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# Classes

## CurrentPerformance

Applied stereotypes:

* OpenInterfaceModelClass
* objectCreationNotification: NO
* objectDeletionNotification: NO
* OpenModelClass
* support: MANDATORY

Attributes for CurrentPerformance

Table 1: Attributes for CurrentPerformance

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Type** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| timestamp | DateTime  2010-11-20T14:00:00+01:00 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | The timestamp associated with when the current data was collected. |
| suspectIntervalFlag | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | This attribute is used to indicate that the performance data for the current period may not be reliable. Some reasons for this to occur are: – Suspect data were detected by the actual resource doing data collection. – Transition of the administrativeState attribute to/from the 'lock' state. – Transition of the operationalState to/from the 'disabled' state. – Scheduler setting that inhibits the collection function. – The performance counters were reset during the interval. – The currentData (or subclass) object instance was created during the monitoring period. |
| elapsedTime | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: s  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_64\_BIT | Number of seconds that elapsed since the last reset of the counter. |
| scannerId | String  Scanner ID not defined. | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA |  |
| granularityPeriod | GranularityPeriodType  ./. | 1 | R | OpenModelAttribute  • partOfObjectKey: 1  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | Time period between reset of the underlying counter. |

## EthernetContainerCapability

Applied stereotypes:

* OpenInterfaceModelClass
* objectCreationNotification: NO
* objectDeletionNotification: NO
* OpenModelClass
* support: MANDATORY

Attributes for EthernetContainerCapability

Table 1: Attributes for EthernetContainerCapability

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Type** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| availableQueueList | AvailableQueueType  ./. | 1..8 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | List of queues, which are available at the physical interface. |
| droppingBehaviorConfigurationIsAvail | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | This attribute has to be set on 'true', if the dropping behavior can be configured individually at every interface. |
| wredProfileConfigurationIsAvail | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | This attribute has to be set on 'true', if the WRED Profile can be configured individually at every interface. |
| schedulerKindConfigurationIsAvail | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | This attribute has to be set on 'true', if the kind of scheduler can be configured individually at every interface. |
| explicitCongestionNotificationIsAvail | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | true = Explicit Congestion Notification is available at this queue. |
| ingressPolicingIsAvail | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | true = This interface supports policing. |
| egressShapingIsAvail | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | true = This interface supports shaping. |
| supportedMaximumInformationRateList | Integer  -1 | 0..\* | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: kbit/s  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_32\_BIT | The supportedMaximumInformationRateList attribute must exclusively contain values, which are actually configurable at the hardware (except of the default value -1, in case maximum information rate cannot be configured at all). The listed values might be all or a subset of the values actually configurable at the hardware. To allow configuring the device according to its full capabilities, the values entered into the EthernetContainerConfiguration::maximumInformationRate attribute are not limited to the ones stated here. If a value, which is supported by the hardware, but not listed here, would be tried to be configured, the device-software or mediator-software shall successfully validate (and operate) it. |
| supportedMaximumBurstSizeList | Integer  -1 | 0..\* | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: kByte  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_16\_BIT | Only relevant if (egressShapingIsAvail==true): The supportedMaximumBurstSizeList attribute must exclusively contain values, which are actually configurable at the hardware (except of the default value -1, in case maximum burst size cannot be configured at all). The values listed here might be all or a subset of values actually configurable at the hardware. To allow configuring the device according to its full capabilities, the values entered into the EthernetContainerConfiguration::maximumBurstSize attribute are not limited to the ones stated here. If a value, which is supported by the hardware, but not listed in the supportedMaximumBurstSizeList, would be tried to be configured, the device-software or mediator-software shall successfully validate (and operate) it. |
| bundlingIsAvail | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | This attribute has to be set on 'true', if the device allows combining resources from several air interfaces for transporting this Ethernet container. |
| bundlingGroupSizeMax | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_8\_BIT | 802.3 according to 30.11.1.1.6 aLocalPAFCapacity and ITU-T Rec. G.998.3 Appendix II aGroupCapacity. No Mbit/s value, but number of Ethernet Segments that can be aggregated for transporting this Ethernet Container. Reasonable values are between1 and 32. |
| supportOfManagementFramesWithoutPreambleIsAvail | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | 802.3. true = Management frames with suppressed preamble are also accepted. |
| \_supportedHeaderCompressionKindList | HeaderCompressionKind  ./. | 1..\* | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | Lists the kinds of header compression, which are supported by the device. |
| fecIsAvail | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | 802.3 according to 30.5.1.1.15 aFECAbility, 45.2.1.92.1 BASE-R FEC ability and 45.2.3.37 10GBASE-PR and 10/1GBASE-PRX FEC ability register and ITU-T Rec. G.998.3 Appendix II aFECSupported. true = Indicates that an optional Forward Error Correction (FEC) is supported. |
| fecWordSizeMax | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: Byte  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_16\_BIT | ITU-T Rec. G.998.3 Appendix II aFECWordSize. Indicates maximum supported Forward Error Correction (FEC) code word size in Bytes. Expected values between 20 and 255. |
| supportedFecRedundancySizeList | FecRedundancySizeType  NOT\_YET\_DEFINED | 0..\* | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | ITU-T Rec. G.998.3 Appendix II aFECRedundancySize. Indicates maximum supported Forward Error Correction (FEC) redundancy word size. |
| supportedFecInterleaverKindList | FecInterleaverKindType  NOT\_YET\_DEFINED | 0..\* | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | ITU-T Rec. G.998.3 Appendix II aFECInterleaverType. Supported kinds of Forward Error Correction (FEC) interleaver |
| supportedFecInterleaverDepthList | FecInterleaverDepthType  NOT\_YET\_DEFINED | 0..\* | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | ITU-T Rec. G.998.3 Appendix II aFECInterleaverDepth. Indicates the supported depths of the Forward Error Correction (FEC) interleaver. |
| encryptionIsAvail | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | Shall be marked 'true', if Ethernet payload encryption is available. |
| adminShutDownIsAvail | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | true = Manual switching on and off of the interface without deleting it (underlying OSI network layers are also not affected) is available. |
| supportedLoopBackKindList | LoopBackType  NOT\_YET\_DEFINED | 0..\* | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | List of supported kinds of looping back. |
| maintenanceTimerRange | String  Range of the maintenance timer not yet defined. | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | Available time periods for maintenance configurations to be described. Concrete values shall be separated by commas (e.g. '10, 60, 360'). Ranges shall be expressed as two values separated by a minus (e.g. '10-360'). |
| statisticsIsAvail | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | true = Continuous statistics counters are available. |
| performanceMonitoringIsAvail | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | true = Collection and aggregation of performance values is available. |

