Holder through which the Equipment can be identified (where the Holder name/identifier is part of the Address).
_encapsulatedNonFru	Equipment	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	An Equipment that is part of this Equipment and that is not separately field replaceable (i.e. will be field replaced with this Equipment).
_exposedCable	Cable	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A Cable that is attached to part of the Equipment at one end and exposed at the other end through a Connector.
_nonFruSupportPosition	NonFruSupportPosition	0..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
isFieldReplaceable	Boolean	1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Indicates whether or not the equipment can be removed and replaced "in the field" (i.e. in a deployment) by normal operations personnel.
_functionBlock	FunctionBlock	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	See referenced class
_expectedEquipment	ExpectedEquipment	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_actualEquipment	ActualEquipment	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_equipmentFunctionalBoundary	ConstraintDomain	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.3.1.17 EquipmentDetail

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::PatternClassDetail::EquipmentDetail

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Inherits properties from:

- LocalClass

Table 60: Attributes for EquipmentDetail

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_location	Location	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_structure	EquipmentStructure	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_swappability	Swappability	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_physicalProperties	PhysicalProperties	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_functionEnablers	FunctionEnablers	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_mechanicalFunctions	MechanicalFunctions	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_physicalCharacteristics	PhysicalCharacteristics	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_mechanicalFeatures	MechanicalFeatures	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_spatialPropertiesOfType	SpatialPropertiesOfType	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_environmentalRating	EnvironmentalRating	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_manufacturedThing	ManufacturedThing	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.3.1.18 EquipmentInstance

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::InvariantDetails::EquipmentInstance

Represents the per instance invariant properties of the equipment.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 61: Attributes for EquipmentInstance

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
manufactureDate	To be defined	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	This attribute represents the date on which this instance is manufactured.
serialNumber	To be defined	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	This attribute represents the serial number of this instance.
assetInstanceIdentifier	To be defined	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	This attribute represents the asset identifier of this instance from the manufacturer's perspective.

2.3.1.19 EquipmentStructure

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::InvariantDetails::EquipmentStructure

Represents the form of the equipment.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 62: Attributes for EquipmentStructure

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
category	EquipmentCategory	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	This attribute provides the identifier for a category of equipments regarded as having particular shared characteristics.

2.3.1.20 EquipmentType

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::InvariantDetails::EquipmentType

Represents the invariant properties of the equipment that define and characterize the type.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 63: Attributes for EquipmentType

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
description	To be defined	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Text describing the type of Equipment.
modelIdentifier	To be defined	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	This attribute identifies the model of the equipment.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
partTypeIdentifier	To be defined	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	This attribute identifies the part type of the equipment.
typeName	To be defined	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	This attribute identifies the type of the equipment.
version	To be defined	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	This attribute identifies the version of the equipment.

2.3.1.21 ExpectedEquipment

Qualified Name: CoreModel::CorePhysicalModel::ExpectedAndActual::ObjectClasses::ExpectedEquipment

A definition of the restrictions on the equipment that is expected to be present in the physical network at a particular "place".
The expected equipment will state the type and may constrain any other invariant properties.
It may also provide desired ranges for dynamic properties.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- EquipmentDetail

2.3.1.22 ExpectedHolder

Qualified Name: CoreModel::CorePhysicalModel::ExpectedAndActual::ObjectClasses::ExpectedHolder

A definition of a holder expected in the ActualEquipment (i.e. an ActualHolder) as part of the constraints provided by the ExpectedEquipment.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:
- HolderDetails

2.3.1.23 FieldReplaceable

Qualified Name: CoreModel::CorePhysicalModel::RuleModels::FruNonFruRules::ObjectClasses::FieldReplaceable

A rule class (an abstract specialization of Equipment) that represents an equipment that can be replaced in the field.
May plug in to a holder in another equipment (if not stand-alone).
Realization could use an FRU Boolean on Equipment.

This class is abstract.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:
- Equipment

Table 64: Attributes for FieldReplaceable

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_equipmentNonFru	NonFieldReplaceable	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_holder	Holder	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_holderAddress	Holder	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_connector	Connector	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_connector Inherited	Connector	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	A Connector on the Equipment.
_containedHolder Inherited	Holder	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	References the Holder in an Equipment that is available to take other Equipments. For example: - Slot in a sub-rack - Slot in a Field Replaceable Unit that can take a small form-factor pluggable.
_addressedByHolder Inherited	Holder	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A Holder through which the Equipment can be identified (where the Holder name/identifier is part of the Address).
_encapsulatedNonFru Inherited	Equipment	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	An Equipment that is part of this Equipment and that is not separately field replaceable (i.e. will be field replaced with this Equipment).
_exposedCable Inherited	Cable	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A Cable that is attached to part of the Equipment at one end and exposed at the other end through a Connector.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_nonFruSupportPosition Inherited	NonFruSupportPosition	0..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
isFieldReplaceable	Boolean	1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Indicates whether or not the equipment can be removed and replaced "in the field" (i.e. in a deployment) by normal operations personnel.
_functionBlock Inherited	FunctionBlock	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	See referenced class
_expectedEquipment Inherited	ExpectedEquipment	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_actualEquipment Inherited	ActualEquipment	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_equipmentFunctionalBoundary Inherited	ConstraintDomain	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.3.1.24 FunctionBlock

Qualified Name: CoreModel::CorePhysicalModel::EquipmentToFunction::ObjectClasses::FunctionBlock

Represents the chunks of base functionality provided by the equipment.
The chunks of base functionality are likely to relate to the hardware layout and be quite distinct from the functions of the familiar abstract representation.
The functions are necessarily abstract and, to a degree, virtualized.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Obsolete

Table 65: Attributes for FunctionBlock

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_atomicFunction	AtomicFunction	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	See referenced class
_equipment	Equipment	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	See referenced class

2.3.1.25 FunctionEnablers

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::DynamicDetails::FunctionEnablers

Represents the dynamic aspects of the properties that relate to the motive force that directly enable functionality to emerge from the equipment.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 66: Attributes for FunctionEnablers

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
powerState	ToBeDefined	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The state of the power being supplied to the equipment. Note that this attribute summarizes the power state. Full details on the actual power system would be provided from a number of PC instances representing the relevant parts of the Power function (e.g. different voltage supplies).

2.3.1.26 GroupOfPins

Qualified Name: CoreModel::CorePhysicalModel::ConnectorAndPin::ObjectClasses::GroupOfPins

A group of pins from one or more connectors relevant for some purpose.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Obsolete

2.3.1.27 GroupOfStrands

Qualified Name: CoreModel::CorePhysicalModel::ConnectorAndPin::ObjectClasses::GroupOfStrands

A group of strands from one or more cables relevant for some purpose

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

2.3.1.28 Holder

Qualified Name: CoreModel::CorePhysicalModel::EquipmentPatternStructure::ObjectClasses::Holder

Represents a space in an equipment in which another equipment can be fitted in the field.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Mature

Inherits properties from:

- LocalClass

Table 67: Attributes for Holder

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_connector	Connector	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	The connector associated with a Holder of an Equipment. May represent connector on a backplane that takes Field Replaceable Units or a connector on a circuit pack that takes an SFP (Small Form-factor Pluggable).

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_occupyingFru	Equipment	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The FRU that is occupying the holder. A holder may be unoccupied. An FRU may occupy more hat one holder (using or blocking are intentionally not distinguished here).
holderLocation	Address	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The relative position of the holder in the context of its containing equipment along with the position of that containing Equipment (and further recursion).
_supportedEquipmentType	SupportedEquipmentType	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	An Equipment type that the Holder can accommodate (is compatible with).
_expectedHolder	ExpectedHolder	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_actualHolder	ActualHolder	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.3.1.29 HolderDetails

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::PatternClassDetail::HolderDetails

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Inherits properties from:

- LocalClass

Table 68: Attributes for HolderDetails

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_spatialPropertiesOfType	SpatialPropertiesOfType	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_environmentalRating	EnvironmentalRating	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_holderMonitor	HolderMonitor	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_position	Position	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_holderStructure	HolderStructure	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.3.1.30 HolderMonitor

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::DynamicDetails::HolderMonitor

Represents the dynamic state of the holder instance.

Applied stereotypes:

- OpenModelClass

    - support: MANDATORY
- Experimental

Table 69: Attributes for HolderMonitor

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
isActive	Boolean	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Indicates that the holder is active and is supporting an Equipment instance.
isActualMismatchWithExpected	Boolean	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Indicates that the equipment in the holder does not match the equipment expected to be in the holder.
_aggregateFunction	AggregateFunction	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	Obsolete
_supportingPc	ProcessingConstruct	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The functionality supporting this entity.

2.3.1.31 HolderStructure

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::InvariantDetails::HolderStructure

Represents the form of the holder.

Applied stereotypes:
- OpenModelClass
    - support: MANDATORY
- Experimental

Table 70: Attributes for HolderStructure

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
holderCategory	HolderCategory	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided
isCaptive	Boolean	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided
isGuided	Boolean	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	This attribute indicates whether the holder has guides that constrain the position of the equipment in the holder or not.
isQuantisedSpace	Boolean	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided

2.3.1.32 Location

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::DynamicDetails::Location

Represents where the equipment is.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 71: Attributes for Location

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
equipmentLocation	Address	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	To be provided

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
geographicalLocation	Address	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	To be provided

2.3.1.33 ManufacturedThing

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::InvariantDetails::ManufacturedThing

Collects all invariant aspects of a manufactured thing.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 72: Attributes for ManufacturedThing

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_manufacturerProperties	ManufacturerProperties	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_equipmentType	EquipmentType	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_equipmentInstance	EquipmentInstance	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_operatorAugmentedEquipmentType	OperatorAugmentedEquipmentType	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_operatorAugmentedEquipment Instance	OperatorAugmentedEquipme ntInstance	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.3.1.34 ManufacturerProperties

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::InvariantDetails::ManufacturerProperties

Represents the properties of the manufacturer.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 73: Attributes for ManufacturerProperties

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
manufacturerIdentifier	To be defined	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided
manufacturerName	To be defined	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided

2.3.1.35 MechanicalFeatures

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::InvariantDetails::MechanicalFeatures

Represents the invariant characteristics of dynamic mechanical features of a physical thing.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

- Experimental

2.3.1.36 MechanicalFunctions

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::DynamicDetails::MechanicalFunctions

Represents the dynamic aspects of the mechanical functions of the equipment.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Table 74: Attributes for MechanicalFunctions

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
rotationSpeed	ToBeDefined	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided

2.3.1.37 MultipleStrandSpan

Qualified Name: CoreModel::CorePhysicalModel::ConnectorAndPin::ObjectClasses::MultipleStrandSpan

An adjacency between AccessPorts.
The adjacency is supported by a group of strands between pins of the AccessPorts.
This is a physical abstraction.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- GroupOfStrands

Table 75: Attributes for MultipleStrandSpan

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_accessPort	AccessPort	2..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_strand	Strand	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.3.1.38 NonFieldReplaceable

Qualified Name: CoreModel::CorePhysicalModel::RuleModels::FruNonFruRules::ObjectClasses::NonFieldReplaceable

A rule class (an abstract specialization of Equipment) that represents an equipment that cannot be replaced in the field.
Is simply a subordinate part of an FRU (or another NFRU – where there must be an FRU at the top of the hierarchy).
Does not have any exposed holders (any associated holders are assumed to belong to the containing FRU).
Does not have any connectors (any associated connectors are assumed to belong to the containing FRU).

This class is abstract.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:
- Equipment

2.3.1.39 NonFruSupportPosition

Qualified Name: CoreModel::CorePhysicalModel::EquipmentSpecification::ObjectClasses::NonFruSupportPosition

Equivalent to the holder for the FRU, represents in the specification a place where one or more types of non-FRU could be present. Unlike the FRU in a Holder, the non-FRU present is fixed in place whilst the equipment is in the field (as it is not Field-replaceable).

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 76: Attributes for NonFruSupportPosition

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_supportedNonFruType	SupportedNonFruType	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.3.1.40 OperatorAugmentedEquipmentInstance

Qualified Name:
CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::InvariantDetails::OperatorAugmentedEquipmentInstance

Represents the invariant properties of the equipment asset allocated by the operator that define and characterize the type.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 77: Attributes for OperatorAugmentedEquipmentInstance

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
assetInstanceIdentifier	To be defined	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	This attribute represents the asset identifier of this instance from the operator's perspective.

2.3.1.41 OperatorAugmentedEquipmentType

Qualified Name:
CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::InvariantDetails::OperatorAugmentedEquipmentType

Represents the invariant properties of the equipment asset allocated by the operator that define and characterize the type.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 78: Attributes for OperatorAugmentedEquipmentType

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
assetTypeIdentifier	To be defined	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided

2.3.1.42 PhysicalCharacteristics

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::InvariantDetails::PhysicalCharacteristics

Represents the invariant physical characteristics (including composition and physical robustness) of the type.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 79: Attributes for PhysicalCharacteristics

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
weightCharaceristics	ToBeDefined	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided
fireCharacteristics	ToBeDefined	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided
materials	ToBeDefined	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided

2.3.1.43 PhysicalProperties

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::DynamicDetails::PhysicalProperties

Represents the dynamic aspects of the physical environmental properties of the equipment.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 80: Attributes for PhysicalProperties

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
temperature	ToBeDefined	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided

2.3.1.44 Pin

Qualified Name: CoreModel::CorePhysicalModel::ConnectorAndPin::ObjectClasses::Pin

An individual physical connection point (male or female) that is not relevantly divisible.
May be capable of carrying electrical or optical signals.
A pin normally has only one wire/fiber strand attached.
It may have more than one wire/fiber attached but is such that the attachment forms a physical merge (all attached things receive exactly the same signal and any inputs to the pin are electrically/optically merged).

This class is abstract.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Preliminary

Table 81: Attributes for Pin

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_position	Position	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
orientation	ConnectorAndPinOrientation	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	To be provided

2.3.1.45 PinGroup

Qualified Name: CoreModel::CorePhysicalModel::ConnectorAndPin::ObjectClasses::PinGroup

A group of pins relevant for some purpose.

This class is abstract.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Table 82: Attributes for PinGroup

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_pin	Pin	1..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.3.1.46 PinLayout

Qualified Name: CoreModel::CorePhysicalModel::ConnectorAndPin::ObjectClasses::PinLayout

The structuring of pins in a connector.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 83: Attributes for PinLayout

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_position	Position	1..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.3.1.47 Position

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::InvariantDetails::Position

Represents the invariant relative position of the holder (with respect to some frame of reference in an equipment) or connector on an equipment or pin in a connector.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 84: Attributes for Position

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
relativePosition	ToBeDefined	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided

2.3.1.48 ResilienceSelector

Qualified Name: CoreModel::CorePhysicalModel::EquipmentToFunction::ObjectClasses::ResilienceSelector

Represents the ability to select capability from two or more identical FunctionalBlocks so as to give rise to an equivalent emergent resilient function.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Obsolete

Table 85: Attributes for ResilienceSelector

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_resilientFunctionBlock	ResilientFunctionBlock	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	See referenced class
_functionBlock	FunctionBlock	2..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	See referenced class

2.3.1.49 ResilientFunctionBlock

Qualified Name: CoreModel::CorePhysicalModel::EquipmentToFunction::ObjectClasses::ResilientFunctionBlock

Represents the functions emergent from a function protection process.
The emergent functions are necessarily significantly virtualized.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Obsolete

Table 86: Attributes for ResilientFunctionBlock

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_atomicFunction	AtomicFunction	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	See referenced class

2.3.1.50 SignalRefPt

Qualified Name: CoreModel::CorePhysicalModel::ConnectorAndPin::ObjectClasses::SignalRefPt

A single coherent signal as processed by a single LTP.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 87: Attributes for SignalRefPt

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_ltp	LogicalTerminationPoint	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_elementalSignals	ElementalSignals	1..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.3.1.51 SignalRefPtGroup

Qualified Name: CoreModel::CorePhysicalModel::ConnectorAndPin::ObjectClasses::SignalRefPtGroup

A conceptual access for a group of signals (where that group of signals cannot be separated).
A physical indivisible group of signals.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 88: Attributes for SignalRefPtGroup

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_accessPort	AccessPort	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_signalRefPt	SignalRefPt	1..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.3.1.52 SpatialPropertiesOfType

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::InvariantDetails::SpatialPropertiesOfType

Represents the basic invariant spatial properties of a physical thing.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 89: Attributes for SpatialPropertiesOfType

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
height	ToBeDefined	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided
width	ToBeDefined	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided
length	ToBeDefined	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided

2.3.1.53 Strand

Qualified Name: CoreModel::CorePhysicalModel::ConnectorAndPin::ObjectClasses::Strand

A Strand represents a continuous long, thin piece of a medium such as glass fiber or copper wire.

In this model a Strand:
- a strand has two ends
- a splice can only be between 2 strands.
- the end of a strand may have a splice, a connector or be hidden
- only one end can be hidden in an equipment

- where a cable has more than two end each strand only goes between two of the ends
This model does NOT account for multiple copper strands being spliced.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Table 90: Attributes for Strand

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_pin	Pin	0..2	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_adjacentstrand	Strand	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_splicedStrand	Strand	0..2	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
strandMediaCharacteristics		1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	To be provided

2.3.1.54 SupportConstraints

Qualified Name: CoreModel::CorePhysicalModel::EquipmentSpecification::ObjectClasses::SupportConstraints

Rules related to how both non-FRU and FRU presence restricts the potential for additional equipments to be installed.
An FRU type installed in one holder may limit the FRU types that can be installed in another holder etc.

Applied stereotypes:
- OpenModelClass

    - support: MANDATORY
- Experimental

Table 91: Attributes for SupportConstraints

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_constrainedSupportedNonFruType	SupportedNonFruType	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_constrainedSupportedFruType	SupportedEquipmentType	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.3.1.55 SupportedEquipmentType

Qualified Name: CoreModel::CorePhysicalModel::EquipmentSpecification::ObjectClasses::SupportedEquipmentType

The FRU equipment types supported by the holder.

Applied stereotypes:
- OpenModelClass
    - support: MANDATORY
- Preliminary

Table 92: Attributes for SupportedEquipmentType

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_fruDetails	Equipment	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_supportConstraints	SupportConstraints	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_holder	Holder	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.3.1.56 SupportedNonFruType

Qualified Name: CoreModel::CorePhysicalModel::EquipmentSpecification::ObjectClasses::SupportedNonFruType

The non-FRU equipment types supported by the non-FRU support position.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 93: Attributes for SupportedNonFruType

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_nonFruDetails	Equipment	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_blockedNonFruPosition	NonFruSupportPosition	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_supportConstraints	SupportConstraints	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.3.1.57 Swappability

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::ObjectClasses::InvariantDetails::Swappability

Represents the degree of field replacement that is possible for the equipment type.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 94: Attributes for Swappability

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
isHotSwappable	Boolean	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided

2.3.2 Data Types

2.3.2.1 PowerRating

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::DataTypes::PowerRating

Applied stereotypes:

- Experimental

Table 95: Attributes for PowerRating

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
powerRatingName	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Name of the rating property, e.g. Absolute.
powerRatingValue	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	To be provided

2.3.2.2 ThermalRating

Qualified Name: CoreModel::CorePhysicalModel::EquipmentDetail::DataTypes::ThermalRating

A thermal rating value range.

Applied stereotypes:
- Experimental

Table 96: Attributes for ThermalRating

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
thermalRatingName	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Name of the rating property, e.g. Absolute.
maximumTemperature	Real	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The maximum temperature in Celsius.
minimumTemperature	Real	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The minimum temperature in Celsius.

2.3.3 Enumeration Types

2.3.3.1 ConnectorAndPinOrientation

Qualified Name: CoreModel::CorePhysicalModel::EquipmentPatternStructure::DataTypes::ConnectorAndPinOrientation

Most connector schemes are asymmetric such that there are two orientations of the connector where a mating is only possible between two connectors of different orientations.
A multi-pin connector may have a mix of pin orientations. In this case, it is expected that the dominant orientation of pin is chosen for the connector orientation.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- MALE:
  - The connecting elements are dominantly protrusions.
  - Applied stereotypes:

        - Experimental
- FEMALE:
    - The connecting elements are dominantly indentations.
    - Applied stereotypes:
        - Experimental
- SYMMETRIC_NEUTRAL:
    - The pin (and housing) orientation combination is such that it is symmetric so a connector is compatible with itself.
      The connecting element may be a surface rather than protrusions or indentations.
    - Applied stereotypes:
        - Experimental

2.3.3.2 EquipmentCategory

Qualified Name: CoreModel::CorePhysicalModel::EquipmentPatternStructure::DataTypes::EquipmentCategory

The form of equipment.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- SUBRACK:
    - An assembly with holders designed to accommodate CIRCUIT_PACKs.
      The assembly is designed to be mounted in a RACK.
    - Applied stereotypes:
        - Experimental
- CIRCUIT_PACK:
    - An assembly with connectors compatible with those in a holder.
      The assembly is designed to be mounted in a holder (SLOT) of a SUBRACK.
      May also support holders (SLOTs) for SMALL_FORMFACTOR_PLUGGABLEs.
    - Applied stereotypes:
        - Experimental
- SMALL_FORMFACTOR_PLUGGABLE:

    - A small assembly (compared to a CIRCUIT_PACK) with connectors compatible with those in a holder.
      The assembly is designed to be mounted in a holder (SLOT) of a CIRCUIT_PACK or STAND_ALONE_UNIT.
    - Applied stereotypes:
      - Experimental
- STAND_ALONE_UNIT:
    - An assembly with connectors for cabling and potentially with holders.
      The assembly is designed to be mounted in a freeform environment (on a table or simple mechanical cabinet).
      May support holders (SLOTs) for CIRCUIT_PACKs or for SMALL_FORMFACTOR_PLUGGABLEs.
    - Applied stereotypes:
      - Experimental
- RACK:
    - A mechanical assembly with cabling and predefined mounting points for particular SUBRACK types.
      The assembly is designed to be mounted on the floor in a row with other RACKs.
    - Applied stereotypes:
      - Experimental

2.3.3.3 HolderCategory

Qualified Name: CoreModel::CorePhysicalModel::EquipmentPatternStructure::DataTypes::HolderCategory

The form of holder.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- SLOT:
    - A guided holder with fixed connectors.
      The guided holder is designed to take a particular form of CIRCUIT_PACK or SMALL_FORMFACTOR_PLUGGABLE
    - Applied stereotypes:
      - Experimental

2.3.4 Primitive Types

2.4 Core Specification Model data dictionary

This section provides the details for the model of Specification.

