



TAPI UML Model

DIGITAL OTN

Version 2.5.0

ONF Document Type: Technical Recommendation

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Document History

Version	Date	Description of Change
2.3	May 27, 2021	<p>Model Dump</p> <p><i>Gendoc generates documentation from Eclipse Modeling Framework (EMF) models using document templates in formats such as OpenOffice Writer (.odt), Microsoft Word (.docx), Microsoft Excel (.xlsx) and Microsoft Powerpoint (.pptx).</i></p>
2.4.0	December 2022	See high level diff document in Github
2.4.1	March 2023	See high level diff document in Github
2.5.0	October 2023	See high level diff document in Github

1 Digital OTN Model

TapiDigitalOtn: This module contains TAPI Digital OTN Model definitions. Source: TapiDigitalOtn.uml
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1.1 Diagrams

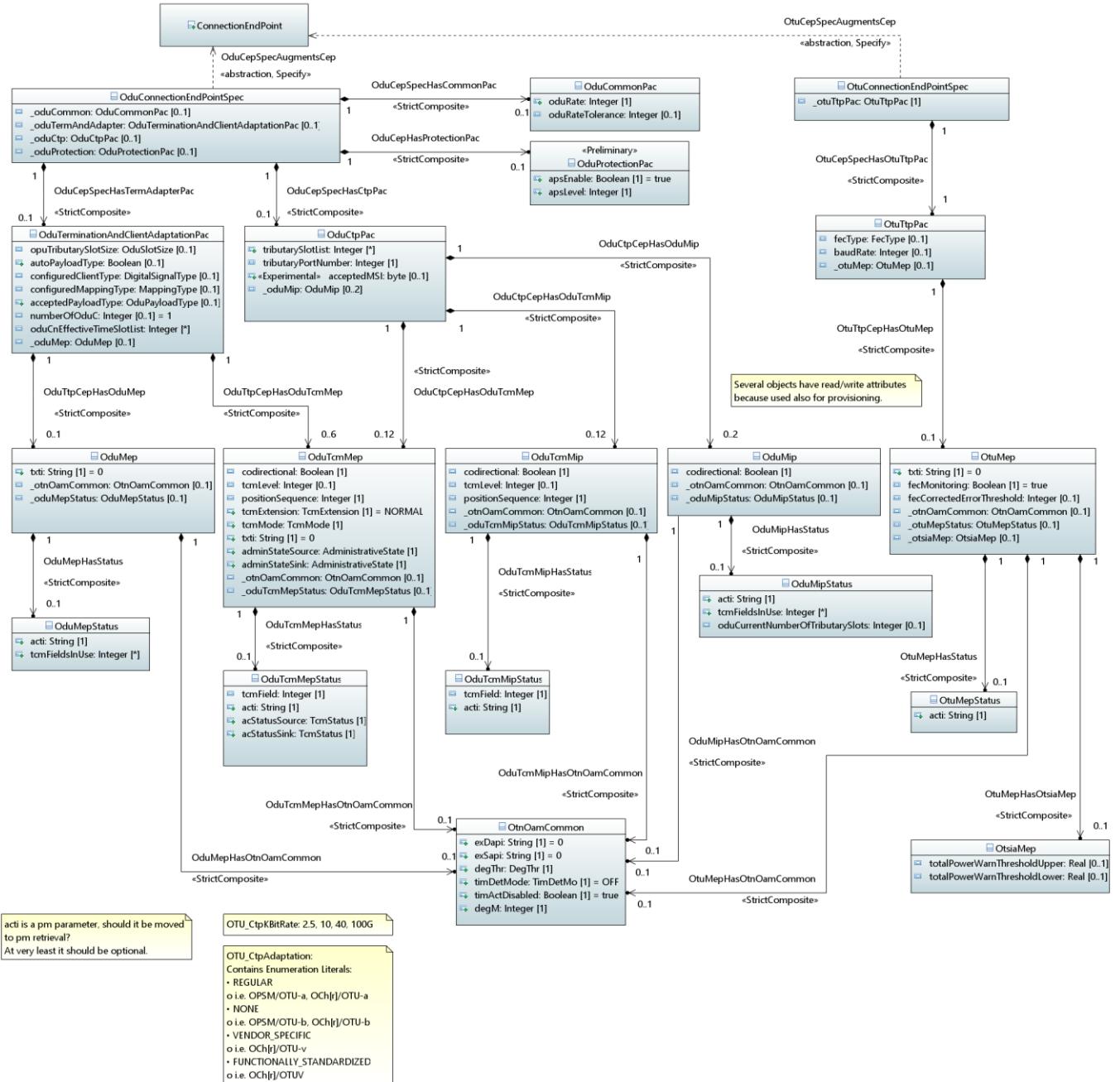
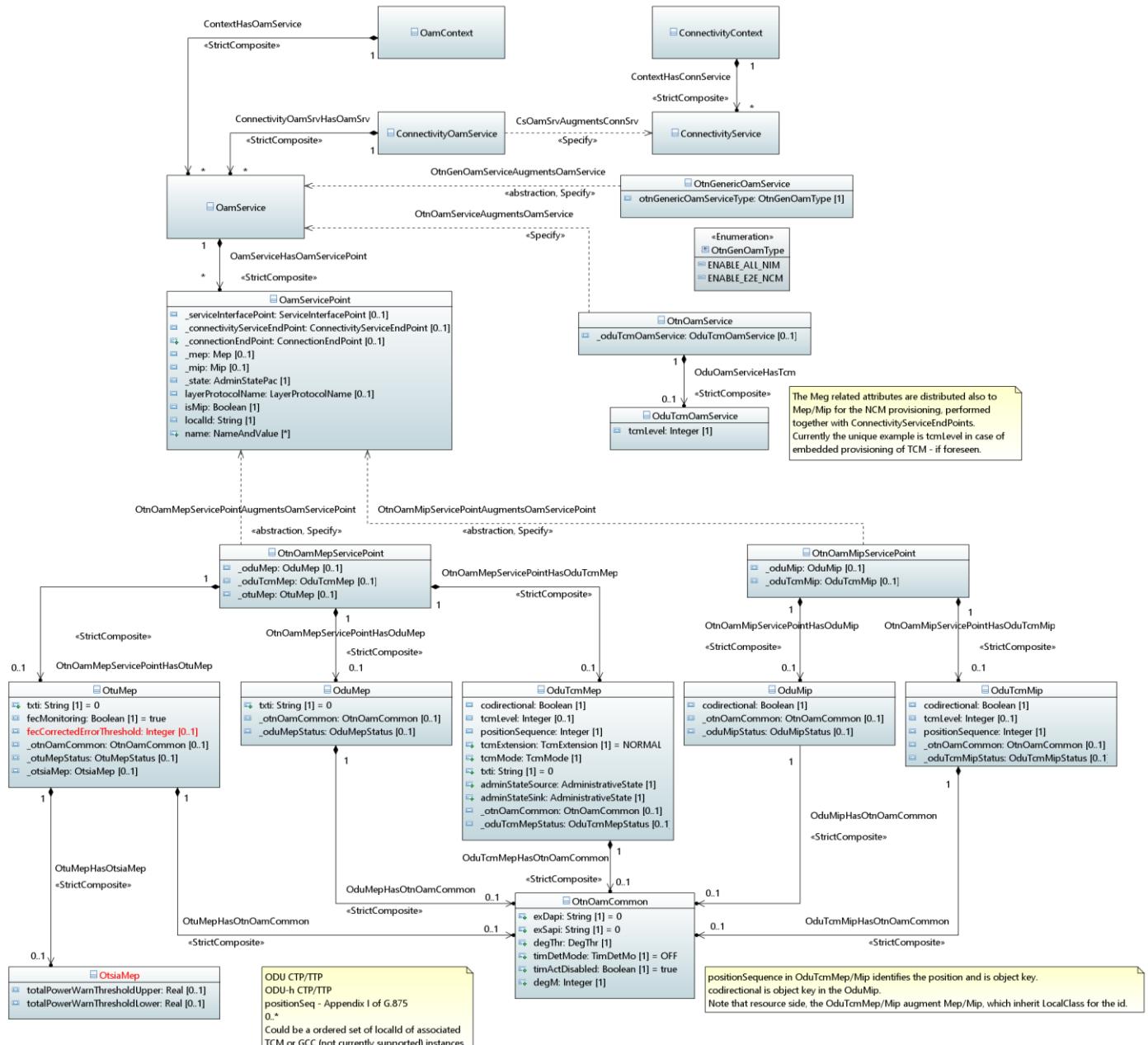
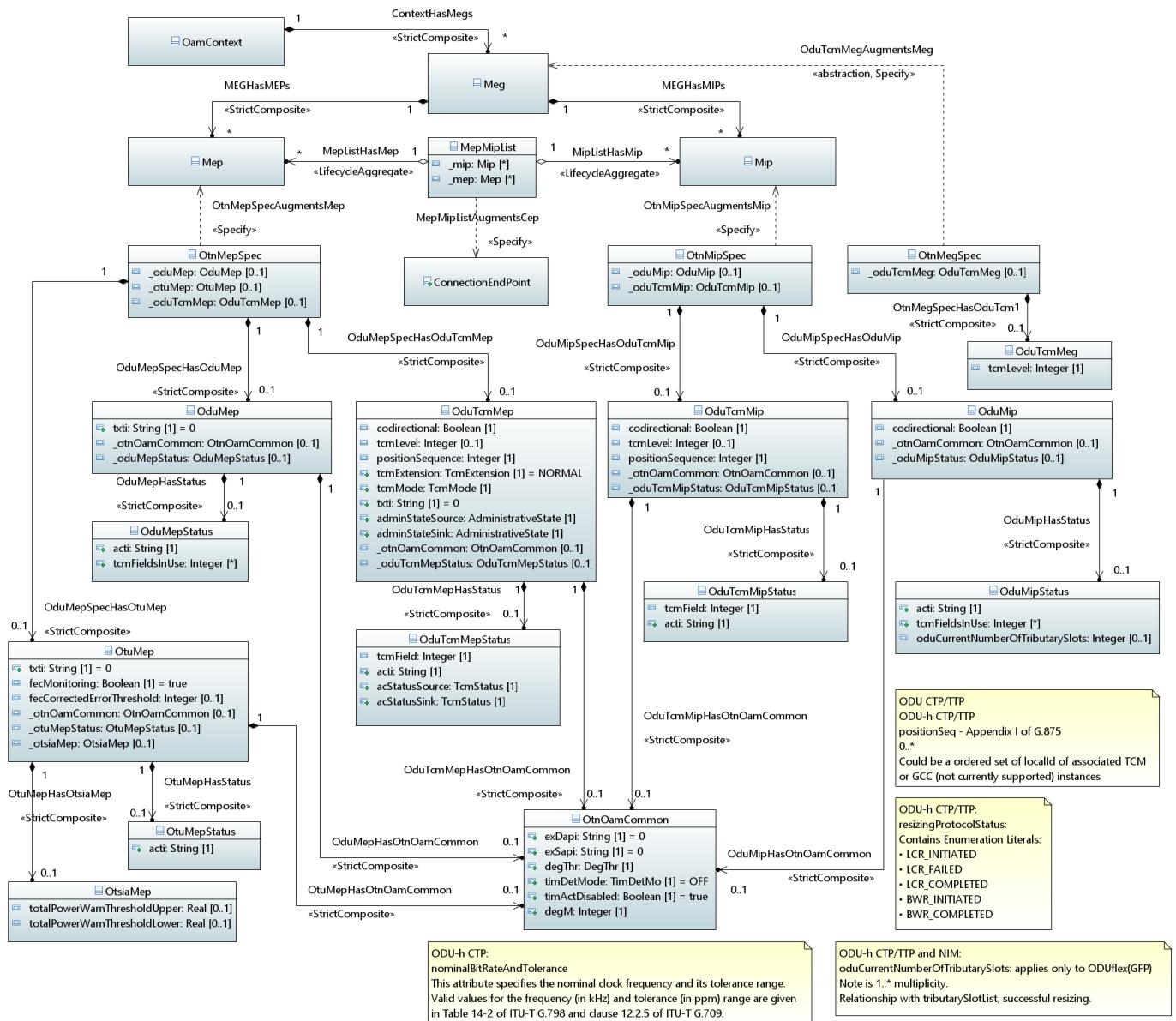
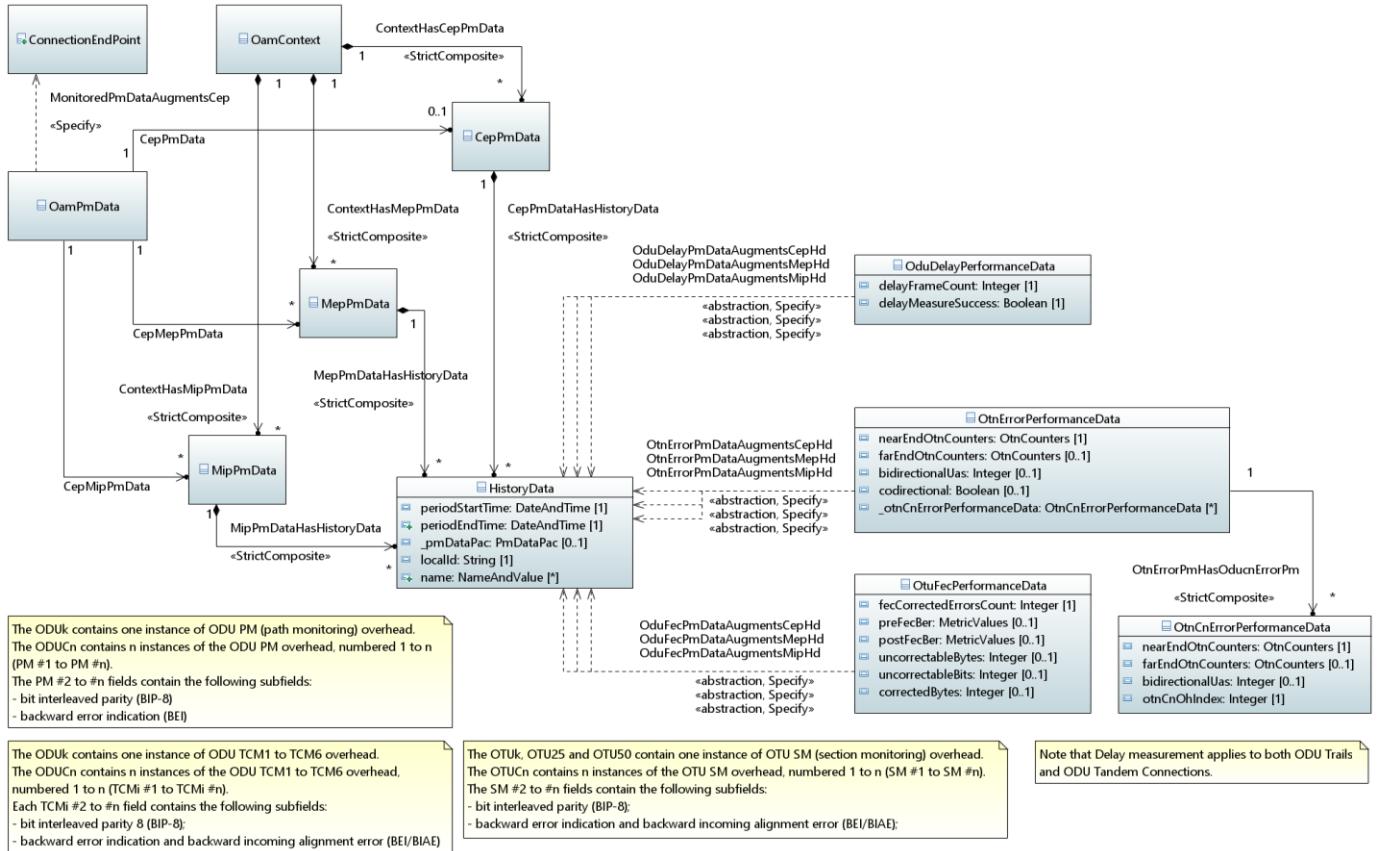
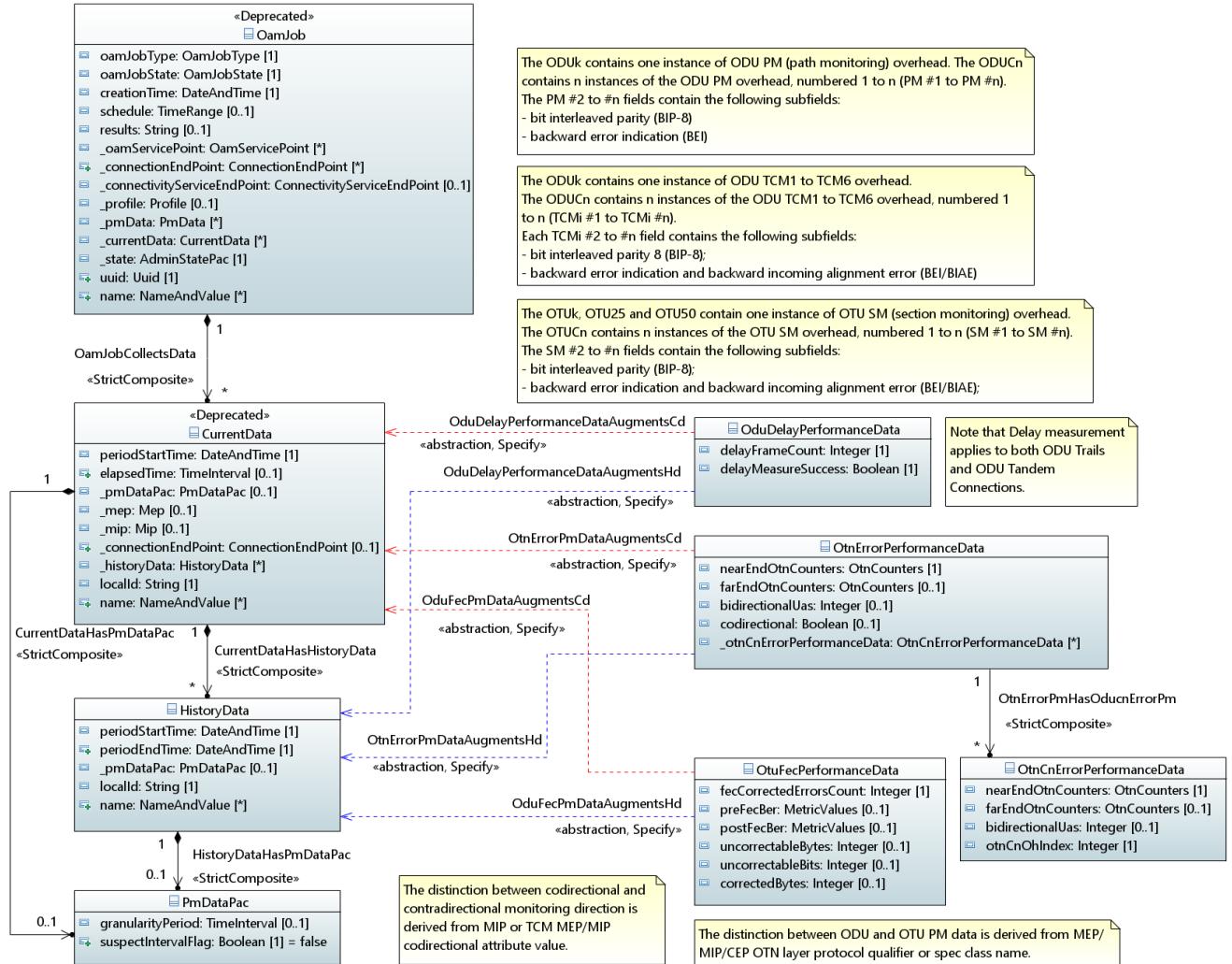


