SPB Path Control and Reservation (SPB-PCR)

work proposal

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SPB-PCR

- Enhance IEEE 802.1aq SPB in order to provide
  - Explicit control of choice of forwarding paths
    - thus being able to deviate from shortest path: explicitly engineered
      p2p and p2mp trees
  - Define bandwidth reservation mechanisms
  - Support for protection schemes (e.g. 1+1, 1:1) such that restoration
does not spoil protection
  - Use of IS-IS to flood application parameters, e.g.
    - for 802.1ASbt time synchronization
    - for 802.1Qbv scheduling windows?
- The project involves
  - Leveraging existing technology base where possible
    - IS-IS TE sub-TLVs
    - 802.1 protection switching
  - Potentially specify new 802.1 sub-TLVs to IS-IS in order to provide the
    additional enhancements
Application Examples

• 1+1 protection
  • Frame F sent by A to B
  • S4 replicates F
  • F and F’ are sent to S2
  • F or F’ is forwarded to B
  • Neither path P1 nor P2 are updated during IS-IS restoration (at least for a while, and never at the same time)

• Reservation and using a non-shortest path
  • Yellow traffic is forwarded on shortest path
  • Blue traffic has reservation on a non-shortest path
Work Plan

• This meeting
  – Motion for authorizing the September Interim to develop a PAR and 5C on SPB-PCR, and authorizing the 802.1 Chair to pre-circulate the draft PAR/5C to the EC >30 days before the November 2012 meeting

• September Interim
  – Write PAR and 5C

• November Plenary
  – Motion on PAR and 5C

• December
  – NESCOM decision on PAR if it passes Motion at November Plenary