



TAPI UML Model

VIRTUAL NETWORK

Version 2.5.0

ONF Document Type: Technical Recommendation

Disclaimer

THIS SPECIFICATION IS PROVIDED "AS IS" WITH NO WARRANTIES WHATSOEVER, INCLUDING ANY WARRANTY OF MERCHANTABILITY, NONINFRINGEMENT, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY WARRANTY OTHERWISE ARISING OUT OF ANY PROPOSAL, SPECIFICATION OR SAMPLE.

Any marks and brands contained herein are the property of their respective owners.

Open Networking Foundation
1000 El Camino Real, Suite 100, Menlo Park, CA 94025
www.opennetworking.org

©2023 Open Networking Foundation. All rights reserved.

Open Networking Foundation, the ONF symbol, and OpenFlow are registered trademarks of the Open Networking Foundation, in the United States and/or in other countries. All other brands, products, or service names are or may be trademarks or service marks of, and are used to identify, products or services of their respective owners.

Table of Contents

Disclaimer	2
Document History	6
1 Virtual Network Model	7
1.1 Diagrams	7
1.2 Classes	9
1.2.1 VirtualNetworkConstraint	9
1.2.2 VirtualNetworkContext	11
1.2.3 VirtualNetworkService	11
1.2.4 VirtualNetworkServiceEndPoint	13
1.3 Signals	15
1.4 Associations	15
1.4.1 ContextHasVirtualNwService	15
1.4.2 SEPTerminatesOnSIP	15
1.4.3 VNwConstrHasSinkSvcEP	15
1.4.4 VNwHasDiversityExclusions	16
1.4.5 VNwServiceHasSEPs	16
1.4.6 VNwServiceHasTopology	16
1.4.7 VNwServiceHasVNwConstraints	16
1.4.8 VnwConstrHasSrcSvcEP	16
1.5 Abstractions	17
1.5.1 AugmentRootContext	17
1.5.2 VirtualNetworkConstraintAugmentsEventNotif	17
1.5.3 VirtualNetworkConstraintAugmentsEventNotifSignal	17
1.5.4 VirtualNetworkConstraintAugmentsLogRecordBody	17
1.5.5 VirtualNetworkObjectTypeAugmentsObjectType	17
1.5.6 VirtualNetworkServiceAugmentsEventNotif	18
1.5.7 VirtualNetworkServiceAugmentsEventNotifSignal	18
1.5.8 VirtualNetworkServiceAugmentsLogRecordBody	18
1.5.9 VirtualNetworkServiceEndPointAugmentsLogRecordBody	18
1.5.10 VnsepAugmentsEventNotif	19
1.5.11 VnsepAugmentsEventNotifSignal	19
1.6 Data Types	19
1.7 Enumerations	19
1.7.1 VirtualNetworkObjectType	19
1.8 Primitives	19

List of Figures

Figure 1 – Diagram <i>VirtualNetworkNotifAndStream</i>	7
Figure 2 – Diagram <i>VirtualNetworkService</i>	8
Figure 3 – Diagram <i>VirtualNwDetails</i>	8