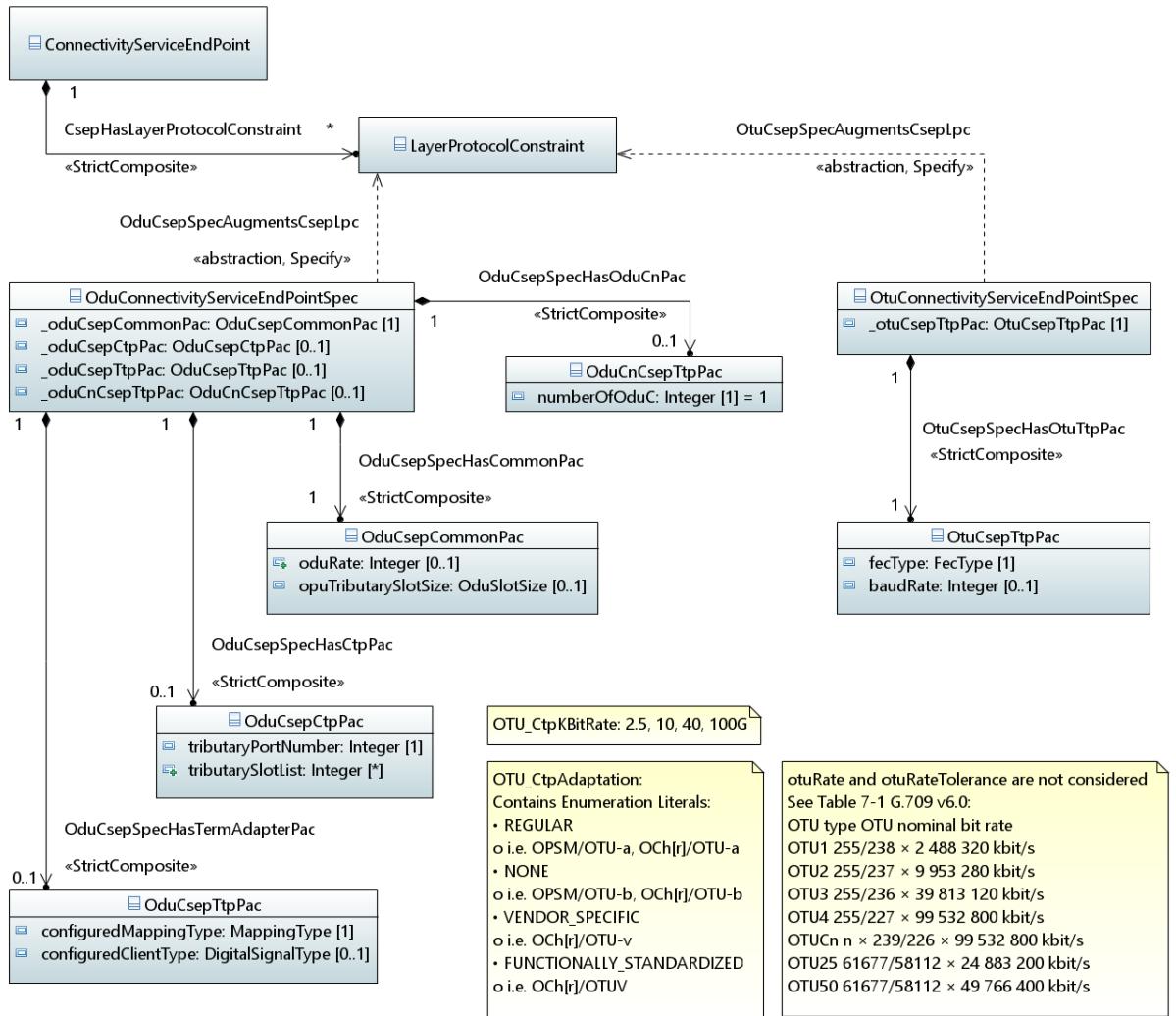
Figure 1 – Diagram *OtnEndPointSpec*

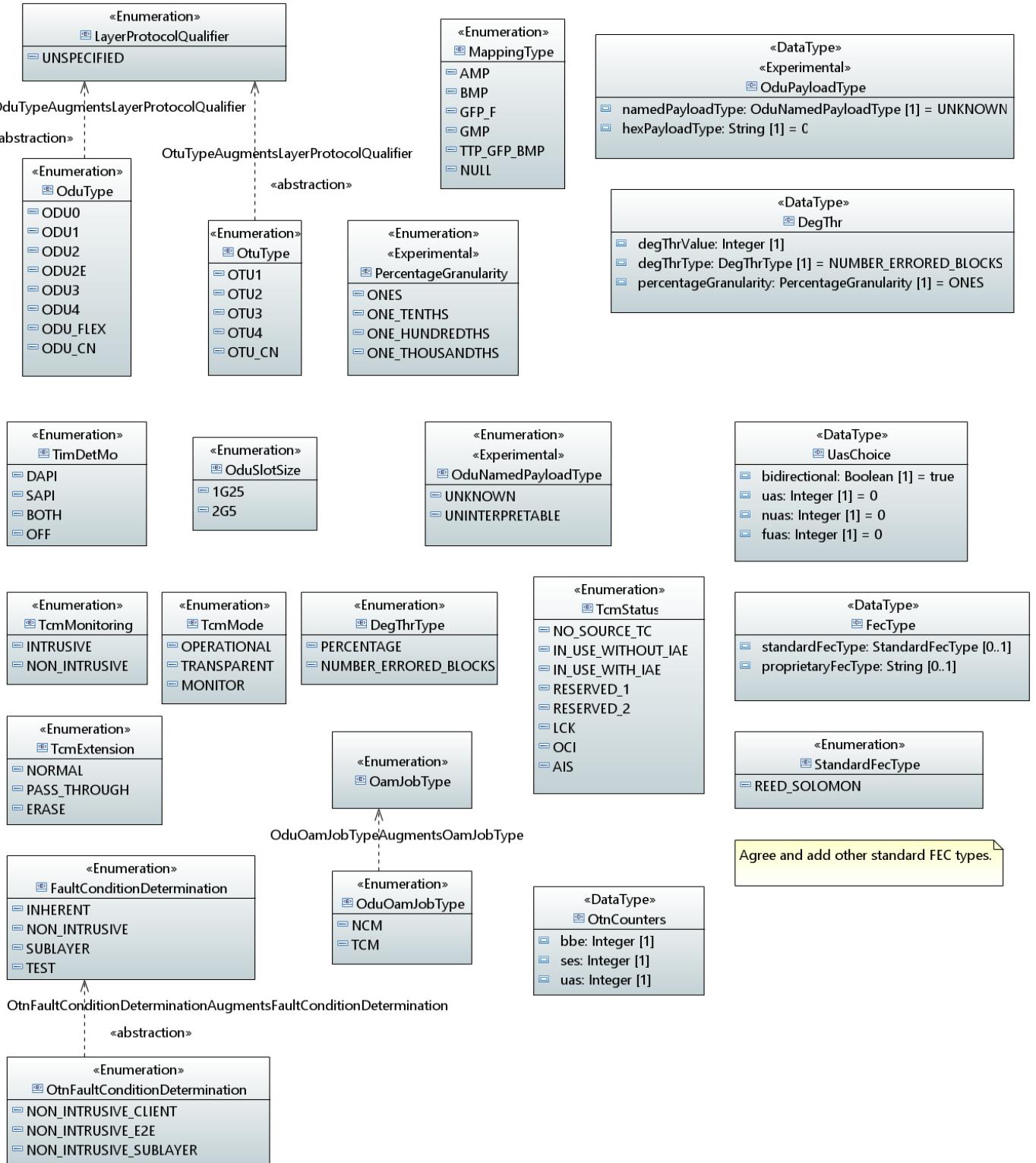
Figure 2 – Diagram *OtnOamServiceSpec*

Figure 3 – Diagram *OtnOamSpec*

Figure 4 – Diagram *OtnPmSpec*

Figure 5 – Diagram *OtnPmSpec_Degraded*

Figure 6 – Diagram *OtnServiceSpec*

Figure 7 – Diagram *OtnTypes*

1.2 Classes

1.2.1 OduCnCsepTtpPac

Description:

- When otuType=OTU_CN then OduCnCsepTtpPac must be instantiated.

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
numberOfOduC	PrimitiveTypes::Integer Default value: 1	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute <ul style="list-style-type: none"> • AVC: NA

Table 1 – Attributes for class *OduCnCsepTtpPac*

1.2.2 OduCommonPac

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
oduRate	PrimitiveTypes::Integer	1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: true • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute <ul style="list-style-type: none"> • AVC: NA

Attribute Name	Type	Mult.	Access	Stereotypes
	Description: This attribute indicates the rate of the ODU termination point in Kbits/s. This attribute is Set at create; i.e., once created it cannot be changed directly. In case of resizable ODU flex, its value can be changed via HAO (not directly on the attribute). This attribute indicates the rate of the ODU termination point. Valid values shall be consistent with the oduType configuration as shown in Table 7-2/G.709 v5. Setting this value for fixed-rate ODUk types (e.g., ODU0), is optional. The default value is derived from the configured oduType, as defined in Table 7-2/G.709 v5. Setting this value for ODUCn type is optional. The default value is derived from the configured n of the ODUCn as defined in Table 7-2/G.709 v5.			
oduRateTolerance	PrimitiveTypes::Integer	0..1	R	OpenModelAttribute • isKey: No • isInvariant: true • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description: This attribute indicates the rate tolerance of the ODU termination point. Valid values are real value in the unit of ppm. Standardized values are defined in Table 7-2/G.709.			

Table 2 – Attributes for class *OduCommonPac*

1.2.3 OduConnectionEndPointSpec

Applied stereotypes:

- OpenModelClass
 - support: CONDITIONAL_MANDATORY
 - condition: ODU
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
_oduCommon <i>Navigable association end of: OduCepSpecHasCommonPac</i>	OduCommonPac	0..1	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description:			
_oduTermAndAdapter <i>Navigable association end of: OduCepSpecHasTermAdapterPac</i>	OduTerminationAndClientAdaptationPac	0..1	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description:			

Attribute Name	Type	Mult.	Access	Stereotypes
_oduCtp <i>Navigable association end of: OduCepSpecHasCtpPac</i>	OduCtpPac	0..1	R	OpenModelAttribute <ul style="list-style-type: none">• isKey: No• isInvariant: false• valueRange: no range constraint• support: MANDATORY• OpenInterfaceModelAttribute• AVC: NA
Description:				
_oduProtection <i>Navigable association end of: OduCepHasProtectionPac</i>	OduProtectionPac	0..1	R	OpenModelAttribute <ul style="list-style-type: none">• isKey: No• isInvariant: false• valueRange: no range constraint• support: MANDATORY• OpenInterfaceModelAttribute• AVC: NA
Description:				

Table 3 – Attributes for class *OduConnectionEndPointSpec*

1.2.4 OduConnectivityServiceEndPointSpec

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
_oduCsepCommonPac <i>Navigable association end of: OduCsepSpecHasCommonPac</i>	OduCsepCommonPac	1	RW	OpenModelAttribute <ul style="list-style-type: none">• isKey: No• isInvariant: false• valueRange: no range constraint• support: MANDATORY• OpenInterfaceModelAttribute• AVC: NA
Description:				
_oduCsepCtpPac <i>Navigable association end of: OduCsepSpecHasCtpPac</i>	OduCsepCtpPac	0..1	RW	OpenModelAttribute <ul style="list-style-type: none">• isKey: No• isInvariant: false• valueRange: no range constraint• support: MANDATORY• OpenInterfaceModelAttribute• AVC: NA
Description:				

Attribute Name	Type	Mult.	Access	Stereotypes
_oduCsepTtpPac <i>Navigable association end of: OduCsepSpecHasTermAdapterPac</i>	OduCsepTtpPac	0..1	RW	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
_oduCnCsepTtpPac <i>Navigable association end of: OduCsepSpecHasOduCnPac</i>	OduCnCsepTtpPac	0..1	RW	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				

Table 4 – Attributes for class *OduConnectivityServiceEndPointSpec*

1.2.5 OduCsepCommonPac

Description:

- Note that the OduType ODU_CN does not apply to OduCsepCommonPac package, as ODUCn is always and only defined within OTU CSEP.

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
oduRate	PrimitiveTypes::Integer	0..1	RW	OpenModelAttribute • isKey: No • isInvariant: true • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
This attribute indicates the rate of the ODU termination point in Kbits/s. This attribute is Set at create; i.e., once created it cannot be changed directly. In case of resizable ODU flex, its value can be changed via HAO (not directly on the attribute). This attribute indicates the rate of the ODU termination point. Valid values shall be consistent with the oduType configuration as shown in Table 7-2/G.709 v5. Setting this value for fixed-rate ODUCn types (e.g., ODU0), is optional. The default value is derived from the configured oduType, as defined in Table 7-2/G.709 v5. Setting this value for ODUCn type is optional. The default value is derived from the configured n of the ODUCn as defined in Table 7-2/G.709 v5.				

Attribute Name	Type	Mult.	Access	Stereotypes
opuTributarySlotSize	OduSlotSize	0..1	RW	<p>OpenModelAttribute</p> <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA <p>Description:</p> <p>This attribute is applicable for ODU2 and ODU3 CTP only. It indicates the slot size of the ODU CTP.</p>

Table 5 – Attributes for class *OduCsepCommonPac*

1.2.6 OduCsepCtpPac

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
tributaryPortNumber	PrimitiveTypes::Integer	1	RW	<p>OpenModelAttribute</p> <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: The value range depends on the size of the Tributary Port Number (TPN) field used which depends on the server-layer ODU or OTU. In case of ODUk mapping into OTUk, there is no TPN field, so the tributaryPortNumber shall be zero. In case of LO ODUj mapping over ODU1, ODU2 or ODU3, the TPN is encoded in a 6-bit field so the value range is 0-63. See clause 14.4.1/G.709-2016. In case of LO ODUj mapping over ODU4, the TPN is encoded in a 7-bit field so the value range is 0-127. See clause 14.4.1.4/G.709-2016. In case of ODUk mapping over ODUCn, the TPN is encoded in a 14-bit field so the value range is 0-16383. See clause 20.4.1.1/G.709-2016. • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA

Attribute Name	Type	Mult.	Access	Stereotypes
	Description: This attribute identifies the tributary port number that is associated with the ODUk CTP. This attribute applies when the ODUk CTP is multiplexed into a server layer ODU TTP object. It will not apply if this ODUk CTP object is directly mapped into an OTUk TTP object (i.e. OTUk has no tributary slots). The upper bound of the integer allowed in this set is a function of the ODU server layer into which the ODUk CTP is multiplexed. In case the ODU server layer is an HO-ODUk, the upper bound is the maximum number of tributary slots within the HO-ODUk (see ITU-T Recommendation G.709 (v5) clause 19.4.1). Thus, for example, M=8/32/80 for ODU2/ODU3/ODU4 server layers (respectively) using 1.25G slot size. In case the ODU server layer is an ODUCn, the upper bound is M=10*n (see ITU-T Recommendation G.709 (v5) Clause 20.4.1).			
tributarySlotList	PrimitiveTypes::Integer	0..*	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
	Description: ITU-T G.875 (v5) This attribute contains a set of distinct (i.e. unique) integers (e.g. 2, 3, 5, 9, 15 representing the tributary slots TS#2, TS#3, TS#5, TS#9 and TS#15) which represents the resources occupied by the ODUk CTP (e.g. an ODUflex with a bit rate of 6.25G setup over an HO-ODUk). This attribute applies when the ODUk CTP is carried by a sever layer ODU TTP object. It will not apply if this ODUk CTP object is directly carried by an OTUk TTP object (i.e. OTUk has no tributary slots). The upper bound of the integer allowed in this set and its relationship with the tributary slots are a function of the ODU server layer to which the ODUk CTP is carried over. In case the ODU server layer is an HO-ODUk, each entry in the list is an integer value (i) representing the tributary slot name TS#i and the upper bound is the maximum number of tributary slots within the HO-ODUk (see ITU-T Recommendation G.709 (v5) clause 19). Thus, for example, M=8/32/80 for ODU2/ODU3/ODU4 server layers (respectively) using 1.25G slot size. In case the ODU server layer is an ODUCn, each entry in the list is an integer value (P) representing the time slot name TS#A.B (e.g. 2, 3, 5, 9, 15, 34 representing the tributary slots TS#1.2, TS#1.3, TS#1.5, TS#1.9, TS#1.15, and TS#2.14) and the upper bound is 20*n (see ITU-T Recommendation G.709 (v5) Clause 20.1). The mapping between P and A & B is: A = [P/20] + 1; B = P - (P/20)*20; where the square bracket represents the whole integer. Note that the value of this attribute can be changed only in the case of ODUflex and has to be through specific operations (i.e. not be changing the attribute tributarySlotList directly).			

Table 6 – Attributes for class *OduCsepCtpPac*

1.2.7 OduCsepTtpPac

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
configuredMappingType	MappingType	1	RW	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
	This attribute indicates the configured mapping type.			
configuredClientType	TapiDsr::TypeDefinitions::DigitalSignalType	0..1	RW	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
	This attribute configures the type of the client CTP of the server ODU TTP.			

