

Framework for GMPLS and PCE Control of G.709 Optical Transport Networks

CCAMP WG, IETF 80th, Prague, Czech Republic

draft-ietf-ccamp-gmpls-g709-framework-04.txt

Fatai Zhang (zhangfatai@huawei.com)

Dan Li (huawei.danli@huawei.com)

Han Li (lihan@chinamobile.com)

Sergio Belotti (sergio.belotti@alcatel-lucent.it)

Daniele Ceccarelli (daniele.ceccarelli@ericsson.com)

Contents of this Draft



- GMPLS Signaling extension requirements
- GMPLS Routing extension requirements
- GMPLS LMP extension requirements
- ~~GMPLS LMP extension requirements~~
GMPLS LMP extension requirements
- PCEP requirements

Changes from Version 03

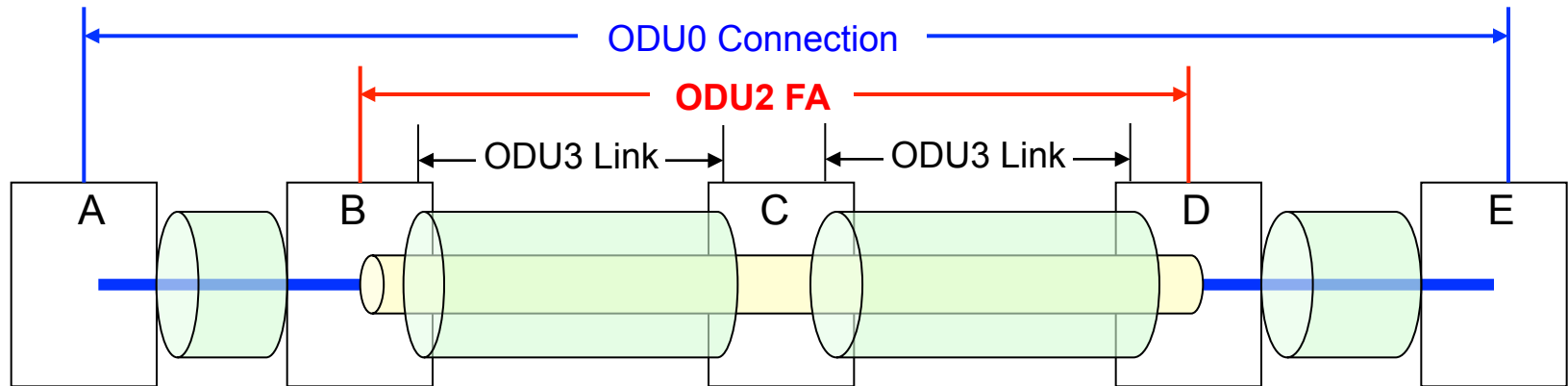
layers

- The term “**multi-stage multiplexing**” has been replaced by “**multiplexing hierarchy**”
- Refined the text to describe FA creation approaches
- Added a new requirement about **VCAT & LCAS**
- Refined the routing requirements
- Refined the discovering requirements

Multiplexing Hierarchy

“multi-stage multiplexing” by “multiplexing hierarchy”

- Suggested by some experts during off-line discussion in IETF 79th, Beijing
- Creation of multiplexing hierarchy using FA mechanism
 - The ODU2 FA can be **pre-provisioned** (e.g., based on network planning)
 - The ODU2 FA can also be **triggered by the signaling for the ODU0 connection**
 - The resource of the ODU2 FA can be advertised in the network
 - **Consistent with the existing GMPLS MLN control model (ie., H-LSP)**



Support for VCAT & LCAS

- G.709 V3 supports
- G.709 V3 supports
(OPUk-Xv, k=1,2,3 and Virtual Concatenation of OPUk
and LCAS for
 - VCAT for OPU0, 2e, 4 and OPUflex is NOT supported by [G.709 V3]
[RFC4328]
- [draft-ietf-cc-supp-ctrl-lcas] supports control of VCAT for ODU1/2/3
has a clear description of VCAT and LCAS control in both SONET/

Refining Routing / Discovery Requirements

- The requirement of advertising the TS granularity of the link has been removed because it's not necessary
 - Declare “how many LO ODUs can be supported”
 - TS granularity could be negotiated through HW or LMP, so it can allocate TS correctly when connection establishment
- Changed the description of “link multiplexing capacity and link rate capacity” into “**terminating** and **switching capability**”
- **Discovery aspect**
 - Correlating the supported LO ODU signal types as well as multiplexing hierarchy capability at both ends of the link

Next Steps

progress of OTN data plane tech

- Keep consistent with [OTN-Info] and protocol drafts
- Refine the draft based on the feedback from the meeting or mailing list