## EthernetContainerConfiguration

Serving Structures are identified by LogicalTerminationPoint::\_serverLtpRefList. If (bundlingIsAvail==true), multiplicity might be \*. If (bundlingIsAvail==false), multiplicity must be 0..1. It is assumed that there is just one Ethernet segment per Structure.

Applied stereotypes:

* OpenInterfaceModelClass
* objectCreationNotification: NO
* objectDeletionNotification: NO
* OpenModelClass
* support: MANDATORY

Attributes for EthernetContainerConfiguration

Table 1: Attributes for EthernetContainerConfiguration

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Type** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| interfaceName | String  Interface name not yet defined. | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | Description of the interface, could be a name, could be a number. Free text field to be filled by the operator. |
| interfaceIsOn | Boolean  false | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | Only relevant if (adminShutDownIsAvail==true). true = Activation of the interface. false = De-activation of the interface without deleting it (underlying OSI network layers are not affected). |
| queueBehaviorList | QueueBehaviorType  ./. | 1..8 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | Defines scheduling and dropping behavior of all queues. |
| \_schedulerProfile | Profile  ./. | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA  PassedByReference | Reference to a scheduler profile. Attribute to point to an instance of Profile with profileName=='PROFILE\_NAME\_TYPE\_SCHEDULER\_PROFILE'. |
| explicitCongestionNotificationIsOn | Boolean  false | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | true = Explicit Congestion Notification is activated at this queue. |
| \_ingressPolicingProfile | Profile  ./. | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA  PassedByReference | Reference to the policing profile, which is active on this interface. Attribute to point to an instance of Profile with profileName=='PROFILE\_NAME\_TYPE\_POLICING\_PROFILE'. |
| egressShapingIsOn | Boolean  false | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | true = Shaping on the egress is activated. |
| maximumInformationRate | Integer  -1 | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: kbit/s  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: LENGTH\_32\_BIT | Only relevant if (egressShapingIsAvail==true): Limits the throughput on the egress. If a value, which is not supported by the hardware, would be tried to be configured, the device-software or mediator-software could either respond with operation-failed tag and error message '...Configuration value out of range of hardware capabilities...' or it could map the sent configuration value on the closest value, which is actually supported by the hardware. Configuration attempts with values lower than the minimum or higher than the maximum value listed here must be answered with operation-failed tag and the error message '...Configuration value out of range of hardware capabilities...'. |
| maximumBurstSize | Integer  -1 | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: kByte  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: LENGTH\_16\_BIT | Only relevant if (egressShapingIsAvail==true): Limits the number of kBytes, which are sent in a single burst. If a value, which is not supported by the hardware, would be tried to be configured, the device-software or mediator-software might either respond with operation-failed tag and error message '...Configuration value out of range of hardware capabilities...' or it could map the sent configuration value on the closest value, which is actually supported by the hardware. Configuration attempts with values lower than the minimum value or higher than the maximum value of the supportedMaximumBurstSizeList must be answered with operation-failed tag and the error message '...Configuration value out of range of hardware capabilities...'. |
| \_qosProfile | Profile  ./. | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA  PassedByReference | Reference to the QoS profile, which is active on this interface. Attribute to point to an instance of Profile with profileName=='PROFILE\_NAME\_TYPE\_QOS\_PROFILE'. |
| bundlingIsOn | Boolean  false | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | 802.3 according to 30.11.1.1.5 aPAFAdminState and 45.2.3.26.3 PAF enable. true = Algorithm for bundling Ethernet segments on AirInterfaces is activated (, even if only a single Structure would be associated). |
| \_headerCompressionKind | HeaderCompressionKind  ./. | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA  PassedByReference | Defines the kind of header compression to be used. |
