draft-merge-ccamp-gmpls-otn-b100g-applicability-00

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Scope and aim of this draft

- Uncertainty about how to configure ODUCn link still exists, and this uncertainty may have relationship with the progress in ITU-T after discussion among authors. Therefore, the scope of this draft is limited to how to set up ODUk/ODUflex LSPs over configured ODUCn links. How to configure ODUCn link is not in the scope of this draft.

- The aim of this draft is to evaluate whether the GMPLS mechanisms defined in RFC7138 and RFC7139 for ODUk can be reused to configure ODUk/ODUflex LSP over one configured ODUCn link.
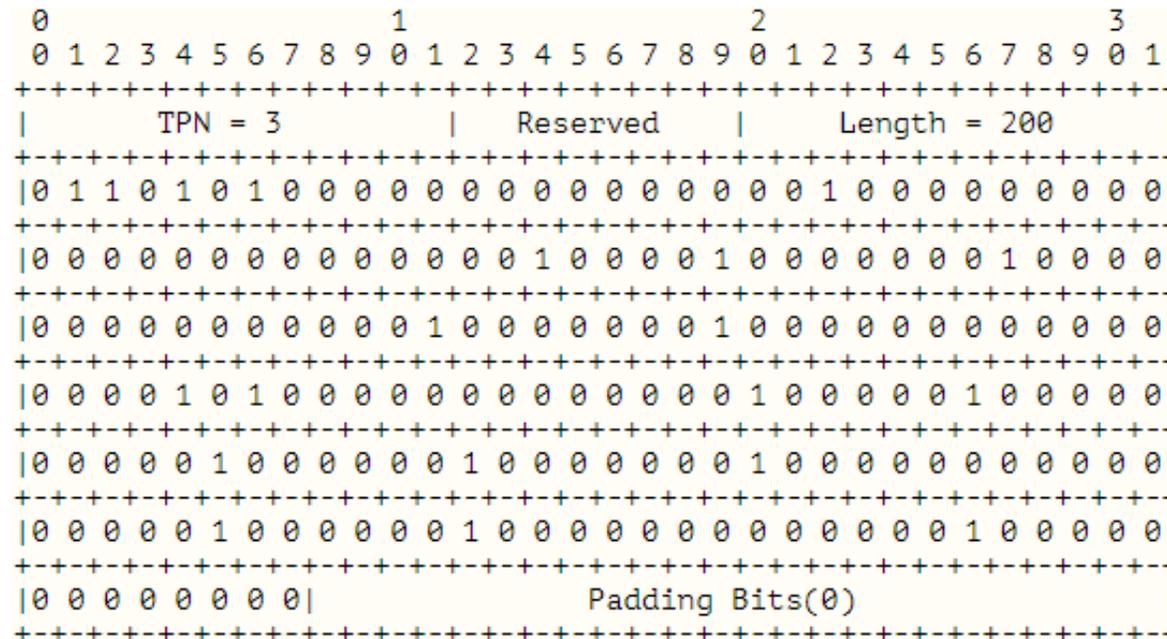
TE-Link depiction in ODUk, OTUk and ODUCn context

- Similar to ODUk/OTUk TE-Links, ODUCn links can also be represented as TE-Links.
- Two ends of a TE-Link is able to know whether the TE-Link is supported by an ODUCn or an ODUk or an OTUk, as well as the resource related information (e.g., slot granularity, number of tributary slot available).