List of Tables

Table 1 – Attributes for class <i>VirtualNetworkConstraint</i>	11
Table 1 – Attributes for class <i>VirtualNetworkContext</i>	11
Table 1 – Attributes for class <i>VirtualNetworkService</i>	13
Table 1 – Attributes for class <i>VirtualNetworkServiceEndPoint</i>	15
Table 1 – Member ends for association <i>ContextHasVirtualNwService</i>	15
Table 1 – Member ends for association <i>SEP Terminates On SIP</i>	15
Table 1 – Member ends for association <i>VNwConstrHasSinkSvcEP</i>	15
Table 1 – Member ends for association <i>VNwHasDiversityExclusions</i>	16
Table 1 – Member ends for association <i>VNwServiceHasSEPs</i>	16
Table 1 – Member ends for association <i>VNwServiceHasTopology</i>	16
Table 1 – Member ends for association <i>VNwServiceHasVNwConstraints</i>	16
Table 1 – Member ends for association <i>VnwConstrHasSrcSvcEP</i>	17
Table 1 – Member ends for class abstraction <i>AugmentRootContext</i>	17
Table 1 – Member ends for class abstraction <i>VirtualNetworkConstraintAugmentsEventNotif</i>	17
Table 1 – Member ends for class abstraction <i>VirtualNetworkConstraintAugmentsEventNotifSignal</i>	17
Table 1 – Member ends for class abstraction <i>VirtualNetworkConstraintAugmentsLogRecordBody</i>	17
Table 1 – Member ends for enum abstraction <i>VirtualNetworkObjectTypeAugmentsObjectType</i>	18
Table 1 – Member ends for class abstraction <i>VirtualNetworkServiceAugmentsEventNotif</i>	18
Table 1 – Member ends for class abstraction <i>VirtualNetworkServiceAugmentsEventNotifSignal</i>	18
Table 1 – Member ends for class abstraction <i>VirtualNetworkServiceAugmentsLogRecordBody</i>	18
Table 1 – Member ends for class abstraction <i>VirtualNetworkServiceEndPointAugmentsLogRecordBody</i>	18
Table 1 – Member ends for class abstraction <i>VnsepAugmentsEventNotif</i>	19
Table 1 – Member ends for class abstraction <i>VnsepAugmentsEventNotifSignal</i>	19

Document History

Version	Date	Description of Change
2.3	May 27, 2021	Model Dump <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>
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 Virtual Network Model

TapiVirtualNetwork: This module contains TAPI Virtual Network Model definitions. Source: TapiVirtualNetwork.uml Copyright (c) 2023 Open Networking Foundation (ONF). All rights reserved. License: This module is distributed under the Apache License 2.0

