5 Criteria for P802.17c

1 Broad Market Potential

A standards project authorized by IEEE 802 shall have a broad market potential. Specifically, it shall have the potential for:
a) Broad sets of applicability.
b) Multiple vendors and numerous users.
c) Balanced costs (LAN versus attached stations).

It is common for carriers and enterprises to deploy transport equipment in dual-interconnected rings topologies for protection across the interconnection. RPR targets both of these markets and requires equivalent function.

Carriers have expressed a requirement for dual-interconnected rings to replace legacy carrier class solutions (SONET/SDH) and some are beginning to deploy proprietary solutions that augment the MAC with additional signaling protocols and a filtering capability. The signaling protocol extends the existing rapid restoration mechanism. The filtering mechanism distributes traffic between the two nodes and insures that a network loop between the interconnected rings does not exist.

The costs related to this technology are a small increment on top of existing RPR technology based on 802.17-2004 or 802.17b-2007.

2 Compatibility

IEEE 802 defines a family of standards. All standards shall be in conformance with the IEEE 802.1 Architecture, Management and Interworking documents as follows: 802. Overview and Architecture, 802.1D, 802.1Q, and parts of 802.1F. If any variances in conformance emerge, they shall be thoroughly disclosed and reviewed with 802. Each standard in the IEEE 802 family of standards shall include a definition of managed objects which are compatible with systems management standards.

The proposed amendment is compatible and consistent with base 802.17, 802.17a, and 802.17b standards.

The proposed amendment makes no change to the 802.1 standards and is compatible with sublayer service interfaces (802.1D ISS, 802.1Q E-ISS).

3 Distinct Identity

Each IEEE 802 standard shall have a distinct identity. To achieve this, each authorized project shall be:
a) Substantially different from other IEEE 802 standards.
b) One unique solution per problem (not two solutions to a problem).
c) Easy for the document reader to select the relevant specification.

There are no other standards specifying a method of sub-50 ms failover to provide protection across the domain of dual-interconnected rings. The standard will provide for more flexible load balancing across the dual points of ring interconnection as compared to current standards. The scope of the protocol is focused on the two stations implementing the interconnection point between rings

4 Technical Feasibility

For a project to be authorized, it shall be able to show its technical feasibility. At a minimum, the proposed project shall show:
a) Demonstrated system feasibility.
b) Proven technology, reasonable testing.
c) Confidence in reliability.

The proposed standard will be based on existing, proven, standard RPR technology augmented with minimal hardware and software changes. Proprietary implementations of PIRC are already deployed, hence there is very little technical risk.

5 Economic Feasibility

For a project to be authorized, it shall be able to show economic feasibility (so far as can reasonably be estimated), for its intended applications. At a minimum, the proposed project shall show:
a) Known cost factors, reliable data.
b) Reasonable cost for performance.
c) Consideration of installation costs.

There is the expectation that this standard can be implemented without any changes to existing hardware. Therefore the cost should remain similar to the cost of current implementations of RPR technology.