A&AI Proposal on E2E Network Slicing for R7

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Huawei

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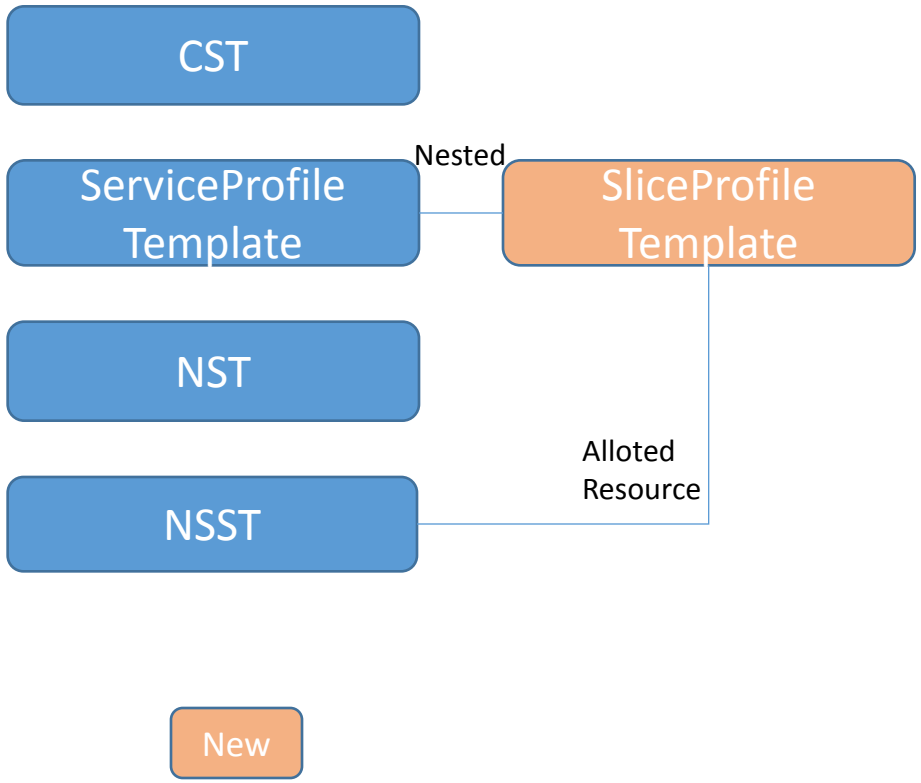
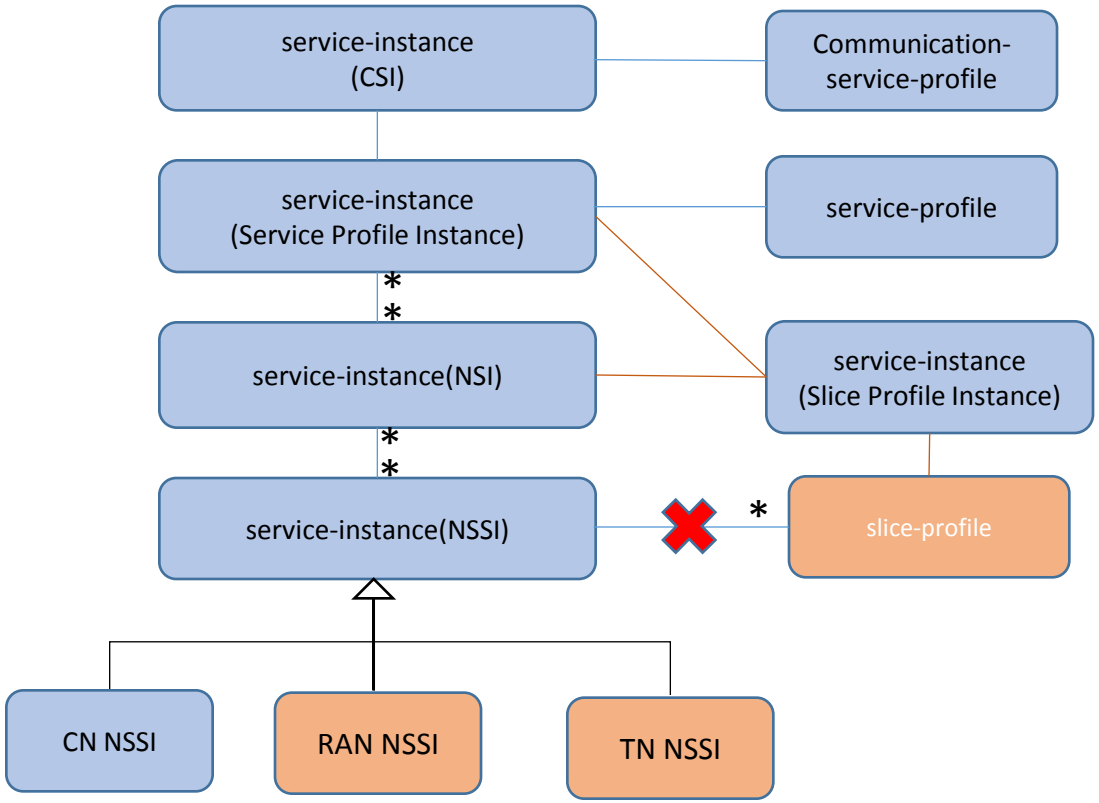
Model Changes in R7