1.1 Diagrams

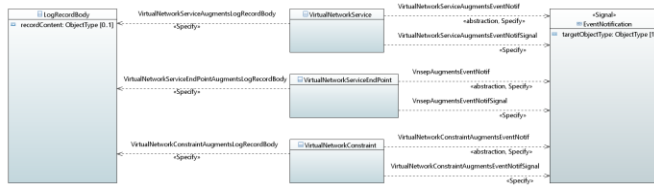
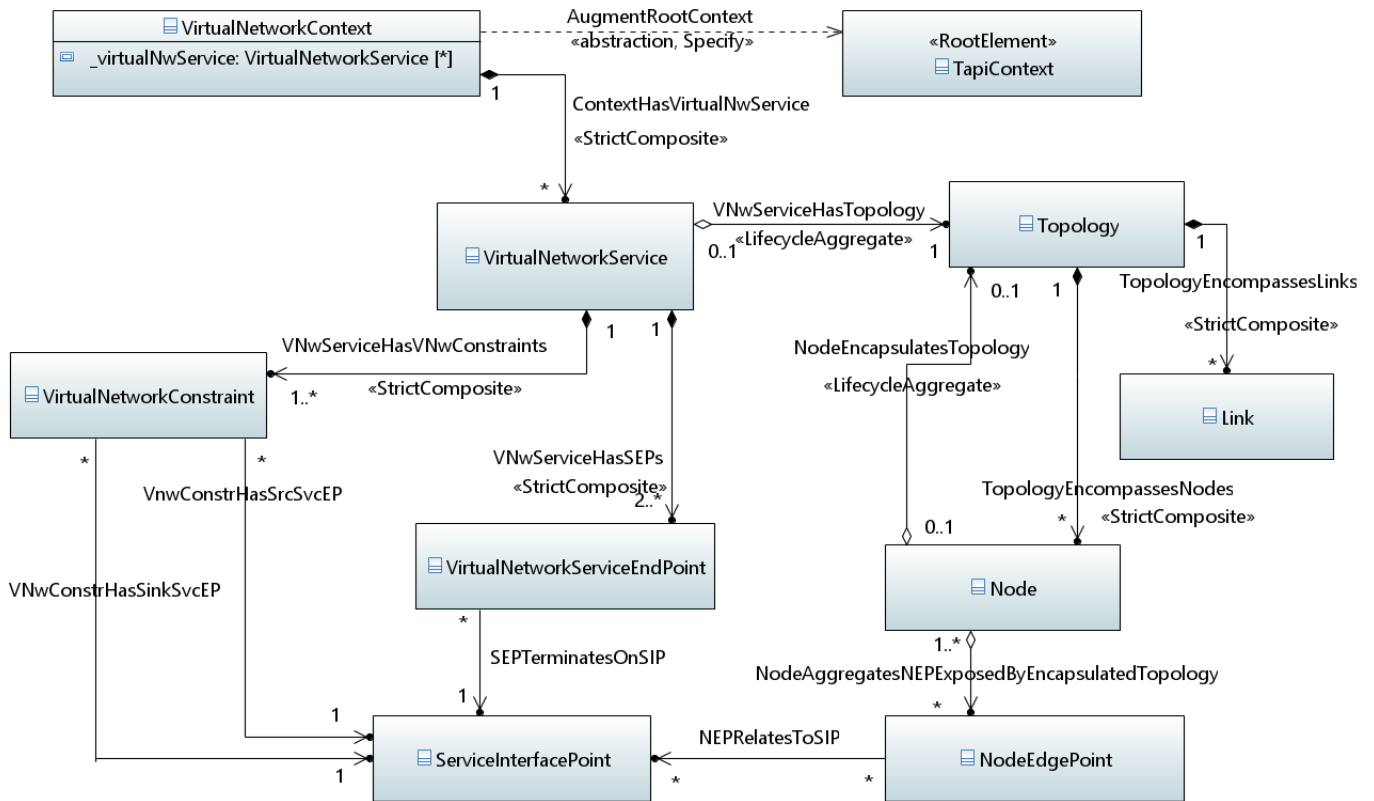
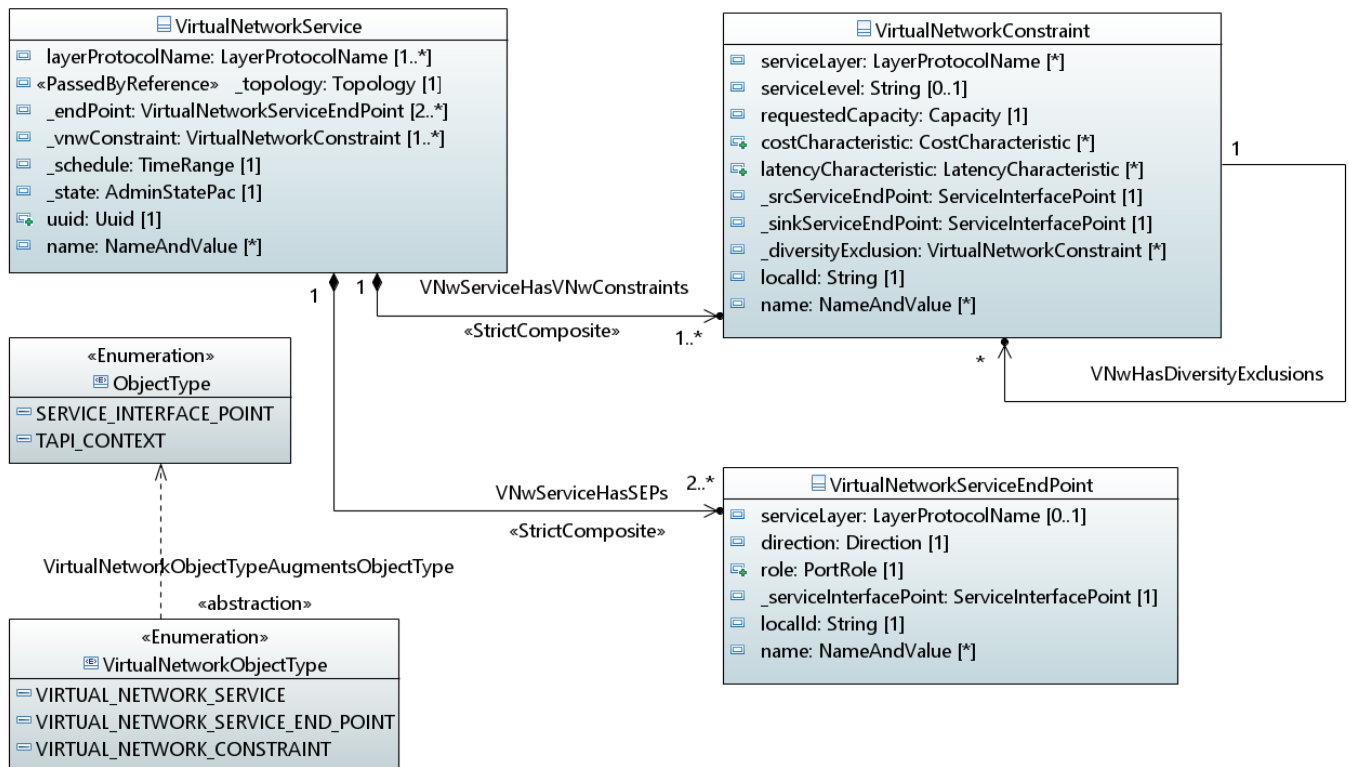


