

Contents

1	Main differences between TAPI 2.3 RC1 and TAPI 2.1.3	1
1.1	Tapi Common	1
1.2	Tapi Topology	2
1.3	Tapi Connectivity	3
1.4	Tapi Equipment.....	4
1.5	Tapi OAM	5
1.6	Tapi Notification	5
1.7	Tapi ODU.....	6
1.8	Tapi Photonic Media.....	7
2	Differences between TAPI 2.3RC1 and TAPI 2.3.....	9
3	Differences between TAPI 2.3 and TAPI 2.3.1	10

1 Main differences between TAPI 2.3 RC1 and TAPI 2.1.3

24 May 2021

1.1 Tapi Common

1. Removed the "presence" statement of *context* container
2. Removed grouping *resource-spec* and *service-spec*
 - The classes now directly *uses global-class* or *uses local-class*.
3. identity OBJECT_TYPE is now defined in TapiCommon
 - In 2.1.3 was an enum in TapiNotification
 - In 2.3 each module defines its own identities, e.g. TapiConnectivity the CONNECTIVITY_OBJECT_TYPE
4. Added identity PM_PARAMETER_NAME
5. *layer-protocol-name* DIGITAL_OTN replaces ODU
6. *termination-state*
 - CAN_NEVER_TERMINATE replaces LP_CAN_NEVER_TERMINATE
 - NOT_TERMINATED replaces LT_NOT_TERMINATED
 - PERMANENTLY_TERMINATED replaces LT_PERMENANTLY_TERMINATED
7. grouping *bandwidth-profile* deleted (no more present in grouping *capacity*)
 - typedef *bandwidth-profile-type* deleted

1.2 Tapi Topology

1. Grouping *topology* now includes list *boundary-node-edge-point* (not yet used in RIA)
2. NEP, the *supported-cep-layer-protocol-qualifier* is now *supported-cep-layer-protocol*, with different type (*nep-layer-protocol-capability*)
3. NEP, added the (not yet used in RIA)
 - list *supported-mux-sequence* (uses *multiplexing-sequence*)
 - list *available-mux-sequence* (uses *multiplexing-sequence*)
 - leaf *base-layer-protocol-qualifier* (type *tapi-common:layer-protocol-qualifier*)
4. NEP, *available-cep-layer-protocol* is now *supported-cep-layer-protocol*
5. NEP, added the (specified in RIA 1.1)
 - container *inter-domain-plug-in-pac* (uses *inter-domain-plug-in-pac*)
6. *protection-type*:
 - NO_PROTECTION replaces NO_PROTECTON
7. New identity TOPOLOGY_OBJECT_TYPE

1.3 Tapi Connectivity

1. Added new grouping *connectivity-service-internal-point*, for possible future usage (not yet used in RIA)
2. Grouping *connection*, added
 - *layer-protocol-qualifier*
 - container *bounding-node* (uses *tapi-topology:node-ref*) (not yet used in RIA)
3. Grouping *connection-end-point*, added
 - *protection-role* (type *protection-role*)
4. grouping *connectivity-constraint*, removed
 - *service-layer* (redundant wrt *connectivity-service* layer)
 - *connectivity-direction* (redundant wrt *connectivity-service direction*)
5. grouping *connectivity-service*, added
 - *layer-protocol-name*
 - *layer-protocol-qualifier*
 - *direction* (type *tapi-common:forwarding-direction*)
 - list *internal-point* (list of *connectivity-service-internal-point*)
 - list *connectivity-service* (association to other *connectivity-service* instances for complex connectivity provisioning, not yet used in RIA)
6. grouping *connectivity-service*, strict composite instead of extended composite for
 - *connectivity-constraint*, *routing-constraint*, *resilience-constraint*, e.g. from
 - uses *tapi-path-computation:routing-constraint* to
 - container *routing-constraint* {
 uses *tapi-path-computation:routing-constraint*
7. grouping *connectivity-service*, now *topology-constraint* is a list
8. grouping *connectivity-service-end-point*, added
 - list *csep-role* (not yet used in RIA)
 - list *assembled-connectivity-service-end-point* (for inv mux like OTSiA --> n x OTSi on distinct line ports)
 - list *server-constraint* (a new grouping for some use cases involving server layer provisioning, e.g. DSR over ODU)
9. container *resilience-route-pac* renamed as *resilience-route*
10. grouping *switch*, removed
 - *selection-control* (moved to *ResilienceConstraint*)
11. grouping *resilience-constraint*, added
 - *fault-condition-determination* (type *fault-condition-determination*)
 - *selection-control*
 - list *resiliency-route-constraint* (the associated constraints related to resiliency routes)
12. new grouping *resiliency-route-constraint* (the constraints related to the resiliency route), with
 - *priority*
 - *routing-constraint*
 - *topology-constraint*
13. New identity `FAULT_CONDITION_DETERMINATION`
14. New identity `CONNECTIVITY_OBJECT_TYPE`
15. New type *csep-role*

