

# 2021-06-29 TAPI Meeting Notes

## Date

29 Jun 2021

## Attendees

- [Andrea Mazzini](#)
- Arturo Mayoral (TIP OOPT/MUST)
- [Ramon Casellas](#)
- [Nigel Davis](#)
- [Xiang YUN](#)
- [Huy Tran](#)
- [Hing-Kam Lam](#)

## Goals

- Admin
  - Schedule call to continue the review of [TR-547-TAPI RIA V1.1 Alarms 04062021.xlsx](#) : **Wed 30, 4:00-5:00 pm CEST ?**
  - **TAPI 2.3 Release – Integration of Streaming and Fault Management**
- Technical discussion on Integration of Streaming and Fault Management
- GNPY/CCAMP – TAPI alignment, presentation of candidate TAPI extensions – *continued*.
- Delivering RIA 1.1 ([TR-547-TAPI Reference Implementation Agreement\\_v1.1\\_RCAS.docx](#))
  - Selection of UCs which review is necessary for RIA 1.1 delivery, e.g.
    - 0d – clarification on SAPI/DAPI vs. TxTI/ExT
    - 3d - Constrained Provisioning diversity based on SRG / Diverse Routing in SRG failure
    - 5d - Asymmetric service provisioning with 1+1 Protection with Diverse Service Provisioning (eSNCP)
    - ASON related UCs
    - 12a: Pre-calculation of the optimum path
    - 12b: Simultaneous pre-calculation of two disjoint paths
- Server constraints vs. multiple augment of (distinct) technology specific packages

## Agreed Items & Priority

- Below the list of the agreed items and related priority.
- An item is blocking when its resolution is necessary precondition for the delivery.

## TAPI 2.1.3 and RIA 1.1

1. OTU(+ODUCn) CEP/CSEP as single point for OTU/OTSiA ConnectivityService provisioning (*solved*)
2. ENNI/INNI Asymmetric service provisioning for multi-domain scenarios, agree UCs (*solved*)
3. Alarm / TCA notification (*blocking, 1*)
  - a. Subscription
  - b. Notification contents
    - Probable Causes / Elementary alarms (e.g. ITU-T cZZZ fault causes), including TCA PM Parameters
4. OTS and OMS model (*solved*)
5. Path Computation Use Cases (*blocking, 2*)

## TAPI 2.3 and RIA 1.2

1. MEP/MIP model vs. direct inclusion of OAM parameters in the CEP (*solved*)
  - a. ODU OAM
  - b. Photonic OAM
  - c. TCA provisioning
2. Physical impairments (*not blocking*)
  - OFC is augmenting TAPI Link, others the AbstractStrand.
  - Type of amplifier, fibre attenuation, etc.
3. Photonic model capability (*not blocking*)
4. Lifecycle management of ConnectivityService at every layer, necessary to identify UCs (*not blocking*)
  - Lifecycle management of single ConnectivityService, necessary to identify UCs
5. 3R (*not blocking*)
6. UNI Client interfaces modelling. DSR/ODU multiplexing over ODU (*not blocking*)
7. RESTCONF Response codes for use cases (*not blocking*)
8. TAPI OAS, action points to be assigned (*not blocking*)
9. Routing Constraints (*not blocking*)
10. Physical Route (*not blocking*)

## Discussion items

5 mins  
Administrative

• Call dedicated to review **alarm probable causes** (TR-547-TAPI RIA V1.1 Alarms 04062021.xlsx): **Thu 24, 4:00-5:00 pm CEST.**

**Agreed to dedicate one week / 4 days / two hours per day for the review of TR-547: July 5,6,7,9 10-12 CEST**

• Invited Ramon, Nigel, Ronald, Pedro. Please others interested to contact Andrea.

06 Jul 2021 **Next TAPI weekly call - 2 hours**

10 mins  
Ramon Casellas  
Arturo  
Nigel Davis

Ramon Casellas and Arturo presented the TAPI extensions for GNPY to TIP MUST, 40' high level overview.

- Underlined that the target is the reuse of CCAMP definitions
- Reception was positive
- Static / read only augments are almost consolidated, more challenging the dynamic scenarios, e.g. the provisioning of amplifier parameters.