SDC Service Template Change
– New Slice Profile Template

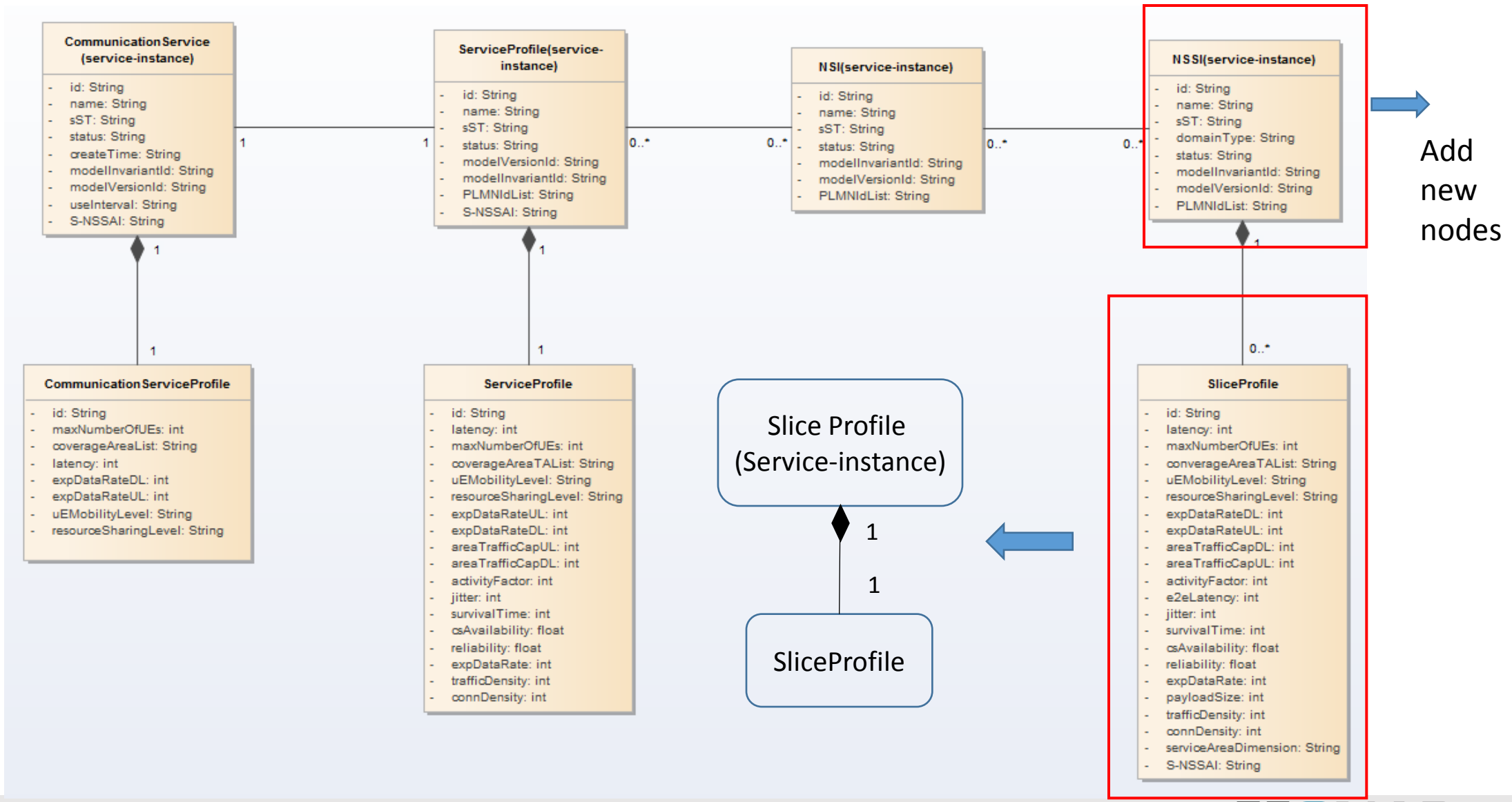


A&AI model design



Note: The Attributes in the AAI nodes also have updates.