2.4.1 Classes

2.4.1.1 AdapterPropertySpec

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::ObjectClasses::AdapterPropertySpec

The specification of the properties of the client side adapter of an LP.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 97: Attributes for AdapterPropertySpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_poolPropertySpec	PoolPropertySpec	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_constrainingMappingInteractionRule	MappingInteractionRuleSpec	0..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_ownedMappingInteractionRule	MappingInteractionRuleSpec	0..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_terminationAccessPort	TerminationSpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The Termination bound to the Adapter.

2.4.1.2 CascOccurrenceInFcSpec

Qualified Name:
CoreModel::CoreSpecificationModel::FcCapability::ObjectClasses::OccurrencesInFcSpec::CascOccurrenceInFcSpec

A CASC component that is part of a system of components that represents the behavior of an FC/ForwardingOccurrence.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 98: Attributes for CascOccurrenceInFcSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_cascPortOccurence	CascPortOccurrenceInFcSpec	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.4.1.3 CascPortOccurrenceInFcSpec

Qualified Name:
CoreModel::CoreSpecificationModel::FcCapability::ObjectClasses::OccurrencesInFcSpec::CascPortOccurrenceInFcSpec

Port of a CascOccurrence where the port may be bound to a port of an LpOccurrence.
This port may NOT be exposed as a port on the containing FC/ForwardingOccurrence.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

- Experimental

2.4.1.4 ClientSpec

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::ObjectClasses::ClientSpec

The specification of a client layer protocol supported by the adapter of an LP.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 99: Attributes for ClientSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_mappingInteractionRule	MappingInteractionRuleSpec	0..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.4.1.5 ClockSpec

Qualified Name: CoreModel::CoreSpecificationModel::ClockSpec::ObjectClasses::ClockSpec

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 100: Attributes for ClockSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_clockSpec	ClockSpec	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.4.1.6 ComposedPart

Qualified Name: CoreModel::CoreSpecificationModel::SpecPattern::ObjectClasses::ComposedPart

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

Table 101: Attributes for ComposedPart

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_partSpecReference:ClassRef	Metaclass:Class	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY • condition: specTargetClass=Entity/ComposedPart Experimental Example SpecReference	See referenced class

2.4.1.7 ConfigurationAndSwitchControllerSpec

Qualified Name: CoreModel::CoreSpecificationModel::FcCapability::ObjectClasses::FcCapabilityCore::ConfigurationAndSwitchControllerSpec

The spec of a ConfigurationAndSwitchController.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

- Experimental

Inherits properties from:

- GlobalClass

Table 102: Attributes for ConfigurationAndSwitchControllerSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_switchControlRule	ControlRule	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_ingressSwitchSelection	IngressSwitchSelection	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_egressSwitchSelection	EgressSwitchSelection	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.4.1.8 ConfigurationGroupSpec

Qualified Name:
CoreModel::CoreSpecificationModel::FcCapability::ObjectClasses::FcCapabilityAdditional::ConfigurationGroupSpec

The specification of the grouping rules for a particular configuration of FCs and CASCs.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- GlobalClass

Table 103: Attributes for ConfigurationGroupSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_casc	ConfigurationAndSwitchControllerSpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_forwardingSpec	ForwardingSpec	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_ltpAssociationRule	LtpAssociationRule	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.4.1.9 ConnectionPointAndAdapterSpec

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::ObjectClasses::ConnectionPointAndAdapterSpec

The specification of the server facing connection point and the adapter that deals with the transformation of a single signal of the layer protocol to/from the server.
Equivalent to an ITU-T CTP [ITU-T G.8052][G.874.1].

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 104: Attributes for ConnectionPointAndAdapterSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_internalForwardingSpecPort	InternalForwardingSpecPort	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_poolPropertySpec	PoolPropertySpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The specification of the server facing connection point and the adapter that deals with the transformation of a single signal of the layer protocol to/from the server. Equivalent to an ITU-T CTP [ITU-T G.8052].
_serverAccessPoint	ServerSpec	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_lpSpecReference:ClassRef	Metaclass:Class	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY • condition: specTargetClass: ConnectionPointAndAndapterSpec Experimental SpecReference	Reference to the specific LpSpec class that defines the properties that augment the instance of ConnectionPointAndAdapterSpec.

2.4.1.10 ControlRule

Qualified Name: CoreModel::CoreSpecificationModel::FcCapability::ObjectClasses::FcCapabilityCore::ControlRule

A rule describes the bounds of the behavior of a CASC.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- LocalClass

2.4.1.11 EgressPortSet

Qualified Name: CoreModel::CoreSpecificationModel::FcCapability::ObjectClasses::FcCapabilityCore::EgressPortSet

The grouping of FC egress ports that have the same behavior and relationship to the switch etc.
Will carry rules for the grouping.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Preliminary

Inherits properties from:
- LocalClass

2.4.1.12 EgressSwitchSelection

Qualified Name: CoreModel::CoreSpecificationModel::FcCapability::ObjectClasses::FcCapabilityCore::EgressSwitchSelection

Rules for the control of the state of the egress switch.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Preliminary

Table 105: Attributes for EgressSwitchSelection

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
setMember	ToBeDefined	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Provides the rules that define which port set members may be selected. This is a list of rules where each rule has: - condition - current input(s) to mirror in output - controlled by signalling - specific referenced output - select all, subset or individual - if subset, then define subset criteria - select none - i.e. high impedance (open switch option) - use of switching priority - rule override priority (where there are conflicting conditions). 0 is highest priority. - switch on signalling A formal structure is required here.

2.4.1.13 Entity

Qualified Name: CoreModel::CoreSpecificationModel::SpecPattern::ObjectClasses::Entity

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

Table 106: Attributes for Entity

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_extensionContainer	ExtensionContainer	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_composedPart	ComposedPart	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_entitySpecReference:ClassRef	Metaclass:Class	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY • condition: specTargetClass=Entity Experimental Example SpecReference	See referenced class

2.4.1.14 EntitySpec

Qualified Name: CoreModel::CoreSpecificationModel::SpecPattern::ObjectClasses::EntitySpec

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

Table 107: Attributes for EntitySpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_partSpec	PartSpec	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
specTargetClass	Metaclass:Class:Name	1	RW	OpenModelAttribute • valueRange: Entity, Entity/ExtensionContainer • support: MANDATORY Experimental SpecTarget Example	The name of the class (e.g. ForwardingConstruct) to which the specification applies.

2.4.1.15 ExtensionContainer

Qualified Name: CoreModel::CoreSpecificationModel::SpecPattern::ObjectClasses::ExtensionContainer

Applied stereotypes:

- OpenModelClass

    - support: MANDATORY
- Experimental
- Example

Table 108: Attributes for ExtensionContainer

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_entitySpecReference:ClassRef	Metaclass:Class	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY • condition: specTargetClass=Entity/ExtensionContainer Experimental Example SpecReference	See referenced class

2.4.1.16 FdAndLinkRule

Qualified Name: CoreModel::CoreSpecificationModel::ForwardingDomainAndLinkCapability::ObjectClasses::FdAndLinkRule

Set of "AND" rules related to creation of FCs across the FD/Link (i.e., all rules have to be met for the FC creation to be allowed).
Embedded conditions all have to be met and hence are AND. Elements of the list attributes are ORs.
Absence fcSpec NOT valid for FORWARDING rules (only valid for cost/risk etc. rules).
Absence of FcPortRole means all roles for referenced spec.
Absence of direction means all directions.

Applied stereotypes:
- OpenModelClass
    - support: MANDATORY
- Experimental

Table 109: Attributes for FdAndLinkRule

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
ruleType	RuleType	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Indicates how to interpret the rule statements.
forwardingRule	ForwardingRule	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The specific forwarding capability.
complexRuleQualifier	ToBeDefined	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	complexRuleQualifier is used to modulate the rule. complexRuleQualifier covers case such as same channel but can reference any property of the FD, of the associated LTP and of the FC instance to be created. Qualifier should be capable of expressing rule interaction. Provides restrictions (such as same channel). Note: May be better to have a same index/any index explicit rule. Could have "property=x" valueEquation=same, increment, etc.
fcSpec	ToBeDefined	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental Obsolete	Indicates the type(s) of FC to which the rule applies.
fcPortRole	PortRoleRule	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Indicates the port role to which the rule applies. If an FD carries a port role that role applies also to the associated Link rules. fcPortRole corresponded to role defined in the FcSpec. This is a list with rule opportunity. No port role statement means all port roles are allowed.
fcPortDirection	PortDirection	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	fcPortDirection is a list of FcPortDirection.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
overridePriority	Integer	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	overridePriority allows for one rule set to override another.
signalProperty	SignalPropertyRule	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The rule only applies to signals with the properties listed. If the attribute is not present then the rule applies to all signals.
_fcSpecReference:ClassRef	Metaclass:Class	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY • condition: specTargetClass=ForwardingConstruct Experimental SpecReference	See referenced class

2.4.1.17 FdAndLinkRuleSet

Qualified Name: CoreModel::CoreSpecificationModel::ForwardingDomainAndLinkCapability::ObjectClasses::FdAndLinkRuleSet

Set of "OR" rules related to creation of FCs across the FD/Link (i.e. only one of the rules have to be met for the FC creation to be allowed).
Absence of RuleSet means "Any", i.e. all points, all FcTypes etc.
Presence of RuleSet means possibilities must all be defined by rules
Absence of forwardingRule means no explicit stated possibilities.
No capacity statement means no capacity restrictions.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 110: Attributes for FdAndLinkRuleSet

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_fdRule	FdAndLinkRule	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
isRuleOnly	Boolean	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Indicates that the FD is only carrying rules and that FC creation is the FD is NOT allowed.
_layerProtocolParameterSpec	LayerProtocolParameterSpec	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.4.1.18 ForwardingOccurrence

Qualified Name: CoreModel::CoreSpecificationModel::FcCapability::ObjectClasses::OccurrencesInFcSpec::ForwardingOccurrence

A forwarding component that is part of a system of components that represents the behavior of an FC or a ForwardingOccurrence at a higher abstraction (leading to an FC).

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 111: Attributes for ForwardingOccurrence

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_forwardingPortOccurence	ForwardingPortOccurrence	2..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_forwardingSpec	ForwardingSpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.4.1.19 ForwardingPortOccurrence

Qualified Name:
CoreModel::CoreSpecificationModel::FcCapability::ObjectClasses::OccurrencesInFcSpec::ForwardingPortOccurrence

Port of a ForwardingOccurrence where the port may be bound to another port of another ForwardingOccurrence or to another component or may be exposed as a port on the containing FC/ForwardingOccurrence.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 112: Attributes for ForwardingPortOccurrence

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_forwardingPortOccurence	ForwardingPortOccurrence	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_lpPortOccurrence	LpPortOccurrenceInFcSpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_portSetSpec	PortSetSpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.4.1.20 ForwardingSpec

Qualified Name: CoreModel::CoreSpecificationModel::FcCapability::ObjectClasses::FcCapabilityCore::ForwardingSpec

The overall spec for the forwarding entity.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

- Preliminary

Inherits properties from:

- GlobalClass

Table 113: Attributes for ForwardingSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_multiSwitchedUniFlow	MultiSwitchedUniFlow	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	See referenced class
_cascSpec	ConfigurationAndSwitchControllerSpec	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_portSetSpec	PortSetSpec	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	See referenced class
_configurationGroupSpecSpec	ConfigurationGroupSpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_ltpAssociationRule	LtpAssociationRule	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	See referenced class
_layerProtocolParameterSpec	LayerProtocolParameterSpec	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
specTargetClass	Metaclass:Class:Name	1	RW	OpenModelAttribute • valueRange: Link, ForwardingConstruct • support: MANDATORY Experimental SpecTarget	The name of the class (e.g. ForwardingConstruct) to which the specification applies.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_forwardingOccurrence	ForwardingOccurrence	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_lpOccurrenceInFcSpec	LpOccurrenceInFcSpec	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_cascOccurrenceInFcSpec	CascOccurrenceInFcSpec	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.4.1.21 IngressPortSet

Qualified Name: CoreModel::CoreSpecificationModel::FcCapability::ObjectClasses::FcCapabilityCore::IngressPortSet

The grouping of FC ingress ports that have the same behavior and relationship to the switch etc.
Will carry rules for the grouping.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Preliminary

Inherits properties from:

- LocalClass

2.4.1.22 IngressSwitchSelection

Qualified Name: CoreModel::CoreSpecificationModel::FcCapability::ObjectClasses::FcCapabilityCore::IngressSwitchSelection

Rules for the control of the state of the ingress switch.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Preliminary

Table 114: Attributes for IngressSwitchSelection

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
setMember	ToBeDefined	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Provides the rules that define which port set members may be selected. This is a list of rules where each rule has: - condition - current input(s) - any input - any other input not current - specific referenced input - select all, subset or individual - if subset, then define subset criteria - select none - i.e. high impedance (open switch option) - use of switching priority - rule override priority (where there are conflicting conditions). 0 is highest priority. - switch on signalling Simple case of a rule is: - select individual - prefer higher priority input - switch away on failure of input to highest priority working input - select working input - apply reversion and priorities A formal structure is required here.

2.4.1.23 InternalForwardingSpec

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::ObjectClasses::InternalForwardingSpec

InternalForwardingSpec defines the encapsulated forwarding in the LP.
The InternalForwarding is essentially a ForwardingConstruct.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 115: Attributes for InternalForwardingSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_internalForwardingSpecPort	InternalForwardingSpecPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_fcSpecReference:ClassRef	Metaclass:Class	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Reference to the specific FcSpec class that defines the properties that augment the instance of InternalForwardingSpec.

2.4.1.24 InternalForwardingSpecPort

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::ObjectClasses::InternalForwardingSpecPort

The specification of the flexibility of the association between the ConnectionPoint and the Termination of the LP.
This is the port of the Internal Forwarding and is the equivalent to the FcPort.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 116: Attributes for InternalForwardingSpecPort

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_internalForwardingSpecPort	InternalForwardingSpecPort	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Allows for specification of complex connectivity between multiple terminations in a sophisticated LP.

2.4.1.25 LayerProtocolParameterSpec

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::ObjectClasses::LayerProtocolParameterSpec

Offers the opportunity to define a list of layer-protocol related parameters.
Used to specify the extension a class.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

2.4.1.26 LpOccurrence

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::ObjectClasses::LpOccurrence

An occurrence of a LP in the specified LTP where the LP occurrence will have an identifier.
The LP occurrence will have a spec.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 117: Attributes for LpOccurrence

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_lpPortOccurrence	LpPortOccurrence	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_lpSpec	LpSpec	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.4.1.27 LpOccurrenceInFcSpec

Qualified Name: CoreModel::CoreSpecificationModel::FcCapability::ObjectClasses::OccurrencesInFcSpec::LpOccurrenceInFcSpec

A termination component that is part of a system of components that represents the behavior of an FC/ForwardingOccurrence.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 118: Attributes for LpOccurrenceInFcSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_lpPortOccurrence	LpPortOccurrenceInFcSpec	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_lpSpec	LpSpec	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.4.1.28 LpPortOccurrence

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::ObjectClasses::LpPortOccurrence

The occurrence of a port on the LP occurrence.
The port occurrence will correspond to a port in the spec of the corresponding LpOccurrence.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 119: Attributes for LpPortOccurrence

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_lpPortSpec	LpPortSpec	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_boundToLpPortOccurrence	LpPortOccurrence	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.4.1.29 LpPortOccurrenceInFcSpec

Qualified Name:
CoreModel::CoreSpecificationModel::FcCapability::ObjectClasses::OccurrencesInFcSpec::LpPortOccurrenceInFcSpec

Port of a LpOccurrence where the port may be bound to another port of another LpOccurrence, a port of a ForwardingOccurrence or to another component.
This port may NOT be exposed as a port on the containing FC/ForwardingOccurrence.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 120: Attributes for LpPortOccurrenceInFcSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_cascPortOccurrence	CascPortOccurrenceInFcSpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_lpPortSpec	LpPortSpec	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_lpPortOccurrence	LpPortOccurrenceInFcSpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.4.1.30 LpPortSpec

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::ObjectClasses::LpPortSpec

The spec for the ports of the LP.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 121: Attributes for LpPortSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_internalForwardingSpecPort	InternalForwardingSpecPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_terminationForwardingPort	TerminationSpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_cpForwardingPort	ConnectionPointAndAdapterSpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_providerView	ProviderViewSpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_poolPropertySpecClientAccess	PoolPropertySpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_terminationAccessPort	TerminationSpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_adapterProviderAccess	AdapterPropertySpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_providerAccess	ServerSpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.4.1.31 LpSpec

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::ObjectClasses::LpSpec

The specification of the capabilities of a specific type of LP.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 122: Attributes for LpSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_terminationSpec	TerminationSpec	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A termination function of the LP.
_adapterPropertySpec	AdapterPropertySpec	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	An adapter definition of the LP.
_providerViewSpec	ProviderViewSpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Access to the resources made available from another view.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_serverSpec	ServerSpec	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Access to the resources from the provider.
_lpSpec	LpSpec	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Component LP of an LP.
specTargetClass	Metaclass:Class:Name	1	RW	OpenModelAttribute • valueRange: LayerProtocol TerminationSpec ConnectionPointAndAdapterSpec • support: MANDATORY Experimental SpecTarget	The name of the class (e.g. LayerProtocol) to which the specification applies.
_internalForwardingSpec	InternalForwardingSpec	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Internal forwarding definition of the LP.
_lpPortSpec	LpPortSpec	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Ports on the LP connecting to other LPs or to the ports of the LTP.

2.4.1.32 LtpAssociationRule

Qualified Name: CoreModel::CoreSpecificationModel::FcCapability::ObjectClasses::FcCapabilityAdditional::LtpAssociationRule

Rules for the association from the port spec to LTPs identifying restrictions of use.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Preliminary

Inherits properties from:

- LocalClass

2.4.1.33 LtpPortSpec

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::ObjectClasses::LtpPortSpec

Spec for the LTP Port. Each LTP Port relates to an association end related to the LTP class.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 123: Attributes for LtpPortSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_lpPortOccurrence	LpPortOccurrence	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
externalAccess	AccessOpportuity	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided

2.4.1.34 LtpSpec

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::ObjectClasses::LtpSpec

The specification of a specific type of LTP.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 124: Attributes for LtpSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_lpSpec	LpSpec	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
specTargetClass	Metaclass:Class:Name	1	RW	OpenModelAttribute • valueRange: LogicalTerminationPoint • support: MANDATORY • condition: Experimental SpecTarget	The name of the class (e.g. LogicalTerminationPoint) to which the specification applies.
_ltpPortSpec	LtpPortSpec	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_lpOccurrence	LpOccurrence	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.4.1.35 MappingInteractionRuleSpec

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::ObjectClasses::MappingInteractionRuleSpec

The specification of the interaction between the support for different client layer protocol signals.
For example an LP that supports 20 layer protocol X signals and 5 layer protocol Y signals may be such that a particular layer protocol X instance being used eliminates the possibility of using a particular layer protocol Y instance being used.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

2.4.1.36 MultiSwitchedUniFlow

Qualified Name: CoreModel::CoreSpecificationModel::FcCapability::ObjectClasses::FcCapabilityCore::MultiSwitchedUniFlow

A switched unidirectional forwarding element that can take one or more inputs and switch to one or more outputs.
The switch can also be open (high impedance).

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Preliminary

Inherits properties from:

- LocalClass

Table 125: Attributes for MultiSwitchedUniFlow

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_ingressPortSet	IngressPortSet	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	See referenced class
_egressPortSet	EgressPortSet	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	See referenced class
_cascSpec	ConfigurationAndSwitchControllerSpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_ingressFcPortSet	IngressPortSet	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	See referenced class
_egressFcPortSet	EgressPortSet	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	See referenced class
_layerProtocolParameterSpec	LayerProtocolParameterSpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.4.1.37 PartSpec

Qualified Name: CoreModel::CoreSpecificationModel::SpecPattern::ObjectClasses::PartSpec

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

Table 126: Attributes for PartSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
specTargetClass	Metaclass:Class:Name	1	RW	OpenModelAttribute • valueRange: Entity/ComposedPart • support: MANDATORY Experimental SpecTarget Example	The name of the class (e.g. LayerProtocol) to which the specification applies.

2.4.1.38 PoolPropertySpec

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::ObjectClasses::PoolPropertySpec

The specification for the properties of the pool of available instances of a particular client layer protocol. This may cover numbering range, capacity, number of instances etc.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 127: Attributes for PoolPropertySpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_clientSpec	ClientSpec	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
clientCapacity	ToBeDefined	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The size of the units of the pool.
_adapterPropertySpec	AdapterPropertySpec	0..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.4.1.39 PortSetSpec

Qualified Name: CoreModel::CoreSpecificationModel::FcCapability::ObjectClasses::FcCapabilityCore::PortSetSpec

The specification of a set of equivalent port of the forwarding entity.
For example, there may be a several ports with exactly the same behavior with respect to each other and with respect to all other ports. These can all reference one PortSetSpec.
In a symmetric FC this means one PortsSetSpec can be used for all ports.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Preliminary

Inherits properties from:

- LocalClass

Table 128: Attributes for PortSetSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_ingressPortSet	IngressPortSet	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	See referenced class
_egressPortSet	EgressPortSet	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	See referenced class
_ltpAssociationRule	LtpAssociationRule	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	See referenced class
role	PortRole	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Role of the port in the context of the ForwardingSpec.
_layerProtocolParameterSpec	LayerProtocolParameterSpec	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
isInternalPort	Boolean	1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The FcPort is not exposed and cannot have associated LTPs. This form of FcPort is used to enable chaining of FcSwitches or FcRoutes in complex network protection scenarios.
_forwardingPortOccurrence	ForwardingPortOccurrence	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.4.1.40 ProviderViewSpec

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::ObjectClasses::ProviderViewSpec

The specification of the properties of an LP at the base of a virtual/floating LTP that relate to the provider of capacity/capability for that floating LTP.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 129: Attributes for ProviderViewSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_poolPropertySpec	PoolPropertySpec	0..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.4.1.41 ServerSpec

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::ObjectClasses::ServerSpec

The specification of the server side of an LP at the base of an LTP that supports the creation of server LTPs for use in an inverse multiplexing scheme.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

2.4.1.42 TerminationSpec

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::ObjectClasses::TerminationSpec

The specification of the layer protocol termination (including framing, modulation etc.).
For example, the specification of the function that takes a MAC frame and extracts the content (removing the MAC address in the process).