3
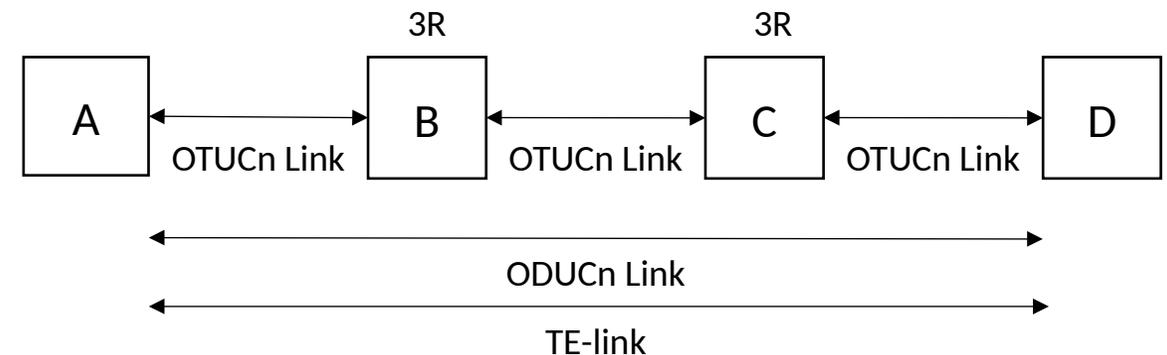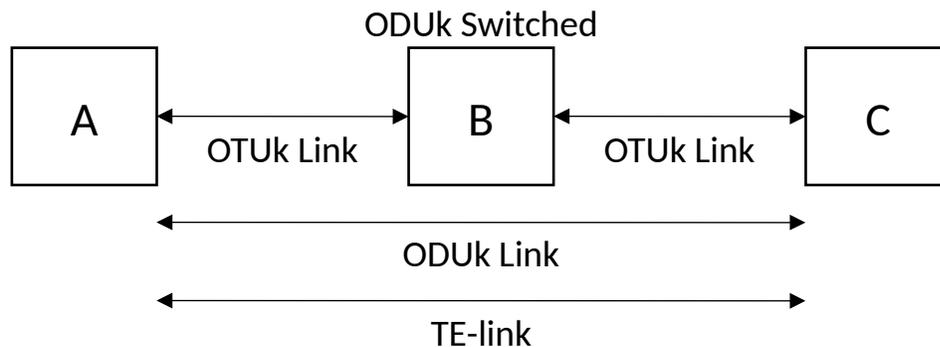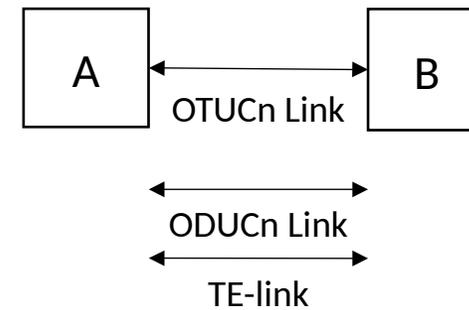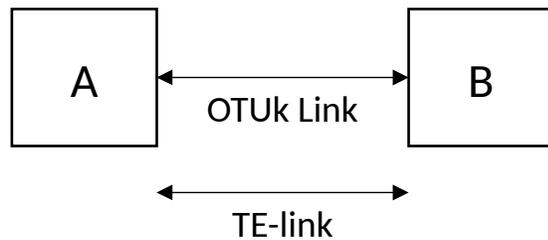
GMPLS Signalling Implication

- The resource on the ODUCn TE-Link can be seen by the client ODUk/ODUflex, the label defined in RFC7139 is able to be applied in the case of configuring ODUk/OD Uflex over ODUCn TE-Link.

- Example: Label format defined in RFC7139 for multiplexing ODU4 onto ODUC10. One ODUC10 has 200 5G slots, and twenty of them are allocated to the ODU4.

```
 0                   1                   2                   3
 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|          TPN = 3          |    Reserved    |    Length = 200       |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|0 1 1 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0|
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 1 0 0 0 0 0 0 0 1 0 0 0 0 0|
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0|
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|0 0 0 0 1 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0 1 0 0 0 0 0|
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|0 0 0 0 0 1 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0|
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|0 0 0 0 0 1 0 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0 1 0 0 0 0 0|
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|0 0 0 0 0 0 0 0|             Padding Bits(0)                     |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```

GMPLS Routing Implication

- Once one ODUCn link is up, the resources on it need to be advertised:
  - Similar to OTUk, ODUCn TE-Link is the ultimate hierarchy of the multiplexing, so there is no need to define a new ODUCn signal type for OSPF-TE extension defined in RFC7138.
  - No new ODUCn signal type is introduced, the SCSI filed carried in ISCD would not be changed, as current defined signal type can satisfy the needs.
  - Only one slot granularity is defined for ODUCn TE-Link, so there is no need to advertise this information as this information can be obtained by two ends of ODUCn link.

Conclusion

- Existing protocols defined in RFC7138 and RFC7139 can be reused in the case of configuring ODUk LSPs over ODUCn TE-Links without new protocol extensions.

- It would be useful to publish an Applicability Statement describing in details how these protocols can be reused.

Next steps

- Request for WG adoption