AAI Model for Network Slicing in R6

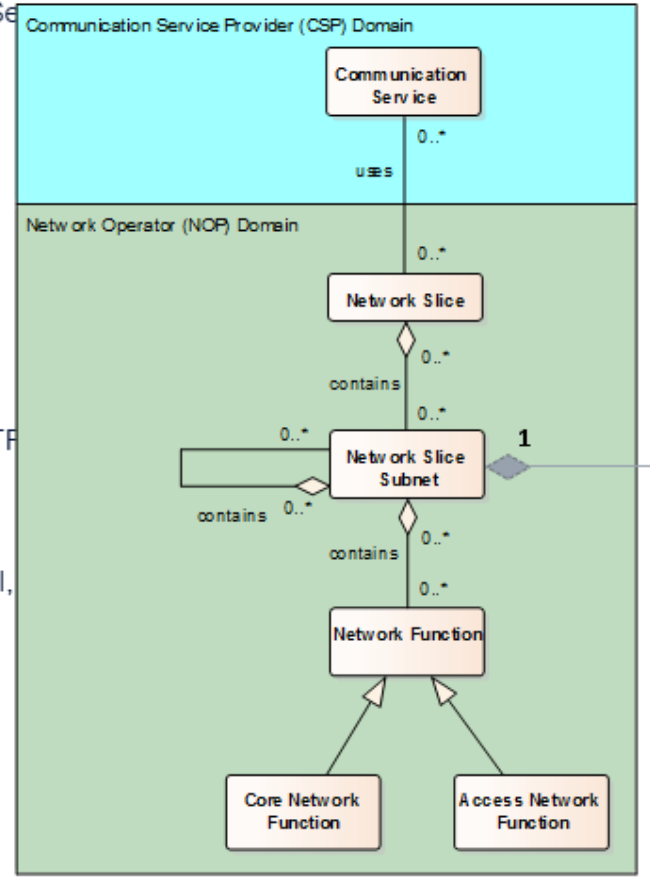


Combination between 3GPP and IETF TN NSS model

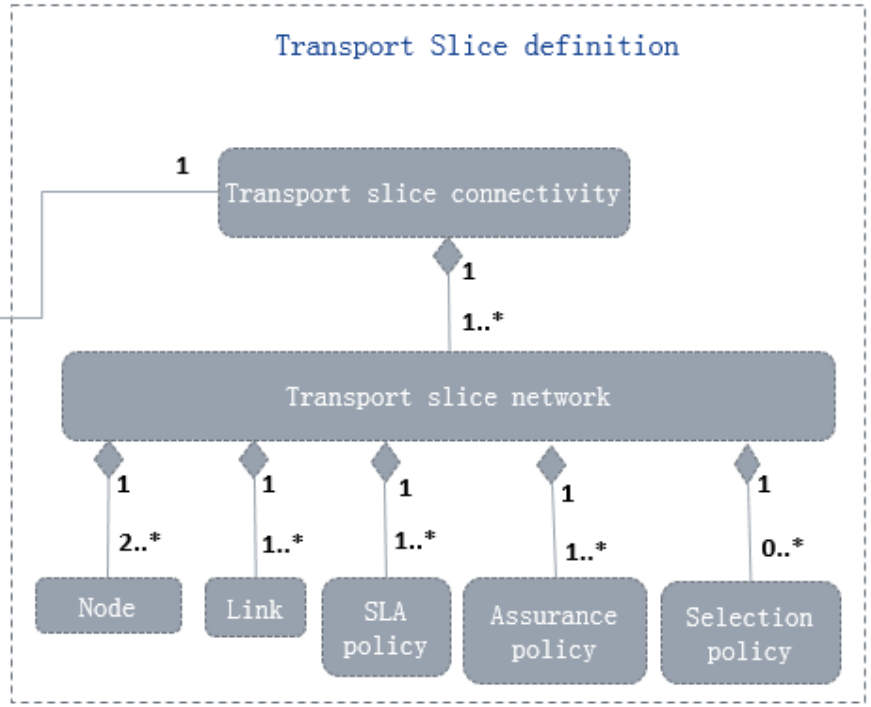
Thus, we should not reuse or modify 3GPP models for TN NSSI, but rather use IETF models (i.e., TSCi)

- IETF is defining transport slice and its NBI interfaces that will be relevant to manage the connectivity part of network slices. Work in progress. Se the following drafts:
  - https://tools.ietf.org/html/draft-nsdt-teas-transport-slice-definition-01
  - https://tools.ietf.org/html/draft-nsdt-teas-ns-framework-02
  - https://tools.ietf.org/html/draft-wd-teas-transport-slice-yang-01
  - https://tools.ietf.org/html/draft-rokui-5g-transport-slice-00
- Newly created design team (Network slice Design Team NSDT) at IETF TEAS WG
- Mandate of NSDT at IETF is to define a new transport slice control API, and intends to standardize this interface

Model	Defined by SDO
NS	3GPP
RAN NSS	3GPP
CORE NSS	3GPP
TN NSS	IETF



Models from 3GPP (TS28.801)