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 130: Attributes for TerminationSpec

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_internalForwardingSpecPort	InternalForwardingSpecPort	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_adapterPropertySpec	AdapterPropertySpec	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_lpSpecReference:ClassRef	Metaclass:Class	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY • condition: specTargetClass: TerminationSpec Experimental SpecReference	Reference to the specific LpSpec class that defines the properties that augment the instance of TerminationSpec.

2.4.2 Data Types

2.4.2.1 AccessOpportuity

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::TypeDefinition::AccessOpportuity

Applied stereotypes:

- Experimental

Table 131: Attributes for AccessOpportuity

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
partner	Partner	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The class of the instance to which this port may be bound.
qualifier	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A property of the instance of the related class that must be present at a stated value to allow the ports to be bound. For example the layerProtocol of a related port must be of the same as the layerProtocol of LP related to the LTP port. This attribute requires more formal definition.

2.4.2.2 Metaclass:Class

Qualified Name: CoreModel::CoreSpecificationModel::TypeDefinitions::Metaclass:Class

This datatype represents the "<<Metaclass>> Class" from the UML metamodel.
An instance of the referencing Class (e.g. LTP) will reference a Class (not an instance).
This referenced Class will provide definition to extend the referencing instance.
So, for example, an LTP instance will have the attributes defined in the LTP class and also the attributes defined in the referenced Class (an LtpSpec).
The referenced Class may:
(1) provide invariant properties (that are the same for many instances) that then are not conveyed with the referencing instance.
(2) provide definitions for attributes that are present in the instance that are not defined in the Class of the instance (these attribute may have been pruned and refactored from one or more external definition sources).
(3) apply constraints to attributes in the instance that were defined in the class of the referencing instance.
(4) replace attributes that were present in the class of the referencing instance by a new definition (same name).;

Applied stereotypes:

- Experimental

Table 132: Attributes for Metaclass:Class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
Name	Metaclass:Class:Name	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The text name of the Class

2.4.2.3 Metaclass:Class:Name

Qualified Name: CoreModel::CoreSpecificationModel::TypeDefinitions::Metaclass:Class:Name

Applied stereotypes:

- Experimental

2.4.2.4 PortRoleRule

Qualified Name: CoreModel::CoreSpecificationModel::ForwardingDomainAndLinkCapability::TypeDefinitions::PortRoleRule

Constrains which ports the rule applies to.

Applied stereotypes:

- Experimental

Table 133: Attributes for PortRoleRule

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
portRole	PortRole	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The role of the port considered.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
portRoleRule	PortRoleRuleOption	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	To be provided

2.4.2.5 SignalPropertyRule

Qualified Name: CoreModel::CoreSpecificationModel::ForwardingDomainAndLinkCapability::TypeDefinitions::SignalPropertyRule

Applied stereotypes:

- Experimental

Table 134: Attributes for SignalPropertyRule

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
signalPropertyName	To be defined	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The name of the signal property to which the rule applies.
signalPropertyValueRule	SignalPropertyValueRule	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Indicates whether signal properties should be accounted for or not.
applicableSignalValue	To be defined	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Specific values of the signal property to which the rule applies.

2.4.3 Enumeration Types

2.4.3.1 ForwardingRule

Qualified Name: CoreModel::CoreSpecificationModel::ForwardingDomainAndLinkCapability::TypeDefinitions::ForwardingRule

Rule that restricts the creation/deletion of an FC between points grouped by FD or related by the Link between FDs.

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- CANNOT_FORWARD_ACROSS_FD_LINK:
  - LTPs referenced by the FD (or indirectly by the Link between FDs) cannot have FCs created between them.
    This rule overrides all others.
  - Applied stereotypes:
    - Experimental
- MUST_FORWARD_ACROSS_FD_LINK:
  - LTPs referenced by the FD (or indirectly by the Link between FDs) MUST have FCs created between them.
    This rule overrides all others except the CANNOT_FORWARD rule.
  - Applied stereotypes:
    - Experimental
- MAY_FORWARD_ACROSS_FD_LINK:
  - LTPs referenced by the FD (or indirectly by the Link between FDs) may have FCs created between them.
    FCs may not be created between points that are not related by this rule either directly in an FD or indirectly via a Link linking two or more FDs.
    For a Link points in an FD at one end of the Link can be connected to points in an FD at an other end of the Link.
  - Applied stereotypes:
    - Experimental
- NULL_FORWARDING_RULE:
  - Applied stereotypes:
    - Experimental

2.4.3.2 Partner

Qualified Name: CoreModel::CoreSpecificationModel::LtpCapability::TypeDefinition::Partner

The class of the instance to which this port may be related.

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- FC:

    - ForwardingConstruct.
    - Applied stereotypes:
        - Experimental
- FD:
    - ForwardingDomain.
    - Applied stereotypes:
        - Experimental
- LINK:
    - Link.
    - Applied stereotypes:
        - Experimental
- CASC:
    - ConfigurationAndSwitchController.
    - Applied stereotypes:
        - Experimental
- CC:
    - ControlConstruct.
    - Applied stereotypes:
        - Experimental
- CD:
    - ConstraintDomain.
    - Applied stereotypes:
        - Experimental
- PC:
    - ProcessingConstruct.
    - Applied stereotypes:
        - Experimental
- PEER:
    - LTP peer.
    - Applied stereotypes:
        - Experimental
- CLIENT:
    - LTP client.

    - Applied stereotypes:
        - Experimental
- SERVER:
    - LTP server.
    - Applied stereotypes:
        - Experimental
- VIEW:
    - LTP in other view.
    - Applied stereotypes:
        - Experimental

2.4.3.3 PortRoleRuleOption

Qualified Name: CoreModel::CoreSpecificationModel::ForwardingDomainAndLinkCapability::TypeDefinitions::PortRoleRuleOption

Indicates how to interpret the PortRole list.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- SAME_ROLE:
    - The ports to which the rule applies must have role from the list in PortRole.
    - Applied stereotypes:
        - Experimental
- DIFFERENT_ROLE:
    - The ports to which the rule applies must not have a role from the list in PortRole.
    - Applied stereotypes:
        - Experimental
- ANY_ROLE:
    - The rule applies to any role of port.
    - Applied stereotypes:
        - Experimental

2.4.3.4 RuleType

Qualified Name: CoreModel::CoreSpecificationModel::ForwardingDomainAndLinkCapability::TypeDefinitions::RuleType

Indicates the focus of the rule.

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- FORWARDING:
  - The rule relates to creation of FCs.
  - Applied stereotypes:
    - Experimental
- COST:
  - The rule relates to forwarding cost.
  - Applied stereotypes:
    - Experimental
- RISK:
  - The rule relates to forwarding risk.
  - Applied stereotypes:
    - Experimental
- CAPACITY:
  - Applied stereotypes:
    - Experimental

2.4.3.5 SignalPropertyValueRule

Qualified Name:
CoreModel::CoreSpecificationModel::ForwardingDomainAndLinkCapability::TypeDefinitions::SignalPropertyValueRule

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- SAME_VALUE:
  - Applied stereotypes:
    - Experimental
- ANY_VALUE:
  - Applied stereotypes:
    - Experimental

2.4.4 Primitive Types

2.5 General Processing Model data dictionary

This section provides the model details for generalized model of processing.

2.5.1 Classes

2.5.1.1 CdPort

Qualified Name: CoreModel::ProcessingConstructModel::ObjectClasses::CdPort

The association of the CD to LTPs is direct for symmetric CDs and via CdPort for asymmetric CDs.
The CdPort class models role based access to a CD.
The capability to set up PCs between the associated CdPorts of a CD depends upon the type of CD.
It is asymmetry in this capability that brings the need for CdPort.
The CD can be considered as a component and the CdPort as a Port on that component.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- LocalClass

Table 135: Attributes for CdPort

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_cdPort	CdPort	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Constraint Domains can be meshed together view their ports directly as well as via LTPs indirectly.
_ltp	LogicalTerminationPoint	0..2	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A CdPort is associated with zero or more LTP objects. The LTPs on the CD boundary provide capacity for processing. For symmetric CDs the association is directly from the CD to the LTP.
_pcPort	PcPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Where a CD is asymmetric and hence has CdPorts and where that CD supports PCs, appropriate CdPorts of that CD support the corresponding PcPorts.
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.5.1.2 ConstraintDomain

Qualified Name: CoreModel::ProcessingConstructModel::ObjectClasses::ConstraintDomain

ConstraintDomain (CD) models the topological component that represents the opportunity to enable processing of information between two or more of its CdPorts.
A CdPort may be associated with another CdPort or with an LTP at a particular specific layerProtocol.
It provides the context for and constrains the formation, adjustment and removal of PCs and hence offers the potential to enable processing.
The LTPs available are those defined at the boundary of the CD.
A CD may be:
- Asymmetric such that it offers several functions and such that different functions are offered to different attached entities (e.g.,specific ViewMappingFunction).
- Symmetric such that it offers (or is considered as offering) only one function and the same function is offered to any attached entity with no interactions between attached entities.

An asymmetric CD offering a number of distinct functions will have CdPorts through which the distinct functions are accessed.
A symmetric CD offering only a single function need not have CdPorts, the function can be accessed directly from the CD.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- GlobalClass

Table 136: Attributes for ConstraintDomain

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_cdPort	CdPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	An asymmetric CD instance is related to LTPs via CdPorts (essentially the ports of the CD). Symmetric CDs don't have CdPorts and are directly related to LTPs.
_pcInDomain	ProcessingConstruct	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A CD constrains one or more PCs. A constrained PC connects LTPs that are on the CD boundary.
_ltp	LogicalTerminationPoint	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A symmetric CD instance is associated with zero or more LTP objects. The LTPs on the CD boundary provide capacity for processing. For an asymmetric CD instance the association to the LTP is via the CdPort.
_cdInDomain	ConstraintDomain	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The CD class supports a recursive aggregation relationship such that the internal construction of an CD can be exposed as multiple lower level CDs. Note that the model actually represents an aggregation of lower level CDs into higher level CDs as viewpoints rather than partitions, and supports multiple views

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_cascInDomain	ConfigurationAndSwitchControl	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A controller operating in the scope defined.
_equipmentInDomain	Equipment	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A ConstraintDomain can be used to represent physical constraints in the logical view. In this case the CD can be associated to the physical equipment.
_fcInDomain	ForwardingConstruct	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A CD constrains one or more FCs. A constrained FC abides by rules stated in the constraining CD where those rules may relate to LTPs referenced by the FC that are also included in the CD.
_fdInDomain	ForwardingDomain	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A CD constrains one or more FDs. A constrained FD abides by rules stated in the constraining CD where those rules may relate to LTPs referenced by the FD that are also included in the CD.
_controlConstructInDomain	ControlConstruct	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A CD constrains one or more ControlConstructs.
_ltpInDomain	LogicalTerminationPoint	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A CD constrains one or more LTPs.
_linkInDomain	Link	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A CD constrains one or more Links. A constrained Link connects LTPs that are on the CD boundary.
_runningOsInDomain	RunningOperatingSystem	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A RunningOs constrained by the ConstraintDomain.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_runningSoftwareApplicationInDomain	RunningSoftwareApplication	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A RunningSoftwareApplication constrained by the ConstraintDomain.
_runningNativeVmmInDomain	RunningNativeVmm	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A RunningVmm constrained by the ConstraintDomain.
_fileSystemInDomain	FileSystem	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A FileSystem constrained by the ConstraintDomain.
_vmfInDomain	ViewMappingFunction	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A ViewMappingFunction constrained by the ConstraintDomain.
_partyRole	PartyRole	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_partyRoleInDomain	PartyRole	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_supportedStreamType	SupportedStreamType	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_availableStream	AvailableStream	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_streamProvider	StreamProvider	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_changeUpdater	ChangeUpdater	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.5.1.3 PcPort

Qualified Name: CoreModel::ProcessingConstructModel::ObjectClasses::PcPort

Represents the access to the functionality of a PC.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- LocalClass

Table 137: Attributes for PcPort

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_ltp	LogicalTerminationPoint	0..2	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A PC instance is associated with zero or more LTP objects. The LTPs on the PC boundary provide capacity for processing. For asymmetric PCs the association to the LTP is via the PcPort.
_pcPort	PcPort	0..2	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A PcPort can be directly bound to another PcPort (rather than via a LTP) to support a simplified application level view (rather than requiring the full transport level view).
_fcPort	FcPort	0..2	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A PcPort can be directly bound to an FcPort (rather than via a LTP) to support a simplified application level view (rather than requiring the full transport level view). This is used to represent complex semantic associations between PCs where _pcPort direct association is not sufficient.
portRole	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Identifies the role of the port in the context of the specification of the PC.
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.5.1.4 PcResilienceSelector

Qualified Name: CoreModel::ProcessingConstructModel::ObjectClasses::PcResilienceSelector

Rudimentary resilience model for PC.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Obsolete

Inherits properties from:

- LocalClass

Table 138: Attributes for PcResilienceSelector

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_pc	ProcessingConstruct	2..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Alternative PC.
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.5.1.5 ProcessingConstruct

Qualified Name: CoreModel::ProcessingConstructModel::ObjectClasses::ProcessingConstruct

ProcessingConstruct (PC) can be used to represent both potential and enabled processing between two or more of its PcPorts.
A PcPort may be associated with another PcPort or with an LTPs at a particular specific layerProtocol.
Like the LTP, the PC supports any transport protocol including all circuit and packet forms.
The PC is used to effect processing of information extracted from the transport layer protocol signal.
A PC may be:
- Asymmetric such that it offers several functions and such that different functions are offered to different attached entities.
- Symmetric such that it offers (or is considered as offering) only one function and the same function is offered to any attached entity with no interactions between functions offered to each attached entity
An asymmetric PC offering a number of distinct functions will have PcPorts through which the distinct functions are accessed.
A symmetric PC offering only a single function need not have PcPorts, the function can be accessed directly from the PC.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- GlobalClass

Table 139: Attributes for ProcessingConstruct

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_pcPort	PcPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	An asymmetric PC instance is related to LTPs via PcPorts (essentially the ports of the PC). Symmetric PCs don't have PcPorts and are directly related to LTPs.
_ltp	LogicalTerminationPoint	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A symmetric PC instance is associated with zero or more LTP objects. The LTPs on the PC boundary provide information for processing and capacity for communication. For asymmetric PCs the association to the LTP is via the PcPort (with stated role, allowing access to a specific function of the PC).
_fd	ForwardingDomain	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more ForwardingDomains can constrain a ProcessingConstruct. A constrained PC connects LTPs on the boundary of the FD.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_composedPc	ProcessingConstruct	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The PC class supports a recursive aggregation relationship (PcIsAssemblyOfPc). This allows both: - abstraction where an assembly of PCs (forming a System) is viewed as an abstract PC - decomposition such that the internal construction of a PC can be exposed as multiple lower level PCs. Appropriate use of this association allows each of a collection of PCs to be decomposed into atomic parts (PCs) that can then be assembled into set of complex functions where each function in the set can be viewed as a PC. Note that the model actually represents an aggregation of lower level PCs into higher level PCs as viewpoints rather than partitions, and supports multiple views.
_pcResilienceSelector	PcResilienceSelector	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Obsolete	PcResilienceSelector that realizes the resilience of the PC.
_runningSoftwareProcess	RunningSoftwareProcess	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_runningEquipment	Equipment	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.5.2 Data Types

2.5.3 Enumeration Types

2.5.4 Primitive Types

2.6 General Control Model data dictionary

This section provides the model details for Control model (other than specific control classes used in modeling of resilience).

2.6.1 Classes

2.6.1.1 AvailableStream

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::AvailableStream

Details of a stream that can be connected to by a client application.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 140: Attributes for AvailableStream

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_supportedStreamType	SupportedStreamType	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
connectionAddress	String	1..*	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Provides the address for the connection. The format of the address and attachment mechanism will depend on the connection protocol defined in another attribute of this class. There may be a sequence of operations required, in which case, these should be listed as separate strings. A string may include wildcard substatements. A single string may list alternatives separated by an appropriate delimiter.
streamState	StreamState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	The state of the stream.
streamId	String	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	The id of the stream (alternative to the uuid).
connectionProtocol	ConnectionProtocol	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	Names the connection protocol for this particular available stream. The connection protocol is chosen from the list of connection protocols identified in the referenced SupportedStreamType.

2.6.1.2 BodyOfRecord

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::BodyOfRecord

The key contents of the log record. Details for one Aggregate instance.
- event time (allowing for time inaccuracy)
- aggregate type
- identifier of the containing parent aggregate
Note that the Aggregate will reference other Aggregate instances some of which may be "behind" this record in the log.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 141: Attributes for BodyOfRecord

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
eventTimeStamp	String	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	Time of the event at the origin of the event that triggered the generation of the record. The structure allows for time uncertainty.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
parentAddress	String	0..*	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	Where the entity to be reported is a global class this provides the compositional position of the entity in terms of an ordered list of UUIDs. Where the entity is a local class this provides the ordered list of ids through composition via the next parent which may be a local class to the closest global class (which may be the next parent). The field can then also include ids of all entities back to the Context and hence can be used for global classes where the tree is being represented in full. Gives the position of the entity in the address tree (usually containment) that is raising the event by providing the name/id values in the address of the parent. Is the sequence of named levels in the tree up to but excluding the entity of the notification. A stream record may include only a portion of a DDD entity where only that portion has changed.
recordContent	String	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	The identifier of the object class in the record body detail. This property is used to control the conditional augmentation of the body with detail.

2.6.1.3 ChangeUpdater

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::ChangeUpdater

Function that recognizes difference between the current state of an Aggregate (in the related ConstraintDomain) and the Aggregate details in the record received and causes necessary updates to the Aggregates in the related ConstraintDomain.
This function deals with Idempotent behavior.
Removes properties the client is not interest in.
This is intentionally a limited capability that can simply remove some properties and not perform major transformations or complex filters.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 142: Attributes for ChangeUpdater

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_constraintDomain	ConstraintDomain	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.6.1.4 Client

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::Diagrams::Client

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

2.6.1.5 ConnectionProtocolDetails

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::ConnectionProtocolDetails

Details of the connection protocols and encoding formats available for the specific stream type.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 143: Attributes for ConnectionProtocolDetails

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_controlPort	ControlPort	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
allowedConnectionProtocols	ConnectionProtocol	0..*	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	Name of the allowed protocol(s). Where there is a list: - all protocols must use the same encoding format - there will be one or more available streams per connection protocol CONDITION: Mandatory where not default.
encodingFormat	EncodingFormat	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	The encoding format of the streamed records. CONDITION: Mandatory where not default.

2.6.1.6 ControlConstruct

Qualified Name: CoreModel::GeneralControllerModel::ControlConstruct::ControlConstruct

Represents control capability/functionality.
ControlConstructs communicate with other ControlConstructs through ControlPorts about things within the related ConstraintDomains.
The ControlConstruct applies to all Control/Management cases including:
- the controller in the Network/Managed Element, e.g., an SNMP agent.
- an SDN Controller.
- an EMS.
- an NMS.
This specific model follows a subset of the Component-System Pattern.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- GlobalClass

Table 144: Attributes for ControlConstruct

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_exposureContext	ExposureContext	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A view supported by the ControlConstruct that may be exposed at a ControlPort of the ControlConstruct.
_definingViewMapping	ViewMappingFunction	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	ControlConstruct behavior is defined in part by view mappings.
_controlPort	ControlPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A port on the ControlConstruct that allows access to the functions of the ControlConstruct.
_subordinateControlConstructContext	ControlConstruct	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A ControlConstruct that is part of an abstract view of the system that supports the referencing ControlConstruct and hence describes part of the behavior of the referencing ControlConstruct.
_viewMapping	ViewMappingFunction	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	ControlConstruct uses the referenced ViewMapping to produce one view from another.
_controlTasks	ControlTask	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	An activity being carried out by the ControlConstruct where that activity is being exposed such that progress can be observed through a ControlPort.
_requestConstructor	RequestConstructor	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_receiveStreamPipelineBuffer	ReceiveStreamPipelineBuffer	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_logStreamControl	LogStreamControl	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_transmitStreamPipeline	TransmitStreamPipeline	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_governedCd	ConstraintDomain	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A Constraint Domain governed by the Control Construct. A Constraint Domain may be governed by more than one Control Construct (shared) during a handover. This association is a lifecycle aggregate where the Constraint Domain must be governed by at least one Control Construct. A Control Construct may modify and delete a Constraint Domain it governs. A Control Construct may create a Constraint Domain. It is not expected that a Control Construct will govern a Constraint Domain that constrains the governing Control Construct.
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.6.1.7 ControlInteraction

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::ControlInteraction

Details of specific controller interaction opportunities.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 145: Attributes for ControlInteraction

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_connectionProtocolDetails	ConnectionProtocolDetails	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.6.1.8 ControlPort

Qualified Name: CoreModel::GeneralControllerModel::ControlConstruct::ControlPort

The access to the ControlConstruct following the normal Component-Port pattern (i.e., the functions of a component are accessed via ports).
Is assumed to be bidirectional.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 146: Attributes for ControlPort

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_protectingControlPort	ControlPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A simple representation of resilience where one ControlPorts are identified as providing equivalent information.
_controlPort	ControlPort	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Control Ports may be used to associate controllers in a hierarchy and as peers. Peer controllers are assumed to both the subordinate of each other.
_ltp	LogicalTerminationPoint	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The LTP through which the control messaging/signaling flows.
_providerRole	ProviderRole	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Properties relevant when the ControlPort is exposing the ControlConstruct as a provider of capability.
_userRole	UserRole	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Properties relevant when the ControlPort is exposing the ControlConstruct as a user of capability.
_exposureContext	ExposureContext	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A view presented through the ControlPort.
_receiveFilterResponse	ReceiveFilter	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Passes the response to a previously made request to the receive filter for onward directing.
_receiveStreamPipelineBuffer	ReceiveStreamPipelineBuffer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_receiveFilterRequest	ReceiveFilter	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Passes a request to the receive filter for onward directing.
_streamServer	StreamHandler	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.6.1.9 ControlTask

Qualified Name: CoreModel::GeneralControllerModel::ControlTask::ControlTask

The ControlTask represents an apparent (abstract/emergent) functional Component that provides/exposes management-control capability where that capability is defined in terms of a CtTransferFunction (Control Task Transfer Function).