1.4 Tapi Equipment

1. Fixed *supporting-physical-span* augmentation of *link*
2. Fixed missing
 - *base tapi-common:OBJECT_TYPE*
 - *from identity EQUIPMENT_OBJECT_TYPE*
3. grouping *connector-pin-address*, list *pin-and-role*, specified key '*location-in-connector*'
4. added *local-class* to *actual-non-field-replaceable-module* and *expected-non-field-replaceable-module*
5. grouping *equipment*, set as config false
 - list *expected-equipment*
 - container *actual-equipment*
6. grouping *physical-span*, set min-elements 1
 - list *abstract-strand*
7. grouping *physical-context*, removed wrong
 - uses *tapi-common:global-class*

1.5 Tapi OAM

1. New containers *connectivity-oam-job* and *connectivity-oam-service-point* augment resp. *connectivity-service* and *CSEP*. This allows OAM provisioning at Connectivity Service creation/update time.
2. Note that *alarm-info* and *tca-info* are now defined in *TapiFm* and augment *tapi-notification:notification*
3. Removed deprecated grouping *maintenance-entity-ref*
4. Several other enhancements.

1.6 Tapi Notification

1. *object-type* is now defined in *TapiCommon*
2. grouping *notification*, added
 - *layer-protocol-qualifier*
3. grouping *notification*, removed
 - *alarm-info* and *tca-info*, now defined in *TapiFm* module
4. New identity *NOTIFICATION_TYPE*, replaces enum *notification-type*
5. New identity *NOTIFICATION_OBJECT_TYPE*, replaces enum *object-type*, now defined in *TapiCommon*

1.7 Tapi ODU

1. Fixed wrong augment, now *odu-mep-spec* augments *oam-mep*.
2. ODU OAM completely restructured. Separation between connectivity and OAM parameters.

List of OAM classes:

- *odu-oam-service* --> *odu-meg-spec*
- *odu-oam-mep-service-point* --> same as *odu-mep-spec* (same classes for state and config)
- *odu-oam-mip-service-point* --> same as *odu-mip-spec* (same classes for state and config)
- *odu-mep-spec* --> *odu-mep*, *odu-tcm-mep*, *otu-mep* --> *otsia-mep*
- *odu-mip-spec* --> *odu-mip*, *odu-tcm-mip*
- *odu-measurement-job*
- *odu-error-performance-data* --> *odu-cn-error-performance-data*
- *odu-fec-performance-data*
- *odu-delay-performance-data*

3. ODU Connectivity classes:

- *odu-node-edge-point-spec*
- *odu-connectivity-service-end-point-spec* --> *odu-csep-ttp-pac*, *odu-csep-ctp-pac*
- *otu-connectivity-service-end-point-spec* --> *odu-cn-csep-ttp-pac*, *otu-csep-ttp-pac*, *otu-otsia-csep-ttp-pac*
- *odu-connection-end-point-spec* --> *odu-termination-and-client-adaptation-pac*, *odu-ctp-pac*
- *otu-connection-end-point-spec* --> *odu-cn-ttp-pac*, *otu-ttp-pac*