Table 7 – Attributes for class *OduCsepTtpPac*

1.2.8 OduCtpPac

Description:

- This Pac contains the attributes associated with the CTP It is present only if the CEP contains a CTP

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
tributarySlotList	PrimitiveTypes::Integer	0..*	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA

Attribute Name	Type	Mult.	Access	Stereotypes
	<p>Description:</p> <p>ITU-T G.875 (v5) This attribute contains a set of distinct (i.e. unique) integers (e.g. 2, 3, 5, 9, 15 representing the tributary slots TS#2, TS#3, TS#5, TS#9 and TS#15) which represents the resources occupied by the ODUk CTP (e.g. an ODUflex with a bit rate of 6.25G setup over an HO-ODUk). This attribute applies when the ODUk CTP is carried by a sever layer ODU TTP object. It will not apply if this ODUk CTP object is directly carried by an OTUk TTP object (i.e. OTUk has no tributary slots). The upper bound of the integer allowed in this set and its relationship with the tributary slots are a function of the ODU server layer to which the ODUk CTP is carried over. In case the ODU server layer is an HO-ODUk, each entry in the list is an integer value (i) representing the tributary slot name TS#i and the upper bound is the maximum number of tributary slots within the HO-ODUk (see ITU-T Recommendation G.709 (v5) clause 19). Thus, for example, M=8/32/80 for ODU2/ODU3/ODU4 server layers (respectively) using 1.25G slot size. In case the ODU server layer is an ODUCn, each entry in the list is an integer value (P) representing the time slot name TS#A.B (e.g. 2, 3, 5, 9, 15, 34 representing the tributary slots TS#1.2, TS#1.3, TS#1.5, TS#1.9, TS#1.15, and TS#2.14) and the upper bound is 20*n (see ITU-T Recommendation G.709 (v5) Clause 20.1). The mapping between P and A & B is: A = [P/20] + 1; B = P - (P/20)*20; where the square bracket represents the whole integer. Note that the value of this attribute can be changed only in the case of ODUflex and has to be through specific operations (i.e. not be changing the attribute tributarySlotList directly).</p>			
tributaryPortNumber	PrimitiveTypes::Integer	1	R	<p>OpenModelAttribute</p> <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: The value range depends on the size of the Tributary Port Number (TPN) field used which depends on the server-layer ODU or OTU. In case of ODUk mapping into OTUk, there is no TPN field, so the tributaryPortNumber shall be zero. In case of LO ODUj mapping over ODU1, ODU2 or ODU3, the TPN is encoded in a 6-bit field so the value range is 0-63. See clause 14.4.1/G.709-2016. In case of LO ODUj mapping over ODU4, the TPN is encoded in a 7-bit field so the value range is 0-127. See clause 14.4.1.4/G.709-2016. In case of ODUk mapping over ODUCn, the TPN is encoded in a 14-bit field so the value range is 0-16383. See clause 20.4.1.1/G.709-2016. • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
	<p>Description:</p> <p>This attribute identifies the tributary port number that is associated with the ODUk CTP. This attribute applies when the ODUk CTP is multiplexed into a server layer ODU TTP object. It will not apply if this ODUk CTP object is directly mapped into an OTUk TTP object (i.e. OTUk has no tributary slots). The upper bound of the integer allowed in this set is a function of the ODU server layer into which the ODUk CTP is multiplexed. In case the ODU server layer is an HO-ODUk, the upper bound is the maximum number of tributary slots within the HO-ODUk (see ITU-T Recommendation G.709 (v5) clause 19.4.1). Thus, for example, M=8/32/80 for ODU2/ODU3/ODU4 server layers (respectively) using 1.25G slot size. In case the ODU server layer is an ODUCn, the upper bound is M=10*n (see ITU-T Recommendation G.709 (v5) Clause 20.4.1).</p>			

Attribute Name	Type	Mult.	Access	Stereotypes
acceptedMSI	JavaPrimitiveTypes::byte	0..1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY Experimental OpenInterfaceModelAttribute • AVC: NA
Description:				
				This attribute is applicable when the ODU CTP object instance represents a lower order ODU1 or ODU2 CTP Sink at the client layer of the ODU3P/ODU12 adaptation function or represents a lower order ODUj CTP Sink at the client layer of the ODUP/ODUj-21 adaptation function. This attribute is a 1-byte field that represents the accepted multiplex structure of the adaptation function.
_oduMip Navigable association end of: OduCtpCepHasOduMip	OduMip	0..2	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
_oduTcmMep Navigable association end of: OduCtpCepHasOduTcmMep	OduTcmMep	0..12	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
_oduTcmMip Navigable association end of: OduCtpCepHasOduTcmMip	OduTcmMip	0..12	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				

Table 8 – Attributes for class *OduCtpPac*

1.2.9 OduDelayPerformanceData

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA

- objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
delayFrameCount	PrimitiveTypes::Integer	1	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				Summation of the number of frames between the DMValue toggle event and the received DMp signal value toggle event. This value is a snapshot value.
delayMeasureSuccess	PrimitiveTypes::Boolean	1	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				

Table 9 – Attributes for class *OduDelayPerformanceData*

1.2.10 OduMep

Description:

- If the CSEP is OTU CSEP, then 1) OTU only: OtuMep, 2) OTU and ODUCn: both OtuCep and OduMep.

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
txti	PrimitiveTypes::String Default value: 0	1	RW	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				The Trail Trace Identifier (TTI) information, provisioned by the managing system at the termination source, to be placed in the TTI overhead position of the source of a trail for transmission.

Attribute Name	Type	Mult.	Access	Stereotypes
_otnOamCommon <i>Navigable association end of: OduMepHasOtnOamCommon</i>	OtnOamCommon	0..1	RW	OpenModelAttribute <ul style="list-style-type: none">• isKey: No• isInvariant: false• valueRange: no range constraint• support: MANDATORY• OpenInterfaceModelAttribute• AVC: NA
Description:				
_oduMepStatus <i>Navigable association end of: OduMepHasStatus</i>	OduMepStatus	0..1	R	OpenModelAttribute <ul style="list-style-type: none">• isKey: No• isInvariant: false• valueRange: no range constraint• support: MANDATORY• OpenInterfaceModelAttribute• AVC: NA
Description:				

Table 10 – Attributes for class *OduMep*

1.2.11 OduMepStatus

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
acti	PrimitiveTypes::String	1	R	OpenModelAttribute <ul style="list-style-type: none">• isKey: No• isInvariant: false• valueRange: no range constraint• support: MANDATORY• OpenInterfaceModelAttribute• AVC: NA
Description:				The Trail Trace Identifier (TTI) information recovered (Accepted) from the TTI overhead position at the sink of a trail.
tcmFieldsInUse	PrimitiveTypes::Integer	0..*	R	OpenModelAttribute <ul style="list-style-type: none">• isKey: No• isInvariant: false• valueRange: no range constraint• support: MANDATORY• OpenInterfaceModelAttribute• AVC: NA
Description:				This attribute indicates the used TCM fields of the ODU OH.

Table 11 – Attributes for class *OduMepStatus***1.2.12 OduMip**

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
codirectional	PrimitiveTypes::Boolean	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
Description:				
<p>This attribute specifies the directionality of the ODU MIP with respect to the associated ODU CEP. The value of TRUE means that the (half MIP/sink part of the) ODU MIP receives the same signal direction as the sink part of the ODU CEP. The Source part behaves similarly. This attribute is meaningful only on objects instantiated under ODU CEP, and at least one among ODU CEP and the subordinate object is bidirectional.</p>				
_otnOamCommon <i>Navigable association end of: OduMipHasOtnOamCommon</i>	OtnOamCommon	0..1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
Description:				
_oduMipStatus <i>Navigable association end of: OduMipHasStatus</i>	OduMipStatus	0..1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
Description:				

Table 12 – Attributes for class *OduMip***1.2.13 OduMipStatus**

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass

- objectCreationNotification: NA
- objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
acti	PrimitiveTypes::String	1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
The Trail Trace Identifier (TTI) information recovered (Accepted) from the TTI overhead position at the sink of a trail.				
tcmFieldsInUse	PrimitiveTypes::Integer	0..*	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
This attribute indicates the used TCM fields of the ODU OH.				
oduCurrentNumberOfTributarySlots	PrimitiveTypes::Integer	0..1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
This attribute applies only to ODUflex(GFP) connections. It represents the current number of tributary slots allocated to this ODUflex(GFP) connection in the HO-ODU server layer.				

Table 13 – Attributes for class *OduMipStatus*

1.2.14 OduProtectionPac

Applied stereotypes:

- Preliminary
- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
apsEnable	PrimitiveTypes::Boolean Default value: <i>true</i>	1	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description: This attribute is for enabling/disabling the automatic protection switching (APS) capability at the transport adaptation function that is represented by the ODU_ConnectionTerminationPoint object class. It triggers the MIAPS_EN signal to the transport adaptation function.				
apsLevel	PrimitiveTypes::Integer	1	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description: This attribute is for configuring the automatic protection switching (APS) level that should operate at the transport adaptation function that is represented by the ODU_ConnectionTerminationPoint object class. It triggers the MIAPS_LVL signal to the transport adaptation function. The value 0 means path and the values 1 through 6 mean TCM level 1 through 6 respectively.				

Table 14 – Attributes for class *OduProtectionPac*

1.2.15 OduTcmMeg

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
tcmLevel	PrimitiveTypes::Integer	1	RW	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				

Table 15 – Attributes for class *OduTcmMeg*

1.2.16 OduTcmMep

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
codirectional	PrimitiveTypes::Boolean	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
tcmLevel	PrimitiveTypes::Integer	0..1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
positionSequence	PrimitiveTypes::Integer	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: yes – part: 1 • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
tcmExtension	TcmExtension Default value: <i>NORMAL</i>	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
ITU-T G.798: TCM information forwarding and erasing: TCM information can be forwarded or erased for continuing TCM information into sections at the end of a TCM section and the related ODUT_TT_Sk function.				

Attribute Name	Type	Mult.	Access	Stereotypes
tcmMode	TcmMode	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
This attribute specifies the TCM mode at the entity. Valid values are: Operational, Monitor, and Transparent.				
txti	PrimitiveTypes::String Default value: 0	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
The Trail Trace Identifier (TTI) information, provisioned by the managing system at the termination source, to be placed in the TTI overhead position of the source of a trail for transmission.				
adminStateSource	TapiCommon::TypeDefinitions::AdministrativeState	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
This attribute provides the capability to provision the LOCK signal at the source, which is one of the ODU maintenance signals. When a Tandem Connection endpoint is set to admin state locked, it will insert the ODU-LCK signal in the source direction.				
adminStateSink	TapiCommon::TypeDefinitions::AdministrativeState	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
This attribute provides the capability to provision the LOCK signal at the sink, which is one of the ODU maintenance signals. When a Tandem Connection endpoint is set to admin state locked, it will insert the ODU-LCK signal in the downstream direction.				
_otnOamCommon Navigable association end of: OduTcmMepHasOtnOamCommon	OtnOamCommon	0..1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA

Attribute Name	Type	Mult.	Access	Stereotypes
	Description:			
_oduTcmMepStatus <i>Navigable association end of: OduTcmMepHasStatus</i>	OduTcmMepStatus	0..1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
	Description:			

Table 16 – Attributes for class *OduTcmMep*

1.2.17 OduTcmMepStatus

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
tcmField	PrimitiveTypes::Integer	1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
	Description:			
	This attribute indicates the tandem connection monitoring field of the ODU OH.			
acti	PrimitiveTypes::String	1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
	Description:			
	The Trail Trace Identifier (TTI) information recovered (Accepted) from the TTI overhead position at the sink of a trail.			
acStatusSource	TcmStatus	1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA

Attribute Name	Type	Mult.	Access	Stereotypes
	Description: This attribute indicates the status of the accepted TCM.			
acStatusSink	TcmStatus	1	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description: This attribute indicates the status of the accepted TCM.			

