

OSPF Routing Extension for links with variable discrete bandwidth

draft-long-ccamp-ospf-availability-extension-00

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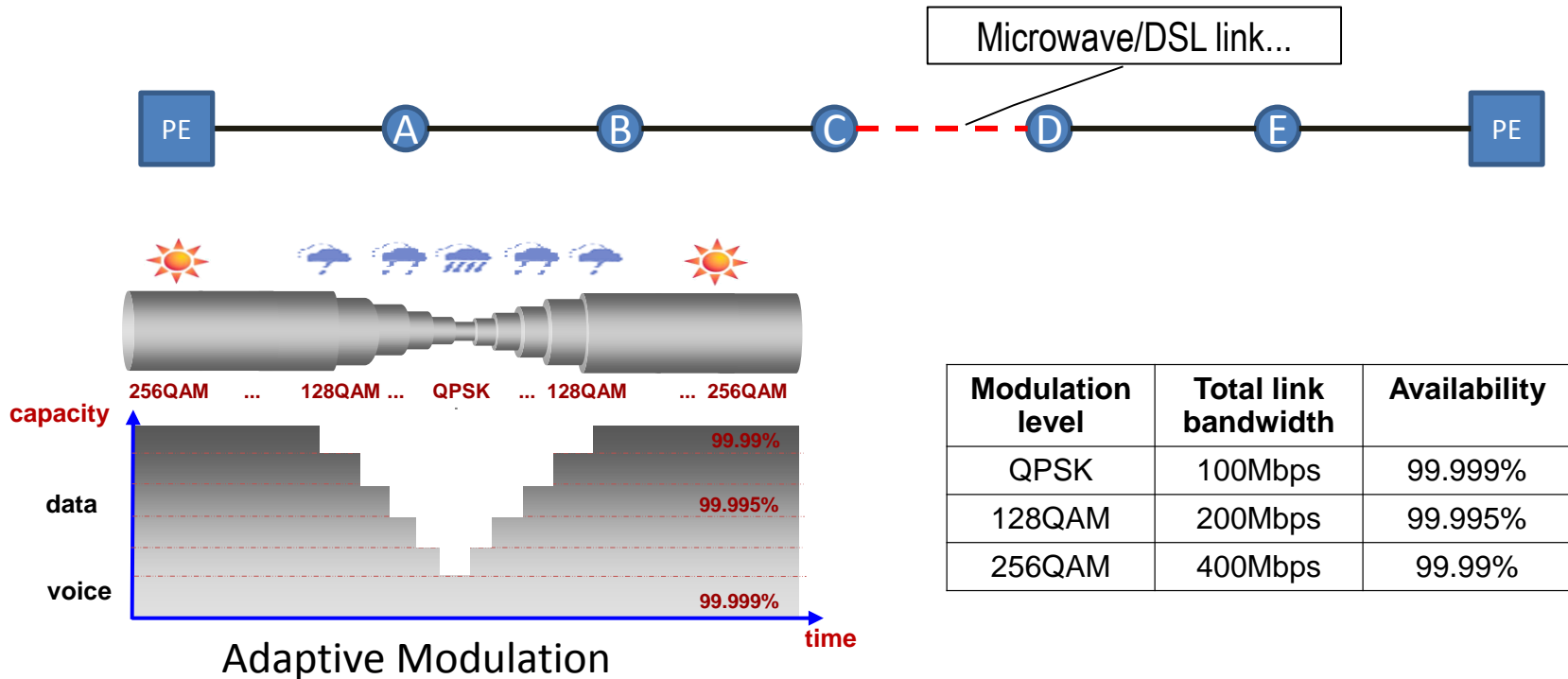
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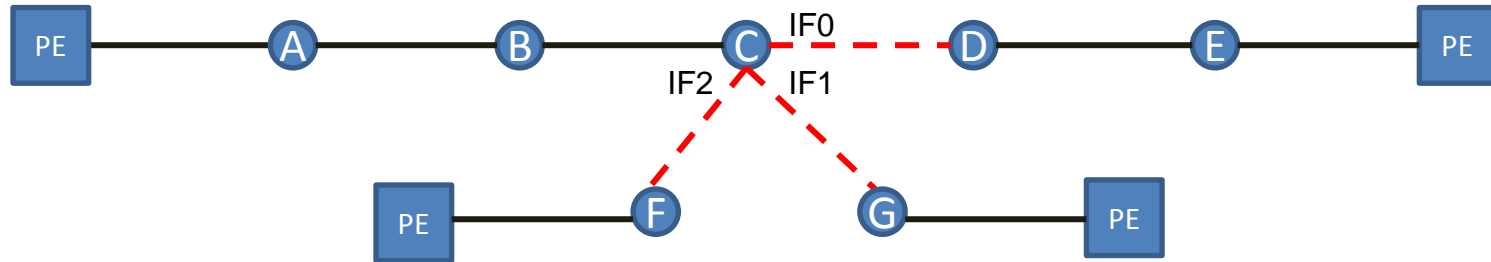
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Problem Statement



- Packet switching network may pass through the links with variable discrete bandwidth
 - Microwave: affected by environment, e.g., rain, fog, dust, snow,...
 - DSL: affected by environment, e.g., noise interference,....
- Availability is used to describe the bandwidth for such links.