The use of "apparent" and "emergent" emphasizes that this is NOT the underlying/implementation componentary.
- The behaviour defined by the CtTransferFunction is emergent from a set of underlying implementation components that have been constrained to behave in a particular way.
- The ControlTask defines a specific purposeful CtTransferFunction where the underlying componentry may be far more capable/complex. It has architected behavior.
- The ControlTask capability is defined from the outside and hence its description does not vary due to internal hidden control (other components expose capability that is defined from the inside).

The whole defined CtTransferFunction is available and active in an instance.

It achieves outcomes/goals etc. and covers all success and failure behaviors.

It is the representation of the behavior related to some request for control activity or some spontaneous control activity.

ControlTask capability definition and instance of running ControlTask with state

Related terms:
- Task: A piece of work to be done
- Job: A task or piece of work

- Activity: A thing that is done
- Use Case: A written description of how a task will be performed for a particular purpose
- Function: An activity that is natural to or the purpose of a thing
- Action: A thing done
- Runnable Task: Used to handle any computational work

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- GlobalClass

Table 147: Attributes for ControlTask

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
problemsAndWarnings	ToBeDefined	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A list of problems and warnings related to the task.
timeToCompletion	ToBeDefined	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The estimated time to completion of the task.
taskLifecycleState	TaskLifecycleState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The state of the task (progress etc.).
activityLiveLog	ToBeDefined	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A log of activities.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
requestContext	UniversalRequestConstraintStructure	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	All details from the request.
_controlTask	ControlTask	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_exposedCtTransferFunction	CtTransferFunction	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The exposed behaviour of the ControlTask.
_ctPort	CtPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Provides a specific access. ControlTasks can only be connected by ports. A ControlTask may have no ports when it is not explicitly in some ControlTaskFlowGraph, i.e., where there is no explicitly stated trigger and no explicitly stated output to cause flow progression.
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.6.1.10 CtPort

Qualified Name: CoreModel::GeneralControllerModel::ControlTask::CtPort

An access to a ControlTask.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 148: Attributes for CtPort

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_cttfPort	CttfPort	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
portInternalRole	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The aspect of the ControlTask functionality accessed via the port.
portFlowDirection	CtPortFlow	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The direction of flow (in or out).
_flowSendToCtPort	CtPort	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	This SEND control port is explicitly DIRECT connected to the referenced (RECEIVE_LISTEN) ControlPort. There may be a DIRECT connection but it may not be known at the SEND end (hence this attribute may be not present).

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_flowReceiveFromCtPort	CtPort	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	This RECEIVE_LISTEN control port is explicitly DIRECT connected to the referenced SEND ControlPort. There may be a DIRECT connection but it may not be known at the RECEIVE_LISTEN end (hence this attribute may be not present).
portAccessMode	CtPortAccessMode	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The mode of access to the port.

2.6.1.11 CtTransferFunction

Qualified Name: CoreModel::GeneralControllerModel::ControlTask::CtTransferFunction

A statement of the capability of the ControlTask in necessary detail to enable a client to fully understand the externally visible characteristics of the ControlTask (i.e., how the outputs are generated from the inputs, or from any other relevant internal behavior). Each apparent ControlTask should have a defined CtTransferFunction.

It may be expressed in terms of:
- an apparent Flow Graph that explains, in abstract, how the outputs are generated from the inputs.
- logic function, arithmetic function or some other structure (CttfAbstractFunctionStructure) that is not in a ControlTaskFlowGraph form.

The _controlTaskOfCtFlowGraph collects the ControlTasks of the Flow Graph.

Related Terms
- Behaviour: The way in which a thing works
- Transfer Function: The relationship between the output signal of a control system and the input signal

The CtFlowGraph (not modelled directly) is a structure of interconnected apparent/abstract ControlTasks (each having a defined CtTransferFunction) where the structure expresses all possible flows (including cycles/loops) from exposed inputs to exposed outputs (which are the inputs and outputs of the ControlTask the ControlTaskFlow defines).
The CtFlowGraph is formed from the linking of CtPorts using _flowReceiveFromCtPort and _flowSendToCtPort (of the CtPort of the

ControlTask).
The CtFlowGraph supports the workflow of the Component.

Related Terms
- Workflow: the order of the stages in a particular work process
- Flow (Kestra): A simple list of tasks for Kestra, grouped by namespace. It defines all the behavior for the current flow.
- Use Case sequence: a list of actions or event steps
- Process: a series of actions or steps taken in order to achieve a particular end
- Procedure: a series of actions conducted in a certain order or manner
- Action Steps: Detail of an action plan

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Table 149: Attributes for CtTransferFunction

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_cttfPort	CttfPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_controlTaskOfCtFlowGraph	ControlTask	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_cttfAbstractFunctionStructure	CttfAbstractFunctionStructure	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.6.1.12 CttfAbstractFunctionStructure
Qualified Name: CoreModel::GeneralControllerModel::ControlTask::CttfAbstractFunctionStructure

Expression of a ControlTaskTransferFunction in terms of a logic function, arithmetic function or some other structure that is not in a ControlTaskFlowGraph form.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

2.6.1.13 CttfPort

Qualified Name: CoreModel::GeneralControllerModel::ControlTask::CttfPort

Represents the transfer function aspects of the CtPort

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Table 150: Attributes for CttfPort

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_ctPort	CtPort	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
triggerCondition	String	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The condition that triggers the ControlTask through the related CtPort.
outputCondition	String	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The condition output by the related CtPort.

2.6.1.14 ExposureContext

Qualified Name: CoreModel::GeneralControllerModel::ExposureContext::ExposureContext

Exposes a view of the things controlled by a control system. For example of resources defined in this model (and referenced by clause A.10 of ONF TR-521).
The referenced ConstraintDomain bounds the view which is a structured presentation of the underlying controlled things (the "actual" entities) for some purpose.
The ExposureContext provides access to the view.
It may further constrain the capabilities supported by the view (e.g., read only).
It does not provide a different view as its only source of information is the associated CD and the purpose of the ExposureContext is to expose the view as provided by the CD.
The model bounded by the ConstraintDomain is constructed by mapping/abstracting the models of the underlying controlled things.
The ControlConstruct is itself controlled and presents itself in terms of ControlConstructs (subordinate) in a view.
At one extreme the referenced ConstraintDomain may expose all underlying details of everything controlled with no adjustment from the presentation provided by the controlled things.
A ConstraintDomain may expose a subset of the controlled things that focuses on a particular aspect (e.g., only the ControlConstructs).
A ControlPort has an association to the ExposureContext that explains, via the related ConstraintDomain, what can be acquired through the port.
The emphasis is on exposing a constrained set of information and operations.
Bounds what is presented over an interface from a particular viewpoint. The domain of control is almost always broader than the entities etc. bounded by the ConstraintDomain.
Represents the domain of control available to the viewer.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 151: Attributes for ExposureContext

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_cd	ConstraintDomain	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The ConstraintDomain that defines the view to be exposed.
_controlPort	ControlPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_TransmitFilter	TransmitFilter	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.6.1.15 Function:NetworkElementControl

Qualified Name:
CoreModel::GeneralControllerModel::ControlDiagrams::mappingToTraditionalModel::explanatoryModel::Function:NetworkElementControl

Traditional model of the NE equivalent to an aspect of the NetworkElement class from v1.2.
This class should not be implemented.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Example

2.6.1.16 Function:SdnController

Qualified Name:
CoreModel::GeneralControllerModel::ControlDiagrams::mappingToTraditionalModel::explanatoryModel::Function:SdnController

Traditional model of the SDN controller equivalent to the SdnController class from v1.2.
This class should not be implemented.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Example

2.6.1.17 LogDetails

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::LogDetails

Details of the log methods available for the specific stream type.
Property examples given for a compacted log.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 152: Attributes for LogDetails

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_streamLog	StreamLog	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
tombstoneRetention	String	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	Time in minutes. The time period for which a Tombstone record will be held in the log from when it was logged. This provides an adjustment to the essential Compaction strategy such that after the tombstoneRetention period there will be no records about a particular thing that existed but no longer exists. Tombstone retention overrides recordRetention for Tombstones. Key word "FOREVER" means that Tombstone records will never be removed from the log. Can be adjusted by an administrator (via a separate view) through the life of the stream.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
compactionDelay	String	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	Time in minutes. The delay between logging the record and making the record available for compaction. This provides an adjustment to the essential Compaction strategy such that there may be several distinct records for the same thing in the where those records are not older than the Compaction Delay. Can be adjusted by an administrator (via a separate view) through the life of the stream.
maxAllowedSegmentRollDelay	String	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	The maximum time the log head segement can be allowed to be not made available for compaction. Applicable where the log is segmented and the head segment is not available for compaction. The setting influences the compaction behavior and may cause a delay before compaction that is much greater than the defined compaction delay. Time in seconds. Can be "FOREVER". Can be "NOT_APPLICABLE" (which indicates that compaction can act on the head segment).
maxCompactionLag	String	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	The maximum delay, in seconds, beyond the defined compaction delay for compaction processing to take place. May be "NOT_APPLICABLE" if compaction is essentially immediate (i.e., there is negligible delay).

2.6.1.18 LogRecord

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::LogRecord

Definition of a record in a StreamLog.
These records are immutable. Once logged they will never change (but can be removed from the log as appropriate).
Includes log record header information.
- record type (create, delete etc.)

- record token and record sequence number
- time the record was captured in the log
- source authenticity token

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 153: Attributes for LogRecord

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_bodyOfRecord	BodyOfRecord	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
token	String	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	A coded (and compact) form of the fullLogRecordOffsetId. This property is used to request streaming from a particular point (e.g., the last correctly handled record). For a basic log solution this may simply be the sequence number.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
fullLogRecordOffsetId		1..*	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	This property must minimally provide a logging sequence number. Note that when compaction is active, the streamed sequence may not have sequence numbers that simply increment by one. In a complex log solution there may be various parts to the log. The record token is a compressed form of log record reference. This property provides the verbose form For example, it may include: - stream id - topic - partition - partition offset - sequence number (the offset is essentially the sequence number associated with the partition)
logAppendTimeStamp	String	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	The time when the record was appended to the log.
entityKey	String	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	The identifier of the entity that is used in a Compacted log as the compaction key. The entityKey value, where appropriate, may be based upon the identifiers from the event source. It can be built from some specific detail combination that meets the necessary uniqueness and durability requirements. entityKey is the value used during compaction. Ideally it is a UUID format, if this can be formed from the source identifier.
recordType	RecordType	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	The type of the record. Can be used to understand which elements of the record will be present.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
recordAuthenticityToken	String	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	A token generated using a method that allows the client to validate that the record came from the expected provider.

2.6.1.19 LogStreamControl

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::LogStreamControl

For stream transmitter, monitors StreamLog state and StreamHandler behaviour.
For stream receiver, monitors ReceiveStreamBuffer.
Controls the communications in response to monitored conditions dropping and restarting connections as appropriate.
Need to explain how the client chooses the record to start from.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 154: Attributes for LogStreamControl

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_controlport	ControlPort	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_streamLog	StreamLog	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_streamServer	StreamHandler	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_receiveStreamPipelineBuffer	ReceiveStreamPipelineBuffer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.6.1.20 Provider

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::Diagrams::Provider

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

2.6.1.21 ProviderRole

Qualified Name: CoreModel::GeneralControllerModel::ControlConstruct::controlPortInterfacing::ProviderRole

Representation of the port activity where the ControlConstruct is acting as a provider.
A provider offers capabilities for others to use.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 155: Attributes for ProviderRole

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
providerSynchronousPortRole	ProviderSynchronousPortType	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The UML port representing the provider role.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_userRole	UserRole	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.6.1.22 ProviderSynchronousPortType

Qualified Name: CoreModel::GeneralControllerModel::ControlConstruct::controlPortInterfacing::ProviderSynchronousPortType

Exposes the synchronous communication capability of the provider aspect of the port.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

2.6.1.23 ReceiveFilter

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::ReceiveFilter

Filter that removes stream records that are not relevant to a specific receive ExposureContext or ControlConstruct (for control messages).

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 156: Attributes for ReceiveFilter

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_exposureContext	ExposureContext	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_controlConstruct	ControlConstruct	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The receive filter will route messages to the control construct where the message contains a request as opposed to information to apply to the exposure context.

2.6.1.24 ReceiveStreamPipelineBuffer

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::ReceiveStreamPipelineBuffer

Buffer that balances flow from the communications and storage rate differences.
Applies backpressure on the communications system. Forms part of the overall stream pipeline.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 157: Attributes for ReceiveStreamPipelineBuffer

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_receiveFilter	ReceiveFilter	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_storedInformation	StoredInformation	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.6.1.25 RequestConstructor

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::RequestConstructor

Function that coordinates requests originating from the ControlConstruct relates to specific contents of an ExposureContext and sends the request to the appropriate ControlPort.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 158: Attributes for RequestConstructor

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_controlPort	ControlPort	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_exposureContext	ExposureContext	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.6.1.26 StreamHandler

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::StreamHandler

Represents the function that maintains flow integrity of a stream.
This functions
- feeds StreamRecords to the ControlPort built from StreamLogRecords from the StreamLog.
- responds to backpressure from the ControlPort accounting for Demand.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 159: Attributes for StreamHandler

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_controlPort	ControlPort	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_streamLog	StreamLog	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_conveyedinformation	ConveyedInformation	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Information conveyed by the stream handler.

2.6.1.27 StreamLog

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::StreamLog

Stores StreamLogRecords for a particular Topic.
May do compaction/truncation etc. May use a technology such as Kafka.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 160: Attributes for StreamLog

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_streamSource	StreamHandler	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_storedInformation	StoredInformation	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.6.1.28 StreamProvider

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::StreamProvider

The entity that provides access to stream capability information.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 161: Attributes for StreamProvider

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_availableStream	AvailableStream	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_supportedStreamType	SupportedStreamType	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.6.1.29 StreamRecord

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::StreamRecord

The record sent in the stream.
Includes:
- record identifier
- time the record was formed
Note that this record may contain records for multiple Aggregate instances of mixed Aggregate types.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 162: Attributes for StreamRecord

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_logRecord	LogRecord	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.6.1.30 SupportedStreamType

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::SupportedStreamType

Definition of a type of stream that is supported by the provider.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 163: Attributes for SupportedStreamType

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_logDetails	LogDetails	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_connectionProtocolDetails	ConnectionProtocolDetails	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
streamTypeName	String	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	Name of the stream type.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
recordRetention	String	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	Time in minutes. Statement of retention time and/or retention capacity in bytes. Key word "FOREVER" means that records will never be removed from the log. May be overridden for particular cases of specific LogStorageStrategy (via augment). Applies to all record types in the stream unless overridden by another parameter (such as tombstone retention for a compacted log).
segmentSize	String	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	Size of sub-structuring of the log.
logStorageStrategy	LogStorageStrategy	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	Indicates the storage characteristics of the log supporting the stream.
logRecordStrategy	LogRecordStrategy	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	Indicates the type of content of each log record.
recordTrigger	RecordTrigger	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: Experimental	Defines the trigger to log a record.
streamTypeContent	String	0..*	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Identifies the classes that are supported through the stream. The list may be a subset of the classes within the context.

2.6.1.31 TransmitFilter

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::TransmitFilter

Defines which events are sent to a specific Topic.
The expectation is that ALL events from an ExposureContext will be available through the combination of TransmitFilters and streams such that a client connected to an appropriate set of streams can maintain alignment with the entire ExposureContext as defined by its ConstraintDomain.
Provider defines one or more profiles defining a set of streams all of which provide full ExposureContext access and the user selects a profile. May be by negotiation, but certainly not created by the client on the fly with random choices.
If the desired profile does not exist then a slow timeframe process will cause it to become available in the next release of the product/catalogue/etc.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Table 164: Attributes for TransmitFilter

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_streamLog	StreamLog	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.6.1.32 TransmitStreamPipeline
Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::TransmitStreamPipeline

Set up by ControlConstruct. Relates to a particular flow of information from the ExposureContext
Controls a specific stream integrity (using sequence numbers etc.)
Coordinates the TransmitFilter settings for the stream.
Coordinates the StreamHandler.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Table 165: Attributes for TransmitStreamPipeline

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_TransmitFilter	TransmitFilter	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
_streamHandler	StreamHandler	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.6.1.33 UserRole

Qualified Name: CoreModel::GeneralControllerModel::ControlConstruct::controlPortInterfacing::UserRole

Representation of the port activity where the ControlConstruct is acting as a user.
A user has needs that are satisfied by a provider.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 166: Attributes for UserRole

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
userSynchronousPortRole	UserSynchronousPortType	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The UML port representing the user role.

2.6.1.34 UserSynchronousPortType

Qualified Name: CoreModel::GeneralControllerModel::ControlConstruct::controlPortInterfacing::UserSynchronousPortType

Exposes the synchronous communication capability of the user aspect of the port.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

2.6.1.35 View:NetworkElementViewedFromSdnController

Qualified Name:
CoreModel::GeneralControllerModel::ControlDiagrams::mappingToTraditionalModel::explanatoryModel::View:NetworkElementViewedFromSdnController

Traditional model of the view of the NE controller as seen from a SDN Controller equivalent to an aspect of the NetworkElement class from v1.2.
This class should not be implemented.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Example

2.6.1.36 View:SdnControllerViewedFromManager

Qualified Name:
CoreModel::GeneralControllerModel::ControlDiagrams::mappingToTraditionalModel::explanatoryModel::View:SdnControllerViewedFromManager

Traditional model of the view of the SDN controller as seen from a manager.
No equivalent in v1.2.
This class should not be implemented.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Example

2.6.1.37 ViewMappingFunction

Qualified Name: CoreModel::GeneralControllerModel::ViewMappingFunction::ViewMappingFunction

The rules that relate one view to another and enable the transformation from one view to another.
A ControlConstruct aggregates ViewMappingFunctions.
The ViewMappingFunction is applied to the entities aggregated by one or more ConstraintDomains (via VmfPort - CdPort VmfMapsFromCdConstraintSet association) to construct the view in another ConstraintDomain (via VmfPort - CdPort VmfGovernsCdConstraintSet association).
For example, a pair of LTPs with matching adjacency tags in a nodal view may be mapped to a Link in a network view where the rules would describe the matching criteria etc.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Table 167: Attributes for ViewMappingFunction

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_vmfPort	VmfPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A port of the ViewMappingFunction.

2.6.1.38 VmfPort

Qualified Name: CoreModel::GeneralControllerModel::ViewMappingFunction::VmfPort

A port of the MappingFunction.
This can provide an input to the mapping or an output from the mapping where the inputs and outputs may have more detailed roles.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 168: Attributes for VmfPort

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_vmfPort	VmfPort	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Feeding to/from another Vmf.
_sourceCdPort	CdPort	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Drawing from a ConstraintDomain that aggregates classes to feed the mapping.
_governedCdPort	CdPort	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Causing instances of classes to be created/deleted/modified in the context of a ConstraintDomain that aggregates a view. This governs what the ConstraintDomain may aggregate and also governs the lifecycle of the aggregated entities.

2.6.2 Data Types

2.6.2.1 UniversalOutputConstraintStructure

Qualified Name: CoreModel::GeneralControllerModel::ControlConstruct::UniversalOutputConstraintStructure

A universal structure for representation of output from a task.

Applied stereotypes:

- Experimental

Table 169: Attributes for UniversalOutputConstraintStructure

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
progressStatus		1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Indicates the progress of the task.
_controlTask	ControlTask	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class
structureConstraint	OperationEnvelope	1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A universal structure to express the output from the task.
_exposureContext	ExposureContext	1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.6.2.2 UniversalRequestConstraintStructure

Qualified Name:
CoreModel::GeneralControllerModel::ControlConstruct::controlPortInterfacing::UniversalRequestConstraintStructure

A universal structure for representation of the request to trigger a task.

Applied stereotypes:

- Experimental

Table 170: Attributes for UniversalRequestConstraintStructure

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
outcomeConstraint	OperationEnvelope	1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The definition of the constraint on the desired/agreed outcome.
_exposureContext	ExposureContext	1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.6.3 Enumeration Types

2.6.3.1 ConnectionProtocol

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::ConnectionProtocol

The connection protocols.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- WEBSOCKETS:
  - WebSockets as defined at https://datatracker.ietf.org/doc/html/rfc6455.
  - Applied stereotypes:
    - Experimental
- SSE:
  - Server Sent Events as defined at https://www.w3.org/TR/2015/REC-eventsource-20150203/.
  - Applied stereotypes:
    - Experimental
- GNMI:
  - Google network Management Interface as specified at https://github.com/openconfig/reference/tree/master/rpc/gnmi.
  - Applied stereotypes:
    - Experimental

2.6.3.2 CtPortAccessMode

Qualified Name: CoreModel::GeneralControllerModel::ControlTask::CtPortAccessMode

The form of access.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- ENVIRONMENT:

    - The port accesses the general environment. There is no explicit connection.
      A RECEIVE_LISTEN port takes input from anywhere and examines for appropriateness. There is no expected source.
      A SEND port broadcasts into the environment. There is no expected recipient.
      Analogue: An antenna.
    - Applied stereotypes:
      - Experimental
- DIRECT:
    - There is a connection.
      The connected port may be known and/or may know of this port.
    - Applied stereotypes:
      - Experimental

2.6.3.3 CtPortFlow

Qualified Name: CoreModel::GeneralControllerModel::ControlTask::CtPortFlow

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- RECEIVE_LISTEN:
    - An input port to the ControlTask.
    - Applied stereotypes:
      - Experimental
- SEND:
    - An output from the ControlTask
    - Applied stereotypes:
      - Experimental

2.6.3.4 EncodingFormat

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::EncodingFormat

The list of possible encoding formats.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- JSON:
  - JavaScript Object Notation as defined at https://www.json.org/json-en.html.
  - Applied stereotypes:
    - Experimental
- PROTOBUF:
  - Protocol Buffers as defined at github.com/protocolbuffers/protobuf.
  - Applied stereotypes:
    - Experimental
- XML:
  - eXtensible Markup Language as defined at https://www.w3.org/standards/xml/.
  - Applied stereotypes:
    - Experimental

2.6.3.5 LogRecordStrategy

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::LogRecordStrategy

Defines the different approaches for logging information about an event covering the log trigger and the log content.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- CHANGE_ONLY:
  - Each record only provides a view of the changes that have occurred (on a per entity change basis).
    E.g., the log only includes the attribute that has changed and not other attributes that have not changed.
  - Applied stereotypes:
    - Experimental
- WHOLE_ENTITY:

- A record provides a snapshot of a whole entity.
  The record includes all properties and values whether they have changed or not.
- Applied stereotypes:
  - Experimental

2.6.3.6 LogStorageStrategy

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::LogStorageStrategy

Defines the storage (record retention) approach.

