Proposals for PBB-TE Segment Protection

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Background review

- **IEEE P802.1Qay defines an end-to-end resiliency mechanism that offers end-to-end 1:1 bidirectional linear protection switching capable of load sharing for point-to-point TESIs in a PBB-TE Region**
- **In the past meeting, many experts have presented the requirements for PBB-TE segment protection**

Background review* (cont'd)

- **Segment protection requirements including:**
  - **Protection Entity**
    - **TESI (datapath) segment**
    - **Infrastructure segment**
  - **M:1 protection (for both TESI segment and infrastructure segment)**
- **PtMP TESI protection**
  - **802.1Qay does not define protection for PtMP TESI. Segment TESI protection can offer protection for PtMP TESI.**

**new-sultan-segment-protection-requirements-1108-v01.pdf*

new-Protection-Vinod-Case-for-Segment-Protection-0908-v1

new-martin-PBB-TE-segment-prot-0109-v00.pdf

ay-Abhay-Protection-Switching-for-P2MP-0508

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- **3-tuple-switch model for segment protection**
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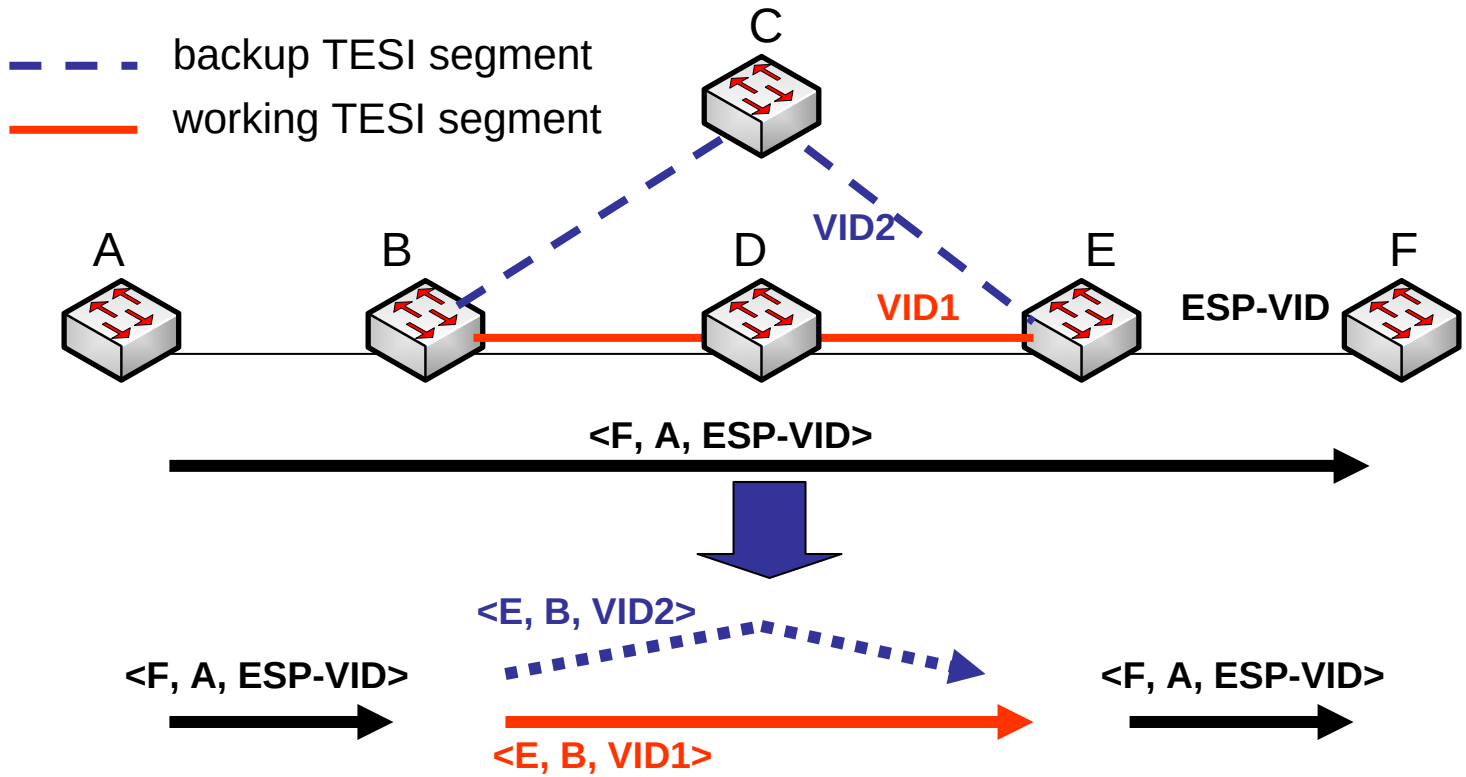
3-tuple-switch model