Figure 1 – Diagram *VirtualNetworkNotifAndStream*

Figure 2 – Diagram *VirtualNetworkService*Figure 3 – Diagram *VirtualNwDetails*

1.2 Classes

1.2.1 VirtualNetworkConstraint

Applied stereotypes:

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

Attribute Name	Type	Mult.	Access	Stereotypes
serviceLayer	TapiCommon::TypeDefinitions::LayerProtocolName	0..*	RW	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description: 			
serviceLevel	PrimitiveTypes::String	0..1	RW	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description: An abstract value the meaning of which is mutually agreed – typically represents metrics such as - Class of service, priority, resiliency, availability			
requestedCapacity	TapiCommon::TypeDefinitions::Capacity	1	RW	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description: 			
costCharacteristic	TapiTopology::TypeDefinitions::CostCharacteristic	0..*	RW	OpenModelAttribute • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute • AVC: NA
	Description: The list of costs where each cost relates to some aspect of the TopologicalEntity.			

Attribute Name	Type	Mult.	Access	Stereotypes
latencyCharacteristic	TapiTopology::TypeDefinitions::LatencyCharacteristic	0..*	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 effect on the latency of a queuing process. This only has significant effect for packet based systems and has a complex characteristic.			
_srcServiceEndPoint <i>Navigable association end of:</i> VnwConstrHasSrcSvcEP	TapiCommon::ObjectClasses::ServiceInterfacePoint	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
	Description:			
_sinkServiceEndPoint <i>Navigable association end of:</i> VNwConstrHasSinkSvcEP	TapiCommon::ObjectClasses::ServiceInterfacePoint	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
	Description:			
_diversityExclusion <i>Navigable association end of:</i> VNwHasDiversityExclusions	VirtualNetworkConstraint	0..*	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
	Description:			
localId <i>Inherited:</i> <i>TapiCommon::ObjectClasses::LocalClass::localId</i>	PrimitiveTypes::String	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: yes – part: 1 • isInvariant: true • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute <ul style="list-style-type: none"> • AVC: NA
	Description: An identifier that is unique in the context of the GlobalClass from which it is inseparable.			

Attribute Name	Type	Mult.	Access	Stereotypes
name Inherited: <i>TapiCommon::ObjectClasses::LocalClass::name</i>	TapiCommon::TypeDefinitions::NameAndValue	0..*	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: List of names. This value is unique in some namespace but may change during the life of the entity. A name carries no semantics with respect to the purpose of the entity.				

Table 1 – Attributes for class *VirtualNetworkConstraint*

1.2.2 VirtualNetworkContext

Description:

- This object class represents the scope of control that a particular SDN controller has with respect to a particular network, specifically regarding the virtual network description. An instance of this class includes its VirtualNetworkService instances.

Applied stereotypes:

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

Attribute Name	Type	Mult.	Access	Stereotypes
_virtualNwService Navigable association end of: ContextHasVirtualNwService	VirtualNetworkService	0..*	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:				

Table 2 – Attributes for class *VirtualNetworkContext*

1.2.3 VirtualNetworkService

Description:

- The ForwardingConstruct (FC) object class models enabled potential for forwarding between two or more LTPs and like the LTP supports any transport protocol including all circuit and packet forms. At the lowest level of recursion, a FC represents a cross-connection within an NE.

