GMPLS Signaling Extensions for the Evolving G.709 OTN Control

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Authors & Contributors

Changes from Version 02

- Added some new G-PID values and updated some existing G-PID values
  - GPID is used to signal TSG information (TSG information has been removed from TLV and moved to new GPID values)
- Refined the extension to indicate the required client ODU multiplexing hierarchy
  - Extending LSPA to carry hierarchy information (ie., original Type=2 - Hierarchy TLV)
    - Removed Mapping field based on the conf call discussion.
    - Removed Switching Type and Encoding Type fields

G-PID Value Extension

- Extended G-PID for G.709 ODU client signals:

Value	G-PID Type	TSG (LO ODU into requested LSP)
47	**G.709 ODU**	**2.5Gbps [RFC4328]**
59(TBA)	**G.709 ODU-1.25G**	**1.25Gbps (new)**
60(TBA)	**G.709 ODU-any**	**either 1.25 or 2.5Gbps(new)**

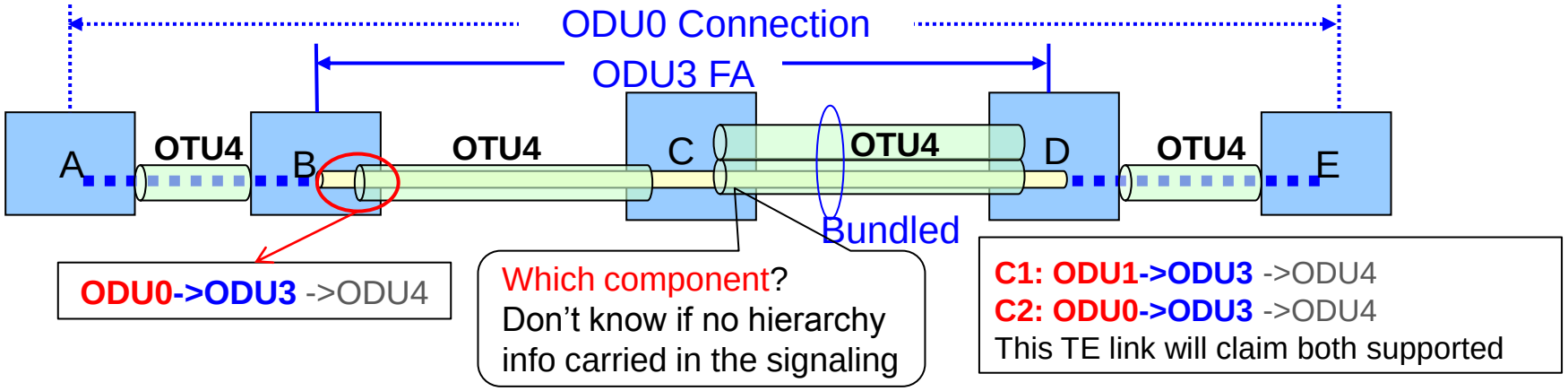
- Added other new G-PID values for new client signals supported by G.709V3

Value	G-PID Type
61(TBA)	**CBRc (via GMP)**
62(TBA)	**1000BASE-X**
63(TBA)	**FC-1200**

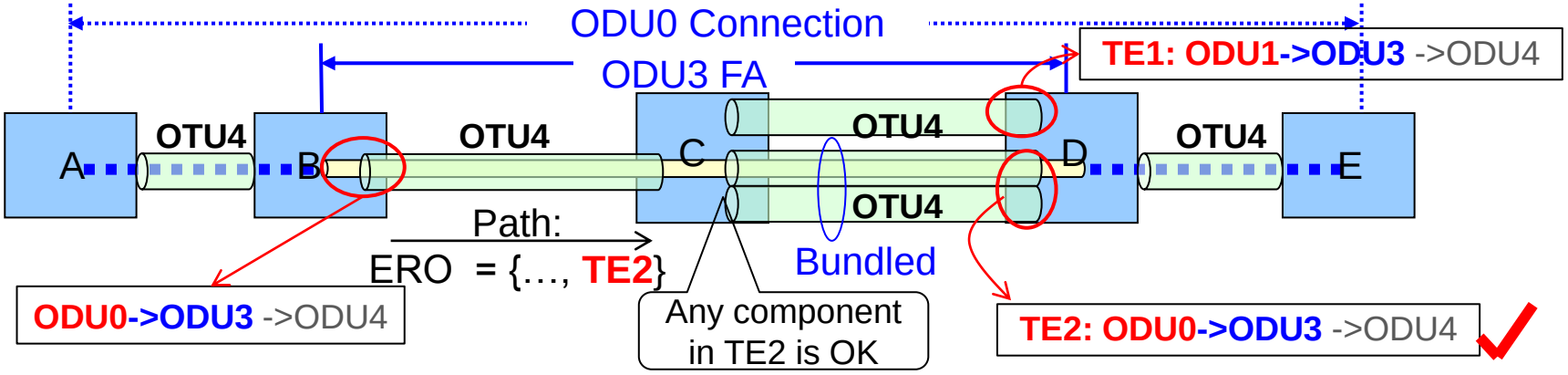
- Updated some existing G-PID description to support new 1.25G, 100G, supra-2.488G client signals, such as 32 for ATM, 49 for asynchronous CBR , 50 for synchronous CBR , 51 for BSOT, 52 for BSNT.

Discussion: Hierarchy info needed when FA-LAP creation?

- Original problem: How to choose last link by penultimate node (Node C)?



- If only bundle homogeneous component links, ERO can indicate the last TE link



Discussion: Conclusion

- No need to have hierarchy info if non-homogeneous component links MUST not be bundled (as explained in the previous slide)
  - Using the existing generic approach (ie., using ERO to indicate the last hop TE link)

- Even though it is a problem in some corner case, it should be treated as a generic MLN issue
  - “ODU1 -> ODU2 -> ODU3 “ is similar to “ETH -> SDH -> OTN”
  - Crank-back could help
  - The generic MLN issue will be solved in dedicated MLN extensions

- Conclusion: Hierarchy info is not necessary.

Next Steps

- Remove ODU Multiplexing Hierarchy in Section 7
- Ready for LC after removing Hierarchy info quickly?