| fecIsOn | Boolean  false | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | 802.3 according to 30.5.1.1.16 aFECmode, 45.2.1.93.1 FEC enable and 45.2.3.38.2 10 Gb/s FEC Enable and ITU-T Rec. G.998.3 Appendix II aFECAdminState. Only relevant if (fecIsAvail==true). true = Activation of the Forward Error Correction (FEC). |
| fecWordSize | Integer  -1 | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: Byte  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: LENGTH\_16\_BIT | ITU-T Rec. G.998.3 Appendix II aFECWordSize. Only relevant if (fecIsSupported==true). Defining the Forward Error Correction (FEC) code word size in Bytes. Expected values between 20 and 255. |
| fecRedundancySize | FecRedundancySizeType  NOT\_YET\_DEFINED | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | ITU-T Rec. G.998.3 Appendix II aFECRedundancySize. Only relevant if (fecIsSupported==true). Defining the Forward Error Correction (FEC) redundancy word size. |
| fecInterleaverKind | FecInterleaverKindType  NOT\_YET\_DEFINED | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | ITU-T Rec. G.998.3 Appendix II aFECInterleaverType. Only relevant if (fecIsSupported==true). Defining the kind of Forward Error Correction (FEC) interleaver. |
| fecInterleaverDepth | FecInterleaverDepthType  NOT\_YET\_DEFINED | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | ITU-T Rec. G.998.3 Appendix II aFECInterleaverDepth. Only relevant if (fecIsSupported==true). Defining the depth of Forward Error Correction (FEC) interleaver. |
| encryptionIsOn | Boolean  false | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | Activates encryption of the Ethernet payload. |
| cryptographicKey | String  Cryptographic key not yet defined. | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | Key for transforming plaintext into cipher text data. |
| loopBackKindOn | LoopBackType  NOT\_YET\_DEFINED | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | Maintenance Feature. Configuration of a loop back of TDM time slots on this interface. |
| maintenanceTimer | Integer  -1 | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: s  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: LENGTH\_32\_BIT | Time of existence of any maintenance configuration. 0 = maintenance timer is switched off. Valid values are defined in \*Capability::maintenanceTimerRange. |
| statisticsIsOn | Boolean  false | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | Only relevant if (statisticsIsAvail==true). true = Continuous statistics counters are switched on. |
| performanceMonitoringIsOn | Boolean  false | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | Only relevant if (performanceMonitoringIsAvail==true). true = Collection and aggregation of performance values is switched on. |

## EthernetContainerCurrentPerformance

Aggregated performance information of the Ethernet container at a particular moment.

Applied stereotypes:

* OpenInterfaceModelClass
* objectCreationNotification: NO
* objectDeletionNotification: NO
* OpenModelClass
* support: MANDATORY

Attributes for EthernetContainerCurrentPerformance

Table 1: Attributes for EthernetContainerCurrentPerformance

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Type** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| currentPerformanceDataList | ContainerCurrentPerformanceType  ./. | 1..2 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA |  |
| numberOfCurrentPerformanceSets | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_8\_BIT | Number of sets of current performance values, which are provided in the list. |

## EthernetContainerHistoricalPerformances

Aggregated performance information of the Ethernet container for a pre-defined measurement interval.

Applied stereotypes:

* OpenInterfaceModelClass
* objectCreationNotification: NO
* objectDeletionNotification: NO
* OpenModelClass
* support: MANDATORY

Attributes for EthernetContainerHistoricalPerformances

Table 1: Attributes for EthernetContainerHistoricalPerformances

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Type** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| historicalPerformanceDataList | ContainerHistoricalPerformanceType  ./. | 0..\* | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA |  |
| numberOfHistoricalPerformanceSets | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_16\_BIT | Number of sets of historical performance values, which are provided in the list. |
| timeOfLatestChange | DateTime  2010-11-20T14:00:00+01:00 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | Date and time when the list of sets of historical performance values has been changed for the last time (e.g. new one added or existing one deleted). |

## EthernetContainerLpSpec

Applied stereotypes:

* OpenInterfaceModelClass
* objectCreationNotification: YES
* objectDeletionNotification: YES
* OpenModelClass
* support: MANDATORY

Attributes for EthernetContainerLpSpec

Table 1: Attributes for EthernetContainerLpSpec

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Type** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| \_ethernetContainer\_Pac | EthernetContainer\_Pac  ./. | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | See referenced class |

## EthernetContainerStatus

Applied stereotypes:

* OpenInterfaceModelClass
* objectCreationNotification: NO
* objectDeletionNotification: NO
* OpenModelClass
* support: MANDATORY

Attributes for EthernetContainerStatus

Table 1: Attributes for EthernetContainerStatus

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Type** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| interfaceStatus | InterfaceStatusType  NOT\_YET\_DEFINED | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | Operational status of the interface. |
| bundlingIsUp | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | 802.3 and ITU-T Rec. G.998.3 Appendix II aGroupStatus. true = Algorithm for bundling Ethernet segments on AirInterfaces is operative (, even if only a single Structure would be associated). |
| remoteSiteIsFaulty | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | 802.3. true = remote fault condition detected. |
| loopBackKindUp | LoopBackType  NOT\_YET\_DEFINED | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | The currently active (not just configured) type of loop back. |
| statisticsIsUp | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | true = Statistics are currently counted |
| performanceMonitoringIsUp | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: YES  • bitLength: NA | true = Performance values are currently collected and aggregated. |
| timestamp | DateTime  2010-11-20T14:00:00+01:00 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | The timestamp associated with when the statistic values were read/retrieved. |
| last10SecDataInputRate | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: kbit/s  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_32\_BIT | Data receive rate over the last 10 second interval in kbit/s. |
| last10SecDataOutputRate | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: kbit/s  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_32\_BIT | Data transmit rate over the last 10 second interval in kbit/s. |
| totalBytesInput | Integer  0 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: Byte  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_64\_BIT | Received data volume in Byte. |
| totalBytesOutput | Integer  0 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: Byte  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_64\_BIT | Sent data volume in Byte. |
| framesOf64Byte | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_64\_BIT | Number of frames (including bad frames) received that were 64 bytes in length (excluding framing bits but including FCS bytes). |
| framesOf65To127Byte | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_64\_BIT | Number of good and bad frames received that were between 65 and 127 bytes in length (excluding framing bits but including FCS bytes). |
| framesOf128To255Byte | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_64\_BIT | Number of good and bad frames received that were between 128 and 255 bytes in length inclusive (excluding framing bits but including FCS bytes). |
| framesOf256To511Byte | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_64\_BIT | Number of good and bad frames received that were between 256 and 511 bytes in length inclusive (excluding framing bits but including FCS bytes). |
| framesOf512To1023Byte | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_64\_BIT | Number of good and bad frames received that were between 512 and 1023 bytes in length inclusive (excluding framing bits but including FCS bytes). |
| framesOf1024To1518Byte | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_64\_BIT | Number of good and bad frames received that were between 1024 and 1518 bytes in length inclusive (excluding framing bits but including FCS bytes). |
| totalFramesInput | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_64\_BIT | The total number of Ethernet frames received at this interface (including those received in error). |
| totalFramesOutput | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_64\_BIT | The total number of Ethernet frames sent at this interface. |
| forwardedFramesInput | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_64\_BIT | Number of input frames at this interface, for which the device was not their final destination and for which the device attempted to find a route to forward them to that final destination. |
| forwardedFramesOutput | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_64\_BIT | Number of frames at this interface, for which the device was not their final destination and for which it was successful in finding a path to their final destination. |
| unicastFramesInput | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_64\_BIT | Total number of unicast frames received at this interface. |
| unicastFramesOutput | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_64\_BIT | Total number of unicast frames sent at this interface. |
| multicastFramesInput | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_32\_BIT | Total number of multicast frames received at this interface. |
| multicastFramesOutput | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_32\_BIT | Total number of multicast frames sent at this interface. |
| broadcastFramesInput | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_32\_BIT | Total number of broadcast frames received at this interface. |
| broadcastFramesOutput | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_32\_BIT | Total number of broadcast frames sent at this interface. |
| fragmentedFramesInput | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_32\_BIT | Total number of fragmented frames received at this interface. |
| erroredFramesInput | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_32\_BIT | Total number of errored frames received at this interface. |
| erroredFramesOutput | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_32\_BIT | Number of Ethernet frames, which were locally generated and discarded due to errors, including no route found to the destination. |
| droppedFramesInput | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_32\_BIT | Total number of Ethernet frames dropped at the receiver. The number of input Ethernet frames, for which no problems were encountered to prevent their continued processing, but were discarded (e.g., for lack of buffer space). |
| droppedFramesOutput | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: false  • valueRange: no range constraint  • unit: frame  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_32\_BIT | The number of output Ethernet frames, for which no problem was encountered to prevent their transmission to their destination, but were discarded (e.g., for lack of buffer space). |