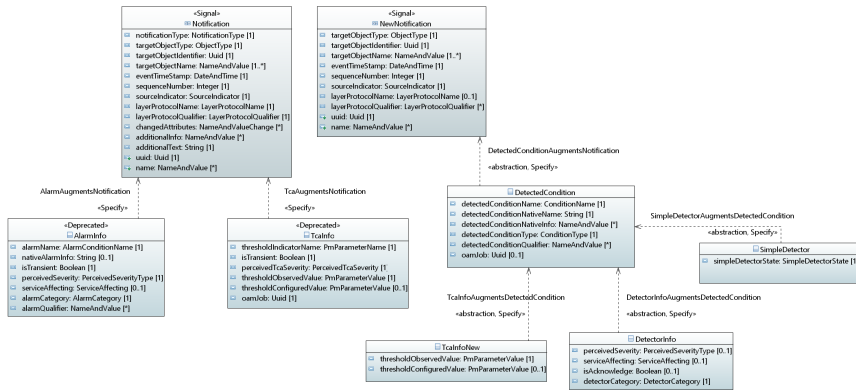
Arturo, apparently there is already an active liaison between ONF and TIP, we need to check internally to ONF.

Nigel Davis Nokia presented TAPI to O-RAN.

60 mins  
Nigel Davis  
Andrea Mazzini  
Nigel Davis

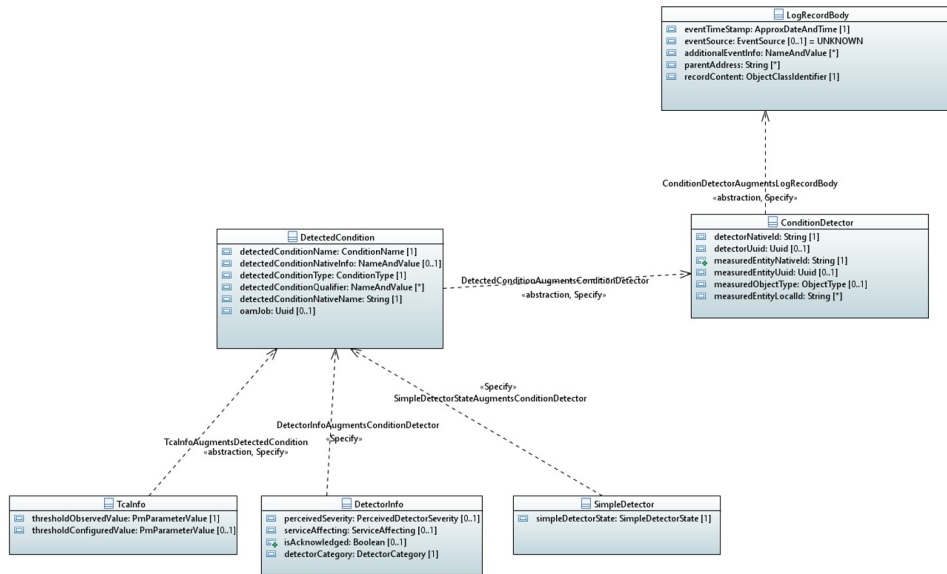
Andrea Mazzini presents the proposal for common alarm/TCA data structure to be used in both Notification and Streaming contexts.

- Main source is Nigel Davis proposal [otcc2021.ND.002\\_TapiStreamingAndNotificationConvergence.pptx](#).



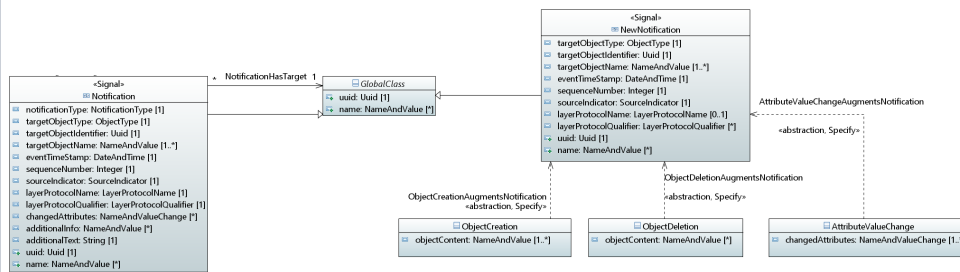
The AlarmInfo and TcaInfo are deprecated, their content is modeled by the DetectedCondition class, which will augment either Notification signal (picture above

- Note that the *detectedConditionName* has ConditionName type, which is an extensible enum augmented by both AlarmConditionName and PmParameterName