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- COMPACTED:
  - The log uses some mechanism to remove noisy detail whilst enabling the client to achieve eventual consistency (alignment) with current state.
  - Applied stereotypes:
    - Experimental
- TRUNCATED:
  - The log only maintains recent records and disposes of old records.
    This log does not alone enable the client to achieve alignment with current state.
  - Applied stereotypes:
    - Experimental
- FULL_HISTORY:
  - Maintains a history from system initiation with no missing records.
    Provides initial state at the beginning of the history
  - Applied stereotypes:
    - Experimental
- FULL_HISTORY_WITH_PERIODIC_BASELINE:
  - Provides a history with initial state and periodic/occasional statements of current state at a particular point in time.
  - Applied stereotypes:
    - Experimental

2.6.3.7 RecordTrigger

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::RecordTrigger

The trigger for logging a record.

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- ON_CHANGE:
  - A record is logged each time the value of the item to be reocorded changes.
  - Applied stereotypes:
    - Experimental
- PERIODIC:
  - A record is logged for the item on a periodic basis (independent of whether the values have changed or not).
  - Applied stereotypes:
    - Experimental
- DEFINED_TRIGGER:
  - The trigger will follow a strategy that is complex and specified via additional detail.
  - Applied stereotypes:
    - Experimental

2.6.3.8 RecordType

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::RecordType

The type of the record.
Used to understand what log content will be present and how to interpret it.
For some record types there is special encoding.
A ACTIVE alarm and an INTERMITTENT alarm are CREATE_UPDATE.
A CLEAR alarm is DELETE with an adjacent TOMBSTONE record.

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- CREATE_UPDATE:
  - The record includes a create or update.
    Where there is an update in a non-compacted log the information with be sparse (e.g., a single attribute) and about an entity that is already known.
  - Applied stereotypes:
    - Experimental
- DELETE:
  - The record is about a delete.
    The record may have a LogRecordHeader and a LogRecordBody but no augmented content.
    The entityKey should be sufficient to identify the entity to be deleted.
    Under certain circumstances there may be class content in the LogRecordBody.
  - Applied stereotypes:
    - Experimental
- TOMBSTONE:
  - Used in a Compacted log to remove old records and truncate deletion history.
    Is only a LogRecordHeader with no LogRecordBody.
  - Applied stereotypes:
    - Experimental
- CHANGE:
  - The record includes necessary ids and only the changed parameter/parameters.

  - Applied stereotypes:
    - Experimental
- UPDATE:
  - The record is of the whole entity where it is known to have existed before.
  - Applied stereotypes:
    - Experimental
- CREATE:
  - The record is of the whole entity where it is known to have not existed before or not known to have existed before (it may have existed but the record has been lost and hence it appears to be new).

    - Applied stereotypes:
        - Experimental
- INFORMATION:
    - The record contains some information.
    - Applied stereotypes:
        - Experimental

2.6.3.9 StreamState

Qualified Name: CoreModel::GeneralControllerModel::LogAndStream::StreamState

The state of the available stream.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- ALIGNING:
    - The log that underpins the stream is aligning with other backend services and hence may not be providing full service. If events are provided, they will be completely valid.
    - Applied stereotypes:
        - Experimental
- ACTIVE:
    - The stream is operating such that if a client connects records will be provided as per back pressure etc.
    - Applied stereotypes:
        - Experimental
- PAUSED:
    - Although the stream is available it has been paused by the administrator such that the records are being appended to the log but a new client will not receive any events whilst the stream is paused.
    - Applied stereotypes:
        - Experimental
- TERMINATED:
    - The stream is essentially no longer available. It will be removed from the AvailableStreams list shortly.
    - Applied stereotypes:

        - Experimental

2.6.3.10 TaskLifecycleState

Qualified Name: CoreModel::GeneralControllerModel::ControlTask::TaskLifecycleState

The potential states of the task.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- RUNNING:
    - The task is running/progressing.
    - Applied stereotypes:
        - Experimental
- PAUSED:
    - The task has been paused.
    - Applied stereotypes:
        - Experimental
- WAITING:
    - The task is waiting for input etc.
    - Applied stereotypes:
        - Experimental
- ABORTING:
    - The task is aborting.
    - Applied stereotypes:
        - Experimental
- COMPLETED:
    - The task has been completed successfully.
      There may have been warnings and non catastrophic error conditions none of which prevented completion or some useful outcome.
    - Applied stereotypes:
        - Experimental

- ABORTED:
  - The task has been aborted.
  - Applied stereotypes:
    - Experimental
- ATTEMPTING_ROLLBACK:
  - The task is attempting to return the controlled system to a previous state.
  - Applied stereotypes:
    - Experimental
- ROLLBACK_COMPLETED:
  - The task has completed a roll back action.
  - Applied stereotypes:
    - Experimental
- ABANDONING:
  - Task is abandoning.
  - Applied stereotypes:
    - Experimental
- ABANDONED:
  - The task has been abandoned and is no longer running.
  - Applied stereotypes:
    - Experimental
- FAILED:
  - The task has failed.
    The task may have failed to start or may have progressed to a point where a condition occurred that prevented further meaningful progress and has had no useful outcome.
  - Applied stereotypes:
    - Experimental
- ARCHIVED:
  - The task has been archived (and is no longer running).
  - Applied stereotypes:
    - Experimental

2.6.4 Primitive Types

2.7 Core Interactions Model data dictionary

This section provides the model details for Interactions model supporting the generalized operations pattern, notification patterns, etc..

2.7.1 Classes

2.7.1.1 DesiredOutcomeConstraints

Qualified Name: CoreModel::CoreInteractionModel::CoreOperationsModel::ObjectClasses::DesiredOutcomeConstraints

Constraints that define the boundaries of an acceptable outcome.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 171: Attributes for DesiredOutcomeConstraints

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_outcomeElement	OutcomeElementConstraints	1..*	RW	DefinedBySpec Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY StrictComposition	See referenced class
activityDirective	ActivityDirective	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided
hasDeleteConfirmation	Boolean	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	A delete confirmation exchange is required.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
numberOfInstancesOfEachOutcomeElement	Integer	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	The outcome statement defines a pattern where more than one instances of that pattern may be required.

2.7.1.2 ElementConstraints

Qualified Name: CoreModel::CoreInteractionModel::CoreOperationsModel::ObjectClasses::ElementConstraints

Constraints bounding a specific element.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 172: Attributes for ElementConstraints

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_specificClassStructure	SpecificClassStructure	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental SpecReference	See referenced class
_specificPattern	SpecificPattern	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	See referenced class

2.7.1.3 GeneralDirectives

Qualified Name: CoreModel::CoreInteractionModel::CoreOperationsModel::ObjectClasses::GeneralDirectives

A structure of directives.

Applied stereotypes:

- OpenModelClass

    - support: MANDATORY
- Experimental

2.7.1.4 Ltp

Qualified Name: CoreModel::CoreInteractionModel::CoreOperationsModel::ObjectClasses::Ltp

A class definition that is the basis for the constraints in the specific class structure.

This class should not be implemented.

Applied stereotypes:
- OpenModelClass
    - support: MANDATORY
- Experimental
- Example

2.7.1.5 NecessaryInitialConditionConstraints

Qualified Name: CoreModel::CoreInteractionModel::CoreOperationsModel::ObjectClasses::NecessaryInitialConditionConstraints

A statement of conditions that need to be satified to all the outcome to be achieved.

Applied stereotypes:
- OpenModelClass
    - support: MANDATORY
- Experimental

Table 173: Attributes for NecessaryInitialConditionConstraints

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
isNot	Boolean	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	Qualifies a condition to be inverse, i.e. that something is not true rather than true prior commencing the task.

2.7.1.6 OperationDetails

Qualified Name: CoreModel::CoreInteractionModel::CoreOperationsModel::ObjectClasses::OperationDetails

Details of a specific desired outcome in terms of entry conditions and an optional action verb.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 174: Attributes for OperationDetails

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
actionVerb	ActionVerbs	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Opportunity to provide an action verb to allow formation of a more traditional operation statement or a REST statement.
_necessaryInitialConditionConstraints	NecessaryInitialConditionConstraints	0..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_desiredOutcomeConstraints	DesiredOutcomeConstraints	1..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.7.1.7 OperationEnvelope

Qualified Name: CoreModel::CoreInteractionModel::CoreOperationsModel::ObjectClasses::OperationEnvelope

The container of the statement of desired outcome.
May also be used to express an existing structure in terms of constraints
and hence may be used in output statements where the statement describes the achieved outcome.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 175: Attributes for OperationEnvelope

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_operationSet	OperationSet	1..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
generalDirectives	GeneralDirectives	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	General policy and other constraints to guide the operation execution. Significant definition is required here.
operationIdentifiers	OperationIdentifiers	1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided

2.7.1.8 OperationIdentifiers

Qualified Name: CoreModel::CoreInteractionModel::CoreOperationsModel::ObjectClasses::OperationIdentifiers

A structure of identifiers for the statement.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

2.7.1.9 OperationSet

Qualified Name: CoreModel::CoreInteractionModel::CoreOperationsModel::ObjectClasses::OperationSet

A set of statements about the approach to achieving a portion of the desired outcome.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 176: Attributes for OperationSet

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_operationSetThatMustHaveStarted	OperationSet	0..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_operationSetThatMustEnd	OperationSet	0..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
abortAfterDurationWithActionRule	ToBeDefined	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided
effortAndAction	ActionEffort	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided
pauseResumeRule	PauseResumeRule	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided
_operationSet	OperationSet	0..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
isShortLived	Boolean	0..1	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	To be provided
_operationDetails	OperationDetails	1..*	RW	Experimental OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.7.1.10 OutcomeElementConstraints

Qualified Name: CoreModel::CoreInteractionModel::CoreOperationsModel::ObjectClasses::OutcomeElementConstraints

Constraints that define the boundary of an acceptable outcome for a specific element of that outcome.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- ElementConstraints

2.7.1.11 SpecificClassStructure

Qualified Name: CoreModel::CoreInteractionModel::CoreOperationsModel::ObjectClasses::SpecificClassStructure

Constraints for a specific class.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 177: Attributes for SpecificClassStructure

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_classTypeName	Ltp	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental AttributeExtention	See referenced class

2.7.1.12 SpecificPattern

Qualified Name: CoreModel::CoreInteractionModel::CoreOperationsModel::ObjectClasses::SpecificPattern

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

2.7.2 Data Types

2.7.3 Enumeration Types

2.7.3.1 ActionEffort

Qualified Name: CoreModel::CoreInteractionModel::CoreOperationsModel::DataTypes::ActionEffort

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- BEST_EFFORT:
  - Applied stereotypes:
    - Experimental
- EXACT_MATCH:
  - Applied stereotypes:

- Experimental

2.7.3.2 ActionVerbs

Qualified Name: CoreModel::CoreInteractionModel::CoreOperationsModel::DataTypes::ActionVerbs

Verb constructs that direct the activity.

Applied stereotypes:

- ControlledString

Contains Enumeration Literals:

- CREATE_POST_ADD:
  - Cause the addition of some structure.
  - Applied stereotypes:
- SET_UPDATE_PUT_MODIFY_WRITE_ADD:
  - Cause the adjustment to some properties.
  - Applied stereotypes:
- GET_READ:
  - Acquire information.
  - Applied stereotypes:
- DELETE_REMOVE:
  - Eliminate some structure.
  - Applied stereotypes:

2.7.3.3 ActivityDirective

Qualified Name: CoreModel::CoreInteractionModel::CoreOperationsModel::DataTypes::ActivityDirective

Explains how to interpret the request.

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- STRUCTURE_IS_NOT:
  - The structure defined should not be present. No part should be present (within the stated degrees of precision.
  - Applied stereotypes:
    - Experimental
- NEW_STRUCTURE_AND_VALUES:
  - None of the structure stated is expected to be present, but is required.
  - Applied stereotypes:
    - Experimental
- INCREMENTAL_STRUCTURE_AND_VALUES:
  - The structure stated is an increment on what already exists.
    Increment in this case may also be decrement.
  - Applied stereotypes:
    - Experimental
- ONLY_VALUES_IN_EXISTING_STRUCTURE:
  - Only values should be modified, no new structure should be created and no structure should be deleted.
  - Applied stereotypes:
    - Experimental
- DEFINED_BY_VERB:
  - A verb is provided to give guidance (such as Create).
  - Applied stereotypes:
    - Experimental

2.7.3.4 PauseResumeRule

Qualified Name: CoreModel::CoreInteractionModel::CoreOperationsModel::DataTypes::PauseResumeRule

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- NO_PAUSE_POSSIBLE:
  - Applied stereotypes:
    - Experimental

2.7.4 Primitive Types

2.7.4.1 TestType

Qualified Name: CoreModel::CoreInteractionModel::CoreOperationsModel::DataTypes::TestType

Applied stereotypes:

- Experimental
- RuntimeTypeExtension

2.8 Core Software Model data dictionary

This section provides the model details for Software model supporting modeling of file systems, running software, software containers and virtual machines.

2.8.1 Classes

2.8.1.1 Directory

Qualified Name: CoreModel::CoreSoftwareModel::FileSystem::Directory

A Directory is a collection of Files and other Directories. Because a Directory can contain other Directories, this allows a hierarchical file system to be represented.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- FileSystemEntry

Table 178: Attributes for Directory

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_fileSystemEntry	FileSystemEntry	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Directory entry, which can be a File or another Directory.
isReadOnly Inherited	Boolean	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	If the File contents can be modified or not.
isHidden Inherited	Boolean	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	If the File is hidden by the FileSystem.
pathName Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The full pathname of the entry, back to the root Directory.
localName Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The name of the entry in its Directory.
createDate Inherited	DateTime	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The date that the entry was created.

2.8.1.2 File

Qualified Name: CoreModel::CoreSoftwareModel::FileSystem::File

A File is a data structure used to store information (user data, commands, software etc.) in a computer system. Note that in this CIM class, we are only storing the metadata associated with the File, not the actual contents of the File.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

- Experimental

Inherits properties from:

- FileSystemEntry

Table 179: Attributes for File

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
size	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The size of the File, in bytes.
lastModifyTime	DateTime	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The date time that the File was last modified.
checksum	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A checksum that can be used to validate the contents of the File (in case of corruption or malicious changes) using a hashing algorithm like MD5 or SHA1.
isReadOnly	Boolean	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	If the File contents can be modified or not.
isHidden	Boolean	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	If the File is hidden by the FileSystem.
pathName	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The full pathname of the entry, back to the root Directory.
localName	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The name of the entry in its Directory.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
createDate	DateTime	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The date that the entry was created.

2.8.1.3 FileSystem

Qualified Name: CoreModel::CoreSoftwareModel::FileSystem::FileSystem

A FileSystem organizes the data on a storage system so that it can be easily created, updated and accessed. It manages the Directories and also the metadata for the Files.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 180: Attributes for FileSystem

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_fileSystemEntry	FileSystemEntry	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The root FileSystem entries, which can be Files or Directories.

2.8.1.4 FileSystemEntry

Qualified Name: CoreModel::CoreSoftwareModel::FileSystem::FileSystemEntry

FileSystemEntry is an abstraction of File and Directory, useful when there is a need to reference both classes. It also allows for an easy representation of a hierarchical filesystem.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

- Experimental

Table 181: Attributes for FileSystemEntry

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
isReadOnly	Boolean	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	If the File contents can be modified or not.
isHidden	Boolean	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	If the File is hidden by the FileSystem.
pathName	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The full pathname of the entry, back to the root Directory.
localName	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The name of the entry in its Directory.
createDate	DateTime	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The date that the entry was created.

2.8.1.5 InstalledSoftwareComponent

Qualified Name: CoreModel::CoreSoftwareModel::RunningSoftware::InstalledSoftwareComponent

InstalledSoftwareComponent is part of the software inventory. It represents an application or an application suite or an application (feature) option. It is the unit of installation. Note that this is operating system dependent. For example, Microsoft DOS 3.3 didn't have an installation manager.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

- Experimental

Table 182: Attributes for InstalledSoftwareComponent

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
name	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The name of the installed component as returned by the operating system.
version	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The version of the installed component as returned by the operating system.
serialNumber	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	As part of software licensing, a serial number may be available for the installation.
_installationFile	File	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	If available, the File that the installation was from.
_childInstalledSoftwareComponent	InstalledSoftwareComponent	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	References to any child installations.
_installedFileSystemEntry	FileSystemEntry	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	References to any Directories or Files created or used by the installation. Note that installations may share files. So installation 1 may create key.dll in a common area, and installation 2 would create this if it wasn't present. Because it is already present, installation 2 just references the file. Now if installation 1 is uninstalled, key.dll is not removed as there is still a reference to it.

2.8.1.6 RunningContainer

Qualified Name: CoreModel::CoreSoftwareModel::SoftwareContainer::RunningContainer

A container that has been activated by its container engine and hence can provide and consume resources.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- RunningSoftwareProcess

Table 183: Attributes for RunningContainer

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_containerBoundary	ConstraintDomain	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The constraints defining the boundary of the Container.
processId Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The identifier provided by the operating system.
priority Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The process priority which is used by a multi-tasking operating system to assign resource allocations for the different running software processes.
invokingUser Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The username of the account that invoked the process.
invokingCommand Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The command string that invoked the process.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
timeInvoked Inherited	DateAndTime	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The date time when the process was invoked.
runState Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The current run state. A software process may be actively running or suspended (or some other state supported by the operating system).
name Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The name of the process as assigned by the operating system.
description Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The description of the process as assigned by the operating system.
_executable Inherited	File	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	A reference to the executable file (invoked via the invokingCommand). Note that the invoking command may not list the full file path.
_childSoftwareProcess Inherited	RunningSoftwareProcess	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	References to a software process's subprocesses and threads.
_openFile Inherited	File	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	References to any files opened and/or locked by the running process.

2.8.1.7 RunningContainerEngine

Qualified Name: CoreModel::CoreSoftwareModel::SoftwareContainer::RunningContainerEngine

A software process that abstracts running applications from the operating system. It provides some level of isolation, but not as much as a hypervisor.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- RunningSoftwareProcess

Table 184: Attributes for RunningContainerEngine

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_runningContainer	RunningContainer	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The containers running in this container engine.
processId Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The identifier provided by the operating system.
priority Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The process priority which is used by a multi-tasking operating system to assign resource allocations for the different running software processes.
invokingUser Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The username of the account that invoked the process.
invokingCommand Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The command string that invoked the process.
timeInvoked Inherited	DateAndTime	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The date time when the process was invoked.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
runState Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The current run state. A software process may be actively running or suspended (or some other state supported by the operating system).
name Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The name of the process as assigned by the operating system.
description Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The description of the process as assigned by the operating system.
_executable Inherited	File	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	A reference to the executable file (invoked via the invokingCommand). Note that the invoking command may not list the full file path.
_childSoftwareProcess Inherited	RunningSoftwareProcess	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	References to a software process's subprocesses and threads.
_openFile Inherited	File	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	References to any files opened and/or locked by the running process.

2.8.1.8 RunningHostOsVmm

Qualified Name: CoreModel::CoreSoftwareModel::VirtualMachine::RunningHostOsVmm

A Virtual Machine Monitor (VMM or Hypervisor) running in a host operating system (type-2).

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:
- RunningVirtualMachineMonitor

2.8.1.9 RunningNativeVmm

Qualified Name: CoreModel::CoreSoftwareModel::VirtualMachine::RunningNativeVmm

A Virtual Machine Monitor (VMM or Hypervisor) running directly on the hardware (bare metal or type-1).

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:
- RunningVirtualMachineMonitor

2.8.1.10 RunningOperatingSystem

Qualified Name: CoreModel::CoreSoftwareModel::RunningSoftware::RunningOperatingSystem

An operating system is a running software process that enables software applications to utilize the computer's hardware.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:
- RunningSoftwareProcess

Table 185: Attributes for RunningOperatingSystem

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_runningSoftwareProcess	RunningSoftwareProcess	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The software processes running under this operating system.
_runningContainerEngine	RunningContainerEngine	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The running container engines supported by the running operating system.
_runningHostOsVmm	RunningHostOsVmm	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The host OS VMMs running under this operating system.
processId Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The identifier provided by the operating system.
priority Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The process priority which is used by a multi-tasking operating system to assign resource allocations for the different running software processes.
invokingUser Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The username of the account that invoked the process.
invokingCommand Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The command string that invoked the process.
timeInvoked Inherited	DateAndTime	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The date time when the process was invoked.
runState Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The current run state. A software process may be actively running or suspended (or some other state supported by the operating system).

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
name Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The name of the process as assigned by the operating system.
description Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The description of the process as assigned by the operating system.
_executable Inherited	File	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	A reference to the executable file (invoked via the invokingCommand). Note that the invoking command may not list the full file path.
_childSoftwareProcess Inherited	RunningSoftwareProcess	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	References to a software process's subprocesses and threads.
_openFile Inherited	File	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	References to any files opened and/or locked by the running process.

2.8.1.11 RunningSoftwareApplication

Qualified Name: CoreModel::CoreSoftwareModel::RunningSoftware::RunningSoftwareApplication

This covers generic software processes that don't have a special subclass (operating system, virtual machine and container special cases have their own specific subclasses).

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- RunningSoftwareProcess

2.8.1.12 RunningSoftwareProcess

Qualified Name: CoreModel::CoreSoftwareModel::RunningSoftware::RunningSoftwareProcess

This is the unit of software execution. It could be a running application or a thread (the smallest level of software execution).