## EthernetContainer\_Pac

Applied stereotypes:

* OpenInterfaceModelClass
* objectCreationNotification: NO
* objectDeletionNotification: NO
* OpenModelClass
* support: MANDATORY

Attributes for EthernetContainer\_Pac

Table 1: Attributes for EthernetContainer\_Pac

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Type** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| \_ethernetContainerCapability | EthernetContainerCapability  ./. | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | See referenced class |
| \_ethernetContainerConfiguration | EthernetContainerConfiguration  ./. | 1 | RW | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | See referenced class |
| \_ethernetContainerStatus | EthernetContainerStatus  ./. | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | See referenced class |
| \_ethernetContainerCurrentPerformance | EthernetContainerCurrentPerformance  ./. | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | See referenced class |
| \_ethernetContainerHistoricalPerformances | EthernetContainerHistoricalPerformances  ./. | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | See referenced class |

## HeaderCompressionKind

Applied stereotypes:

* OpenInterfaceModelClass
* objectCreationNotification: NO
* objectDeletionNotification: NO
* OpenModelClass
* support: MANDATORY

Attributes for HeaderCompressionKind

Table 1: Attributes for HeaderCompressionKind

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Type** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| headerCompressionName | String  ./. | 1 | R | OpenModelAttribute  • partOfObjectKey: 1  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA |  |
| headerCompressionMode | headerCompressionModeType  NOT\_YET\_DEFINED | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | Defines the way of configuring the header compression. |
| compressedProtocolLayerList | ProtocolLayerType  NOT\_YET\_DEFINED | 0..\* | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | Only relevant if (headerCompressionMode==PROTOCOL\_BASED). List of protocol layers that get compressed with this kind of header compression. |
| mplsPayloadKindList | mplsPayloadKindType  NOT\_YET\_DEFINED | 0..\* | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | Defines how the header bytes inside the MPLS header has to be interpreted. |
| compressedHeaderLength | Integer  -1 | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: Byte  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: LENGTH\_16\_BIT | Only relevant if (headerCompressionMode==LENGTH\_BASED). Number of Bytes of header information that get compressed. |

## HistoricalPerformance

Applied stereotypes:

* OpenInterfaceModelClass
* objectCreationNotification: NO
* objectDeletionNotification: NO
* OpenModelClass
* support: MANDATORY

Attributes for HistoricalPerformance

Table 1: Attributes for HistoricalPerformance

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Type** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| suspectIntervalFlag | Boolean  false | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | This attribute indicates that the data collected during the interval is suspect. |
| historyDataId | String  History Data ID not defined. | 1 | R | OpenModelAttribute  • partOfObjectKey: 0  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA |  |
| granularityPeriod | GranularityPeriodType  ./. | 1 | R | OpenModelAttribute  • partOfObjectKey: 1  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | Time period between reset of the underlying counter. |
| periodEndTime | DateTime  ./. | 1 | R | OpenModelAttribute  • partOfObjectKey: 2  • isInvariant: true  • valueRange: no range constraint  • unit: no unit defined  • support: MANDATORY  OpenInterfaceModelAttribute  • AVC: NO  • bitLength: NA | Time when the counter values have been recorded and the counter reset. |

# Data Types

## AvailableQueueType

Applied Stereotypes:

Attributes for AvailableQueueType

Table 1: Attributes for AvailableQueueType

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Type** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| queueName | QueueNameType  ./. | 1 | R | OpenModelAttribute   * partOfObjectKey: 1 * isInvariant: true * valueRange: no range constraint * unit: no unit defined * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: NA | Name of the queue. |
| supportedQueueDepthList | Integer  -1 | 0..\* | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: Byte * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_32\_BIT | Configurable values of the depth of the queue in Byte. The supportedQueueDepthList attribute must exclusively contain values, which are actually configurable at the hardware (except of the default value -1, in case buffer size cannot be configured at all). The values listed here might be all or a subset of values actually configurable at the hardware. To allow configuring the device according to its full capabilities, the values entered into the QueueBehaviorType::queueDepth attribute are not limited to the ones stated here. If a value, which is supported by the hardware, but not listed in the supportedQueueDepthList attribute, would be tried to be configured, the device-software or mediator-software shall successfully validate (and operate) it. |
| availableDroppingBehaviorKindList | DroppingBehaviorKindType  NOT\_YET\_DEFINED | 0..\* | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: no unit defined * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: NA | Lists the available types of behavior in case of congestions. |
| availableDropPrecedenceKindList | DropPrecedenceType  NOT\_YET\_DEFINED | 0..\* | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: no unit defined * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: NA | Explicit list (ALL not to be used here) of drop precedencies, which are available for this queue. |
| wredProfilePerDropPrecedenceIsAvailable | Boolean  false | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: no unit defined * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: NA | true = Separate WRED profiles can be defined for every drop precedence. |
| availableSchedulingKindList | SchedulerKindType  NOT\_YET\_DEFINED | 0..\* | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: no unit defined * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: NA | Lists the available types of scheduling. |

## ContainerCurrentPerformanceType

Turns performance information into current performance information by inheriting from OTN\_CurrentData.