- **Update BCBs at the endpoints of the segment to new BEBs.**
- **Original <ESP 3-tuple> of a frame will be mapped to a *new* <ESP 3-tuple> within the segment and will be recovered when it leaves the segment**

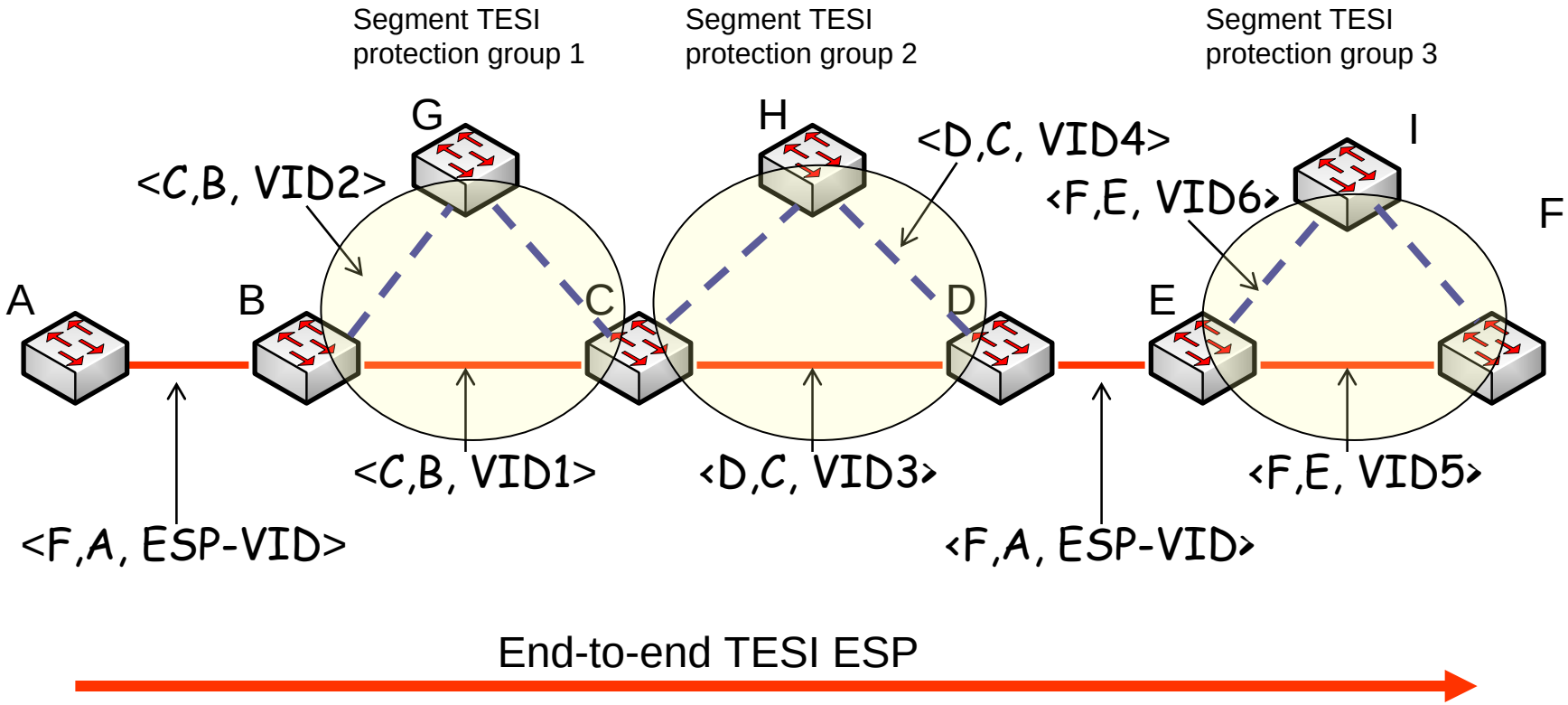
3-tuple-switch model (cont'd)