Table 17 – Attributes for class *OduTcmMepStatus*

1.2.18 OduTcmMip

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
codirectional	PrimitiveTypes::Boolean	1	RW	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description: This attribute specifies the directionality of the ODU MIP with respect to the associated ODU CEP. The value of TRUE means that the (half MIP/sink part of the) ODU MIP receives the same signal direction as the sink part of the ODU CEP. The Source part behaves similarly. This attribute is meaningful only on objects instantiated under ODU CEP, and at least one among ODU CEP and the subordinate object is bidirectional.			
tcmLevel	PrimitiveTypes::Integer	0..1	RW	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description:			

Attribute Name	Type	Mult.	Access	Stereotypes
positionSequence	PrimitiveTypes::Integer	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: yes – part: 1 • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
Description:				
_otnOamCommon <i>Navigable association end of: OduTcmMipHasOtnOamCommon</i>	OtnOamCommon	0..1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
Description:				
_oduTcmMipStatus <i>Navigable association end of: OduTcmMipHasStatus</i>	OduTcmMipStatus	0..1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
Description:				

Table 18 – Attributes for class *OduTcmMip*

1.2.19 OduTcmMipStatus

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
tcmField	PrimitiveTypes::Integer	1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
Description:				This attribute indicates the tandem connection monitoring field of the ODU OH.

Attribute Name	Type	Mult.	Access	Stereotypes
acti	PrimitiveTypes::String	1	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				The Trail Trace Identifier (TTI) information recovered (Accepted) from the TTI overhead position at the sink of a trail.

Table 19 – Attributes for class *OduTcmMipStatus*

1.2.20 OduTcmOamService

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
tcmLevel	PrimitiveTypes::Integer	1	RW	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				

Table 20 – Attributes for class *OduTcmOamService*

1.2.21 OduTerminationAndClientAdaptationPac

Description:

- This Pac contains the attributes associated with the client adaptation function of the server layer TTP
It is present only if the CEP contains a TTP

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
opuTributarySlotSize	OduSlotSize	0..1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
				This attribute is only applicable for ODU2 and ODU3 TTP which multiplex ODU0/1 containers. It indicates the slot size of the ODU CTP.
autoPayloadType	PrimitiveTypes::Boolean	0..1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
				This attribute is applicable when the ODU CTP object instance represents a lower order ODU CTP Source at the client layer of the ODUP/ODUj-21 adaptation function. The value of true of this attribute configures that the adaptation source function shall fall back to the payload type PT=20 if the conditions specified in 14.3.10.1/G.798 are satisfied.
configuredClientType	TapiDsr::TypeDefinitions::DigitalSignalType	0..1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
				This attribute configures the type of the client CTP of the server ODU TTP.
configuredMappingType	MappingType	0..1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
				This attribute indicates the configured mapping type.
acceptedPayloadType	OduPayloadType	0..1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA

Attribute Name	Type	Mult.	Access	Stereotypes
	Description: This attribute is applicable when the ODU CTP object instance represents a lower order ODU CTP Sink at the client layer of the ODUP/ODU[i;j] or ODUP/ODUj-21 adaptation function. This attribute is a 2-digit Hex code that indicates the new accepted payload type. Valid values are defined in Table 15-9 of ITU-T Recommendation G.709 with one additional value UNINTERPRETABLE.			
numberOfOduC	PrimitiveTypes::Integer Default value: <i>I</i>	0..1	R	OpenModelAttribute <ul style="list-style-type: none">• isKey: No• isInvariant: false• valueRange: no range constraint• support: MANDATORY• OpenInterfaceModelAttribute• AVC: NA
	Description:			
oduCnEffectiveTimeSlotList	PrimitiveTypes::Integer	0..*	R	OpenModelAttribute <ul style="list-style-type: none">• isKey: No• isInvariant: false• valueRange: no range constraint• support: MANDATORY• OpenInterfaceModelAttribute• AVC: NA
	Description: This attribute contains a set of distinct (i.e. unique) integers (e.g. 2, 3, 5, 9, 15, 34 representing the tributary slots TS#1.2, TS#1.3, TS#1.5, TS#1.9, TS#1.15, and TS#2.14) which represents the list of effective time slots which are available for carrying ODUk clients. Each entry in the list is an integer value (P) representing the time slot name TS#A.B (see ITU-T Recommendation G.709 (v5) Clause 20.1). The mapping between P and A & B is: A = [P/20] + 1; B = P - (P/20)*20; where the square bracket represents the whole integer.			
_oduMep Navigable association end of: <i>OduTipCepHasOduMep</i>	OduMep	0..1	R	OpenModelAttribute <ul style="list-style-type: none">• isKey: No• isInvariant: false• valueRange: no range constraint• support: MANDATORY• OpenInterfaceModelAttribute• AVC: NA
	Description:			
_oduTcmMep Navigable association end of: <i>OduTipCepHasOduTcmMep</i>	OduTcmMep	0..6	RW	OpenModelAttribute <ul style="list-style-type: none">• isKey: No• isInvariant: false• valueRange: no range constraint• support: MANDATORY• OpenInterfaceModelAttribute• AVC: NA
	Description:			

Table 21 – Attributes for class *OduTerminationAndClientAdaptationPac*

1.2.22 OtnCnErrorPerformanceData

Description:

- The ODUk contains one instance of ODU PM overhead. The ODUCn contains n instances of the ODU PM overhead, numbered 1 to n (PM #1 to PM #n). The PM #2 to #n fields contain the following subfields: - bit interleaved parity (BIP-8) - backward error indication (BEI) The ODUk contains one instance of ODU TCM1 to TCM6 overhead. The ODUCn contains n instances of the ODU TCM1 to TCM6 overhead, numbered 1 to n (TCMi #1 to TCMi #n). Each TCMi #2 to #n field contains the following subfields (see Figure 15-19): - bit interleaved parity 8 (BIP-8); - backward error indication and backward incoming alignment error (BEI/BIAE)

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
nearEndOtnCounters	OtnCounters	1	R	OpenModelAttribute <ul style="list-style-type: none"> isKey: No isInvariant: false valueRange: no range constraint support: MANDATORY OpenInterfaceModelAttribute AVC: NA
Description:				
farEndOtnCounters	OtnCounters	0..1	R	OpenModelAttribute <ul style="list-style-type: none"> isKey: No isInvariant: false valueRange: no range constraint support: MANDATORY OpenInterfaceModelAttribute AVC: NA
Description:				
bidirectionalUas	PrimitiveTypes::Integer	0..1	R	OpenModelAttribute <ul style="list-style-type: none"> isKey: No isInvariant: false valueRange: no range constraint support: MANDATORY OpenInterfaceModelAttribute AVC: NA
Description:				

Attribute Name	Type	Mult.	Access	Stereotypes
otnCnOhIndex	PrimitiveTypes::Integer	1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: yes – part: 1 • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				The ODUcn contains n instances of the ODU PM/TCM overhead, numbered 1 to n (PM #1 to PM #n)/(TCMi #1 to TCMi #n).. This index specify the 2..n instance of the ODUcn PM/TCM overhead.

Table 22 – Attributes for class *OtnCnErrorPerformanceData***1.2.23 OtnErrorPerformanceData****Description:**

- ODU/OTU PM Metrics.

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
nearEndOtnCounters	OtnCounters	1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
farEndOtnCounters	OtnCounters	0..1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				

Attribute Name	Type	Mult.	Access	Stereotypes
bidirectionalUas	PrimitiveTypes::Integer	0..1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
codirectional	PrimitiveTypes::Boolean	0..1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				<p>This attribute specifies the directionality of the ODU MIP with respect to the monitored ODU CEP. The value of TRUE means that the MIP receives the same signal direction as the sink part of the ODU CEP. The Source part behaves similarly. This attribute applies only in case of embedded provisioning, i.e. the MIPs are data structures of ODU CEP.</p>
_otnCnErrorPerformanceData <i>Navigable association end of: OtnErrorPmHasOducnErrorPm</i>	OtnCnErrorPerformanceData	0..*	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				

Table 23 – Attributes for class *OtnErrorPerformanceData*

1.2.24 OtnGenericOamService

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
otnGenericOamServiceType	OtnGenOamType	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA

Attribute Name	Type	Mult.	Access	Stereotypes
	Description:			

Table 24 – Attributes for class *OtnGenericOamService***1.2.25 OtnMegSpec**

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
_oduTcmMeg <i>Navigable association end of: OtnMegSpecHasOduTcm</i>	OduTcmMeg	0..1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute <ul style="list-style-type: none"> • AVC: NA

Table 25 – Attributes for class *OtnMegSpec***1.2.26 OtnMepSpec**

Applied stereotypes:

- OpenModelClass
 - support: CONDITIONAL_MANDATORY
 - condition: ODU
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
_oduMep <i>Navigable association end of: OduMepSpecHasOduMep</i>	OduMep	0..1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute <ul style="list-style-type: none"> • AVC: NA

Attribute Name	Type	Mult.	Access	Stereotypes
_otuMep <i>Navigable association end of: OduMepSpecHasOtuMep</i>	OtuMep	0..1	R	OpenModelAttribute <ul style="list-style-type: none">• isKey: No• isInvariant: false• valueRange: no range constraint• support: MANDATORY• OpenInterfaceModelAttribute• AVC: NA
Description:				
_oduTcmMep <i>Navigable association end of: OduMepSpecHasOduTcmMep</i>	OduTcmMep	0..1	R	OpenModelAttribute <ul style="list-style-type: none">• isKey: No• isInvariant: false• valueRange: no range constraint• support: MANDATORY• OpenInterfaceModelAttribute• AVC: NA
Description:				

Table 26 – Attributes for class *OtnMepSpec*

1.2.27 OtnMipSpec

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
_oduMip <i>Navigable association end of: OduMipSpecHasOduMip</i>	OduMip	0..1	R	OpenModelAttribute <ul style="list-style-type: none">• isKey: No• isInvariant: false• valueRange: no range constraint• support: MANDATORY• OpenInterfaceModelAttribute• AVC: NA
Description:				
_oduTcmMip <i>Navigable association end of: OduMipSpecHasOduTcmMip</i>	OduTcmMip	0..1	R	OpenModelAttribute <ul style="list-style-type: none">• isKey: No• isInvariant: false• valueRange: no range constraint• support: MANDATORY• OpenInterfaceModelAttribute• AVC: NA
Description:				

Table 27 – Attributes for class *OtnMipSpec***1.2.28 OtnOamCommon**

Description:

- Common ODU OAM parameters. Note that the object is read/write or read-only depending on the context, i.e. if is part of CSEP is R/W, while if is part of CEP is read-only. Note that both the ODUk and ODUCn contain only one instance of ODU PM TTI overhead and ODU PM DMp overhead. Note that the ODUCn contains n instances of the ODU PM overhead: The OduOamCommon degThr and degM apply to the n instances of ODUCn PM OH.

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
exDapi	PrimitiveTypes::String Default value: 0	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute <ul style="list-style-type: none"> • AVC: NA
	Description: The Expected Destination Access Point Identifier (ExDAPI), provisioned by the managing system, to be compared with the TTI accepted at the overhead position of the sink for the purpose of checking the integrity of connectivity.			
exSapi	PrimitiveTypes::String Default value: 0	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute <ul style="list-style-type: none"> • AVC: NA
	Description: The Expected Source Access Point Identifier (ExSAPI), provisioned by the managing system, to be compared with the TTI accepted at the overhead position of the sink for the purpose of checking the integrity of connectivity.			
degThr	<u>DegThr</u>	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute <ul style="list-style-type: none"> • AVC: NA

Attribute Name	Type	Mult.	Access	Stereotypes
	Description: This attribute indicates the threshold level for declaring a performance monitoring (PM) Second to be bad. The value of the threshold can be provisioned in terms of number of errored blocks or in terms of percentage of errored blocks. For percentage-based specification, in order to support provision of less than 1%, the specification consists of two fields. The first field indicates the granularity of percentage. For examples, in 1%, in 0.1%, or in 0.01%, etc. The second field indicates the multiple of the granularity. For number of errored block based, the value is a positive integer.			
timDetMode	TimDetMo Default value: <i>OFF</i>	1	RW	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description: This attribute indicates the mode of the Trace Identifier Mismatch (TIM) Detection function allowed values: OFF, SAPIonly, DAPIonly, SAPIandDAPI			
timActDisabled	PrimitiveTypes::Boolean Default value: <i>true</i>	1	RW	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description: This attribute provides the control capability for the managing system to enable or disable the Consequent Action function when detecting Trace Identifier Mismatch (TIM) at the trail termination sink.			
degM	PrimitiveTypes::Integer	1	RW	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description: This attribute indicates the threshold level for declaring a Degraded Signal defect (dDEG). A dDEG shall be declared if DegM consecutive bad PM Seconds are detected.			