Applied Stereotypes:

Attributes for ContainerCurrentPerformanceType

Table 1: Attributes for ContainerCurrentPerformanceType

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Type** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| performanceData | ContainerPerformanceType  ./. | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: no unit defined * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: NA |  |

## ContainerHistoricalPerformanceType

Turns performance information into historical performance information by inheriting from OTN\_HistoryData.

Applied Stereotypes:

Attributes for ContainerHistoricalPerformanceType

Table 1: Attributes for ContainerHistoricalPerformanceType

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Type** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| performanceData | ContainerPerformanceType  ./. | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: no unit defined * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: NA |  |

## ContainerPerformanceType

Consolidated performance information of the Container.

Applied Stereotypes:

Attributes for ContainerPerformanceType

Table 1: Attributes for ContainerPerformanceType

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Type** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| maxBytesPerSecondOutput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: Bytes/s * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_32\_BIT | Counts the number of Bytes of Ethernet traffic (before header compression) transmitted within a second and keeps the highest value within the measurement period. |
| totalBytesInput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: Bytes * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_64\_BIT | Total number of Bytes of Ethernet traffic (before header compression) received during the measurement period. |
| totalBytesOutput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: Bytes * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_64\_BIT | Total number of Bytes of Ethernet traffic (before header compression) transmitted (in direction out of the device) during the measurement period. |
| queueUtilizationList | QueueUtilizationType  ./. | 0..8 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: no unit defined * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: NA | Utilization of the respective queue. One instance of QueueUtilizationType to be created for every queue supported by the hardware. |
| timePeriod | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: s * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_32\_BIT | Total length of the measurement period in seconds. |
| totalFramesInput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: frame * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_64\_BIT | The total number of Ethernet frames received at this interface (including those received in error). |
| totalFramesOutput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: frame * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_64\_BIT | The total number of Ethernet frames sent at this interface. |
| forwardedFramesInput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: frame * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_64\_BIT | Number of input frames at this interface, for which the device was not their final destination and for which the device attempted to find a route to forward them to that final destination. |
| forwardedFramesOutput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: frame * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_64\_BIT | Number of frames at this interface, for which the device was not their final destination and for which it was successful in finding a path to their final destination. |
| unicastFramesInput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: frame * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_64\_BIT | Total number of unicast frames received at this interface. |
| unicastFramesOutput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: frame * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_64\_BIT | Total number of unicast frames sent at this interface. |
| multicastFramesInput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: frame * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_32\_BIT | Total number of multicast frames received at this interface. |
| multicastFramesOutput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: frame * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_32\_BIT | Total number of multicast frames sent at this interface. |
| broadcastFramesInput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: frame * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_32\_BIT | Total number of broadcast frames received at this interface. |
| broadcastFramesOutput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: frame * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_32\_BIT | Total number of broadcast frames sent at this interface. |
| fragmentedFramesInput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: frame * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_32\_BIT | Total number of fragmented frames received at this interface. |
| erroredFramesInput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: frame * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_32\_BIT | Total number of errored frames received at this interface. |
| erroredFramesOutput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: frame * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_32\_BIT | Number of Ethernet frames, which were locally generated and discarded due to errors, including no route found to the destination. |
| droppedFramesInput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: frame * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_32\_BIT | Total number of Ethernet frames dropped at the receiver. The number of input Ethernet frames, for which no problems were encountered to prevent their continued processing, but were discarded (e.g., for lack of buffer space). |
| droppedFramesOutput | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: frame * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_32\_BIT | The number of output Ethernet frames, for which no problem was encountered to prevent their transmission to their destination, but were discarded (e.g., for lack of buffer space). |

## QueueBehaviorType

Applied Stereotypes:

Attributes for QueueBehaviorType

Table 1: Attributes for QueueBehaviorType

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Type** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| queueName | QueueNameType  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 1 * isInvariant: true * valueRange: no range constraint * unit: no unit defined * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: NA | Name of the queue. |
| queueDepth | Integer  -1 | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: false * valueRange: no range constraint * unit: Byte * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: YES * bitLength: LENGTH\_32\_BIT | Only relevant if (supportedQueueDepthList != -1). Size of the queue in Byte. If a value, which is not supported by the hardware, would be tried to be configured, the device-software or mediator-software might either respond with operation failed and ...Configuration value out of range of hardware capabilities... or it could map the sent configuration value on the closest value, which is actually supported by the hardware. Configuration attempts with values lower than the minimum value or higher than the maximum value of the supportedQueueDepthList must be answered with the operation failed and ...Configuration value out of range of hardware capabilities... |
| droppingBehaviorKind | DroppingBehaviorKindType  NOT\_YET\_DEFINED | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: false * valueRange: no range constraint * unit: no unit defined * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: YES * bitLength: NA | Defines the behavior in case of congestions. |
| wredBehaviorList | wredBehaviorType  ./. | 0..\* | RW | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: false * valueRange: no range constraint * unit: no unit defined * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: YES * bitLength: NA | Only relevant if (droppingBehaviorKind==WRED). |
| schedulerKind | SchedulerKindType  NOT\_YET\_DEFINED | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: false * valueRange: no range constraint * unit: no unit defined * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: YES * bitLength: NA | Type of scheduler to be used for this queue. |
| weighting | Integer  -1 | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: false * valueRange: no range constraint * unit: % * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: YES * bitLength: LENGTH\_8\_BIT | Only relevant if (schedulerKind==WFQ) OR (schedulerKind==DWRR) OR (schedulerKind==WRR). Serving rate for this weighted fair queueing queue as a percentage value. |

## QueueUtilizationType

Applied Stereotypes:

Attributes for QueueUtilizationType

Table 1: Attributes for QueueUtilizationType

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Type** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| queueName | QueueNameType  ./. | 1 | R | OpenModelAttribute   * partOfObjectKey: 1 * isInvariant: true * valueRange: no range constraint * unit: no unit defined * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: NA | Name of the queue. |
| maxQueueLength | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: Byte * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_32\_BIT | Maximum observed queue length. |
| avgQueueLength | Integer  -1 | 1 | R | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: true * valueRange: no range constraint * unit: Byte * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: LENGTH\_32\_BIT | Average observed queue length. |

## wredBehaviorType

Applied Stereotypes:

Attributes for wredBehaviorType

Table 1: Attributes for wredBehaviorType

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute Name** | **Type** | **Multiplicity** | **Access** | **Stereotypes** | **Description** |
| affectedDropPrecedence | DropPrecedenceType  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 1 * isInvariant: true * valueRange: no range constraint * unit: no unit defined * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: NA | Definition of the drop precedence, for which the WRED profile shall apply on. |
| affectedProtocol | ProtocolLayerType  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 2 * isInvariant: true * valueRange: no range constraint * unit: no unit defined * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: NO * bitLength: NA | Definition of the kind of protocol, for which the WRED profile shall apply on. |
| \_wredProfile | Profile  ./. | 1 | RW | OpenModelAttribute   * partOfObjectKey: 0 * isInvariant: false * valueRange: no range constraint * unit: no unit defined * support: MANDATORY   OpenInterfaceModelAttribute   * AVC: YES * bitLength: NA   PassedByReference | Associates a WRED profile to the queue, respectively drop precedence. Attribute to point to an instance of Profile with profileName=='PROFILE\_NAME\_TYPE\_WRED\_PROFILE'. |

# Enumeration Types

## DropPrecedenceType

Contains Enumeration Literals:

* ALL:
  + If all drop precedence are affected. This includes the case of drop precedencies are not implemented.
* LOW:
  + Would be equal to GREEN.
* MEDIUM:
  + Would be equal to YELLOW.
* HIGH:
  + Would be equal to RED.
* NOT\_YET\_DEFINED:

## DroppingBehaviorKindType

Contains Enumeration Literals:

* DROP\_TAIL:
  + When the queue is filled to capacity, newly arriving packets are discarded until there is room in the queue to accept new traffic. Packets are not differentiated, i.e., all packets are treated identically.
* RED:
  + Queue management based on Random Early Detection (RED). RED drops packets based on a drop probability that is based on the average queue length, and settings of minimum and maximum queue thresholds. On ECN-capable devices, packets may be marked instead of dropped to signal congestion to the sender.
* WRED:
  + Queue management based on a variant of RED in which the packet drop probability is based on its traffic class.
* NOT\_YET\_DEFINED:

## FecInterleaverDepthType

ITU-T Rec. G.998.3 Appendix II aFECInterleaverDepth

Contains Enumeration Literals:

* 1:
* 2:
* 3:
* 4:
* 6:
* 8:
* 12:
* 16:
* 24:
* 32:
* 48:
* 96:
* NOT\_YET\_DEFINED:

## FecInterleaverKindType

Contains Enumeration Literals:

* NONE:
* BLOCK:
* CONVOLUTION:
* NOT\_YET\_DEFINED:

## FecRedundancySizeType

Contains Enumeration Literals:

* 2:
* 4:
* 8:
* 16:
* 20:
* NOT\_YET\_DEFINED:

## GranularityPeriodType

The enumeration with the options for granularity period of the performance data.