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 186: Attributes for RunningSoftwareProcess

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
processId	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The identifier provided by the operating system.
priority	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The process priority which is used by a multi-tasking operating system to assign resource allocations for the different running software processes.
invokingUser	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The username of the account that invoked the process.
invokingCommand	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The command string that invoked the process.
timeInvoked	DateAndTime	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The date time when the process was invoked.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
runState	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The current run state. A software process may be actively running or suspended (or some other state supported by the operating system).
name	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The name of the process as assigned by the operating system.
description	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The description of the process as assigned by the operating system.
_executable	File	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	A reference to the executable file (invoked via the invokingCommand). Note that the invoking command may not list the full file path.
_childSoftwareProcess	RunningSoftwareProcess	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	References to a software process's subprocesses and threads.
_openFile	File	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	References to any files opened and/or locked by the running process.

2.8.1.13 RunningVirtualMachine

Qualified Name: CoreModel::CoreSoftwareModel::VirtualMachine::RunningVirtualMachine

This represents a VirtualMachine that is running, and hence can provide and consume resources. It isn't shown as a subclass of RunningSoftwareProcess as it may not be a running software process and the hypervisor may not allow access to any process related information.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

- Experimental

Table 187: Attributes for RunningVirtualMachine

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_vmBoundary	ConstraintDomain	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Similar to a physical device boundary, we allow a virtual machine to have a constraint boundary.

2.8.1.14 RunningVirtualMachineMonitor

Qualified Name: CoreModel::CoreSoftwareModel::VirtualMachine::RunningVirtualMachineMonitor

This is the abstraction of the two different types of VMM.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- RunningSoftwareProcess

Table 188: Attributes for RunningVirtualMachineMonitor

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_runningVm	RunningVirtualMachine	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The VMs actively running under this VMM.
processId Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The identifier provided by the operating system.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
priority Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The process priority which is used by a multi-tasking operating system to assign resource allocations for the different running software processes.
invokingUser Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The username of the account that invoked the process.
invokingCommand Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The command string that invoked the process.
timeInvoked Inherited	DateAndTime	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The date time when the process was invoked.
runState Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The current run state. A software process may be actively running or suspended (or some other state supported by the operating system).
name Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The name of the process as assigned by the operating system.
description Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The description of the process as assigned by the operating system.
_executable Inherited	File	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	A reference to the executable file (invoked via the invokingCommand). Note that the invoking command may not list the full file path.
_childSoftwareProcess Inherited	RunningSoftwareProcess	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	References to a software process's subprocesses and threads.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_openFile Inherited	File	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	References to any files opened and/or locked by the running process.

2.8.1.15 SymbolicLink

Qualified Name: CoreModel::CoreSoftwareModel::FileSystem::SymbolicLink

A SymbolicLink is a File that contains a path reference to a File or a Directory.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- File

Table 189: Attributes for SymbolicLink

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_fileSystemEntry	FileSystemEntry	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The FileSystemEntry that this SymbolicLink refers to.
size Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The size of the File, in bytes.
lastModifyTime Inherited	DateTime	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The date time that the File was last modified.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
checksum Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A checksum that can be used to validate the contents of the File (in case of corruption or malicious changes) using a hashing algorithm like MD5 or SHA1.
isReadOnly Inherited	Boolean	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	If the File contents can be modified or not.
isHidden Inherited	Boolean	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	If the File is hidden by the FileSystem.
pathName Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The full pathname of the entry, back to the root Directory.
localName Inherited	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The name of the entry in its Directory.
createDate Inherited	DateTime	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The date that the entry was created.

2.8.2 Data Types

2.8.3 Enumeration Types

2.8.4 Primitive Types

2.9 Core Location Model data dictionary

This section provides the model details for the Location model supporting modeling of where something is including various forms of location identification.

2.9.1 Classes

2.9.1.1 CivicGeographicAddress

Qualified Name: Location::CivicGeographicAddress

A complex address example conforming to :
- RFC4119: "A Presence-based GEOPRIV Location Object Format"
- RFC 4776: "Dynamic Host Configuration Protocol (DHCPv4 and DHCPv6) Option for Civic Addresses Configuration Information"
- RFC5139: "Revised Civic Location Format for Presence Information Data Format Location Object (PIDF-LO)"

Note that the civic attributes haven't been added to the example class.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

Inherits properties from:
- GeographicAddress

2.9.1.2 GeographicAddress

Qualified Name: Location::GeographicAddress

The address(es) of the GeographicLocation.

This is an example structure that could be used directly where appropriate but could be replaced with other similar structures where necessary.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

2.9.1.3 GeographicLocation

Qualified Name: Location::GeographicLocation

A class representing locations that are located using global definitions that takes the curvature of the earth into account (often these are 'outside' locations).
A GeographicLocation can have zero, one or more decorating classes.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:
- Location

2.9.1.4 GeographicPoint

Qualified Name: Location::GeographicPoint

A point location as would be returned from a GPS unit.
Note that the projection etc. details aren't shown – WGS84 can be assumed.
Note that a GeographicPoint can be related to LocalReferencePoints to allow conversion between global and local reference systems.

This is an example structure that could be used directly where appropriate but could be replaced with other similar structures where necessary.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

Table 190: Attributes for GeographicPoint

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
latitude	Real	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Latitude in degrees decimal.
longitude	Real	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Longitude in degrees decimal.
elevation	Real	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Elevation in meters.

2.9.1.5 GeographicSite

Qualified Name: Location::GeographicSite

Represents a well-known named location, such as a service provider's central office or GSM base station.
This is a convenience class for locations of interest.

This is an example structure that could be used directly where appropriate but could be replaced with other similar structures where necessary.

Applied stereotypes:
- OpenModelClass

    - support: MANDATORY
- Experimental
- Example

Table 191: Attributes for GeographicSite

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
siteName	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The name of the site.

2.9.1.6 LocalLocation

Qualified Name: Location::LocalLocation

Represents locations that use local definitions that ignore the curvature of the earth (often these are locations inside a building or a small, flat block of land).
A LocalLocation can have zero, one or more decorating classes.

Applied stereotypes:
- OpenModelClass
    - support: MANDATORY
- Experimental

Inherits properties from:
- Location

Table 192: Attributes for LocalLocation

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_geographicLocation	GeographicLocation	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The GeographicLocation that this LocalLocation is defined by.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.9.1.7 LocalPoint

Qualified Name: Location::LocalPoint

An abstract class that covers both absolute and relative local point representations (other geometric options could also be considered to cover regions etc.).
LocalPoints defined in a cartesian projection don't take the curvature of the earth into account as it is not significant within a building or on a small block of land.

This is an example structure that could be used directly where appropriate but could be replaced with other similar structures where necessary.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

Inherits properties from:

- GlobalClass

2.9.1.8 LocalReferencePoint

Qualified Name: Location::LocalReferencePoint

Defines the datum point and orientation (angles theta, pi, psi from north and straight up) of the local reference system in relationship to the WGS84 geographic reference system.
LocalRelativePoints are defined as an offset from a LocalReferencePoint.
Note also that relating the LocalReferencePoint back to a GeographicPoint allows the local and geographic points to be merged into one seamless representation.
The local reference point will often be chosen for convenience, for example one corner of a building or a corner of a block of land.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

Inherits properties from:

- LocalPoint

Table 193: Attributes for LocalReferencePoint

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
x	Real	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The offset of the local datum from the geographic point location in the x direction.
y	Real	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The offset of the local datum from the geographic point location in the y direction.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
z	Real	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The offset of the local datum from the geographic point location in the z direction.
theta	Real	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The angle of rotation around the z-axis that the local reference system y-axis is from north, in degrees decimal.
pi	Real	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The angle that the local reference system x-axis is from tangent, in degrees decimal. For a non-tilted floor, this is always 0.0.
psi	Real	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The angle that the local reference system y-axis is from tangent, in degrees decimal. For a non-tilted floor, this is always 0.0.
_geographicPoint	GeographicPoint	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The GeographicPoint that this LocalReferencePoint is defined relative to.
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.9.1.9 LocalRelativePoint

Qualified Name: Location::LocalRelativePoint

A local point value as defined in the local cartesian reference system datum defined by the related LocalReferencePoint.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

Inherits properties from:

- LocalPoint

Table 194: Attributes for LocalRelativePoint

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
x	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The distance from the local datum in the x direction in meters.
y	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The distance from the local datum in the y direction in meters.
z	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The distance from the local datum in the z direction in meters.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_localReferencePoint	LocalReferencePoint	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The datum that this point is relative to.
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.9.1.10 Location

Qualified Name: Location::Location

An abstract class that allows for decoupling of the different ways of locating something.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- GlobalClass

2.9.1.11 LocationRole

Qualified Name: Location::LocationRole

Represents location contextual behavior, in the context of a LocationRoleRelationship.
For example a central office site may be a 'trunk hub' for fiber transmission and a 'delivery location' for given material orders.
A role can exist with no location fulfilling that role.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- LocalClass

Table 195: Attributes for LocationRole

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_locationRoleType	LocationRoleType	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The specification of this LocationRole.
_location	Location	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A location that takes this role.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.9.1.12 LocationRoleRelationship

Qualified Name: Location::LocationRoleRelationship

Provides the context for related LocationRoles.
For example a central office site may be a 'trunk hub' for fiber transmission systems and a 'delivery location' for a given material order. In the Party model, roles are expected to be a strong concept. In the location model, roles are a weaker concept and shouldn't be overused.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- GlobalClass

Table 196: Attributes for LocationRoleRelationship

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_locationRelationshipType	LocationRoleRelationshipType	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The specification for this relationship.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_locationRole	LocationRole	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A LocationRole in the LocationRoleRelationship. A LocationRoleRelationship is not meaningful with less than two role instances. A LocationRole cannot exist independent of a LocationRoleRelationship explaining the LocationRole with respect to one or more other LocationRoles.
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.9.1.13 LocationRoleRelationshipEntryType

Qualified Name: Location::LocationRoleRelationshipEntryType

Defines the LocationRole types used in a LocationRoleRelationshipType. Note that this is a use of the occurrence pattern.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 197: Attributes for LocationRoleRelationshipEntryType

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_locationRoleType	LocationRoleType	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The LocationRoleType for this relationship entry type.

2.9.1.14 LocationRoleRelationshipType

Qualified Name: Location::LocationRoleRelationshipType

The specification class for LocationRoleRelationship.
It allows us to define types of location relationships.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- GlobalClass

Table 198: Attributes for LocationRoleRelationshipType

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_locationRoleRelationshipEntryType	LocationRoleRelationshipEntryType	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Entry type for the LocationRoleRelationshipType.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.9.1.15 LocationRoleType

Qualified Name: Location::LocationRoleType

The specification class for LocationRole.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- GlobalClass

2.9.1.16 SimpleGeographicAddress

Qualified Name: Location::SimpleGeographicAddress

An address that doesn't break up the address string into all of its semantic parts.
It just opaquely represents the address as three lines of text.

This is an example structure that could be used directly where appropriate but could be replaced with other similar structures where necessary.
For example, a more complex decorator of GeographicLocation could also be added that splits up the structure of the address.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

Inherits properties from:

- GeographicAddress

Table 199: Attributes for SimpleGeographicAddress

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
addressLine1	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The first line of text in the address.
addressLine2	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The second line of text in the address.
addressLine3	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The third line of text in the address.
isPostalAddress	Boolean	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	If this is a valid postal address (e.g., can be used to send a letter to).

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
isStreetAddress	Boolean	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	If this is a valid street address.

2.9.1.17 SimpleLocalAddress

Qualified Name: Location::SimpleLocalAddress

A local address that just opaquely represents a local address as a single line of text.
For example, a module location in a telephone exchange/central office could be a formatted string of name/value pairs like "suite:1/rack:7/chassis:2/slot:3".

This is an example structure that could be used directly where appropriate but could be replaced with other similar structures where necessary.
For example, a more complex decorator of LocalLocation could also be added that splits up the structure of the address.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

Table 200: Attributes for SimpleLocalAddress

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localAddress	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The local address is a single string.

2.9.1.18 SimplePostalOnlyAddress

Qualified Name: Location::SimplePostalOnlyAddress

A simple address example where the address attributes aren't parsed, but just split into three strings as it would appear in three lines on an envelope.
A PostalOnlyAddress is one that doesn't directly relate to a geographic location and may be a:
- Post office box
- Mail Bag
- Locked Bag
Or other similar special postal address.

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

Inherits properties from:
- GeographicAddress

Table 201: Attributes for SimplePostalOnlyAddress

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
addressLine1	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The first line of text in the address.
addressLine2	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The second line of text in the address.
addressLine3	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The third line of text in the address.

2.9.2 Data Types

2.9.3 Enumeration Types

2.9.4 Primitive Types

2.10 Core Party Model data dictionary

This section provides the model details for the Party model supporting modeling of an individual/organization from the perspective of its roles.

2.10.1 Classes

2.10.1.1 OrganizationUnit

Qualified Name: Party::OrganizationUnit

Represents a company entity or a unit within that entity (even if it doesn't have separate legal status).

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- Party

Table 202: Attributes for OrganizationUnit

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
type	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The type of OrganizationUnit such as department, company, section.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.10.1.2 Party

Qualified Name: Party::Party

An abstract class that allows us to link to either Person or OrganizationUnit.

This class is abstract.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- GlobalClass

2.10.1.3 PartyRole

Qualified Name: Party::PartyRole

Represents Party behavior, in the context of a PartyRoleRelationship.
For example a Person may be a butcher in the context of a work relationship, a daughter, wife and mother in the context of family relationships.
An Organization Unit may be an employer in the context of its employees a supplier to its customer and a customer to its suppliers (in the context of a given transaction).

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- LocalClass

Table 203: Attributes for PartyRole

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_partyRoleContactReason	PartyRoleContactReason	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The reasons as to why this Party may need to be contacted in the context of this PartyRole.
_partyRoleType	PartyRoleType	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The specification of this PartyRole.
_party	Party	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The specific Party playing the role. A role can exist with no Party playing that role.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.10.1.4 PartyRoleContactReason

Qualified Name: Party::PartyRoleContactReason

A class that records various reasons for contacting a Party in the context of a role. Each instance can be decorated with many different contact methods.
Note that we link to PartyRole, not Party as this allows for contextual contact methods.
The contact method may be:
- allocated as a result of the role, e.g., an employee role is provided with an email by the employer role
- provided by the party independent of the role, e.g., a person's private email provided by an employee role to the employer role for personal contact
- provided by the party with respect to the role, e.g., a person creates a specific email address related to their role

Applied stereotypes:
- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:
- LocalClass

Table 204: Attributes for PartyRoleContactReason

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
reason	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The reason for the contact. For example "in case of emergency", "for building access requests".

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.10.1.5 PartyRoleEmailContact

Qualified Name: Party::PartyRoleEmailContact

Represents the information needed to contact someone by email.

This is an example structure that could be used directly where appropriate but could be replaced with other similar structures where necessary.
For example, in some roles there may be multiple email addresses, perhaps where the role has an admin.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

Table 205: Attributes for PartyRoleEmailContact

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
emailAddress	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The contact email address.

2.10.1.6 PartyRoleLocationContact

Qualified Name: Party::PartyRoleLocationContact

Represents the information needed to contact someone in order to visit a site. For example, the person may need to approve visitors to the site.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

Table 206: Attributes for PartyRoleLocationContact

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_location	Location	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The locations that this PartyRole is the contact for.

2.10.1.7 PartyRoleMailContact

Qualified Name: Party::PartyRoleMailContact

Represents the information needed to contact someone via mail or to visit them.
Note that some addresses (such as post boxes) are only for mail and some addresses are used for both mail and geographic locations.
For geographic locations the address may be linked to geographic coordinates in the Location model.

This is an example structure, that allows for only one address, that could be used directly where appropriate but could be replaced with other similar structures where necessary.
For example, in some roles there may be multiple postal addresses, perhaps where the address depends upon the country of the sender.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

Table 207: Attributes for PartyRoleMailContact

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
isPostalAddress	Boolean	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	If this is a valid postal address (e.g., can be used to send a letter to).
isStreetAddress	Boolean	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	If this is a valid street address.
_geographicAddress	GeographicAddress	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The Location for this address contact. It should contain the address details. Some postal addresses will not have meaningful locations, e.g., PO Box.

2.10.1.8 PartyRolePhoneContact

Qualified Name: Party::PartyRolePhoneContact

Represents the information needed to contact someone via phone.

This is an example structure, showing two levels in the augmentation, that could be used directly where appropriate but could be replaced with other similar structures where necessary.
For example, in some roles there may be only one telephone number in which case a simple single level augmentation could be used.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

Table 208: Attributes for PartyRolePhoneContact

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_partyRolePhoneDetails	PartyRolePhoneDetails	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Details the various numbers that can be used for the contact.

2.10.1.9 PartyRolePhoneDetails

Qualified Name: Party::PartyRolePhoneDetails

Provides specific phone number details.

This is an example structure that could be used directly where appropriate but could be replaced with other similar structures where necessary.
For example, the information could include country information.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- Example

Table 209: Attributes for PartyRolePhoneDetails

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
phoneNumber	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The contact phone number as a string. It should be formatted using an existing standard format such as ITU-T E.164
phoneNumberType	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The phone number type, such as home, mobile, office, admin, 24 hour, daytime only. The attribute can be omitted where there is no relevant type information.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
priority	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The contact priority, 1 is highest priority, then 2,3, … The priority attribute can be omitted where all phone numbers are equally applicable. A blank or null value counts as the lowest priority.

2.10.1.10 PartyRoleRelationship

Qualified Name: Party::PartyRoleRelationship

A class that defines the relationships (contexts) that PartyRoles exist in.
So that an employer can be related to its employees and a mother to her children.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- GlobalClass

Table 210: Attributes for PartyRoleRelationship

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_partyRoleRelationshipType	PartyRoleRelationshipType	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The specification for this relationship.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_partyRole	PartyRole	2..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The specific roles in this relationship. A PartyRoleRelationship is only meaningful with two or more PartyRole instances. A PartyRole cannot exist independently of a PartyRoleRelationship explaining the PartyRole with respect to one or more other PartyRoles.
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.10.1.11 PartyRoleRelationshipEntryType

Qualified Name: Party::PartyRoleRelationshipEntryType

Defines the PartyRole types used in a PartyRoleRelationshipType. Note that this is a use of the occurrence pattern.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Table 211: Attributes for PartyRoleRelationshipEntryType

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_partyRoleType	PartyRoleType	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The PartyRoleType for this relationship entry type.

2.10.1.12 PartyRoleRelationshipType

Qualified Name: Party::PartyRoleRelationshipType

The specification class for PartyRoleRelationship.
It allows us to define types of relationships, such as parent-child or organization-hierarchy.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- GlobalClass

Table 212: Attributes for PartyRoleRelationshipType

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_partyRoleRelationshipEntryType	PartyRoleRelationshipEntryType	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Entry types for the PartyRoleRelationshipType.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.10.1.13 PartyRoleType

Qualified Name: Party::PartyRoleType

The specification class for PartyRole. It allows us to define types of PartyRoles, such as :
• Employee, organization-parent, organization-child
• Customer, Owner …

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- GlobalClass

2.10.1.14 Person

Qualified Name: Party::Person

Represents an individual, independent of any roles that they may play.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- Party

2.10.2 Data Types

2.10.3 Enumeration Types

2.10.3.1 RelationshipType

Qualified Name: Party::RelationshipType

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- ASYMMETRIC:
  - Applied stereotypes:
    - Experimental
- SYMMETRIC:
  - Applied stereotypes:
    - Experimental

2.10.4 Primitive Types

2.11 Core Compute Model data dictionary

This section provides the model details for the Party model supporting modeling of an individual/organization from the perspective of its roles.

2.11.1 Classes

2.11.1.1 ComputeConstruct

Qualified Name: Compute::ComputeConstruct::ComputeConstruct

An assembly of processing and storage functionality that provides an overall compute capability.
The interconnect of the processing and storage is not detailed. The purpose of this model is to deal primarily with resource allocation and usage.
At this stage this is a degenerate form of component-system pattern.
It is expected that the compute construct will gain ports in a later development and that some detailed modeling of the system may be necessary.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- GlobalClass

Table 213: Attributes for ComputeConstruct

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
processorComponent	ProcessingProperties	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The properties of the processing capability of a compute construct. The compute construct may have several distinct processing forms.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_processingConstruct	ProcessingConstruct	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The processing construct that gives rise to the compute construct.
_equipment	Equipment	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The equipment that gives rise to the compute construct.
storageComponent	StorageProperties	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The properties of the storage capability of a compute construct. The compute construct may have several distinct storage forms. Note that storage covers any element that has the purposeful capability of retaining data (e.g., RAM, a buffer, a queue).
_computePoolInput	ComputePoolInput	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The usage of the compute construct in a pool.
_computePoolOutput	ComputePoolOutput	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The compute pool output that gives rise to the compute construct.
_runningVirtualMachine	RunningVirtualMachine	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The virtual machine that gives rise to the compute construct.
_fileSystem	FileSystem	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The file system that gives rise to the compute construct.
_runningSoftwareProcess	RunningSoftwareProcess	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The software process that gives rise to the compute construct.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.11.1.2 ComputePool

Qualified Name: Compute::ComputePool::ComputePool

A pool that manages ComputePoolEntries. These entries can consist of Storage, Memory and CPU resources.
This mechanism allows for basic allocation of groups of compute resource.
The pool does allow for some combination of resources but is not modelled as a system of components, it is simply a basic container.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- GlobalClass

Table 214: Attributes for ComputePool

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_computePoolInputEntry	ComputePoolInput	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The resources provided to the pool.
_computePoolOutputEntry	ComputePoolOutput	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The resources exposed by the pool.
_computePoolSegment	ComputePoolSegment	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Pool segments (grouping and structures).
_computePoolransferfunction	ComputePoolTransferFunction	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Explains the mapping from the inputs to the pool to the outputs from the pool, i.e., how the output is produced.
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.11.1.3 ComputePoolInput

Qualified Name: Compute::ComputePool::ComputePoolInput

A compute capability provided to the pool.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- LocalClass

Table 215: Attributes for ComputePoolInput

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
roleInPool	RoleInPool	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Explains the use of the item in the pool and especially with respect to the mapping.
roleInPoolSegment	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Role (perhaps just position) of the pool item in the related segment. Provides information on the concatenation process (of either inputs or outputs).