Models from IETF

3GPP proposal on connecting 3 subnets

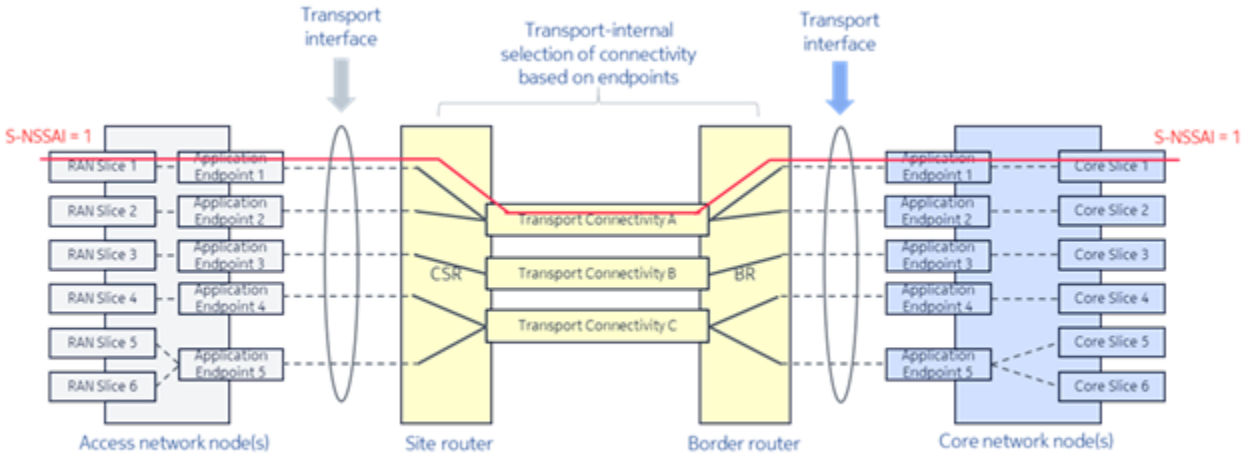


Figure 1. TN NSS examples connecting the access and core network

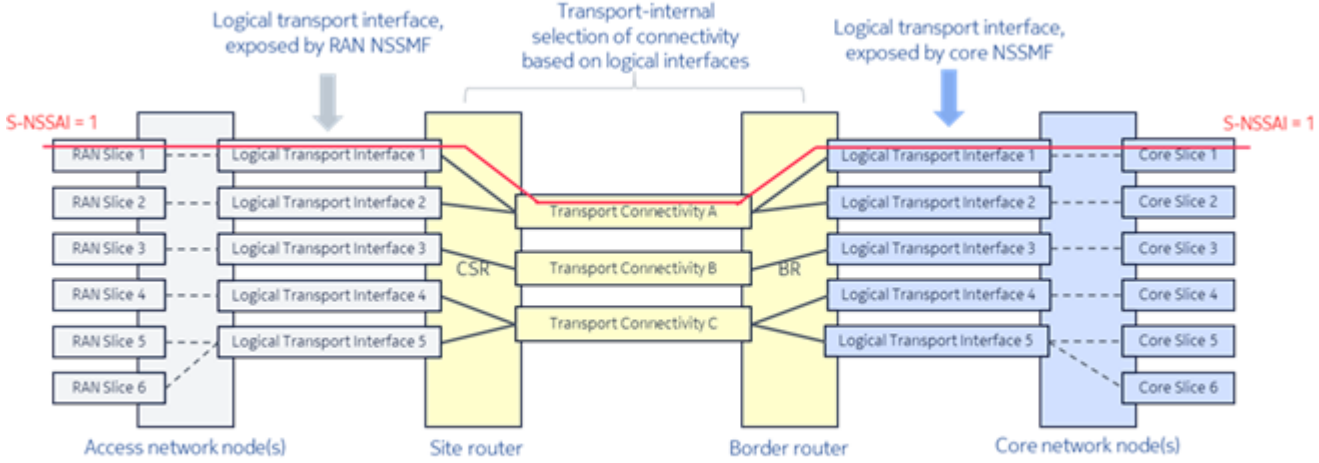


Figure 2 TN NSS example using logical transport interfaces

