



802.17b

Spatially aware sublayer on RPR

5 Criteria

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Broad market potential

- Target market for RPR are service providers and network operators offering Ethernet services
 - In particular, service providers and network operators with a strong drive for bandwidth efficiency on the media in that market
- Efficiency improvements of RPR ring BW utilization widens the adoption of RPR for LAN/MAN networks
 - “Bridging in RPR Networks” – Amund Kvalbein (University of Oslo) shows the improvement in network performance when using an approach equivalent to the Spatially aware sublayer is used
 - Comparable savings/benefits when moving from a hub (un-switched) network to a switched network
- Spatially aware bridging was originally part of the draft standard and the WG chose to defer the work in order to maintain schedule



Compatibility

- Compatible/consistent with base 802.17 and 802.17a standards
- Makes no changes to 802.1 sub layer service interfaces (802.1D ISS, 802.1Q E-ISS)



Distinct identity

- There is are no other standards specifying enhancements to spatial reuse over RPR



Technical feasibility

- Proprietary implementations of RPR provide spatial reuse for non ring-local traffic (e.g., 802.1D/Q bridging) and are currently deployed by major service providers



Economic feasibility

- The optional RPR MAC sublayer that provides spatially aware bridging can be reasonably implemented in network processor, FPGA or ASIC technologies
- By not changing base 802.17 specification and maintaining compatibility with 802.1 specifications, existing implementations can be leveraged, minimizing the overall solution cost
- Existing deployment of proprietary implementations of this technology demonstrates economic viability for service providers