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.11.1.4 ComputePoolOutput

Qualified Name: Compute::ComputePool::ComputePoolOutput

A compute capability derived from the pool.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- LocalClass

Table 216: Attributes for ComputePoolOutput

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
roleInPool	RoleInPool	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Explains the use of the item in the pool and especially with respect to the mapping.
roleInPoolSegment	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Role (perhaps just position) of the pool item in the related segment. Provides information on the concatenation process (of either inputs or outputs).

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.11.1.5 ComputePoolSegment

Qualified Name: Compute::ComputePool::ComputePoolSegment

A grouping of inputs and/or outputs.
Used where several inputs and/or outputs need to be considered as a unit.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

Inherits properties from:

- LocalClass

Table 217: Attributes for ComputePoolSegment

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_computePoolInputEntry	ComputePoolInput	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Collection of inputs where each may have a role stated for the segment.
_computePoolOutputEntry	ComputePoolOutput	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Collection of outputss where each may have a role stated for the segment.
roleInPool	RoleInPool	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Explains the use of the item in the pool and especially with respect to the mapping.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.11.1.6 ComputePoolTransferFunction

Qualified Name: Compute::ComputePool::ComputePoolTransferFunction

Placeholder.

Explains the mapping between inputs and outputs of the pool.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental

2.11.2 Data Types

2.11.2.1 ErrorCorrectionStrategyy

Qualified Name: Compute::Storage::ErrorCorrectionStrategyy

Placeholder
Some mechanism is used to correct errors in the data.
The specific mechanism have not yet been modelled.

Applied stereotypes:

- Experimental

2.11.2.2 ExtentRange

Qualified Name: Compute::Storage::ExtentRange

Placeholder.
Represents the range of the extent, i.e., the storage capacity.
Further work is required to develop the form of representation.

Applied stereotypes:
- Experimental

2.11.2.3 Lifetime
Qualified Name: Compute::Media::Lifetime

Placeholder.
Specification of characteristics of expected operating lifetime.

Applied stereotypes:
- Experimental

2.11.2.4 Media
Qualified Name: Compute::Media::Media

Details of the physical realization.
Note that this should migrate to the physical model.

Applied stereotypes:
- Experimental

Table 218: Attributes for Media

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
mediaType	MediaType	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Type of the media.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
lifetime	Lifetime	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Specification of characteristics of expected operating lifetime.
isPowerDownSafe	Boolean	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Can be powered down without losing or corrupting state.
speedCharacteristicProfile	SpeedCharacteristic	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A statement of operational performance. Includes ROTATION speed for disks. Note that this is a somewhat simplistic property. Speed/performance is far more complex and requires a temporal treatment.
removable	Boolean	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Can be removed during operation.

2.11.2.5 ProcessingProperties

Qualified Name: Compute::Processing::ProcessingProperties

The properties of the processing capability of a compute construct.

Applied stereotypes:

- Experimental

Table 219: Attributes for ProcessingProperties

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
instructionSet	InstructionSet	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The identifier of the set of instructions that can be used to manipulate the processing functionality.
speedCharacteristic	SpeedCharacteristic	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A statement of operational performance. Note that this is a somewhat simplistic property. Speed/performance is far more complex and requires a temporal treatment.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
ProcessorArchitecture	ProcessorArchitecture	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The identification of the architecture of the processing functionality. Essentially a reference to a spec.
ProcessorType	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The identification of the specification of the processor. Note that the processor may be a hardware device or a software emulation.
maxThreads	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Manximum number of threads. Note that this is a somewhat simplistic property. It requires a temporal treatment and may have other dependencies.
numberOfCores	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Number of cores.
availability	Availability	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A statement of the operational resilience of the function.
isEmulated	Boolean	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	An indication as to whether the function is a native form of the type or is emergent from a complex system designed to appear to be the type.
media	Media	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Details of the physical realization. Note that this should migrate to the physical model.
status	Status	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A statement of the operational situation of the function.

2.11.2.6 SpeedCharacteristic

Qualified Name: Compute::Common::SpeedCharacteristic

A statement of operational performance.
Note that this is a somewhat simplistic property. Speed/performance is far more complex and requires a temporal treatment.

Applied stereotypes:
- Experimental

Table 220: Attributes for SpeedCharacteristic

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
speedCharacteristicName	SpeedCharacteristicName	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Name of the speed characteristic type.
speedCharacteristicProfile	SpeedProfile	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Defines the complex speed characteristics.
characteristicNameQualifier	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Additional qualification of the characteristic name (e.g., when there are two clocks, both will be CLOCK and need to be distinguished).

2.11.2.7 SpeedProfile
Qualified Name: Compute::Common::SpeedProfile

Placeholder.
Defines the complex speed characteristics.

Applied stereotypes:
- Experimental

2.11.2.8 Status
Qualified Name: Compute::Common::Status

Placeholder.
A statement of the operational situation of the function.

Applied stereotypes:
- Experimental

2.11.2.9 StorageProperties

Qualified Name: Compute::Storage::StorageProperties

The properties of the storage capability of a compute construct.

Applied stereotypes:
- Experimental

Table 221: Attributes for StorageProperties

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
blockSize	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Where the storage is arranged in blocks, this property provides the size of the blocks.
capacity	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Size of the storage in total.
storageStrategy	StorageStrategy	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Defines how the data is stored and accessed.
status	Status	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A statement of the operational situation of the function.
extentRange	ExtentRange	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Represents the range of the extent, i.e., the storage capacity.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
isEmulated	Boolean	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	An indication as to whether the function is a native form of the type or is emergent from a complex system designed to appear to be the type.
isEncrypted	Boolean	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The data is encrypted. The encryption scheme is not described here. Further work is required to detail this area.
errorCorrectionStragegy	ErrorCorrectionStrategyy	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Some mechanism is used to correct errors in the data.
speedCharacteristic	SpeedCharacteristic	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	A statement of operational performance. Note that this is a somewhat simplistic property. Speed/performance is far more complex and requires a temporal treatment.
applicationRole	ApplicationRole	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Indicates the design intent for the application of this storage function.
media	Media	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Details of the physical realization. Note that this should migrate to the physical model.

2.11.2.10 StorageStrategy

Qualified Name: Compute::Storage::StorageStrategy

Defines how the data is stored and accessed.

Applied stereotypes:

- Experimental

Table 222: Attributes for StorageStrategy

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
readWriteStrategy	ReadWriteStrategy	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Approach to examine and change of the data stored.
accessStrategy	AccessStrategy	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Approach to access of the data.

2.11.3 Enumeration Types

2.11.3.1 AccessStrategy

Qualified Name: Compute::Storage::AccessStrategy

List of access approaches.

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- RANDOM_ACCESS:
  - Any individual item of data can be accessed directly with equal performance.
  - Applied stereotypes:
    - Experimental
- SERIAL_ACCESS:
  - Data can be accessed efficiently in series, but accessing the first element of data takes significant time.
  - Applied stereotypes:
    - Experimental

2.11.3.2 ApplicationRole

Qualified Name: Compute::Storage::ApplicationRole

List of application roles for a storage function.

Applied stereotypes:

- Experimental

Contains Enumeration Literals:
- CACHE:
  - Temporary storage for frequently accessed data.
  - Applied stereotypes:
    - Experimental
- LONG_TERM_LOG:
  - For storage of large quantities of data where there are essentially no changes, just additions and the data needs to be stored for a very long duration.
  - Applied stereotypes:
    - Experimental
- RAM:
  - Main memory.
  - Applied stereotypes:
    - Experimental

2.11.3.3 Availability

Qualified Name: Compute::Processing::Availability

List of statements of the operational resilience of the functions.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- HIGH:
  - High operational resilience (nearly always on).
  - Applied stereotypes:
    - Experimental
- MEDIUM:
  - Medium operational resilience (normally running OK).
  - Applied stereotypes:

            - Experimental
- LOW:
    - Low operational resilience (often not functioning).
    - Applied stereotypes:
        - Experimental

2.11.3.4 InstructionSet

Qualified Name: Compute::Processing::InstructionSet

List of the identifiers of the set of instruction sets.
Essentially spec references.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- GENERIC:
    - Generic instruction set.
    - Applied stereotypes:
        - Experimental

2.11.3.5 MediaType

Qualified Name: Compute::Media::MediaType

List of types of media.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- SOLID_STATE:
    - Transistor etc. based with no mechanically active parts.
    - Applied stereotypes:

            - Experimental
- ROTATING:
    - Mechanical and rotating.
    - Applied stereotypes:
        - Experimental

2.11.3.6 ProcessorArchitecture

Qualified Name: Compute::Processing::ProcessorArchitecture

List of identifiers for architectures of processing functionality.
Essentially spec references.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- GENERIC:
    - Generic architecture.
    - Applied stereotypes:
        - Experimental

2.11.3.7 ReadWriteStrategy

Qualified Name: Compute::Storage::ReadWriteStrategy

List of read and write combinations.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- READ_ONLY:
    - The data can be read but not written.
    - Applied stereotypes:

        - Experimental
- REWRITABLE:
    - The data can be read and written as required.
    - Applied stereotypes:
        - Experimental
- WRITE_ONCE_ERASE:
    - The data can be read as required and can be written one unit at a time but cannot be changed. The data can only be errased on mass (all data at once).
    - Applied stereotypes:
        - Experimental
- WRITE_ONCE:
    - Data can be read as required but written only once and never changed or erased.
    - Applied stereotypes:
        - Experimental
- WRITE_ONLY:
    - Data can be written but not read.
    - Applied stereotypes:
        - Experimental

2.11.3.8 RoleInPool

Qualified Name: Compute::ComputePool::RoleInPool

The role of the item in the pool.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- NO_DEFINED_ROLE:
    - The item has no defined role, the pool is simply grouping several items.
    - Applied stereotypes:
        - Experimental

2.11.3.9 SpeedCharacteristicName

Qualified Name: Compute::Common::SpeedCharacteristicName

List of speed characteristics.
Note that each could have mean, max, min etc.

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- CLOCK:
  - Clock ticks.
  - Applied stereotypes:
    - Experimental
- INSTRUCTIONS:
  - Instructions in the native language of the processor.
  - Applied stereotypes:
    - Experimental
- FLOATING_POINT_OPERATIONS:
  - Floating point operations.
  - Applied stereotypes:
    - Experimental
- TRANSFER_RATE:
  - Data transfer into/out of the function.
  - Applied stereotypes:
    - Experimental
- START_UP_DELAY:
  - Time from initialization to full operation.
  - Applied stereotypes:
    - Experimental
- ACCESS_DELAY:
  - Delay in gaining access to the function.
  - Applied stereotypes:
    - Experimental

- OPERATIONS_PER_SECOND:
  - Generalized activities per second.
  - Applied stereotypes:
    - Experimental
- ROTATION:
  - Rotation speed of a mechanical device.
  - Applied stereotypes:
    - Experimental

2.11.4 Primitive Types

2.12 Core Temporal Model data dictionary

This section provides the model details for the Party model supporting modeling of an individual/organization from the perspective of its roles.

2.12.1 Classes

2.12.1.1 BoundingPeriodIntersectionTe

Qualified Name: TemporalExpression::TemporalExpressionModel::TemporalExpressionAugments::BoundingPeriodIntersectionTe

This defines the time extent of the temporal expression element.
It covers both single shot reservations and complex reservations.
This time takes precedence over periodInDay as it is the boundary of the overall reservation.
May have various bounding periods for the same inner detail.
If more than one then only the last can be open ended etc.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- AggLeaf

Table 223: Attributes for BoundingPeriodIntersectionTe

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
periodUnion	TimePeriodOptions	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The start time may be any time including start of a day. If the value is absent, there is no start. The end time may be any time including the end of a day. If the value is absent there is no end. If no time is provided then the reservation is forever. If start time is after end time then the period defined is null. The effective period is the union of all listed periods.

2.12.1.2 DaysOfWeekInMonthInYearIntersectionTe

Qualified Name:
TemporalExpression::TemporalExpressionModel::TemporalExpressionAugments::DaysOfWeekInMonthInYearIntersectionTe

This expression collects together calendar and clock values.
The intersection of each stated property forms the temporal expression.
Note that some properties are unions withing the property.
This can be used to generate complex expressions such as..
15:00 - 16:00 and 17:00 - 18:00 on the first and third Monday and Wednesday of January and April.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- AggLeaf

Table 224: Attributes for DaysOfWeekInMonthInYearIntersectionTe

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
dayOfWeekUnion	WeekDay	0..7	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The days for which the expression applies. This is the union of all days listed.
periodDurationInDaysUnion	PeriodDuration	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Defines the start and end time within a day or across several days. This is the union of all periods listed.
namedDayPositionInMonthUnion	DayPositionInMonth	0..5	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The position of each listed dayOfWeek in the month. Is the union of all stated day positions. For some months LAST and FIFTH will be the same occurrence. Some months will not have a FIFTH occurrence of some days.
monthPhasing	MonthPhasing	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Identifies a start month and whether every month, every other month etc. Interacts with specificMonth. The months chosen should be from the intersection of monthPhasing and specificMonth.
specificMonthUnion	Month	0..12	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Identifies specific months. This is the union of all stated months. Note all properties in the Te grouping this property are combined by intersection. For example, this property interacts with monthPhasing such that the months chosen should be from the intersection of monthPhasing and specificMonth.
weekInMonth	WeekInMonth	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Identifies a week start day and which weeks of the month are included. The structure identifies weeks from the start of the month and from the end of the month. The structure also allows for whole weeks and for partial weeks counting.

2.12.1.3 ExclusionConflictActionAlternative

Qualified Name: TemporalExpression::ExclusionConflictAction::ExclusionConflictActionAlternative

The rules that apply when an exclusion from one part of a temporal expression causes disruption to a fundamental sequence from another part of the temproal expression.
Note that this class is early experimental. The usage detail needs to be developed further.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- AggLeaf

Table 225: Attributes for ExclusionConflictActionAlternative

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_temporalExpression	TemporalExpression	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The temporal expression that deals with the conflict providing an alternative to the necessary regular cycle that was disrupted.
preference	Integer	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	It is possible that a specific conflict action cannot overcome the conflict. There may be several alternative conflict actions. The conflict actions should be run in preference order with the lowest value integer being the most preferred and hence the first to run. Same preference value actions will be run in an arbitrary order.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
opportunities	Integer	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Indicates how many alternatives in the temporal direction can be tried. For example, if the exclusion is of a public holiday Monday and the normal occurrence is Monday then the alternative action will activate. If the referenced TemporalExpression offers every week day and temporal direction is NEXT, then the first opportunity will be Tuesday. If the opportunities is set to 1 then that is all that may be tried. But it may not be available for some other exclusion reason and hence no alternative will be available and the period will be skipped. However, if the opportunities is set to 2 then the next but one day can also be tried (i.e., Wednesday in the example) and that may be available. And so on...
direction	TemporalDirection	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Indicates in which temporal direction the conflict action applies.

2.12.1.4 IncorporatedTe

Qualified Name: TemporalExpression::TemporalExpressionModel::TemporalExpressionCore::IncorporatedTe

Provides rules for incorporation of a referenced temporal expression.
An incorporated temporal expression is combined with the temporal expression element that owns the incorporated TE.
Note that this fragment of the model is early experimental.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- AggLeaf

Table 226: Attributes for IncorporatedTe

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
incorporationMethod	IncorporationMethod	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The method for incorporation of the temporal expression.
_incorporatedTe	TemporalExpression	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The temporal expression to be incorporated.
_exclusionConflictActionAlternative	ExclusionConflictActionAlternative	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Any relevant conflict actions. This model area requires further work.

2.12.1.5 IterativeIntersectionTe

Qualified Name: TemporalExpression::TemporalExpressionModel::TemporalExpressionAugments::IterativeIntersectionTe

Once all unions and intersections have been performed the result is in terms of active periods.
The IterativeTe defines the number of active periods that will be run.
This is bounded by the boundingPeriodTe.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- AggLeaf

Table 227: Attributes for IterativeIntersectionTe

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
numberOfIterations	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Once all unions and intersections have been performed the result is in terms of active periods. The number of iterations is the number of active periods that will be run.
iterationDelay	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Number of defined iterations of period that must occur prior to a period being considered active.

2.12.1.6 ParticularDateTimePerPeriodIntersectionTe

Qualified Name:
TemporalExpression::TemporalExpressionModel::TemporalExpressionAugments::ParticularDateTimePerPeriodIntersectionTe

Defines the period(s) of activity in a year.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- AggLeaf

Table 228: Attributes for ParticularDateTimePerPeriodIntersectionTe

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
sameDatesPerYearUnion	PeriodInAYear	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Defines a period of activity in a year. Is the union of all listed periods.
description	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	States the purpose of the period.

2.12.1.7 PhasedPeriodIntersectionTe

Qualified Name: TemporalExpression::TemporalExpressionModel::TemporalExpressionAugments::PhasedPeriodIntersectionTe

Applied from the beginning of each continuous period. The continuous period is defined by period, daysOfWeek, periodInDay, DayInMonth and RangeEachYear.
Phasing starts at the beginning of the continuous period for the stated duration then repeated after phasing value from the beginning of the previous phasing.
If there are no phasing statement then the active period is the whole of the continuous period (every hour of every day of every week of every year, duration 60 minutes).
If no continuous period statement then phasing applies to a specific period by intersection where the intersection is defined as starting at the beginning of the period of the other intersecting element(s).
The phasings can be accumulated (essentially formed by an intersection of the properties).
For example:
- hourPhasing of 0.5 and dayPhasing of 2.0 and duration of 15 minutes means 15 minutes for every 30 minutes for a whole day every other day.
- hourPhasing of 0.5 and dayPhasing of 2.5 and duration of 15 minutes means 15 minutes for every 30 minutes for a whole day then the same for a day starting a day and a half after the end of the first period.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- AggLeaf

Table 229: Attributes for PhasedPeriodIntersectionTe

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
hourPhasing	Real	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Phasing starts at the beginning of the continuous period for the stated duration then repeated after hourPhasing hours from the beginning of the previous phasing. A value of 1.0 means every hour. For example if the continuous period starts at 15:03 on a particular day, the duration is 90 minutes and the hourPhasing is 2.5, then - the first phase period will start at 15:03 and will last to 16:33 - the second phase period will start at 17:33 and will last to 19:03 - the third phase period will start at 20:03 and will last to 21:33 - etc. until the end of the continuous period.
dayPhasing	Real	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Phasing starts at the beginning of the continuous period for the stated duration then repeated after dayPhasing days from the beginning of the previous phasing. A value of 1.0 means every day. For example if the continuous period starts at 15:03 on a particular day which happens to be a Monday, the duration is 90 minutes and the dayPhasing is 2.5, then - the first phase period will start at 15:03 and will last to 16:33 on that Monday - the second phase period will start at 3:03 on Wednesday and will last to 4:33 on that Wednesday - the third phase period will start at 15:03 on Friday and will last to 16:33 on that Friday - etc. until the end of the continuous period.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
weekPhasing	Real	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Phasing starts at the beginning of the continuous period for the stated duration and is then repeated after weekPhasing weeks from the beginning of the previous phasing. A value of 1.0 means every week. For example if the continuous period starts at 15:03 on a particular day which happens to be a Monday, the duration is 90 minutes and the weekPhasing is 2.5, then - the first phase period will start at 15:03 and last to 16:33 on that Monday - the second phase period will start at 3:03 on Friday and will last to 4:33 on that Friday two weeks later - the third phase period will start at 15:03 on Monday 5 weeks after the first Monday and last to 16:33 on that Monday - etc. until the end of the continuous period.
yearPhasing	Real	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Phasing starts at the beginning of the continuous period for the stated duration then repeated after yearPhasing days from the beginning of the previous phasing. A value of 1.0 means every year. Note the challenge with leap years where the fraction of one year may not be equal to the fraction of the next.
periodDurationInMinutes	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Duration in minutes.

2.12.1.8 SimplePhasedPeriodIntersectionTe

Qualified Name:
TemporalExpression::TemporalExpressionModel::TemporalExpressionAugments::SimplePhasedPeriodIntersectionTe

There is a natural intersection of periods such that there is only activity if all stated periods indicate activity.
Hence if a second phasing indicates activity every other second and a minute phasing every other minute then there is only activity every other second in every other minute.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Experimental
- AggLeaf

Table 230: Attributes for SimplePhasedPeriodIntersectionTe

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
second	Phasing	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Second phasing within the minute boundary.
minute	Phasing	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Minute phasing within the hour boundary.
hour	Phasing	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Hour phasing within the day boundary.
day	Phasing	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Day phasing within the week boundary.
week	Phasing	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Week phasing within the year boundary.
year	Phasing	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Year phasing within the boundingPeriod.

2.12.1.9 TeElement

Qualified Name: TemporalExpression::TemporalExpressionModel::TemporalExpressionCore::TeElement

The definition of the time constraints of the temporal expression.
The temporal expression definition is formed by taking the intersection of all augmenting temporal expressions.
Note that the augmenting temporal expression has "intersection" in its name.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- Preliminary
- AggLeaf

Inherits properties from:

- LocalClass

Table 231: Attributes for TeElement

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
description	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	A description of the TeElement.
_incorporatedTeReference	IncorporatedTe	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Referencing TeElements that are combined with this TeElement in a TemporalExpression.
relevance	String	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The essence of the element. For example it may represent a set of non-work days. This is a free form string so relevance is not a formal parameter.
timeZone	TimeZone	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Identifies the timezone that was used to construct the element. This is especially relevant when considering periods related to days as the day boundary in one timezone is in the middle of the day in another.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
dstDates	PeriodInAYear	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY • condition: If DST used for TE Experimental	Indicates whether the time zone has Daylight Saving Time and provides the relevant detail.
localId Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.12.1.10 TemporalExpression

Qualified Name: TemporalExpression::TemporalExpressionModel::TemporalExpressionCore::TemporalExpression

The temporal expression defines the existence or operation of some entity or duration of some state, value, range, etc. of some property.
A number of properties and/or entities may follow the same temporal expression.

