Requirements for GMPLS Routing for ASON

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Qilei Wang

Xihua Fu

Guoman Liu

ZTE Corporation

Background

- Base on the liaison response to COM 15 – LS314 from IETF to ITU. Some requirements in G.7715.1 are not completely met and rfc5787bis may not be the proper place to address them, and these requirements were not addressed in detail in RFC4258. So we submit this draft to address the requirements more.
- G.7715.1 is an ITU-T document which describes ASON routing architecture and requirements for link state protocols.

Requirements included in this draft

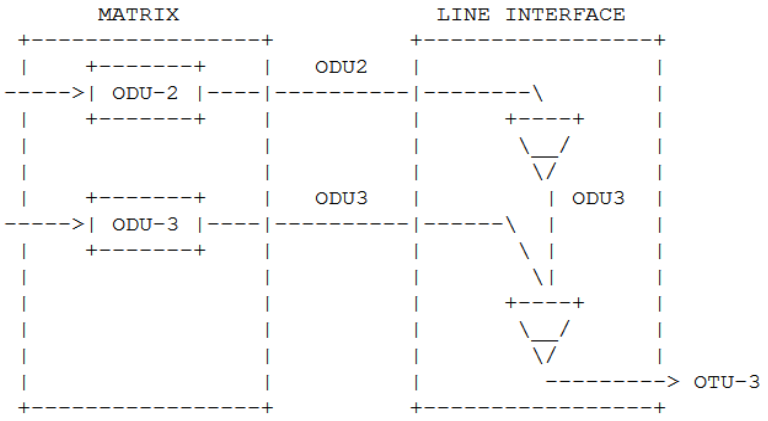
- According to the liaison, following slides show you the ASON routing requirements which is not addressed in RFC4258 in detail. These requirements are added to the link attributes description in the draft.

Requirements included in this draft (1)

- Support for per-layer attributes: while routing allow for different signal types to be advertised, they should also allow for different attributes to be advertised per signal type. Constructs are needed to carry the attributes information scoped to a layer (i.e., signal type) when advertising.

Requirements included in this draft (2)

- Support for endpoint termination/switching identification: routing should can be used to identify the layers that exist within regions (e.g., VC3 vs VC4 within TDM/SDH). The switching/termination capability information of a link end should be carried in the routing advertising message.
- An example from g709-info is shown below:



ODU2 can be multiplexed into ODU3 and ODU3 can be mapped into OTU3. In this case, the interface bandwidth advertising is ODU2 with switching capability and ODU3 with both termination and switching capability.

Requirements included in this draft (3)

- Identifying client adaptations support on a link end: mechanism SHOULD be introduced to identify the specific client adaption methods uniquely supported on a link end when multiple adaption methods exist between layers. A construct is needed here to identify specific client adaptation.

- Example: X.86 vs GFP, they both can be used in the situation of GE over SDH.

Next steps

- Refine the draft according to the feedback from the meeting or the mailing list.