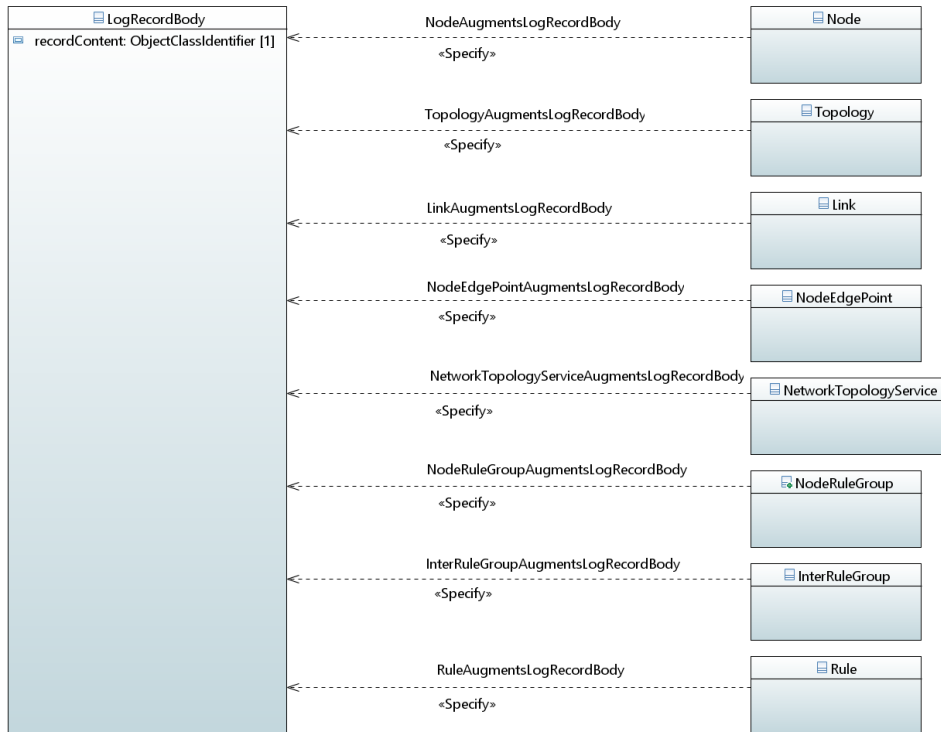


Nigel Davis keep exploring a formal way to model the "changed attributes", i.e. to avoid name-value pairs.

Andrea Mazzini presents a reorganization of Notification signal:



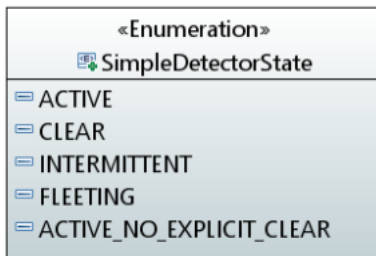
Ramon Casellas and Nigel Davis propose that *ObjectCreation* shall be augmented by all defined classes, like Streaming model does, e.g.



Agreed to keep only ALARM and TCA as ConditionType enumeration entries.

Agreed to add FLEETING to SimpleDetectorState enumeration. It is the *delta* function, e.g. when an event has a very short life (rapid Active-Clear cycling), hen

Noted that ACTIVE\_NO\_EXPLICIT\_CLEAR applies to PM metrics which can only increase (counters), hence the "clear" criteria is conventionally the end of a n



Nigel Davis points out that the *severity* is always insufficient to address the problem, because:

- *Near* to the equipment, there is not enough context knowledge to evaluate a meaningful severity degree.
- *Far* from the equipment, a simple parameter like severity cannot help, as more articulated information is necessary, e.g. the business impact.

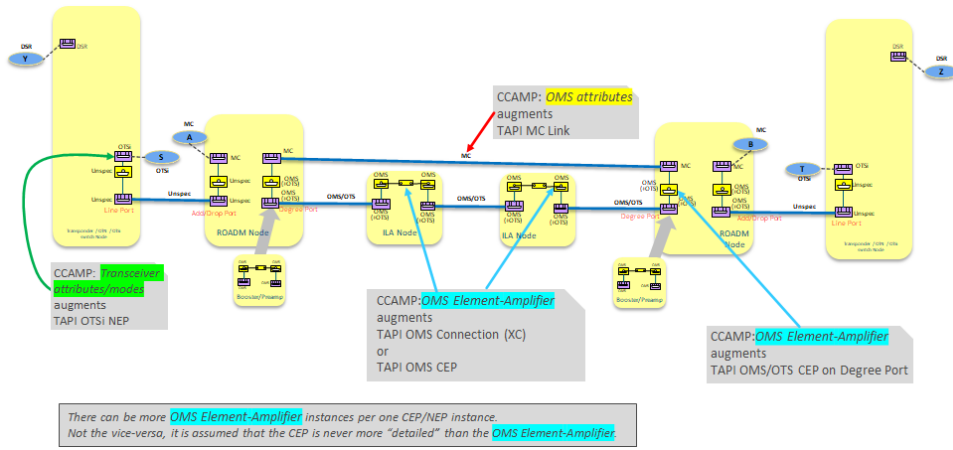
The overall approach is preliminary agreed:

- No more redundancy between Alarm and TCA data types.
- Data types common for both Notification and Streaming contexts.