- **Frame at segment ingress/egress**

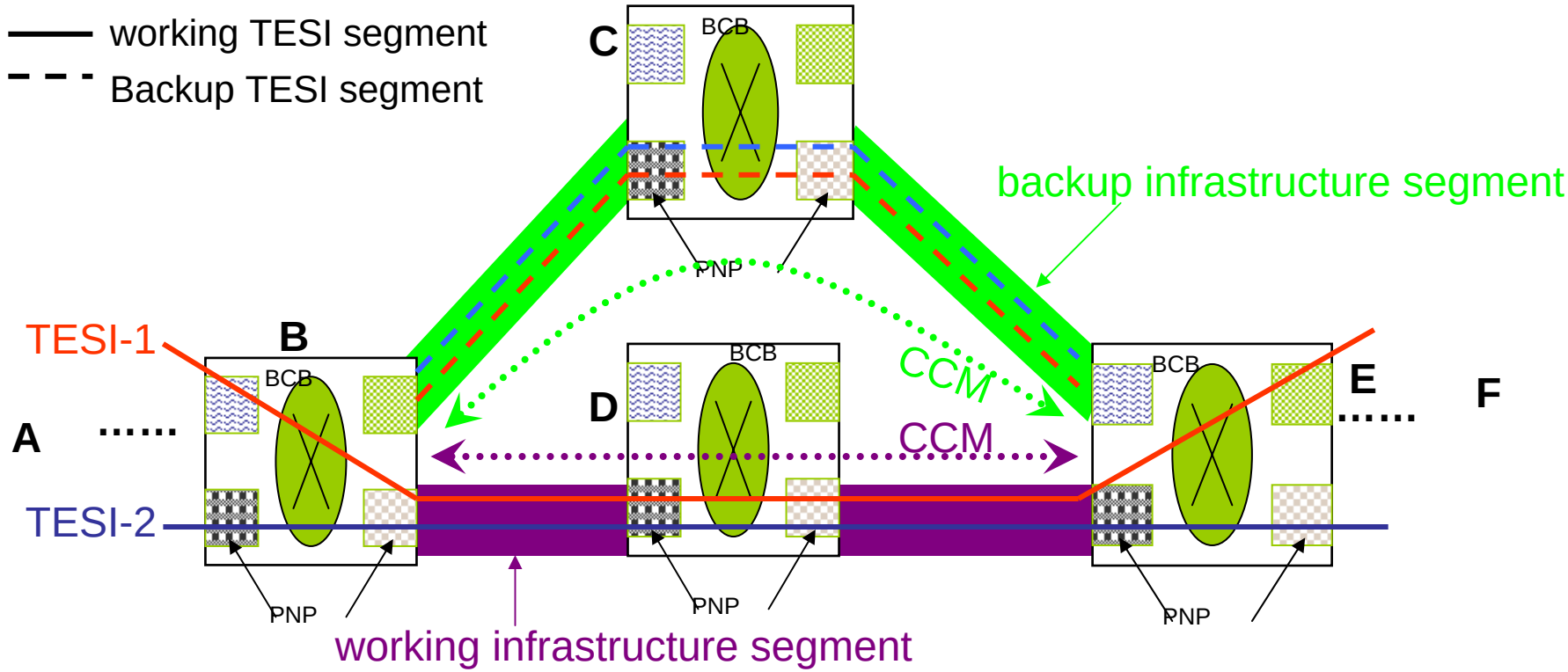
- **Frame within segment**

- **VID2 ≠VID1**
- **If we regard <ESP 3-tuple> as a "label" , it's like "label-switch"**
- **Since an e2e TESI inside a segment is a totally new TESI, segment TESI protection is just the same as e2e TESI protection.**

3-tuple-switch model expanded view



3-tuple-switch model for infrastructure segment protection



- **3-tuple-switch model can easily support infrastructure segment protection as well as TESI segment protection**
  - **Introduce MAs between nodes B and E on working and backup infrastructure segment.**
  - **CCM addresses are the MACs of the associated PNPs**

Summary of 3-tuple-switch model

- **Update BCBs or BEBs at the endpoints of the segment to support <ESP 3-tuple> mapping.**
- **Support TESI segment and infrastructure segment protection**
- **Needn’t define a new protection mechanism**
- **Frame size is not increased**

THANK YOU!