PBB-TE 1:1 Protection With Load Sharing

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The Intent of 1:1 Protection with Load Sharing

Normal traffic distributed between two ESPs which is paired as one Protection Group

- Distributing traffic to both ESPs
- Receiving traffic from two ESPs
When one ESP fails:

- Traffic from the failed ESP is switched to the other ESP, in the same way as 1:1 protection without load sharing.
Both ESPs are paired

- Service instances are distributed between two ESPs by a “shim” (Distribution Shim).
- Even though two ESPs have different VIDs, there is one Group VID for this protection group. The Group VID could be the VID for ESP-A, ESP-B, or a new VID value.

Load Distribution Shim. Traffic is distributed between the paired ESPs.
The Distribution Shim also perform the switching upon receiving Path Failure indication.
APS Shim proposed by Dave Martin is now called “Distribution Shim”, which has the same functions, with the extra capability of distributing service instances among 2 ESPs when both ESPs are working.
Benefit of 1:1 protection with load sharing

- Less number of service instances to switch over when one failure occurs => less traffic is impacted by the failure.
- Allow distribution of traffic for given ESPs across multiple routes.
- When PBB and PBB-TE running together over same network, 1:1 protection with load sharing gives better bandwidth utilization to best effort traffic.