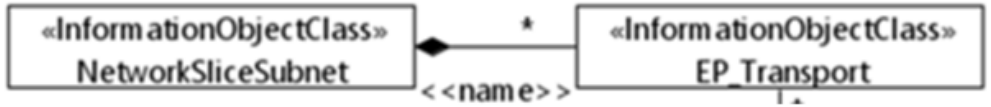


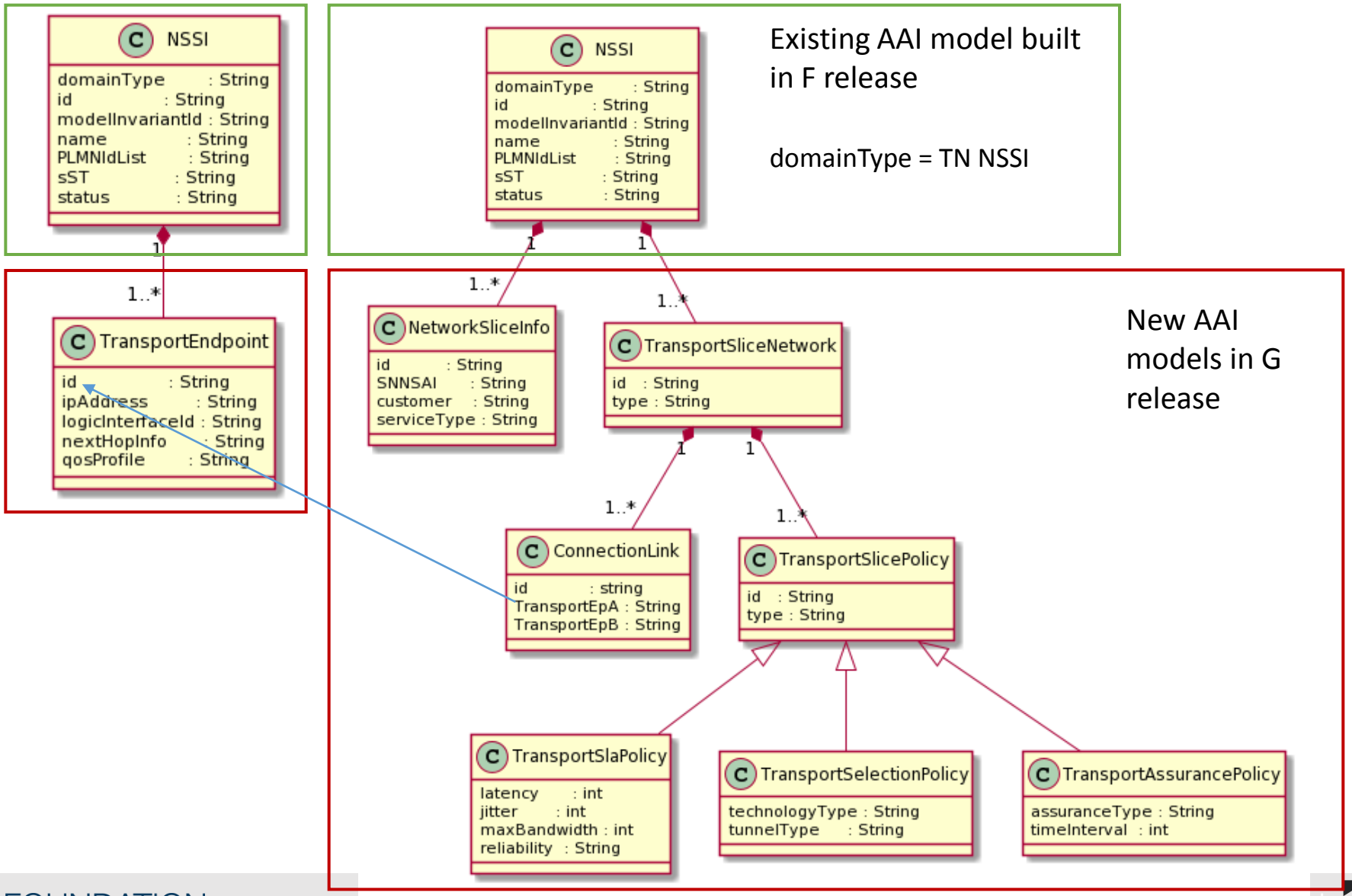
Figure 6.2.1-2: Transport EP NRM fragment relationship

Attribute name	Support Qualifier	isReadable	isWritable	isInvariant	isNotifyable
ipAddress	M	T	F	F	T
logicInterfaceId	M	T	T	F	T
nextHopInfo	O	T	F	F	T
qosProfile	O	T	T	F	T

