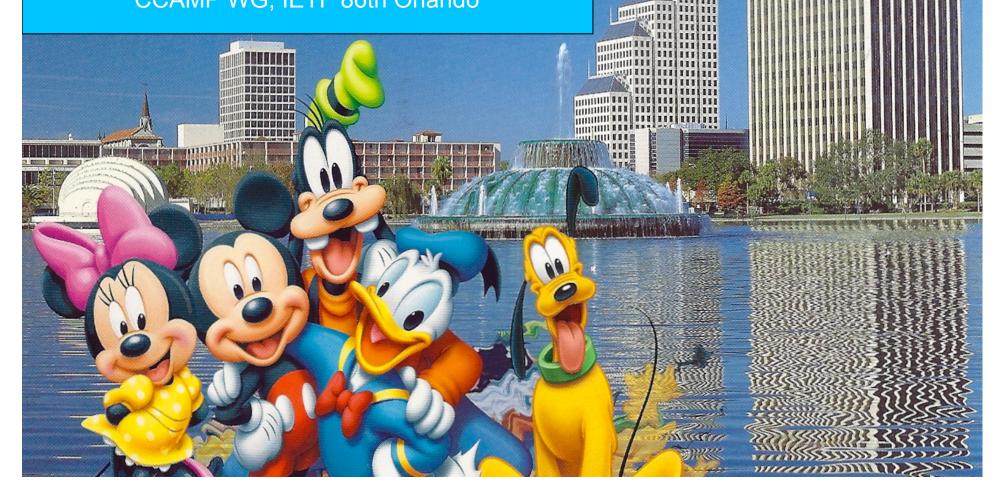# Report on OTN IDs

draft-ietf-ccamp-gmpls-g709-framework-12
draft-ietf-ccamp-otn-g709-info-model-06
draft-ietf-ccamp-gmpls-ospf-g709v3-05
draft-ietf-ccamp-gmpls-signaling-g709v3-07

CCAMP WG, IETF 86th Orlando

FRAMEWORK

- **ODUflex tolerance:**

  The bit-rate tolerance for ODUflex (CBR) signals is specified as +/-100ppm. This value may be larger than the tolerance for the client signal itself(e.g.+/-20ppm). For such case the tolerance is determined by the ODUflex (CBR) maintenance signals, which have a tolerance of +/-100ppm.

- **Other ODUs tolerance** (G.709 table 7-2)

  - ODU0,1,2,3,4 fixed to +/- 20ppm

  - ODU2e fixed to +/-100ppm

- **Single value for each ODU**

  - No need to signal/advertise? Future proofness? – Ongoing discussion

ADAPTATION (1/2)

- ITU-T G.874.1 specifies the configuration that both the GMPLS and NMS must provide for any adaptation (i.e. ODUk/client and ODUk/ODUj)

  - ODUk/ODUj adaptation: oduTypeAndRate - used to configure the mapping method (e.g. GMP, AMP) between ODUj and ODUk.

Table 7-10 – Overview of ODUj into OPUk mapping types

| | 2.5G tributary slots | | 1.25G tributary slots | | | |
	OPU2	OPU3	OPU1	OPU2	OPU3	OPU4
ODU0	–	–	AMP (PT=20)	GMP (PT=21)	GMP (PT=21)	GMP (PT=21)
ODU1	AMP (PT=20)	AMP (PT=20)	–	AMP (PT=21)	AMP (PT=21)	GMP (PT=21)
ODU2	–	AMP (PT=20)	–	–	AMP (PT=21)	GMP (PT=21)
ODU2e	–	–	–	–	GMP (PT=21)	GMP (PT=21)
ODU3	–	–	–	–	–	GMP (PT=21)
ODUflex	–	–	–	GMP (PT=21)	GMP (PT=21)	GMP (PT=21)

ROUTING: OK

-ODUj

-ODUk

-TSG

SIGNALING: OK

-Encoding Type indicating AMP or GMP

ADAPTATION (2/2)

- ITU-T G.874.1 specifies the configuration that both the GMPLS and NMS must provide for any adaptation (i.e. ODUk/client and ODUk/ODUj)

  - ODUk/ODUj adaptation: oduTypeAndRate - used to configure the mapping method (e.g. GMP, AMP) between ODUj and ODUk.

  - ODUk/client signal adaptation: Payload Type is enough

    ROUTING: ALMOST OK

    -An info corresponding to the Payload Type is needed (well known issue in GMPLS)

    -Will be addressed in a separate doc in a generic (non OTN specific way)

    SIGNALING: ALMOST OK

    - List of GPIDs provided in the draft needs to be checked with G.709

    - Values in G.709 are HEX, values in the ID are DEC.

INFO MODEL

- Scope changed from Info Model to Evaluation of existing GMPLS encoding against G.709v3

- Signaling and Routing requirements overview removed due to overlap with FWK

- Penultimate hop issue solved with 2 options:

    - full ERO usage

    - Rely on crank-back

ROUTING (1/2)

- SCSI format picture removed

- ODU flex

  - With respect to ODUflex, ODUflex Constant Bit Rate (CBR) and ODUflex Generic Framing Procedure-Frame mapped (GFP-F) **MUST always be advertised in separate TLVs as they use different adaptation functions** [G.805].

  - In the case both GFP-F resizable and non resizable (i.e. 21 and 22) are supported, **Signal 21 implicitly supports also signal Signal Type 22**, so only Signal Type 21 MUST be advertised. Signal Type 22 MUST be used only for non resizable resources.

- Bandwidth TLVs figure modify to reflect their variable dimension (due to the advertisement of supported priorities only)

- Updated definitions for: Signal type, Number of stages, Flags, Priority, Unreserved ODUj, Unreserved Bandwidth and MAX LSP Bandwidth

- Discussion on bandwidth format for ODUflex:

  - ODUflex (GFP) #TS

  - ODUflex (CBR) bit rate in IEEE format

  Authors proposal: single advertisement format i.e. bit rate in IEEE format for both ODUflex (GFP) and ODUflex (CBR)

ROUTING (2/2)

- Discussion on Max LSP BW computation for ODUFlex CBR and GFP (Thanks Fred)

    - ODUflex (CBR)

        Max LSP BW = (# available TS) * (ODTUk.ts nominal bit rate) * (1-HO OPUk bit rate tolerance)   <same as stated in the ID>

        ** Max LSP BW encodes the adjustment of transcoding factor and ODUflex(CBR) bit rate tolerance

    - ODUflex (GFP)

        Max LSP BW = (# available TS) * (ODUk.ts nominal bit rate)

            k=1 if # available TS between 1-8

            k=2 if # available TS between 9-32

            k=3 if # available TS between 33-80

- TO DO: ODUk/client signal adaptation: Payload Type

NOTE: v05 does not include all the modifications. v06 will be posted after the meeting

SIGNALING

- Traffic parameters

  - N: used for signaling the number of TS for ODUflex(GFP). Removed, back to original version where Bit_Rate is used

  - Bit_Rate field for ODUflex(GFP) LSP MUST equal to one of the 80 values listed below:

    - 1 * ODU2.ts; 2 * ODU2.ts; ...; 8 * ODU2.ts;

    - 9 * ODU3.ts; 10 * ODU3.ts, ...; 32 * ODU3.ts;

    - 33 * ODU4.ts; 34 * ODU4.ts; ...; 80 * ODU4.ts.

  - Tolerance: This field is not supported by the data plane (G.709). Need to discuss in WG to remove this field to align with ITU-T Recommendations.

- TO DO:

  - GPID list check

  - Note on PT values in G.709 (HEX) and GPID value in (DEC).