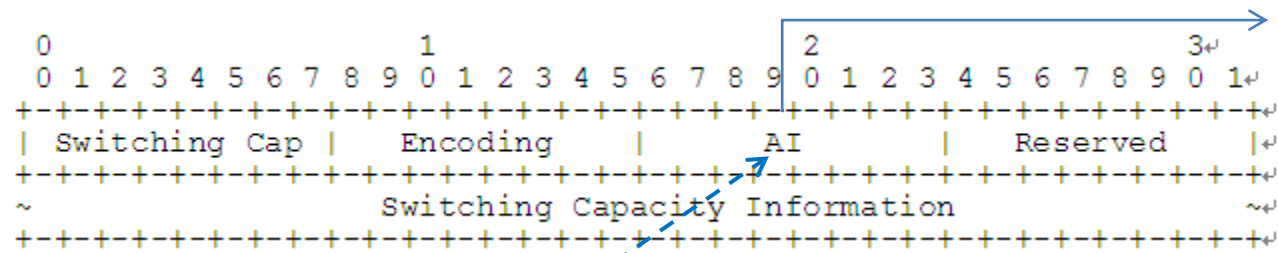
Proposed Solution



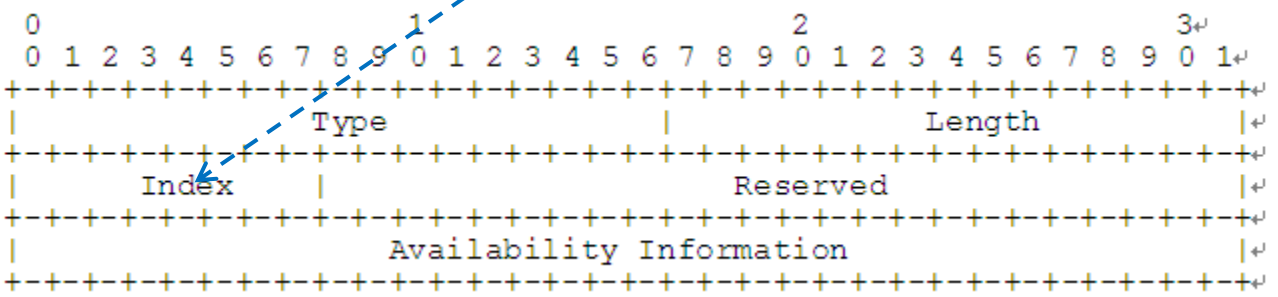
| LSA Header | | | |
|----------------------------|---------|-------------------------|---------|
| Link State ID | | | |
| Advertising Router | | | |
| Link State Sequence Number | | | |
| | | | |
| Link_ID0 | | IF0_IP_address | |
| Availability1 (99.99%) | 400Mbps | Availability2 (99.995%) | 200Mbps |
| Availability3 (99.999%) | 100Mbps | | |
| Link_ID1 | | IF1_IP_address | |
| Availability1 (99.9%) | 400Mbps | Availability2 (99.95%) | 350Mbps |
| Availability3 (99.99%) | 200Mbps | Availability4 (99.999%) | 100Mbps |
| Link_ID2 | | IF2_IP_address | |
| Availability1 (99.9%) | 400Mbps | Availability2 (99.95%) | 350Mbps |
| Availability3 (99.99%) | 200Mbps | Availability4 (99.999%) | 100Mbps |

- The routing message should carry availability information for routing computation.

Proposed Extension to Routing



Availability sub-TLV index : to indicate the index of availability sub-TLV



Availability sub-TLV

- Define an availability index field in the ISCD sub-TLV
- Define an availability sub-TLV to notify the availability information
 - RFC 4203 supports one link state advertisement message carries multiple ISCDs (interface switching capacity descriptor) for one interface. Extension is required for associating each ISCD sub-TLV with an availability sub-TLV by an index value

Next step

- Solicit comments
- Update draft for next meeting

Thanks