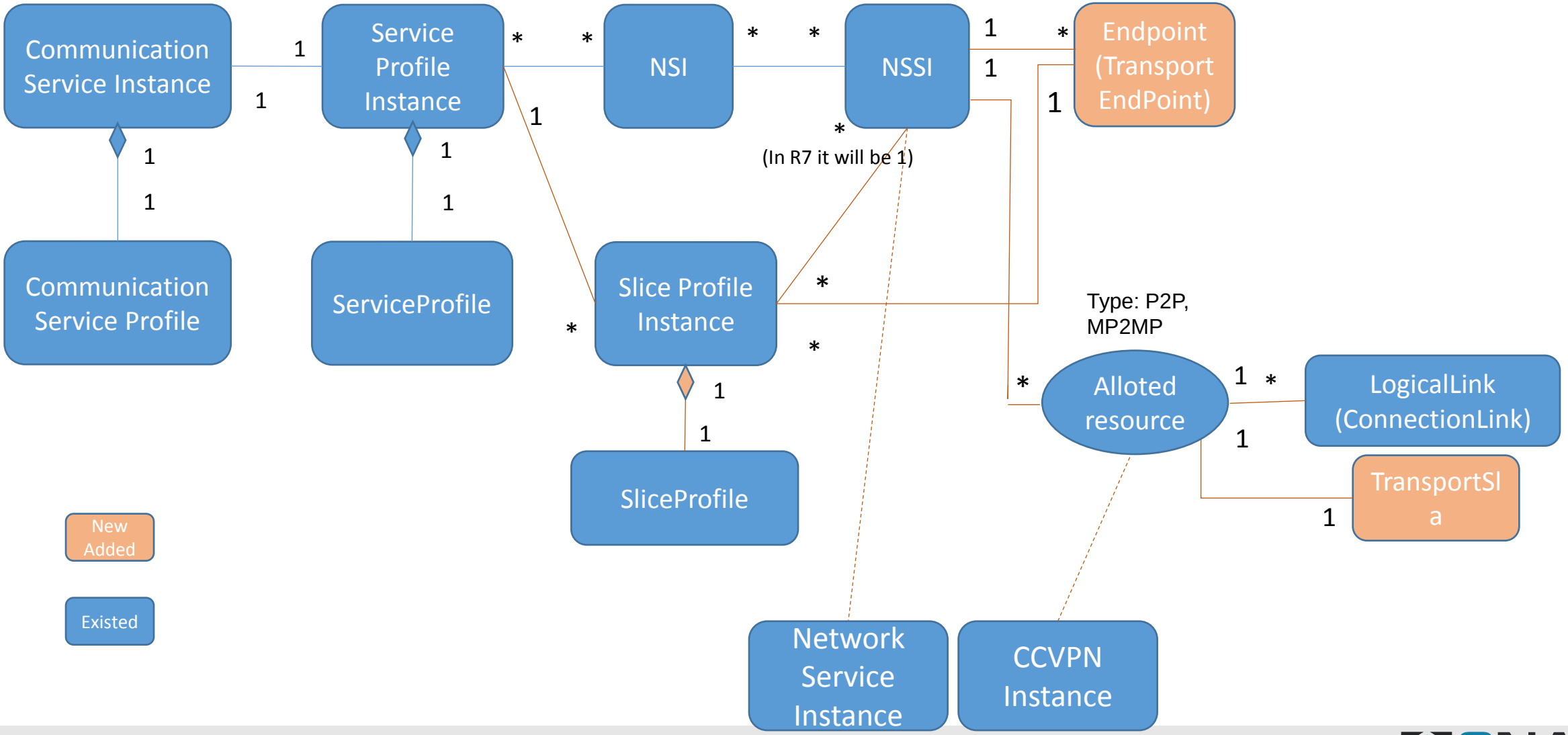
▪ipAddress	This parameter specifies the IP address assigned to a logical transport interface/endpoint. It can be an IPv4 address (See RFC 791 [37]) or an IPv6 address (See RFC 2373 [38]).	type: String multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: False
▪logicInterfaceId	This parameter specifies the identify of a logical transport interface. It could be VLAN ID, MPLS Tag or Segment ID.	type: String multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: False
▪nextHopInfo	This parameter is used to identify ingress transport nodes identification. This can be any of combination of IP address of next-hop router of transport network, system name, port name, IP management address of transport nodes.	type: String multiplicity: 1 isOrdered: N/A isUnique: N/A defaultValue: None isNullable: True
▪qosProfile	This parameter specifies an QoS Profile for a logical transport interface. It is a reference to the set of profile parameters which are locally provisioned on both sides of a logical transport interface.	type: String multiplicity: 1 isOrdered: N/A isUnique: True defaultValue: None isNullable: True