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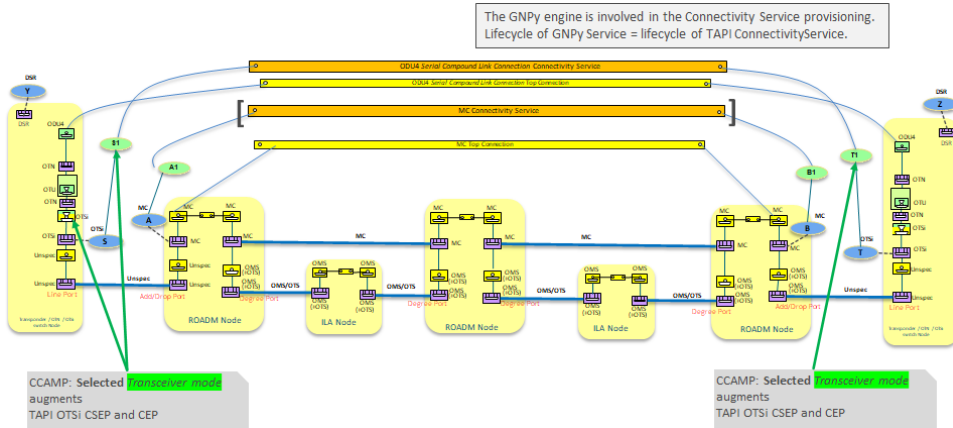
Andrea Mazzini shows some updated pictures:



- Agreed that OMS Element-Amplifier shall augment the OMS/OTS CEP.
- Agreed that the OMS Element-Fiber is independent from spectrum bands.

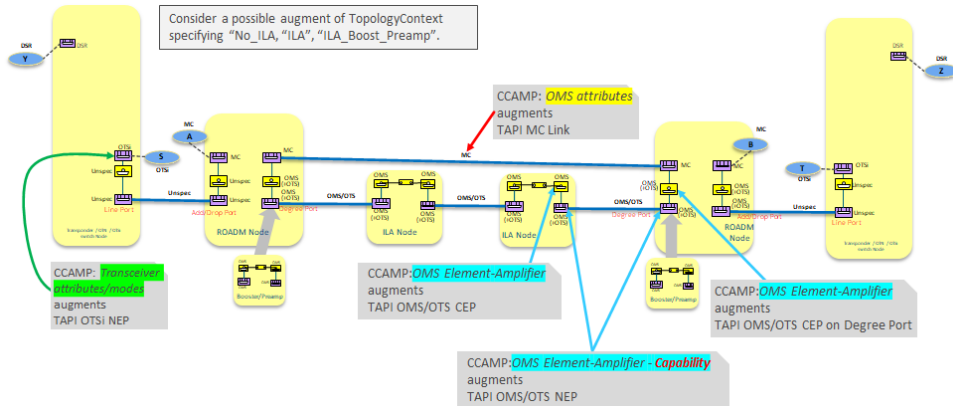
Discussion on capability vs. operational model:

- The Transceiver Modes augments the OTSi NEP, as it describes the transceiver capability
- The Transceiver selected Mode augments the OTSi CSEP and CEP, as it describes respectively the intended configuration and the actual configuration.



An analogous approach shall be considered for amplifiers, i.e.:

- Amplifier capability - augments the NEP.
- Amplifier selected configuration - augments the CEP.



Huy Tran clarifies that currently the GNPY process is considering only the operational values of amplifiers.

- Planning is a different stage, where e.g. is evaluated how many and which types of amplifiers are necessary to support a transceiver-to-transceiver connection

It is necessary to clarify which is the CCAMP model of amplifier capabilities. Similar consideration for transceiver, its capability and operational model.

Ramon Casellas it is assumed that a bidirectional NEP has symmetric spectrum support, otherwise the unidirectional model shall be implemented.

Huy Tran confirms that current GNPY application does not differentiate between different load conditions. For future consideration.

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[Andrea Mazzini](#) asks for confirmation of last week agreement:

Model the NEP PlugId attribute as:

- local-id
- remote-id

Where:

- NEP 1 local-id is how NEP of Domain 1 is naming itself
- NEP 1 remote-id is how NEP of Domain 2 is naming itself

Considering OTN technology:

- the local-id will be the content of TxTI
- the remote-id will be the content of ExTi

The solution is confirmed.