Applied stereotypes:

- OpenModelClass
 - support: MANDATORY
- OpenInterfaceModelClass

- objectCreationNotification: NA
- objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
layerProtocolName	TapiCommon::TypeDefinitions::LayerProtocolName	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:			
_topology <i>Navigable association end of:</i> VNwServiceHasTopology	TapiTopology::ObjectClasses::Topology	1	R	OpenModelAttribute <ul style="list-style-type: none"> • isKey: No • isInvariant: false • valueRange: no range constraint • support: MANDATORY PassedByReference OpenInterfaceModelAttribute <ul style="list-style-type: none"> • AVC: NA
	Description:			
_endPoint <i>Navigable association end of:</i> VNwServiceHasSEPs	VirtualNetworkServiceEndPoint	2..*	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:			
_vnwConstraint <i>Navigable association end of:</i> VNwServiceHasVNwConstraints	VirtualNetworkConstraint	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:			
_schedule	TapiCommon::TypeDefinitions::TimeRange	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:			

Attribute Name	Type	Mult.	Access	Stereotypes
_state	TapiCommon::ObjectClasses::AdminStatePac	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:			
uuid Inherited: <i>TapiCommon::ObjectClasses::GlobalClass::uuid</i>	TapiCommon::TypeDefinitions::Uuid	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: yes – part: 1 • isInvariant: true • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute <ul style="list-style-type: none"> • AVC: NA
	Description: UUID: An identifier that is universally unique within an identifier space, where the identifier space is itself globally unique, and immutable. An UUID carries no semantics with respect to the purpose or state of the entity. UUID here uses string representation as defined in RFC 4122. The canonical representation uses lowercase characters. Pattern: [0-9a-fA-F]{8}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{4}-[0-9a-fA-F]{12} Example of a UUID in string representation: f81d4fae-7dec-11d0-a765-00a0c91e6bf6			
name Inherited: <i>TapiCommon::ObjectClasses::GlobalClass::name</i>	TapiCommon::TypeDefinitions::NameAndValue	0..*	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: List of names. This value is unique in some namespace but may change during the life of the entity. A name carries no semantics with respect to the purpose of the entity.			

Table 3 – Attributes for class *VirtualNetworkService*

1.2.4 VirtualNetworkServiceEndPoint

Description:

- The association of the FC to LTPs is made via EndPoints. The EndPoint (EP) object class models the access to the FC function. The traffic forwarding between the associated EPs of the FC depends upon the type of FC and may be associated with FcSwitch object instances. In cases where there is resilience the EndPoint may convey the resilience role of the access to the FC. It can represent a protected (resilient/reliable) point or a protecting (unreliable working or protection) point. The EP replaces the Protection Unit of a traditional protection model. The ForwardingConstruct can be considered as a component and the EndPoint as a Port on that component

Applied stereotypes:

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

○ objectDeletionNotification: NA

Attribute Name	Type	Mult.	Access	Stereotypes
serviceLayer	TapiCommon::TypeDefinitions::LayerProtocolName	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
	Description: 			
direction	TapiCommon::TypeDefinitions::Direction	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
	Description: The direction of the end point.			
role	TapiCommon::TypeDefinitions::PortRole	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
	Description: The role of the (conceptual) port of the associated VirtualNetworkService.			
_serviceInterfacePoint <i>Navigable association end of: SEPTerminatesOnSIP</i>	TapiCommon::ObjectClasses::ServiceInterfacePoint	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
	Description: 			
localId <i>Inherited: TapiCommon::ObjectClasses::LocalClass::localId</i>	PrimitiveTypes::String	1	RW	OpenModelAttribute <ul style="list-style-type: none"> • isKey: yes – part: 1 • isInvariant: true • valueRange: no range constraint • support: MANDATORY OpenInterfaceModelAttribute <ul style="list-style-type: none"> • AVC: NA
	Description: An identifier that is unique in the context of the GlobalClass from which it is inseparable.			