Contains Enumeration Literals:

* UNKNOWN:
* PERIOD-15-MIN:
* PERIOD-24-HOURS:
* NOT\_YET\_DEFINED:

## InterfaceStatusType

Current Interface Status

Contains Enumeration Literals:

* UP:
  + Ready to pass packets. It is expected that the LogicalTerminationPoint::operationalState attribute is expressing this logical layer being available for use (means: ENABLED), while this value occurs.
* DOWN:
  + The interface does not pass any packets. It is expected that the LogicalTerminationPoint::operationalState attribute is expressing this logical layer being NOT available for use (means: DISABLED), while this value occurs.
* TESTING:
  + In some test mode. No operational packets can be passed. It is expected that the LogicalTerminationPoint::operationalState attribute is expressing this logical layer being NOT available for use (means: DISABLED), while this value occurs.
* UNKNOWN:
  + Status cannot be determined for some reason. While this value occurs, the LogicalTerminationPoint::operationalState attribute, which is expressing the availability of the logical layer for being used, might have either ENABLED or DISABLED as value.
* DORMANT:
  + Waiting for some external event. It is expected that the LogicalTerminationPoint::operationalState attribute is expressing this logical layer being available for use (means: ENABLED), while this value occurs.
* NOT\_PRESENT:
  + Some component (typically hardware) is missing. It is expected that the LogicalTerminationPoint::operationalState attribute is expressing this logical layer being NOT available for use (means: DISABLED), while this value occurs.
* NOT\_YET\_DEFINED:
  + While this value occurs, the LogicalTerminationPoint::operationalState attribute, which is expressing the availability of the logical layer for being used, might have either ENABLED or DISABLED as value.

## LayerProtocolNameType

A controlled list of LayerProtocol names.

Contains Enumeration Literals:

* LAYER\_PROTOCOL\_NAME\_TYPE\_ETHERNET\_CONTAINER\_LAYER:

## LoopBackType

Contains Enumeration Literals:

* NONE:
* BACK\_TO\_LOCAL:
  + Returning the Ethernet frames of the local site on the outgoing interface back to the local site.
* BACK\_TO\_REMOTE:
  + Returning the incoming Ethernet frames back to the remote site.
* NOT\_YET\_DEFINED:

## ProtocolLayerType

Contains Enumeration Literals:

* NONE:
* ETHERNET\_MAC:
* VLAN:
* Q\_IN\_Q:
* MPLS:
* IPV4:
* IPV6:
* TCP:
* UDP:
* RTP:
* GTP\_U:
* OTHERS:
* NOT\_YET\_DEFINED:

## QueueNameType

Contains Enumeration Literals:

* BEST\_EFFORT\_QUEUE:
  + QueueNumber=0;
* ASSURED\_FORWARDING\_QUEUE1:
  + QueueNumber=1;
* ASSURED\_FORWARDING\_QUEUE2:
  + QueueNumber=2;
* ASSURED\_FORWARDING\_QUEUE3:
  + QueueNumber=3;
* ASSURED\_FORWARDING\_QUEUE4:
  + QueueNumber=4;
* EXPEDITED\_FORWARDING\_QUEUE:
  + QueueNumber=5;
* CLASS\_SELECTOR\_QUEUE6:
  + QueueNumber=6;
* CLASS\_SELECTOR\_QUEUE7:
  + QueueNumber=7;
* QUEUENAME\_NOT\_YET\_DEFINED:

## SchedulerKindType

Contains Enumeration Literals:

* STRICT:
  + Strict Priority
* WFQ:
  + Weighted-Fair-Queuing
* WRR:
  + Weighted Round Robin
* DWRR:
  + Deficit Weighted Round Robin
* NOT\_YET\_DEFINED:

## headerCompressionModeType

During interface design time, an instance of HeaderCompressionKind has to be created. The key attribute headerCompressionName is free to be chosen by the vendor. The headerCompressionMode has to be chosen to be 'NO\_COMPRESSION' and the rest of attributes to have their default values. During interface applying time, the afore mentioned instance of HeaderCompressionKind to be chose for switching off the header compression.

Contains Enumeration Literals:

* AUTO:
  + The header compression algorithm determines the optimum compression.
* PROTOCOL\_BASED:
  + Predefined protocol layers are to be compressed.
* LENGTH\_BASED:
  + Predefined amount of header bytes are to be compressed.
* NO\_COMPRESSION:
* NOT\_YET\_DEFINED:

## mplsPayloadKindType

Contains Enumeration Literals:

* NONE:
  + Parameter not required.
* AUTO:
  + If the Control Word (CW) will be present, it would be Ethernet Over MPLS. Otherwise, it would be Pv4/IPv6.
* ETH\_O\_MPLS:
  + Always Ethernet over MPLS
* IP\_O\_MPLS:
  + Always IPv4/IPv6 over MPLS
* NOT\_YET\_DEFINED:

# Primitive Types