Table 28 – Attributes for class *OtnOamCommon*

1.2.29 OtnOamMepServicePoint

Description:

- Two alternative provisioning scenarios: 1) Oam provisioning through CSEPs for "service" related OAM (QoS) - provisioning joint to ConnectivityService. In this case the ODU MEP and MIP parameters are included (composed) in resp. ODU CEP TTP and CTP instances, i.e. no distinct ODU MEP/MIP instances. This provisioning scenario could apply for: a) NCM MEPs on terminated OTU b) NCM MEPs on terminated ODUCn c) NCM MEPs on terminated ODU/Flex d) NCM MEP and NCM NIM/MIP on semi-terminated ODU/Flex e) TCM MEPs on semi-terminated and non terminated ODU/Flex The Meg related attributes are distributed also to Mep/Mip for this

provisioning scenario which does not involve OtnOamService/ServicePoints. 2) Oam provisioning through OtnOamService/ServicePoints for "maintenance" related OAM. In this case the distinct ODU MEP and MIP instances are created, referred (by name) by resp. ODU CEP TTP and CTP. This provisioning scenario could apply for TCM or NIM at any segment of the Service.

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
_oduMep <i>Navigable association end of: OtnOamMepServicePointHasOduMep</i>	OduMep	0..1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
	Description:			
_oduTcmMep <i>Navigable association end of: OtnOamMepServicePointHasOduTcmMep</i>	OduTcmMep	0..1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
	Description:			
_otuMep <i>Navigable association end of: OtnOamMepServicePointHasOtuMep</i>	OtuMep	0..1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
	Description:			

Table 29 – Attributes for class *OtnOamMepServicePoint*

1.2.30 OtnOamMipServicePoint

Description:

- See OtnOamMepService point comment.

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY

- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
_oduMip Navigable association end of: <i>OtnOamMipServicePointHasOduMip</i>	OduMip	0..1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
	Description:			
_oduTcmMip Navigable association end of: <i>OtnOamMipServicePointHasOduTcmMip</i>	OduTcmMip	0..1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
	Description:			

Table 30 – Attributes for class *OtnOamMipServicePoint*

1.2.31 OtnOamService

Description:

- OduOamService class is used for TCM provisioning.

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
_oduTcmOamService Navigable association end of: <i>OduOamServiceHasTcm</i>	OduTcmOamService	0..1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
	Description:			

Table 31 – Attributes for class *OtnOamService*

1.2.32 OtsiaMep

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
totalPowerWarnThresholdUpper	PrimitiveTypes::Real	0..1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute <ul style="list-style-type: none"> • AVC: NA
Description:				
				Allows to configure the upper power threshold on whole Assembly scope.
totalPowerWarnThresholdLower	PrimitiveTypes::Real	0..1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute <ul style="list-style-type: none"> • AVC: NA
Description:				
				Allows to configure the lower power threshold on whole Assembly scope.

Table 32 – Attributes for class *OtsiaMep*

1.2.33 OtuConnectionEndPointSpec

Description:

- Note that the OTU CEP includes OTSiA "termination&adaptation".

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
_otuTtpPac <i>Navigable association end of: OtuCepSpecHasOtuTtpPac</i>	OtuTtpPac	1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute <ul style="list-style-type: none"> • AVC: NA

Attribute Name	Type	Mult.	Access	Stereotypes
	Description:			

Table 33 – Attributes for class *OtuConnectionEndPointSpec***1.2.34 OtuConnectivityServiceEndPointSpec**

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
_otuCsepTtpPac <i>Navigable association end of: OtuCsepSpecHasOtuTtpPac</i>	OtuCsepTtpPac	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute <ul style="list-style-type: none"> • AVC: NA

Table 34 – Attributes for class *OtuConnectivityServiceEndPointSpec***1.2.35 OtuCsepTtpPac**

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
fecType	FecType	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute <ul style="list-style-type: none"> • AVC: NA

Attribute Name	Type	Mult.	Access	Stereotypes
baudRate	PrimitiveTypes::Integer	0..1	RW	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				The baud rate in terms of giga baud. baud = bit/symbol, and the baud rate is hence sometimes referred to as the symbol rate

Table 35 – Attributes for class *OtuCsepTtpPac*

1.2.36 OtuFecPerformanceData

Description:

- The OTU FEC PM Metrics.

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
fecCorrectedErrorsCount	PrimitiveTypes::Integer	1	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				ITU-T G798: The number of bits corrected by the FEC are counted over one second and reported to the MI at the end of the second. For the application of this filter, see the specific atomic functions. During signal fail conditions of the data signal, no corrected bits shall be counted. For details on the signal fail conditions, see the specific atomic functions.
preFecBer	TapiCommon::TypeDefinitions::MetricValues	0..1	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				counter: bit error rate before correction by FEC

Attribute Name	Type	Mult.	Access	Stereotypes
postFecBer	TapiCommon::TypeDefinitions::MetricValues	0..1	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description: counter: bit error rate after correction by FEC			
uncorrectableBytes	PrimitiveTypes::Integer	0..1	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description: Bytes that could not be corrected by FEC			
uncorrectableBits	PrimitiveTypes::Integer	0..1	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description: Bits that could not be corrected by FEC			
correctedBytes	PrimitiveTypes::Integer	0..1	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description: Bytes corrected between those that were received corrupted			

Table 36 – Attributes for class *OtuFecPerformanceData*

1.2.37 OtuMep

Description:

- If the CSEP is OTU CSEP, then 1) OTU only: OtuMep 2) OTU and ODUcn: both OtuCep and OduMep

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA

- objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
txti	PrimitiveTypes::String Default value: <i>0</i>	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
Description:				
	The Trail Trace Identifier (TTI) information, provisioned by the managing system at the termination source, to be placed in the TTI overhead position of the source of a trail for transmission.			
Description:				
fecMonitoring	PrimitiveTypes::Boolean Default value: <i>true</i>	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
Description:				
fecCorrectedErrorThreshold	PrimitiveTypes::Integer	0..1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
Description:				
_otnOamCommon <i>Navigable association end of: OtuMepHasOtnOamCommon</i>	OtnOamCommon	0..1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
Description:				
_otuMepStatus <i>Navigable association end of: OtuMepHasStatus</i>	OtuMepStatus	0..1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
Description:				

Attribute Name	Type	Mult.	Access	Stereotypes
_otsiaMep <i>Navigable association end of: OtuMepHasOtsiaMep</i>	OtsiaMep	0..1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA

Table 37 – Attributes for class *OtuMep***1.2.38 OtuMepStatus**

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
acti	PrimitiveTypes::String	1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA

Table 38 – Attributes for class *OtuMepStatus***1.2.39 OtuTtpPac**

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass
 - objectCreationNotification: NA
 - objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
_otuMep <i>Navigable association end of: OtuTtpCepHasOtuMep</i>	OtuMep	0..1	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description:			
fecType	FecType	0..1	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description:			
baudRate	PrimitiveTypes::Integer	0..1	R	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description:			The baud rate in terms of giga baud. baud = bit/symbol, and the baud rate is hence sometimes referred to as the symbol rate

Table 39 – Attributes for class *OtuTtpPac*

1.3 Signals

1.4 Associations

1.4.1 OduCepHasProtectionPac

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduProtection	composite	Yes	OduProtectionPac	0..1
oduconnectionendpointspec	none	No	OduConnectionEndPointSpec	1

Table 40 – Member ends for association *OduCepHasProtectionPac*

1.4.2 OduCepSpecHasCommonPac

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduCommon	composite	Yes	OduCommonPac	0..1
oduconnectionendpointspec	none	No	OduConnectionEndPointSpec	1

Table 41 – Member ends for association *OduCepSpecHasCommonPac*

1.4.3 OduCepSpecHasCtpPac

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
oduCtp	composite	Yes	OduCtpPac	0..1
_lpSpec	none	No	OduConnectionEndPointSpec	1

Table 42 – Member ends for association *OduCepSpecHasCtpPac*

1.4.4 OduCepSpecHasTermAdapterPac

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduTermAndAdapter	composite	Yes	OduTerminationAndClientAdaptationPac	0..1
_lpSpec	none	No	OduConnectionEndPointSpec	1

Table 43 – Member ends for association *OduCepSpecHasTermAdapterPac*

1.4.5 OduCsepSpecHasCommonPac

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduCsepCommonPac	composite	Yes	OduCsepCommonPac	1
oduconnectivityserviceendpointspec	none	No	OduConnectivityServiceEndPointSpec	1

Table 44 – Member ends for association *OduCsepSpecHasCommonPac*

1.4.6 OduCsepSpecHasCtpPac

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduCsepCtpPac	composite	Yes	OduCsepCtpPac	0..1
oduconnectivityserviceendpointspec	none	No	OduConnectivityServiceEndPointSpec	1

Table 45 – Member ends for association *OduCsepSpecHasCtpPac***1.4.7 OduCsepSpecHasOduCnPac**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduCnCsepTtpPac	composite	Yes	OduCnCsepTtpPac	0..1
oduconnectivityserviceendpointspec	none	No	OduConnectivityServiceEndPointSpec	1

Table 46 – Member ends for association *OduCsepSpecHasOduCnPac***1.4.8 OduCsepSpecHasTermAdapterPac**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduCsepTtpPac	composite	Yes	OduCsepTtpPac	0..1
oduconnectivityserviceendpointspec	none	No	OduConnectivityServiceEndPointSpec	1

Table 47 – Member ends for association *OduCsepSpecHasTermAdapterPac***1.4.9 OduCtpCepHasOduMip**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduMip	composite	Yes	OduMip	0..2
oductppac	none	No	OduCtpPac	1

Table 48 – Member ends for association *OduCtpCepHasOduMip***1.4.10 OduCtpCepHasOduTcmMep**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduTcmMep	composite	Yes	OduTcmMep	0..12
oductppac	none	No	OduCtpPac	1

Table 49 – Member ends for association *OduCtpCepHasOduTcmMep***1.4.11 OduCtpCepHasOduTcmMip**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduTcmMip	composite	Yes	OduTcmMip	0..12
oductppac	none	No	OduCtpPac	1

Table 50 – Member ends for association *OduCtpCepHasOduTcmMip***1.4.12 OduMepHasOtnOamCommon**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_otnOamCommon	composite	Yes	OtnOamCommon	0..1
odumep	none	No	OduMep	1

Table 51 – Member ends for association *OduMepHasOtnOamCommon***1.4.13 OduMepHasStatus**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduMepStatus	composite	Yes	OduMepStatus	0..1
odumep	none	No	OduMep	1

Table 52 – Member ends for association *OduMepHasStatus***1.4.14 OduMepSpecHasOduMep**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduMep	composite	Yes	OduMep	0..1
odumepspec	none	No	OtnMepSpec	1

Table 53 – Member ends for association *OduMepSpecHasOduMep***1.4.15 OduMepSpecHasOduTcmMep**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduTcmMep	composite	Yes	OduTcmMep	0..1
odumepspec	none	No	OtnMepSpec	1

Table 54 – Member ends for association *OduMepSpecHasOduTcmMep***1.4.16 OduMepSpecHasOtuMep**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_otuMep	composite	Yes	OtuMep	0..1
odumepspec	none	No	OtnMepSpec	1

Table 55 – Member ends for association *OduMepSpecHasOtuMep***1.4.17 OduMipHasOtnOamCommon**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_otnOamCommon	none	Yes	OtnOamCommon	0..1
odumip	none	No	OduMip	1

Table 56 – Member ends for association *OduMipHasOtnOamCommon***1.4.18 OduMipHasStatus**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduMipStatus	composite	Yes	OduMipStatus	0..1
odumip	none	No	OduMip	1

Table 57 – Member ends for association *OduMipHasStatus***1.4.19 OduMipSpecHasOduMip**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduMip	composite	Yes	OduMip	0..1
odumipspec	none	No	OtnMipSpec	1

Table 58 – Member ends for association *OduMipSpecHasOduMip***1.4.20 OduMipSpecHasOduTcmMip**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduTcmMip	composite	Yes	OduTcmMip	0..1
odumipspec	none	No	OtnMipSpec	1

Table 59 – Member ends for association *OduMipSpecHasOduTcmMip***1.4.21 OduOamServiceHasTcm**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduTcmOamService	composite	Yes	OduTcmOamService	0..1
odouoamservice	none	No	OtnOamService	1

Table 60 – Member ends for association *OduOamServiceHasTcm***1.4.22 OduTcmMepHasOtnOamCommon**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_otnOamCommon	composite	Yes	OtnOamCommon	0..1
odutcmmeep	none	No	OduTcmMep	1