3GPP TS 28.541 definitions

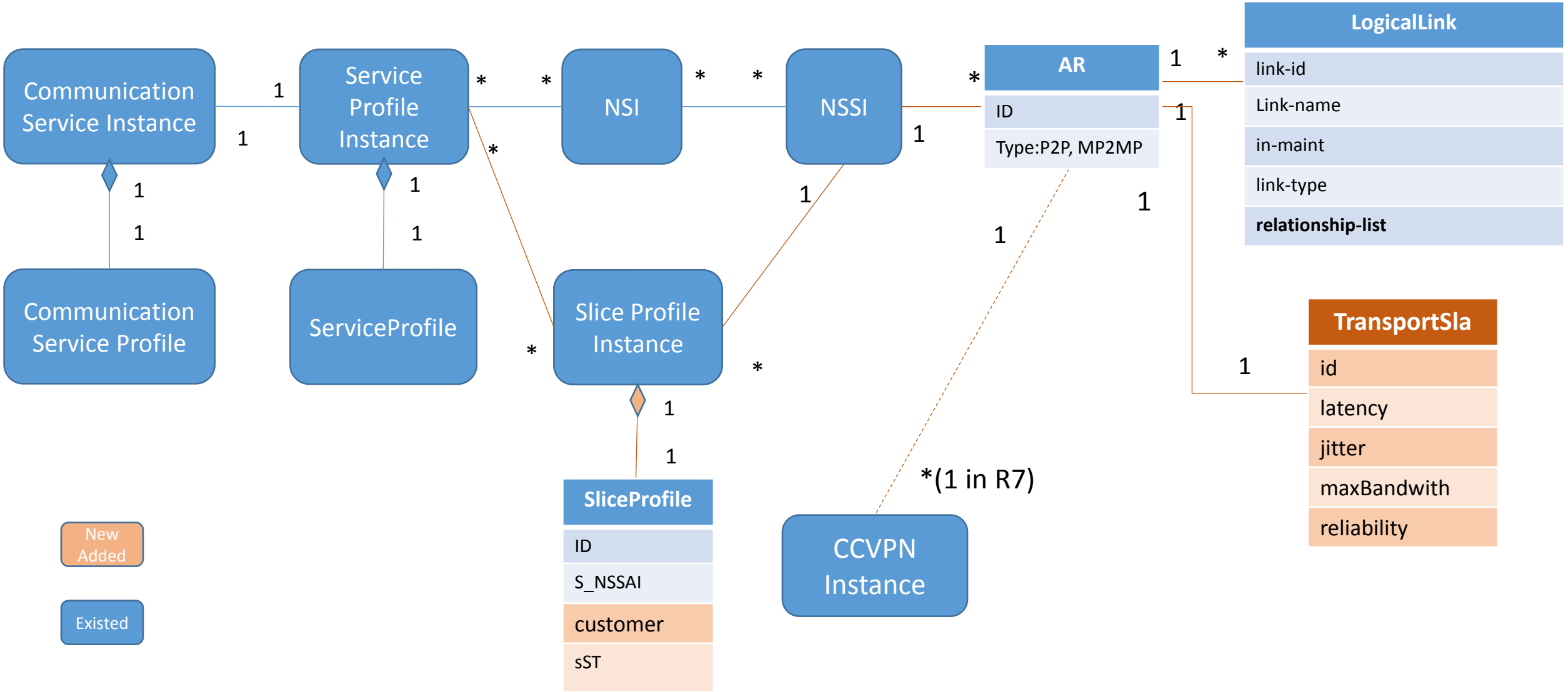
IETF TSCi model for TN NSSI



AAI Model for Network Slicing in R7-Update



AAI Model for Network Slicing in R7-Trans



AAI Models for TN NSSI – New Nodes - update

A&AI node	Remark	URL
Endpoint (Transport-endpoint)	New	/aai/{version}/business/customers/customer/{customer-id}/service-subscriptions/service-subscription/{service-subscription-id}/service-instances/service-instance/{service-instance-id}/endpoints/endpoint/{id}
Transport-sla	New	/aai/{version}/business/customers/customer/{customer-id}/service-subscriptions/service-subscription/{service-subscription-id}/service-instances/service-instance/{service-instance-id}/transport-slice-policies/transport-slice/{id}/transport-sla
Service-instance	Modify	/aai/{version}/business/customers/customer/{customer-id}/service-subscriptions/service-subscription/{service-subscription-id}/service-instances/service-instance/{service-instance-id}

A&AI Model Mapping for Trans in R7

TransportEndPoint	End-Point	Type	Value
id	endpoint-id	String	
	endpoint-type	String	RAN-TN/Core-TN
ipAddress	ip-address-list	String	
logicInterfaceId	port-list	String	
nextHopInfo	selector-list	String	

ConnectionLink	Logical-Link	Type	Value
id	link-id	String	
	Link-name	String	
	in-maint	String	false
	link-type (Type of logical link, e.g., evc)	String	connectionLink
	relationshipList		TransEP A, TransEP B,

TransportSla	Type
id	String
latency	String
jitter	String
maxBandwith	String
reliability	String

New Added

Existed

Thank You!