Attribute Name	Type	Mult.	Access	Stereotypes
name Inherited: <i>TapiCommon::ObjectClasses::LocalClass::name</i>	TapiCommon::TypeDefinitions::NameAndValue	0..*	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: List of names. This value is unique in some namespace but may change during the life of the entity. A name carries no semantics with respect to the purpose of the entity.				

Table 4 – Attributes for class *VirtualNetworkServiceEndPoint*

1.3 Signals

1.4 Associations

1.4.1 ContextHasVirtualNwService

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_virtualNwService	composite	Yes	VirtualNetworkService	0..*
virtualnetworkcontext	none	No	VirtualNetworkContext	1

Table 5 – Member ends for association *ContextHasVirtualNwService*

1.4.2 SEPTerminatesOnSIP

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_serviceInterfacePoint	none	Yes	TapiCommon::ObjectClasses::ServiceInterfacePoint	1
_vnwServicePort	none	No	VirtualNetworkServiceEndPoint	0..*

Table 6 – Member ends for association *SEPTerminatesOnSIP*

1.4.3 VNwConstrHasSinkSvcEP

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_sinkServiceEndPoint	none	Yes	TapiCommon::ObjectClasses::ServiceInterfacePoint	1
virtualnetworkconstraint	none	No	VirtualNetworkConstraint	0..*

Table 7 – Member ends for association *VNwConstrHasSinkSvcEP*

1.4.4 VNwHasDiversityExclusions

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_diversityExclusion	none	Yes	VirtualNetworkConstraint	0..*
_vnwConstraint	none	No	VirtualNetworkConstraint	1

Table 8 – Member ends for association *VNwHasDiversityExclusions*

1.4.5 VNwServiceHasSEPs

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_endPoint	composite	Yes	VirtualNetworkServiceEndPoint	2..*
_service	none	No	VirtualNetworkService	1

Table 9 – Member ends for association *VNwServiceHasSEPs*

1.4.6 VNwServiceHasTopology

Applied stereotype:

- LifecycleAggregate

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_topology	shared	Yes	TapiTopology::ObjectClasses::Topology	1
_vnwService	none	No	VirtualNetworkService	0..1

Table 10 – Member ends for association *VNwServiceHasTopology*

1.4.7 VNwServiceHasVNwConstraints

Applied stereotype:

- StrictComposite

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
vnwConstraint	composite	Yes	VirtualNetworkConstraint	1..*
_service	none	No	VirtualNetworkService	1

Table 11 – Member ends for association *VNwServiceHasVNwConstraints*

1.4.8 VnwConstrHasSrcSvcEP

Association end role name	Aggreg. type	Navigable	Target Class	Mult.
_srcServiceEndPoint	none	Yes	TapiCommon::ObjectClasses::ServiceInterfacePoint	1
virtualnetworkconstraint	none	No	VirtualNetworkConstraint	0..*

Table 12 – Member ends for association *VnwConstrHasSrcSvcEP*

1.5 Abstractions

1.5.1 AugmentRootContext

Augmenting Class	Augmented Class	Comment
VirtualNetworkContext	TapiCommon::ObjectClasses::TapiContext	Augments the base TAPI Context with VirtualNetworkContext model.
target: "/TapiCommon:Context:_context"		

Table 13 – Member ends for class abstraction *AugmentRootContext*

1.5.2 VirtualNetworkConstraintAugmentsEventNotif

Augmenting Class	Augmented Class	Comment
VirtualNetworkConstraint	TapiNotification::Notifications::EventNotification	
target: "/TapiCommon:Context:_context/TapiNotification:NotificationContext:_notificationContext/TapiNotification:NotificationContext:_eventNotification"		

Table 14 – Member ends for class abstraction *VirtualNetworkConstraintAugmentsEventNotif*

1.5.3 VirtualNetworkConstraintAugmentsEventNotifSignal

Augmenting Class	Augmented Class	Comment
VirtualNetworkConstraint	TapiNotification::Notifications::EventNotification	
target: "/TapiNotification:Notifications:EventNotification"		

Table 15 – Member ends for class abstraction *VirtualNetworkConstraintAugmentsEventNotifSignal*