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY
- AggRoot
- Preliminary

Inherits properties from:

- GlobalClass

Table 232: Attributes for TemporalExpression

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_teElement	TeElement	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	An expression representing some periods of time as part of the temporal expression.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
description	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	A human readable summary of the temporal expression.
localId Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	An identifier that is unique in the context of some scope that is less than the global scope. (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself unique, and immutable. The identifier therefore represents the identity of the entity/role. An identifier carries no semantics with respect to the purpose of the entity.)
uuid Inherited	UniversalId	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	UUID: An identifier that is universally unique (This should be considered in the context of Identifier: A property of an entity/role with a value that is unique within an identifier space, where the identifier space is itself globally unique, and immutable. An identifier carries no semantics with respect to the purpose or state of the entity) The uuid should be treated as opaque by the user.
name Inherited	NameAndValue	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of names.
label Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of labels.
extension Inherited	NameAndValue	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	List of simple name-value extensions.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
operationalState Inherited	OperationalState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	The operational state is used to indicate whether or not the resource is installed and working.
administrativeState Inherited	AdministrativeState	0..1	R	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Mature	Shows whether or not the client has permission to use or has a prohibition against using the resource. The administrative state expresses usage permissions for specific resources without modification to the provisioning of those resources.
assignmentState Inherited	AssignmentState	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Preliminary	Used to track the planned deployment, allocation to clients and withdrawal of resources.
address Inherited	Address	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	One or more descriptions of the location.

2.12.2 Data Types

2.12.2.1 MonthAndDay

Qualified Name: TemporalExpression::TemporalExpressionModel::DataTypes::MonthAndDay

Calendar date.

Applied stereotypes:

- Experimental

Table 233: Attributes for MonthAndDay

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
month	Month	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Month name.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
dayInMonth	Integer	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Day number in month. Valid entry depends upon the specific month. An integer greater than the number of days in the month should be taken as the last day of the month. For example: - 32 January should be taken as 31 January - 93 February should be taken as 29 or 28 February depending upon whether the year is leap year or not.

2.12.2.2 MonthPhasing

Qualified Name: TemporalExpression::TemporalExpressionModel::DataTypes::MonthPhasing

Phasing across months in a year.

Applied stereotypes:

- Experimental

Table 234: Attributes for MonthPhasing

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
phaseAlignMonth	Month	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Start month of the phasing.
monthPhase	MonthPhase	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Specific month phasing.

2.12.2.3 PeriodDuration

Qualified Name: TemporalExpression::TemporalExpressionModel::DataTypes::PeriodDuration

Defines the time period across daysOfWeek.

Applied stereotypes:

- Experimental

Table 235: Attributes for PeriodDuration

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
endTime	TimeInDay	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The time is the end moment of the identified hour/minute, so 23:59 is the moment before 00:00 of the next day. No endTime means end of day unless periodDuration is stated.
startTime	TimeInDay	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The time is the beginning moment of the identified hour/minute. So 00:00 is the moment after the end of the 59th minute in the 23rd hour of the previous day. No startTime means start of day unless periodDuration and endTime are stated.
periodDuration	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Interacts with startTime and endTime. If no endTime is stated then periodDuration is number of minutes from the startTime. If endTime stated but no startTime stated then periodDuration is the number of minutes before the endTime. If startTime, endTime and periodDuration are all stated then the result is the intersection of time definitions startTime to endTime and startTime for periodDuration (i.e., whichever is shorter). If not present then assumes defined by startTime/endTime. The periodDuration may take the time beyond the end of the day or before the beginning of the day (see daySpan).

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
daySpan	Integer	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The daySpan is used to provide a boundary of the startTime/endTime/periodDuration. If daySpan <1 there will be no period. If daySpan =1 then there will only be a period if startTime/endTime/periodDuration does not go beyond a day boundary. This period will apply for each of the days of the week listed. If daySpan >1 then a period will be triggered within each listed day of the week and may cross into a day not listed. Via this structure it is possible to have a temporal expression that indicates a continuous period of many days starting on a specific day. Periods may merge and hence become continuous over several period definitions.

2.12.2.4 PeriodInAYear

Qualified Name: TemporalExpression::TemporalExpressionModel::DataTypes::PeriodInAYear

This may be combined with other structures as an intersection.
However, this is an unlikely approach.
More likely there will be an exclusion rule.
This is equivalent to BoundingPeriod with no year defined, hence repeats every year.
Can be intersected with other structures. If no other structures intersected then the period is continuous.

Applied stereotypes:

- Experimental

Table 236: Attributes for PeriodInAYear

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
startDayInMonth	MonthAndDay	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Specific day in year that the event starts.

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
startTimeInStartDay	TimeInDay	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Defines the time in the start day that the period starts. The time is the start moment of the identified hour/minute, so 00:00 is the moment that the day starts, i.e., the moment after the moment that the previous day ends.
endDayInMonth	MonthAndDay	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY • condition: unless defined by periodDuration. Experimental	Specific day in year that the event ends.
endTimeInEndDay	TimeInDay	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: CONDITIONAL_MANDATORY • condition: unless defined by periodDuration.. Experimental	Defines the time in the end day that the period ends. The time is the end moment of the identified hour/minute, so 23:59 is the moment before 00:00 of the next day.
periodDurationInMinutes	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	An alternative to endDay/endTime. Number of minutes from the startDayInMonth and startTimeInDay. If not present then assumes defined by endDay/endTime..
accountForLeapYear	LeapYear	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Indicates whether the period should account for leap years.
description	String	1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Description of the period.

2.12.2.5 Phasing

Qualified Name: TemporalExpression::TemporalExpressionModel::DataTypes::Phasing

Applied stereotypes:

- Experimental

Table 237: Attributes for Phasing

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
gap	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Indicates the gap between active periods. The value: - 0 means repeated every period (no gap) - 1 means gap of one period (and hence, if activityDuration is 1, every other period) - etc. If gap is used with repeatPeriod then there is guaranteed gap between active periods.
offset	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The offset of the start of the active period from the start of the next larger period. So for minutes, offset of 1 means start periodicity 1 minute after the hour.
activityDuration	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The length of the active period.
repeatPeriod	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Period of activity repeat. An activity of duration 1 and repeatPeriod 1 is essentially continuous. The repeatPeriod is an alternative to gap.
variableActivityDuration	Boolean	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The duration of activity is at least the activityDuration but may be more up to the repeatPeriod boundary.

2.12.2.6 TimeInDay

Qualified Name: TemporalExpression::TemporalExpressionModel::DataTypes::TimeInDay

Clock time as per 24 hour clock.

Applied stereotypes:

- Experimental

Table 238: Attributes for TimeInDay

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
hourInDay	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Clock time hours.
minuteInHour	Integer	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	Clock time minutes.

2.12.2.7 TimePeriodOptions

Qualified Name: TemporalExpression::TemporalExpressionModel::DataTypes::TimePeriodOptions

This data type specifies a time period.

Applied stereotypes:

- Experimental

Table 239: Attributes for TimePeriodOptions

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
startTime	DateTime	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	This attribute defines the start time of the time period.
stopTime	DateTime	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	This attribute defines the stop time of the time period.

2.12.2.8 WeekInMonth

Qualified Name: TemporalExpression::TemporalExpressionModel::DataTypes::WeekInMonth

Applied stereotypes:

- Experimental

Table 240: Attributes for WeekInMonth

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
weekStartDay	WeekDay	0..6	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	The start day of the week (defining the week boundary).
weekPositionInMonth	WeekPositionInMonth	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY Experimental	All relevant week positions in the month.

2.12.3 Enumeration Types

2.12.3.1 DayPositionInMonth

Qualified Name: TemporalExpression::TemporalExpressionModel::DataTypes::DayPositionInMonth

There are a number of occurrences of each named day in a month.
This property identifies which of the occurrences should be active.

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- FIRST:
  - The first occurrence of the specific named day in the month (which may be the first day of the month).
  - Applied stereotypes:
    - Experimental
- SECOND:
  - The second occurrence of the specific named day in the month.
  - Applied stereotypes:
    - Experimental
- THIRD:
  - The third occurrence of the specific named day in the month.
  - Applied stereotypes:
    - Experimental

- FOURTH:
  - The fourth occurrence of the specific named day in the month.
  - Applied stereotypes:
    - Experimental
- FIFTH:
  - The fifth occurrence of the specific named day in the month.
  - Applied stereotypes:
    - Experimental
- LAST:
  - The last occurrence of the specific named day in the month.
  - Applied stereotypes:
    - Experimental
- LAST_BUT_ONE:
  - The last but one occurrence of the specific named day in the month.
  - Applied stereotypes:
    - Experimental
- ALL_DAY_POSITIONS:
  - All day positions in the month.
  - Applied stereotypes:
    - Experimental

2.12.3.2 IncorporationMethod

Qualified Name: TemporalExpression::TemporalExpressionModel::DataTypes::IncorporationMethod

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- UNION:
  - The temporal expressions to be combined are unioned (essentially added together) such that the expression corresponds to all time periods referenced.
  - Applied stereotypes:

        - Experimental
- INTERSECTION:
    - The temporal expressions to be combined are intersected such that the resulting temporal expression includes only time periods that referenced by both definitions.
    - Applied stereotypes:
        - Experimental
- INTERSECT_COMPLEMENT:
    - The resulting temporal expression will not include the definition of the referenced TemporalExpression, i.e., Intersection with the complement of the referenced TemporalExpression.
      Using a simple integer equivalent as an example, if an integer list expression is 1, 3, 5, 7, 9 and the expression to be incorporated via INTERSECTION_COMPLEMENT is 3, 4, 5 then the result will be 1, 7, 9.
      This is because the complement of 3, 4, 5 is 1, 2, 6, 7, 8, 9, 10, 11, ... and the intersection of 1, 2, 6, 7, 8, 9, 10, 11,... with 1, 3, 5, 7, 9 is 1, 7, 9.
    - Applied stereotypes:
        - Experimental

2.12.3.3 LeapYear

Qualified Name: TemporalExpression::TemporalExpressionModel::DataTypes::LeapYear

How to deal with leap years.

Applied stereotypes:
- Experimental

Contains Enumeration Literals:
- ONLY_LEAP_YEAR:
    - Only applies during leap years.
    - Applied stereotypes:
        - Experimental
- NOT_LEAP_YEAR:
    - Does not apply to leap years.
    - Applied stereotypes:
        - Experimental

- ANY_YEAR:
  - Not sensitive to leap year.
  - Applied stereotypes:
    - Experimental

2.12.3.4 Month

Qualified Name: TemporalExpression::TemporalExpressionModel::DataTypes::Month

Month of the year.

Applied stereotypes:
- Preliminary

Contains Enumeration Literals:
- JANUARY:
  - January.
  - Applied stereotypes:
    - Preliminary
- FEBRUARY:
  - February.
  - Applied stereotypes:
    - Preliminary
- MARCH:
  - March.
  - Applied stereotypes:
    - Preliminary
- APRIL:
  - April.
  - Applied stereotypes:
    - Preliminary
- MAY:
  - May.
  - Applied stereotypes:

        - Preliminary
- JUNE:
    - June.
    - Applied stereotypes:
        - Preliminary
- JULY:
    - July.
    - Applied stereotypes:
        - Preliminary
- AUGUST:
    - August.
    - Applied stereotypes:
        - Preliminary
- SEPTEMBER:
    - September.
    - Applied stereotypes:
        - Preliminary
- OCTOBER:
    - October.
    - Applied stereotypes:
        - Preliminary
- NOVEMBER:
    - November.
    - Applied stereotypes:
        - Preliminary
- DECEMBER:
    - December.
    - Applied stereotypes:
        - Preliminary
- ALL_MONTHS:
    - All months in the year.
    - Applied stereotypes:
        - Experimental

2.12.3.5 MonthPhase

Qualified Name: TemporalExpression::TemporalExpressionModel::DataTypes::MonthPhase

Whether the event occurs every month or on some other basis.

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- EVERY_MONTH:
  - All months (no gaps).
  - Applied stereotypes:
    - Experimental
- EVERY_OTHER_MONTH:
  - A one month gap.
    The named month will be the first month.
    The next month will not be active then the following month will be etc.
  - Applied stereotypes:
    - Experimental
- EVERY_THREE_MONTHS:
  - A two month gap.
    The named month will be the first month.
    The next two months will not be active then the following month will be etc.
  - Applied stereotypes:
    - Experimental
- EVERY_FOUR_MONTHS:
  - A three month gap.
    The named month will be the first month.
    The next three months will not be active then the following month will be etc.
  - Applied stereotypes:
    - Experimental
- EVERY_SIX_MONTHS:

- A five month gap.
  The named month will be the first month.
  The next five months will not be active then the following month will be etc.
- Applied stereotypes:
  - Experimental

2.12.3.6 TemporalDirection

Qualified Name: TemporalExpression::ExclusionConflictAction::TemporalDirection

With respect to normal flow of time.

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- NEXT:
  - Forward in time to the next valid period.
  - Applied stereotypes:
    - Experimental
- PREVIOUS:
  - Reverse in time to the previous valid period.
  - Applied stereotypes:
    - Experimental
- NEXT_AND_PREVIOUS:
  - Either forward or backward in time to the next valid period.
  - Applied stereotypes:
    - Experimental

2.12.3.7 TimeZone

Qualified Name: TemporalExpression::TemporalExpressionModel::DataTypes::TimeZone

List of all standard time zones.

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- UTC_PLUS_1400:
  - UTC +14.
  - Applied stereotypes:
    - Experimental
- UTC_PLUS_1345:
  - UTC +13:45.
  - Applied stereotypes:
    - Experimental
- UTC_PLUS_1300:
  - UTC +13.
  - Applied stereotypes:
    - Experimental
- UTC_PLUS_1200:
  - UTC +12.
  - Applied stereotypes:
    - Experimental
- UTC_PLUS_1100:
  - UTC +11.
  - Applied stereotypes:
    - Experimental
- UTC_PLUS_1030:
  - UTC +10:30.
  - Applied stereotypes:
    - Experimental
- UTC_PLUS_1000:
  - UTC +10.
  - Applied stereotypes:
    - Experimental
- UTC_PLUS_0930:

    - UTC +9:30.
    - Applied stereotypes:
        - Experimental
- UTC_PLUS_0900:
    - UTC +9.
    - Applied stereotypes:
        - Experimental
- UTC_PLUS_0845:
    - UTC +8:45.
    - Applied stereotypes:
        - Experimental
- UTC_PLUS_0800:
    - UTC +8.
    - Applied stereotypes:
        - Experimental
- UTC_PLUS_0700:
    - UTC +7.
    - Applied stereotypes:
        - Experimental
- UTC_PLUS_0630:
    - UTC +6:30.
    - Applied stereotypes:
        - Experimental
- UTC_PLUS_0600:
    - UTC +6.
    - Applied stereotypes:
        - Experimental
- UTC_PLUS_0545:
    - UTC +5:45.
    - Applied stereotypes:
        - Experimental
- UTC_PLUS_0530:
    - UTC +5:30.

    - Applied stereotypes:
        - Experimental
- UTC_PLUS_0500:
    - UTC +5.
    - Applied stereotypes:
        - Experimental
- UTC_PLUS_0430:
    - UTC +4:30.
    - Applied stereotypes:
        - Experimental
- UTC_PLUS_0400:
    - UTC +4.
    - Applied stereotypes:
        - Experimental
- UTC_PLUS_0330:
    - UTC +3:30.
    - Applied stereotypes:
        - Experimental
- UTC_PLUS_0300:
    - UTC +3.
    - Applied stereotypes:
        - Experimental
- UTC_PLUS_0200:
    - UTC +2.
    - Applied stereotypes:
        - Experimental
- UTC_PLUS_0100:
    - UTC +1.
    - Applied stereotypes:
        - Experimental
- UTC_PLUS_0000:
    - UTC +0.
    - Applied stereotypes:

        - Experimental
- UTC_MINUS_0100:
    - UTC -1.
    - Applied stereotypes:
        - Experimental
- UTC_MINUS_0200:
    - UTC -2.
    - Applied stereotypes:
        - Experimental
- UTC_MINUS_0300:
    - UTC -3.
    - Applied stereotypes:
        - Experimental
- UTC_MINUS_0330:
    - UTC -3:30.
    - Applied stereotypes:
        - Experimental
- UTC_MINUS_0400:
    - UTC -4.
    - Applied stereotypes:
        - Experimental
- UTC_MINUS_0500:
    - UTC -5.
    - Applied stereotypes:
        - Experimental
- UTC_MINUS_0600:
    - UTC -6.
    - Applied stereotypes:
        - Experimental
- UTC_MINUS_0700:
    - UTC -7.
    - Applied stereotypes:
        - Experimental

- UTC_MINUS_0800:
  - UTC -8.
  - Applied stereotypes:
    - Experimental
- UTC_MINUS_0900:
  - UTC -9.
  - Applied stereotypes:
    - Experimental
- UTC_MINUS_0930:
  - UTC -9:30.
  - Applied stereotypes:
    - Experimental
- UTC_MINUS_1000:
  - UTC -10.
  - Applied stereotypes:
    - Experimental
- UTC_MINUS_1100:
  - UTC -11.
  - Applied stereotypes:
    - Experimental
- UTC_MINUS_1200:
  - UTC -12.
  - Applied stereotypes:
    - Experimental

2.12.3.8 WeekDay

Qualified Name: TemporalExpression::TemporalExpressionModel::DataTypes::WeekDay

Named day of week.

Applied stereotypes:

- Preliminary

Contains Enumeration Literals:

- ALL_DAYS_OF_THE_WEEK:
  - All the days of the week.
  - Applied stereotypes:
    - Preliminary
- MONDAY:
  - Monday.
  - Applied stereotypes:
    - Preliminary
- TUESDAY:
  - Tuesday.
  - Applied stereotypes:
    - Preliminary
- WEDNESDAY:
  - Wednesday.
  - Applied stereotypes:
    - Preliminary
- THURSDAY:
  - Thursday.
  - Applied stereotypes:
    - Preliminary
- FRIDAY:
  - Friday.
  - Applied stereotypes:
    - Preliminary
- SATURDAY:
  - Saturday.
  - Applied stereotypes:
    - Preliminary
- SUNDAY:
  - Sunday.
  - Applied stereotypes:
    - Preliminary

2.12.3.9 WeekPositionInMonth

Qualified Name: TemporalExpression::TemporalExpressionModel::DataTypes::WeekPositionInMonth

Week position in month recognizing that week and month boundaries are not necessarily coincident.

Applied stereotypes:

- Experimental

Contains Enumeration Literals:

- FIRST_WEEK_IN_MONTH:
  - The month start boundary occurs in the week or at the start of the week.
    At least one day of the week is in the month.
    For example, the last day of the week is the first day of the month.
  - Applied stereotypes:
    - Experimental
- FIRST_WHOLE_WEEK_IN_MONTH:
  - The month start boundary occurs at or before the week start boundary but there are less than seven days between the month start and week start.
    All days of the week are in the month.
    This may be the same as the FIRST_WEEK_IN_MONTH, but is more often the SECOND_WEEK_IN_MONTH.
  - Applied stereotypes:
    - Experimental
- SECOND_WEEK_IN_MONTH:
  - The week directly after the FIRST_WEEK_IN_MONTH.
  - Applied stereotypes:
    - Experimental
- SECOND_WHOLE_WEEK_IN_MONTH:
  - The week directly after the FIRST_WHOLE_WEEK_IN_MONTH.
  - Applied stereotypes:
    - Experimental
- THIRD_WEEK_IN_MONTH:
  - The week directly after the SECOND_WEEK_IN_MONTH.

    - Applied stereotypes:
        - Experimental
- THIRD_WHOLE_WEEK_IN_MONTH:
    - The week directly after the SECOND_WHOLE_WEEK_IN_MONTH.
    - Applied stereotypes:
        - Experimental
- FOURTH_WEEK_IN_MONTH:
    - The week directly after the THIRD_WEEK_IN_MONTH.
    - Applied stereotypes:
        - Experimental
- FOURTH_WHOLE_WEEK_IN_MONTH:
    - The week directly after the THIRD_WHOLE_WEEK_IN_MONTH.
    - Applied stereotypes:
        - Experimental
- FIFTH_WEEK_IN_MONTH:
    - The week directly after the FOURTH_WEEK_IN_MONTH.
    - Applied stereotypes:
        - Experimental
- SIXTH_WEEK_IN_MONTH:
    - The week directly after the FIFTH_WEEK_IN_MONTH.
    - Applied stereotypes:
        - Experimental
- LAST_WEEK_IN_MONTH:
    - The month end boundary occurs in the week or at the end of the week.
      At least one day of the week is in the month.
      For example, the first day of the week is the last day of the month.
    - Applied stereotypes:
        - Experimental
- LAST_WHOLE_WEEK_IN_MONTH:
    - The month end boundary occurs at or after the end of week boundary but there are less than seven days between the month end and the end of the week.
      All days of the week are in the month.
    - Applied stereotypes:

        - Experimental
- ALL_WEEKS_IN_MONTH:
    - All weeks in the month.
    - Applied stereotypes:
        - Experimental

2.12.4 Primitive Types

2.13 Model Patterns data dictionary

This section provides a view of the Classes related to the patterns that underpin the model. These classes are experimental and are provided for rough guidance only.

The focus of this section is the description of the classes for the Component-System pattern.

2.13.1 Classes for Management/Control modeling

2.13.1.1 Component

Qualified Name: CoreModel::InformationArchitectureAndPatterns::Patterns::ComponentSystemPattern::Component

Applied stereotypes:
- OpenModelClass
    - support: MANDATORY

Table 241: Attributes for Component

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_boundComponent	Component	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_componentPart	Component	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_port	Port	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_boundaryPort	Port	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.13.1.2 Port

Qualified Name: CoreModel::InformationArchitectureAndPatterns::Patterns::ComponentSystemPattern::Port

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Table 242: Attributes for Port

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_boundPort	Port	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_aggregatedSubordinatePort	Port	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.13.1.3 System

Qualified Name: CoreModel::InformationArchitectureAndPatterns::Patterns::ComponentSystemPattern::System

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Table 243: Attributes for System

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_boundaryPort	Port	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_componentPart	Component	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_opaqueComponent	Component	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_systemPort	SystemBoundaryPort	0..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

2.13.1.4 SystemBoundaryPort

Qualified Name: CoreModel::InformationArchitectureAndPatterns::Patterns::ComponentSystemPattern::SystemBoundaryPort

Applied stereotypes:

- OpenModelClass
  - support: MANDATORY

Table 244: Attributes for SystemBoundaryPort

Attribute Name	Type	Multiplicity	Access	Stereotypes	Description
_aggregatedPort	Port	1..*	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class
_componentPort	Port	0..1	RW	OpenModelAttribute • valueRange: no range constraint • support: MANDATORY	See referenced class

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