4. FEC configuration and PM Metrics in OTU classes
5. New identity OTN_ALARM_CONDITION_NAME (preliminary – the detailed list of probable causes will be available in the RIA 1.1)
6. New identity OTN_FAULT_CONDITION_DETERMINATION
7. New identity ODU_OAM_JOB_TYPE
8. New identity ODU_PM_PARAMETER_NAME
9. New identity OTU_TYPE
10. New identity STANDARD_FEC_TYPE

1.8 Tapi Photonic Media

1. Classes reorganized
2. OTSi classes:
 - otsi-service-interface-point-spec
 - otsi-node-edge-point-spec (new)
 - otsi-connectivity-service-end-point-spec
 - otsi-connection-end-point-spec
 - otsia-csep-ttp-pac (new)
 - otsi-termination-pac
 - otsi-spectr-config-pac (new)
 - otsi-freq-config-pac (new)
3. Media Channel classes:
 - media-channel-service-interface-point-spec
 - media-channel-node-edge-point-spec
 - mcg-connectivity-service-end-point-spec (new)
 - media-channel-connectivity-service-end-point-spec
 - otsi-mcg-connectivity-service-end-point-spec (new)
 - otsi-mc-connectivity-service-end-point-spec (new)
 - media-channel-connection-end-point-spec
 - otsi-mc-connection-end-point-spec (new)
 - mc-cep-pac, ots-cep-pac, oms-cep-pac, physical-cep-pac (all new)
 - media-channel-bw-config-pac (new)
 - media-channel-spectrum-pac
 - otsi-mc-config-pac (new)
 - otsi-mc-bw-config-pac (new)
 - otsi-mc-freq-config-pac (new)
 - mc-cep-pac (new)
4. Classes removed:
 - otsi-assembly-connection-end-point-spec
 - otsia-connectivity-service-end-point-spec
 - ots-connection-end-point-spec
 - media-channel-assembly-spec
 - mca-connectivity-service-end-point-spec
5. Moved to TapiOdu all FEC related definitions.
6. identity PHOTONIC_LAYER_QUALIFIER, deprecated in 2.1.3, removed in 2.3:
 - PHOTONIC_LAYER_QUALIFIER_OTSiG
 - PHOTONIC_LAYER_QUALIFIER_NMC
 - PHOTONIC_LAYER_QUALIFIER_NMCA
 - PHOTONIC_LAYER_QUALIFIER_SMC
 - HOTONIC_LAYER_QUALIFIER_SMCA
7. identity PHOTONIC_LAYER_QUALIFIER, deprecated in 2.3:
 - PHOTONIC_LAYER_QUALIFIER_OTSiA
 - PHOTONIC_LAYER_QUALIFIER_OTSiMCA

- PHOTONIC_LAYER_QUALIFIER_MCA
 - PHOTONIC_LAYER_QUALIFIER_OMSA
 - PHOTONIC_LAYER_QUALIFIER_OTSA
8. identity PHOTONIC_LAYER_QUALIFIER, defined in 2.3:
- PHOTONIC_LAYER_QUALIFIER_OTSi
 - PHOTONIC_LAYER_QUALIFIER_OTSiMC
 - PHOTONIC_LAYER_QUALIFIER_MC
 - PHOTONIC_LAYER_QUALIFIER_OCH
 - PHOTONIC_LAYER_QUALIFIER_OMS
 - PHOTONIC_LAYER_QUALIFIER_OTS
 - PHOTONIC_LAYER_QUALIFIER_OTS_OMS
9. *modulation-technique* type now has two attributes
- *standard-modulation-technique*
 - *proprietary-modulation-technique*