Table 61 – Member ends for association *OduTcmMepHasOtnOamCommon***1.4.23 OduTcmMepHasStatus**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduTcmMepStatus	composite	Yes	OduTcmMepStatus	0..1
odutcmmeep	none	No	OduTcmMep	1

Table 62 – Member ends for association *OduTcmMepHasStatus***1.4.24 OduTcmMipHasOtnOamCommon**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_otnOamCommon	composite	Yes	OtnOamCommon	0..1
odutcmmpip	none	No	OduTcmMip	1

Table 63 – Member ends for association *OduTcmMipHasOtnOamCommon***1.4.25 OduTcmMipHasStatus**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduTcmMipStatus	composite	Yes	OduTcmMipStatus	0..1
odutcmmpip	none	No	OduTcmMip	1

Table 64 – Member ends for association *OduTcmMipHasStatus***1.4.26 OduTtpCepHasOduMep**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduMep	composite	Yes	OduMep	0..1
oduconnectionendpointspec	none	No	OduTerminationAndClientAdaptationPac	1

Table 65 – Member ends for association *OduTtpCepHasOduMep***1.4.27 OduTtpCepHasOduTcmMep**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduTcmMep	composite	Yes	OduTcmMep	0..6
odeterminationandclientadaptationpac	none	No	OduTerminationAndClientAdaptationPac	1

Table 66 – Member ends for association *OduTtpCepHasOduTcmMep***1.4.28 OtnErrorPmHasOducnErrorPm**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_otncnErrorPerformanceData	none	Yes	OtnCnErrorPerformanceData	0..*
oduerrorperformance data	none	No	OtnErrorPerformanceData	1

Table 67 – Member ends for association *OtnErrorPmHasOducnErrorPm***1.4.29 OtnMegSpecHasOduTcm**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduTcmMeg	composite	Yes	OduTcmMeg	0..1
otnmegspec	none	No	OtnMegSpec	1

Table 68 – Member ends for association *OtnMegSpecHasOduTcm***1.4.30 OtnOamMepServicePointHasOduMep**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduMep	composite	Yes	OduMep	0..1
odouoammepservicepoint	none	No	OtnOamMepServicePoint	1

Table 69 – Member ends for association *OtnOamMepServicePointHasOduMep***1.4.31 OtnOamMepServicePointHasOduTcmMep**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduTcmMep	composite	Yes	OduTcmMep	0..1
odouoammepservicepoint	none	No	OtnOamMepServicePoint	1

Table 70 – Member ends for association *OtnOamMepServicePointHasOduTcmMep***1.4.32 OtnOamMepServicePointHasOtuMep**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_otuMep	composite	Yes	OtuMep	0..1
odouoammepservicepoint	none	No	OtnOamMepServicePoint	1

Table 71 – Member ends for association *OtnOamMepServicePointHasOtuMep***1.4.33 OtnOamMipServicePointHasOduMip**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduMip	composite	Yes	OduMip	0..1
odouoammipservicepoint	none	No	OtnOamMipServicePoint	1

Table 72 – Member ends for association *OtnOamMipServicePointHasOduMip***1.4.34 OtnOamMipServicePointHasOduTcmMip**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_oduTcmMip	composite	Yes	OduTcmMip	0..1
oduoammipservicepoint	none	No	OtnOamMipServicePoint	1

Table 73 – Member ends for association *OtnOamMipServicePointHasOduTcmMip***1.4.35 OtuCepSpecHasOtuTtpPac**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_otuTtpPac	composite	Yes	OtuTtpPac	1
otuconnectionendpointspec	none	No	OtuConnectionEndPointSpec	1

Table 74 – Member ends for association *OtuCepSpecHasOtuTtpPac***1.4.36 OtuCsepSpecHasOtuTtpPac**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_otuCsepTtpPac	composite	Yes	OtuCsepTtpPac	1
otuconnectivityserviceendpointspec	none	No	OtuConnectivityServiceEndPointSpec	1

Table 75 – Member ends for association *OtuCsepSpecHasOtuTtpPac***1.4.37 OtuMepHasOtnOamCommon**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_otnOamCommon	composite	Yes	OtnOamCommon	0..1
otumep	none	No	OtuMep	1

Table 76 – Member ends for association *OtuMepHasOtnOamCommon***1.4.38 OtuMepHasOtsiaMep**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_otsiaMep	composite	Yes	OtsiaMep	0..1
otumep	none	No	OtuMep	1

Table 77 – Member ends for association *OtuMepHasOtsiaMep***1.4.39 OtuMepHasStatus**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_otuMepStatus	composite	Yes	OtuMepStatus	0..1
otumep	none	No	OtuMep	1

Table 78 – Member ends for association *OtuMepHasStatus***1.4.40 OtuTtpCepHasOtuMep**

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_otuMep	composite	Yes	OtuMep	0..1
otutppac	none	No	OtuTtpPac	1

Table 79 – Member ends for association *OtuTtpCepHasOtuMep***1.5 Abstractions****1.5.1 OduCepSpecAugmentsCep**

Augmenting Class	Augmented Class	Comment
OduConnectionEndPointSpec	TapiConnectivity::ObjectClasses::ConnectionEndPoint	

target:
"/TapiCommon:Context:_context/TapiTopology:TopologyContext:_topologyContext/TapiTopology:TopologyContext:_topology/TapiTopology:Topology:_node/TapiTopology:Node:_ownedNodeEdgePoint/TapiConnectivity:CepList:_cepList/TapiConnectivity:CepList:_connectionEndPoint"

Table 80 – Member ends for class abstraction *OduCepSpecAugmentsCep***1.5.2 OduCsepSpecAugmentsCsepLpc**

Augmenting Class	Augmented Class	Comment
OduConnectivityServiceEndPointSpec	TapiConnectivity::ObjectClasses::LayerProtocolConstraint	
target: "/TapiCommon:Context:_context/TapiConnectivity:ConnectivityContext:_connectivityContext/TapiConnectivity:ConnectivityContext:_connectivityService/TapiConnectivity:ConnectivityService:_endPoint/TapiConnectivity:ConnectivityServiceEndPoint:_layerProtocolConstraint" "		

Table 81 – Member ends for class abstraction *OduCsepSpecAugmentsCsepLpc***1.5.3 OduDelayPerformanceDataAugmentsCd**

Augmenting Class	Augmented Class	Comment
OduDelayPerformanceData	TapiOam::ObjectClasses::CurrentData	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_oamJob/TapiOam:OamJob:_currentData"		

Table 82 – Member ends for class abstraction *OduDelayPerformanceDataAugmentsCd***1.5.4 OduDelayPerformanceDataAugmentsHd**

Augmenting Class	Augmented Class	Comment
OduDelayPerformanceData	TapiOam::ObjectClasses::HistoryData	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_oamJob/TapiOam:OamJob:_currentData/TapiOam:CurrentData:_historyData"		

Table 83 – Member ends for class abstraction *OduDelayPerformanceDataAugmentsHd***1.5.5 OduDelayPmDataAugmentsCepHd**

Augmenting Class	Augmented Class	Comment
OduDelayPerformanceData	TapiOam::ObjectClasses::HistoryData	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_cepPmData/TapiOam:CepPmData:_historyData"		

Table 84 – Member ends for class abstraction *OduDelayPmDataAugmentsCepHd***1.5.6 OduDelayPmDataAugmentsMepHd**

Augmenting Class	Augmented Class	Comment
OduDelayPerformanceData	TapiOam::ObjectClasses::HistoryData	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_mepPmData/TapiOam:MepPmData:_historyData"		

Table 85 – Member ends for class abstraction *OduDelayPmDataAugmentsMepHd***1.5.7 OduDelayPmDataAugmentsMipHd**

Augmenting Class	Augmented Class	Comment
OduDelayPerformanceData	TapiOam::ObjectClasses::HistoryData	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_mipPmData/TapiOam:MipPmData:_historyData"		

Table 86 – Member ends for class abstraction *OduDelayPmDataAugmentsMipHd***1.5.8 OduFecPmDataAugmentsCd**

Augmenting Class	Augmented Class	Comment
OtuFecPerformanceData	TapiOam::ObjectClasses::CurrentData	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_oamJob/TapiOam:OamJob:_currentData"		

Table 87 – Member ends for class abstraction *OduFecPmDataAugmentsCd***1.5.9 OduFecPmDataAugmentsCepHd**

Augmenting Class	Augmented Class	Comment
OtuFecPerformanceData	TapiOam::ObjectClasses::HistoryData	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_cepPmData/TapiOam:CepPmData:_historyData"		

Table 88 – Member ends for class abstraction *OduFecPmDataAugmentsCepHd***1.5.10 OduFecPmDataAugmentsHd**

Augmenting Class	Augmented Class	Comment
OtuFecPerformanceData	TapiOam::ObjectClasses::HistoryData	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_oamJob/TapiOam:OamJob:_currentData/TapiOam:CurrentData:_historyData"		

Table 89 – Member ends for class abstraction *OduFecPmDataAugmentsHd***1.5.11 OduFecPmDataAugmentsMepHd**

Augmenting Class	Augmented Class	Comment
OtuFecPerformanceData	TapiOam::ObjectClasses::HistoryData	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_mepPmData/TapiOam:MepPmData:_historyData"		

Table 90 – Member ends for class abstraction *OduFecPmDataAugmentsMepHd***1.5.12 OduFecPmDataAugmentsMipHd**

Augmenting Class	Augmented Class	Comment
OtuFecPerformanceData	TapiOam::ObjectClasses::HistoryData	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_mipPmData/TapiOam:MipPmData:_historyData"		

Table 91 – Member ends for class abstraction *OduFecPmDataAugmentsMipHd***1.5.13 OduOamJobTypeAugmentsOamJobType**

Augmenting Enumeration	Augmented Enumeration
OduOamJobType	OamJobType
- NCM - TCM	- LOOPBACK_FACILITY - LOOPBACK_TERMINAL
Comment	
Enumeration Augment.	

Table 92 – Member ends for enum abstraction *OduOamJobTypeAugmentsOamJobType***1.5.14 OduTcmMegAugmentsMeg**

Augmenting Class	Augmented Class	Comment
OtnMegSpec	TapiOam::ObjectClasses::Meg	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_meg"		

Table 93 – Member ends for class abstraction *OduTcmMegAugmentsMeg***1.5.15 OduTypeAugmentsLayerProtocolQualifier**

Augmenting Enumeration	Augmented Enumeration
OduType	LayerProtocolQualifier
- ODU0 - ODU1 - ODU2 - ODU2E - ODU3 - ODU4 - ODU_CN - ODU_FLEX	- UNSPECIFIED
Comment	
Enumeration Augment.	

Table 94 – Member ends for enum abstraction *OduTypeAugmentsLayerProtocolQualifier***1.5.16 OtnErrorPmDataAugmentsCd**

Augmenting Class	Augmented Class	Comment
OtnErrorPerformanceData	TapiOam::ObjectClasses::CurrentData	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_oamJob/TapiOam:OamJob:_currentData"		

Table 95 – Member ends for class abstraction *OtnErrorPmDataAugmentsCd***1.5.17 OtnErrorPmDataAugmentsCepHd**

Augmenting Class	Augmented Class	Comment
OtnErrorPerformanceData	TapiOam::ObjectClasses::HistoryData	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_cepPmData/TapiOam:CepPmData:_historyData"		

Table 96 – Member ends for class abstraction *OtnErrorPmDataAugmentsCepHd***1.5.18 OtnErrorPmDataAugmentsHd**

Augmenting Class	Augmented Class	Comment
OtnErrorPerformanceData	TapiOam::ObjectClasses::HistoryData	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_oamJob/TapiOam:OamJob:_currentData/TapiOam:CurrentData:_historyData"		

Table 97 – Member ends for class abstraction *OtnErrorPmDataAugmentsHd***1.5.19 OtnErrorPmDataAugmentsMepHd**

Augmenting Class	Augmented Class	Comment
OtnErrorPerformanceData	TapiOam::ObjectClasses::HistoryData	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_mepPmData/TapiOam:MepPmData:_historyData"		

Table 98 – Member ends for class abstraction *OtnErrorPmDataAugmentsMepHd***1.5.20 OtnErrorPmDataAugmentsMipHd**

Augmenting Class	Augmented Class	Comment
OtnErrorPerformanceData	TapiOam::ObjectClasses::HistoryData	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_mipPmData/TapiOam:MipPmData:_historyData"		

Table 99 – Member ends for class abstraction *OtnErrorPmDataAugmentsMipHd***1.5.21 OtnFaultConditionDeterminationAugmentsFaultConditionDetermination**

Augmenting Enumeration	Augmented Enumeration
OtnFaultConditionDetermination	FaultConditionDetermination
- NON_INTRUSIVE_CLIENT - NON_INTRUSIVE_E2E - NON_INTRUSIVE_SUBLAYER	- INHERENT - NON_INTRUSIVE - SUBLAYER - TEST
Comment	
Enumeration Augment.	