1.5.4 VirtualNetworkConstraintAugmentsLogRecordBody

Augmenting Class	Augmented Class	Comment
VirtualNetworkConstraint	TapiStreaming::ObjectClasses::LogRecordBody	
target: "/TapiStreaming:StreamRecord:_streamRecord/TapiStreaming:StreamRecord:_logRecord/TapiStreaming:LogRecord:_logRecordBody"		

Table 16 – Member ends for class abstraction *VirtualNetworkConstraintAugmentsLogRecordBody*

1.5.5 VirtualNetworkObjectTypeAugmentsObjectType

Augmenting Enumeration	Augmented Enumeration
VirtualNetworkObjectType - VIRTUAL_NETWORK_CONSTRAINT - VIRTUAL_NETWORK_SERVICE - VIRTUAL_NETWORK_SERVICE_END_POINT	ObjectType - PROFILE - SERVICE_INTERFACE_POINT - TAPI_CONTEXT
Comment Enumeration Augment.	

Table 17 – Member ends for enum abstraction *VirtualNetworkObjectTypeAugmentsObjectType*

1.5.6 VirtualNetworkServiceAugmentsEventNotif

Augmenting Class	Augmented Class	Comment
VirtualNetworkService	TapiNotification::Notifications::EventNotification	
target: "/TapiCommon:Context:_context/TapiNotification:NotificationContext:_notificationContext/TapiNotification:NotificationContext:_eventNotification"		

Table 18 – Member ends for class abstraction *VirtualNetworkServiceAugmentsEventNotif*

1.5.7 VirtualNetworkServiceAugmentsEventNotifSignal

Augmenting Class	Augmented Class	Comment
VirtualNetworkService	TapiNotification::Notifications::EventNotification	
target: "/TapiNotification:Notifications:EventNotification"		

Table 19 – Member ends for class abstraction *VirtualNetworkServiceAugmentsEventNotifSignal*

1.5.8 VirtualNetworkServiceAugmentsLogRecordBody

Augmenting Class	Augmented Class	Comment
VirtualNetworkService	TapiStreaming::ObjectClasses::LogRecordBody	
target: "/TapiStreaming:StreamRecord:_streamRecord/TapiStreaming:StreamRecord:_logRecord/TapiStreaming:LogRecord:_logRecordBody"		

Table 20 – Member ends for class abstraction *VirtualNetworkServiceAugmentsLogRecordBody*

1.5.9 VirtualNetworkServiceEndPointAugmentsLogRecordBody

Augmenting Class	Augmented Class	Comment
VirtualNetworkServiceEndPoint	TapiStreaming::ObjectClasses::LogRecordBody	
target: "/TapiStreaming:StreamRecord:_streamRecord/TapiStreaming:StreamRecord:_logRecord/TapiStreaming:LogRecord:_logRecordBody"		

Table 21 – Member ends for class abstraction *VirtualNetworkServiceEndPointAugmentsLogRecordBody*

1.5.10 VnsepAugmentsEventNotif

Augmenting Class	Augmented Class	Comment
VirtualNetworkServiceEndPoint	TapiNotification::Notifications::EventNotification	
target: "/TapiCommon:Context:_context/TapiNotification:NotificationContext:_notificationContext/TapiNotification:NotificationContext:_eventNotification"		

Table 22 – Member ends for class abstraction *VnsepAugmentsEventNotif*

1.5.11 VnsepAugmentsEventNotifSignal

Augmenting Class	Augmented Class	Comment
VirtualNetworkServiceEndPoint	TapiNotification::Notifications::EventNotification	
target: "/TapiNotification:Notifications:EventNotification"		

Table 23 – Member ends for class abstraction *VnsepAugmentsEventNotifSignal*

1.6 Data Types

1.7 Enumerations

1.7.1 VirtualNetworkObjectType

Description:

- The list of TAPI Virtual Network Object types/classes.

Contains Enumeration Literals:

- VIRTUAL_NETWORK_SERVICE
- VIRTUAL_NETWORK_SERVICE_END_POINT
- VIRTUAL_NETWORK_CONSTRAINT
 - The VirtualNetworkConstraint class.

1.8 Primitives