# PBB-TE Protection Requirements Summary

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**v00**

**IEEE P802.1Qay**
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# Sources

- **ay-mcguire-linear-121-protsw-0709-v1.pdf** (actually 0907)
- **ay-roese-APS-protocol-1107-v01.pdf**
- **ay-ohta-ps-requirements-0803-v02.pdf** (actually 0308)
- **ay-thorpe-aps-reqts-0308.pdf**
- **ay-Oliva-Protection-Switching-Requirements-0508.ppt**

**Notes:**

**The summary captured here does not include requirements that have come in via ballot comments**

**Only incrementally new requirements (chronologically) have been extracted from each presentation to avoid repetition**

# **Requirements** [mcguire]

1. **Operating on a per tunnel basis (not per I-SID)**
2. **Protection can be offered or not**
3. **1:1 protection**
4. **Bidirectional switching**
5. **100% of impaired working traffic should be protected**
6. **Working, protection entity connectivity should be periodically monitored**
7. **Subsequent to a protection switching event frames should be delivered in-order**
8. **Protection entity is dedicated to the working entity**
9. **No extra traffic on protection entity**
10. **Both directions of working (protection) should be co-routed for operational simplicity**

# Requirements [mcguire] (cont'd)

11. Revertive and non-revertive switching should be provided as options
12. Lock-out of protection and manual switch commands should be supported
13. Unidirectional failure on working path triggers bidirectional switching action

# Requirements [roese]

14. **Support for Force switch operator request**
15. **An operator request should not cause a prolonged traffic hit (e.g., beyond 50ms)**

# Requirements [ohta]

16. A mismatch between the bridge/selector positions of the near end and the far end should be detected, and also across an NNI for multi-domain case
17. The bridge/selector mismatch should be cleared by a network operator
18. Detect when the near end is set up in revertive mode and the far end is set up in non-revertive mode by mistake
19. Prioritized protection between Signal Fail and operator requests should be supported
20. Applicability to NNI/multi-domain case can also be a basic requirement
21. An operator request should not cause a prolonged traffic hit (e.g., beyond 50ms) for a protected domain across an NNI

# Requirements [ohta] (cont'd)

22. If there is contention between operator commands (MS, FS or LoP) and the local/remote request/defect status, the one with the highest priority should be selected, including across an NNI
23. The solution used by P802.1Qay should be future proof to allow evolution to multi-domain
24. It should be avoided creating/using two (or more) standards to solve one problem

# Requirements [thorp]

25. Provide fast and reliable delivery of operator requests to both ends of a protected domain
26. Avoid requiring NMS/EMS dual-ended support for an operator request
27. Support operator requests directly from an NE at one end of a protected domain (an IB-BEB)

# Requirements [oliva]

28. **Post-protection-switching PBB-TE protection bridge configurations must be audited to ensure compatible operation took place at both ends following a switch**
29. **Following detection of a bridge/selector mismatch, an attempt to correct the mismatch must be made by the 802.1 protection switching process.**
30. **End to end protection switching process communication over TE paths must be straightforward and robust**

# D3.0 Issues (DWM's understanding)

**Mis-ordered Frames**
**7 [mcguire]**

**Bridge / Selector Mismatch**
**16 [ohta]**
**28 [oliva]**

Solutions discussed / planned

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**B-S Mismatch Correction By APS**
**29 [oliva]**

**Single-ended Operator Requests**
**25-27 [thorpe]**

**Multi-domain Support**
**20-23 [ohta]**

Not currently planning to address