

OSPF Extensions for MPLS Green Traffic Engineering draft-li-ospf-ext-green-te-00

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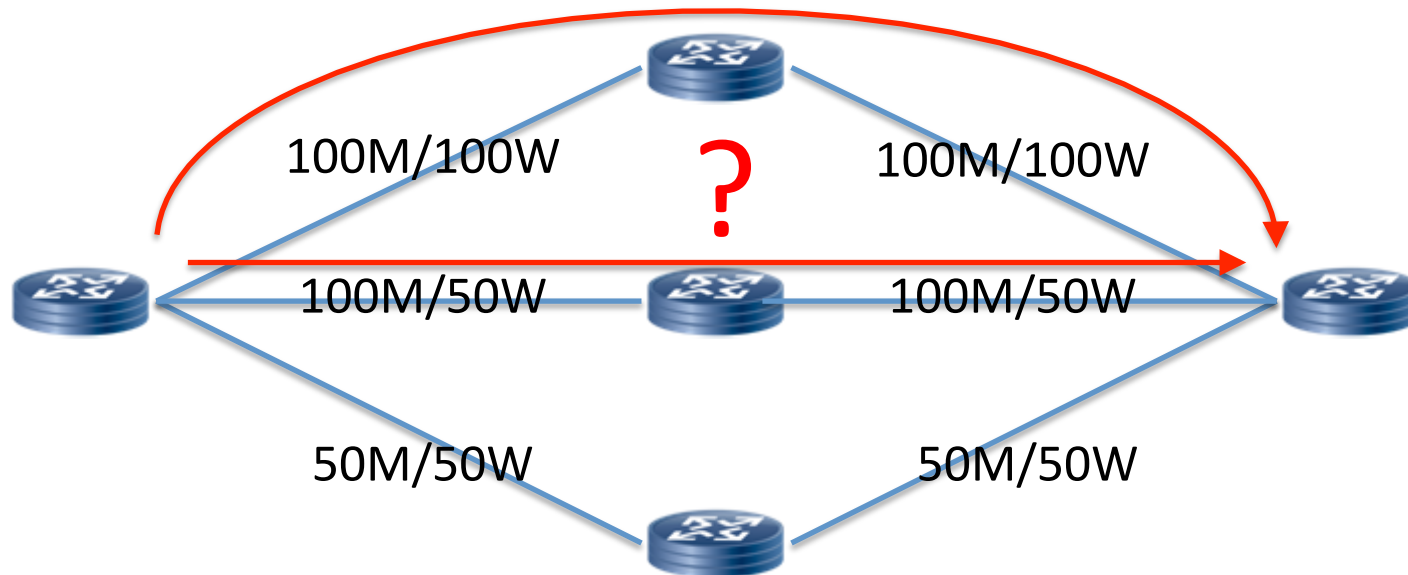
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Background Introduction

- Energy-saving is a very important global topic.
- Network equipments consume a lot of energy.
- How to control the energy consumption of network device?
 1. Hardware design of each node.
 2. How to reduce the E2E energy consumption of the whole network?

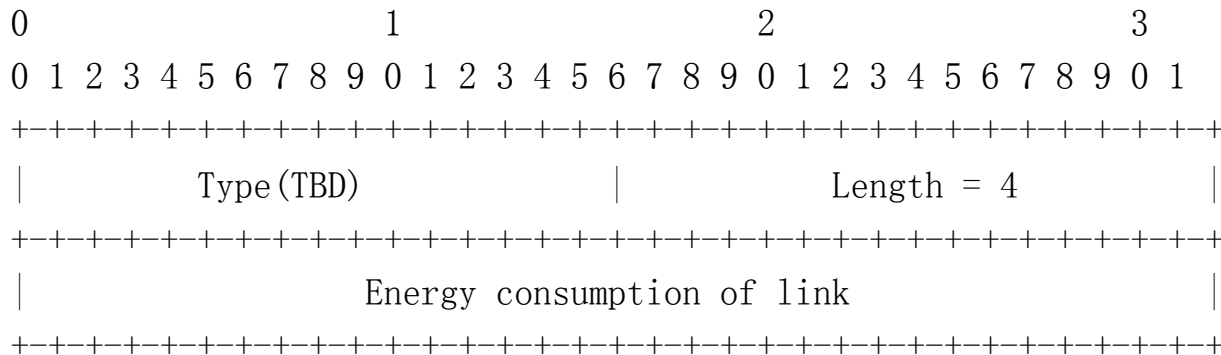
MPLS TE vs. MPLS Green TE

- MPLS TE is used to optimize the efficiency of network.
 - ✓ More constraints are included: Bandwidth, Color, TE Metric, SRLG.....
 - ✓ CSPF will calculate the path at first. Then RSVP-TE will make the tunnel.
- Does CSPF also consider the energy consumption of each link in the network? → MPLS Green TE



OSPF Extensions

- OSPF TE link LSA should be extended.
- The new TLV will be named as "Energy consumption of Link TLV". It is used to represent the energy will be consumed by the link.
- Its unit is Watts.



- The information will be flooded through the OSPF area with TE Link LSA.
- CSPF can use the information to calculate the path with the lowest energy consumption.

The Challenge.....

- Which will be considered at first?
 - ✓ TE Metric
 - ✓ Energy consumption
- How to calculate TE path?
 - ✓ Distributed
 - ✓ Centralized: SDN/PCE

Next Steps

- Welcome comments on what data related with energy-saving should be flooded and how to be used for path computation.