Table 100 – Member ends for enum abstraction *OtnFaultConditionDeterminationAugmentsFaultConditionDetermination***1.5.22 OtnGenOamServiceAugmentsOamService**

Augmenting Class	Augmented Class	Comment
OtnGenericOamService	TapiOam::ObjectClasses::OamService	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_oamService"		

Table 101 – Member ends for class abstraction *OtnGenOamServiceAugmentsOamService***1.5.23 OtnMepSpecAugmentsMep**

Augmenting Class	Augmented Class	Comment
OtnMepSpec	TapiOam::ObjectClasses::Mep	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_meg/TapiOam:Meg:_mep"		

Table 102 – Member ends for class abstraction *OtnMepSpecAugmentsMep***1.5.24 OtnMipSpecAugmentsMip**

Augmenting Class	Augmented Class	Comment
OtnMipSpec	TapiOam::ObjectClasses::Mip	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_meg/TapiOam:Meg:_mip"		

Table 103 – Member ends for class abstraction *OtnMipSpecAugmentsMip***1.5.25 OtnOamMepServicePointAugmentsOamServicePoint**

Augmenting Class	Augmented Class	Comment
OtnOamMepServicePoint	TapiOam::ObjectClasses::OamServicePoint	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_oamService/TapiOam:OamService:_oamServicePoint"		

Table 104 – Member ends for class abstraction *OtnOamMepServicePointAugmentsOamServicePoint***1.5.26 OtnOamMipServicePointAugmentsOamServicePoint**

Augmenting Class	Augmented Class	Comment
OtnOamMipServicePoint	TapiOam::ObjectClasses::OamServicePoint	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_oamService/TapiOam:OamService:_oamServicePoint"		

Table 105 – Member ends for class abstraction *OtnOamMipServicePointAugmentsOamServicePoint***1.5.27 OtnOamServiceAugmentsOamService**

Augmenting Class	Augmented Class	Comment
OtnOamService	TapiOam::ObjectClasses::OamService	
target: "/TapiCommon:Context:_context/TapiOam:OamContext:_oamContext/TapiOam:OamContext:_oamService"		

Table 106 – Member ends for class abstraction *OtnOamServiceAugmentsOamService***1.5.28 OtuCepSpecAugmentsCep**

Augmenting Class	Augmented Class	Comment
OtuConnectionEndPointSpec	TapiConnectivity::ObjectClasses::ConnectionEndPoint	
target: "/TapiCommon:Context:_context/TapiTopology:TopologyContext:_topologyContext/TapiTopology:TopologyContext:_topology/TapiTopology:Topology:_node/TapiTopology:Node:_ownedNodeEdgePoint/TapiConnectivity:CepList:_cepList/TapiConnectivity:CepList:_connectionEndPoint"		

Table 107 – Member ends for class abstraction *OtuCepSpecAugmentsCep***1.5.29 OtuCsepSpecAugmentsCsepLpc**

Augmenting Class	Augmented Class	Comment
OtuConnectivityServiceEndPointSpec	TapiConnectivity::ObjectClasses::LayerProtocolConstraint	
target: "/TapiCommon:Context:_context/TapiConnectivity:ConnectivityContext:_connectivityContext/TapiConnectivity:ConnectivityContext:_connectivityService/TapiConnectivity:ConnectivityService:_endPoint/TapiConnectivity:ConnectivityServiceEndPoint:_layerProtocolConstraint"		

Table 108 – Member ends for class abstraction *OtuCsepSpecAugmentsCsepLpc***1.5.30 OtuTypeAugmentsLayerProtocolQualifier**

Augmenting Enumeration	Augmented Enumeration
OtuType - OTU1 - OTU2 - OTU3 - OTU4 - OTU_CN	LayerProtocolQualifier - UNSPECIFIED
Comment Enumeration Augment.	

Table 109 – Member ends for enum abstraction *OtuTypeAugmentsLayerProtocolQualifier*

1.6 Data Types

1.6.1 DegThr

Description:

- Degraded Threshold, specify either the percentage or the number of Errorred Blocks in the defined interval. 1) degThrValue when type is PERCENTAGE: percentageGranularity is used to indicate the number of decimal points. So if percentageGranularity is ones, a value of 1 in degThrValue would indicate 1%, a value of 10 = 10%, a value of 100 = 100%. So if percentageGranularity is thousandths a value of 1 in degThrValue would indicate 0.001%, a value of 1000 = 1%, a value of 1000000 = 100%. 2) degThrValue when type is NUMBER_ERROR_BLOCKS: Number of Errorred Blocks is captured in an integer value.

Attribute Name	Type	Mult.	Access	Stereotypes
degThrValue	PrimitiveTypes::Integer	1	RW	OpenModelAttribute • isKey:No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description: Percentage of detected errored blocks			
degThrType	DegThrType Default value: <i>NUMBER_ERROR_BLOCKS</i>	1	RW	OpenModelAttribute • isKey:No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description: Number of errored blocks			
percentageGranularity	PercentageGranularity Default value: <i>ONES</i>	1	RW	OpenModelAttribute • isKey:No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA

Attribute Name	Type	Mult.	Access	Stereotypes
	Description:			

Table 110 – Attributes for data type *DegThr***1.6.2 FecType****Description:**

- The specification of OTU FEC Type. The standardFecType and proprietaryFecType attributes are mutually exclusive.

Attribute Name	Type	Mult.	Access	Stereotypes
standardFecType	StandardFecType	0..1	RW	OpenModelAttribute • isKey:No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				
proprietaryFecType	PrimitiveTypes::String	0..1	RW	OpenModelAttribute • isKey:No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
Description:				

Table 111 – Attributes for data type *FecType***1.6.3 OduPayloadType****Description:**

- This type includes is a 2-digit Hex code that indicates the new accepted payload type. Valid values are defined in Table 15-9 of ITU-T Recommendation G.709 with one additional value UNINTERPRETABLE.

Applied stereotype:

- Experimental

Attribute Name	Type	Mult.	Access	Stereotypes
namedPayloadType	OduNamedPayloadType Default value: UNKNOWN	1	RW	OpenModelAttribute • isKey:No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA

Attribute Name	Type	Mult.	Access	Stereotypes
	Description:			
hexPayloadType	PrimitiveTypes::String Default value: 0	1	RW	OpenModelAttribute • isKey:No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description:			

Table 112 – Attributes for data type *OduPayloadType*

1.6.4 OtnCounters

Attribute Name	Type	Mult.	Access	Stereotypes
bbe	PrimitiveTypes::Integer	1	RW	OpenModelAttribute • isKey:No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description:			
ses	PrimitiveTypes::Integer	1	RW	OpenModelAttribute • isKey:No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description:			
uas	PrimitiveTypes::Integer	1	RW	OpenModelAttribute • isKey:No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description:			

Table 113 – Attributes for data type *OtnCounters*

1.6.5 UasChoice

Description:

- If bidirectional is TRUE then use the uas attribute, if bidirectional is FALSE use the nuas, and fuas attributes.

Attribute Name	Type	Mult.	Access	Stereotypes
bidirectional	PrimitiveTypes::Boolean Default value: <i>true</i>	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey:No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
Description:				
uas	PrimitiveTypes::Integer Default value: <i>0</i>	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey:No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
Description:				
nuas	PrimitiveTypes::Integer Default value: <i>0</i>	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey:No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
Description:				
fuas	PrimitiveTypes::Integer Default value: <i>0</i>	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey:No • isInvariant: false • valueRange: no range constraint • support: MANDATORY • OpenInterfaceModelAttribute • AVC: NA
Description:				

Table 114 – Attributes for data type *UasChoice*

1.7 Enumerations

1.7.1 DegThrType

Description:

- The value of the threshold can be provisioned in terms of number of errored blocks or in terms of percentage of errored blocks. For percentage-based specification, in order to support provision of less than 1%, the specification consists of two fields. The first field indicates the granularity of

percentage. For examples, in 1%, in 0.1%, or in 0.01%, etc. The second field indicates the multiple of the granularity. For number of errored block based, the value is a positive integer.

Contains Enumeration Literals:

- PERCENTAGE
 - Choice of % or Number of errored blocks
- NUMBER_ERRORED_BLOCKS
 - Number of % or blocks

1.7.2 MappingType

Contains Enumeration Literals:

- AMP
- BMP
- GFP_F
- GMP
- TTP_GFP_BMP
- NULL

1.7.3 OduNamedPayloadType

Applied stereotype:

- Experimental

Contains Enumeration Literals:

- UNKNOWN
- UNINTERPRETABLE

1.7.4 OduOamJobType

Contains Enumeration Literals:

- NCM
- TCM

1.7.5 OduSlotSize

Contains Enumeration Literals:

- 1G25
- 2G5

1.7.6 OduType

Contains Enumeration Literals:

- ODU0
- ODU1
- ODU2

- ODU2E
- ODU3
- ODU4
- ODU_FLEX
- ODU_CN

1.7.7 OtnFaultConditionDetermination

Description:

- ITU-T-REC-G.873.1-201710 Optical transport network: Linear protection

Contains Enumeration Literals:

- NON_INTRUSIVE_CLIENT
 - Non-intrusive monitoring of Client signal fail
- NON_INTRUSIVE_E2E
 - Non-intrusive end-to-end monitoring
- NON_INTRUSIVE_SUBLAYER
 - Non-intrusive Sublayer monitoring

1.7.8 OtnGenOamType

Contains Enumeration Literals:

- ENABLE_ALL_NIM
- ENABLE_E2E_NCM

1.7.9 OtuType

Contains Enumeration Literals:

- OTU1
- OTU2
- OTU3
- OTU4
- OTU_CN

1.7.10 PercentageGranularity

Applied stereotype:

- Experimental

Contains Enumeration Literals:

- ONES
- ONE_TENTHS
 - value * (1/10)
- ONE_HUNDREDTHS
 - value * (1/100)
- ONE_THOUSANDTHS

- value * (1/1000)

1.7.11 StandardFecType

Contains Enumeration Literals:

- REED_SOLOMON

1.7.12 TcmExtension

Contains Enumeration Literals:

- NORMAL
- PASS_THROUGH
- ERASE

1.7.13 TcmMode

Description:

- List of value modes for the sink side of the tandem connection monitoring function.

Contains Enumeration Literals:

- OPERATIONAL
- TRANSPARENT
- MONITOR

1.7.14 TcmMonitoring

Description:

- Monitoring types for the tandem connection monitoring function.

Contains Enumeration Literals:

- INTRUSIVE
- NON_INTRUSIVE

1.7.15 TcmStatus

Description:

- See Table 15-5/G.709/Y.1331

Contains Enumeration Literals:

- NO_SOURCE_TC
 - TCM byte 3 (bits 6 7 8) -- 0 0 0, No source Tandem Connection
- IN_USE_WITHOUT_IAE
 - TCM byte 3 (bits 6 7 8) -- 0 0 1, In use without IAE (Incoming Alignment Error)
- IN_USE_WITH_IAE
 - TCM byte 3 (bits 6 7 8) -- 0 1 0, In use with IAE (Incoming Alignment Error)
- RESERVED_1
 - TCM byte 3 (bits 6 7 8) -- 0 1 1, Reserved for future international standardization

- RESERVED_2
 - TCM byte 3 (bits 6 7 8) -- 1 0 0, Reserved for future international standardization
- LCK
 - TCM byte 3 (bits 6 7 8) -- 1 0 1, Maintenance signal: ODU-LCK
- OCI
 - TCM byte 3 (bits 6 7 8) -- 1 1 0, Maintenance signal: ODU-OCI
- AIS
 - TCM byte 3 (bits 6 7 8) -- 1 1 1, Maintenance signal: ODU-AIS

1.7.16 TimDetMo

Description:

- List of modes for trace identifier mismatch detection.

Contains Enumeration Literals:

- DAPI
- SAPI
- BOTH
- OFF

1.8 Primitives