2 Differences between TAPI 2.3RC1 and TAPI 2.3

9 August 2021

1. TapiCommon, new enumeration ConditionName.
2. TapiCommon, PmParameterName augments ConditionName.
3. TapiCommon, SIP direction from RW to RO.
4. TapiFm, PerceivedSeverityType, deprecated "CLEAR" severity.
5. TapiFm, Deprecated AlarmCategory, replaced by DetectorCategory.
6. TapiFm, AlarmConditionName augments ConditionName.
7. TapiFm, added ConditionType enumeration.
8. TapiFm, added SimpleDetectorState enumeration.
9. TapiNotification, added new EventNotification signal for alignment to Streaming, with spec classes DetectedCondition, PmMetricInfo, DetectorInfo, SimpleDetector.
10. TapiOam, OamJob, OamServicePoint reference from [1..*] to [0..*].
11. TapiOam, OamJob, added reference by name to CEP for simple OAM tasks like loopback.
12. TapiOam, added to OamJob a reference to ConnectivityService, in case the OamJob instance is not related to any OamService/Point but created together with ConnectivityService through ConnectivityOamJob augment.
13. TapiOdu, copied diagram comments to class comments.
14. TapiPhotonicMedia, OtsiCapabilityPac, maxNumberOfOtsi and supportedFecType from RW to RO.
15. TapiPhotonicMedia PowerManagementCapabilityPac, all attributes from RW to RO.
16. TapiPhotonicMedia, copied diagram comments to class comments.
17. TapiTopology, Link direction description "Is applicable to simple Links where all LinkEnds are BIDIRECTIONAL (the Link will be BIDIRECTIONAL) or UNIDIRECTIONAL (the Link will be UNIDIRECTIONAL)" is removed.
18. TapiTopology, comment on NEP/ inter-domain-plug-in-pac (ENNI Identifier).
19. Aligned the ObjectType enumerations for Notification and Streaming.
20. TapiTopology: aligned the inter domain plug id attribute names with RIA. From interDomainPlugIdSapi, interDomainPlugIdDapi to resp. plugIdInterDomainLocalId, plugIdInterDomainRemotId.

3 Differences between TAPI 2.3 and TAPI 2.3.1

14 September 2021

1. TapiCommon (YANG):

```
identity PM_PARAMETER_NAME {  
    base CONDITION_NAME;  
    description "none";  
}
```

2. TapiConnectivity:

Two associations were still in the diagrams.

3. TapiOam (YANG):

```
grouping oam-job {  
    list oam-service-point {  
        uses oam-service-point-ref;  
        key 'oam-service-uuid oam-service-point-local-id';  
        min-elements 1;  
        description "The OamServicePoint (OSP) instances involved in the OamJob.";  
    }  
}
```

4. TapiOam:

Multiplicities corrected (from 1 to *): OamJobRelatedToCS, OamJobHasCep, CurrentDataOfCep, CurrentDataOfMep, CurrentDataOfMip

5. TapiOam:

The relationship between NEP to MEP/MIP was missing.

6. TapiNotification:

Specified the target of “Object Notification Augments Event Notification” augment.

7. TapiFm (YANG):

```
identity ALARM_CONDITION_NAME {  
    base tapi-common:CONDITION_NAME;  
    description "none";  
}
```

8. TapiFm:

DetectedConditionAugmentsNotification, the Specify reference was missing:

“/TapiCommon:Context:_context/TapiNotification:NotificationContext:_notificationContext/TapiNotification:NotificationContext:_eventNotification”

9. TapiFm:

DetectedConditionAugmentsConditionDetector was missing.

10. TapiFm:

SimpleDetector, DetectorInfo and PmMetricInfo are now conditional packages (composition) of DetectedCondition. Previously they augmented the DetectedCondition.

11. TapiOdu:

OtuCsepTtpPac/otuType and OduCsepCommonPac/oduType are redundant wrt the layer protocol qualifier of the augmented CSEP. Deprecated.

OduCommonPac/oduType and OtuTtpPac/otuType are redundant wrt the layer protocol qualifier of the augmented CEP. Deprecated.