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.
Redundant connections between two networks, or a network and an end station, with both sides under separate administration, are increasingly common, especially in the Ethernet service provider market.

b) Multiple vendors and numerous users
Several vendors offer non-interoperable implementations of Link Aggregation with resilient external network interconnect capabilities, not tied specifically to 802.3 media, and they are widely deployed.

c) Balanced costs (LAN versus attached stations)
The changes to Link Aggregation have no effect on the balance of costs with respect to existing technology other than the well-known trade-offs between enhanced capabilities and enhanced software complexity.

2. Compatibility

- IEEE 802 defines a family of standards. All standards shall be in conformance with the IEEE 802.1 Architecture, Management and Interworking standards 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.

  A device implementing the new version of LACP will interoperate with devices implementing previous versions of LACP.

- Each standard in the IEEE 802 family of standards shall include a definition of managed objects which are compatible with systems management standards.

  Such a definition will be included.

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.
There is only one link aggregation standard in IEEE 802.
There are none for resilient multi-node interconnects.

b) One unique solution per problem (not two solutions to a problem).
As this project enhances the only existing IEEE 802 standard for link aggregation, it does not create a second solution.

c) Easy for the document reader to select the relevant specification.
IEEE Std 802.1AX is the only current IEEE 802 standard for link aggregation, and there are none for resilient multi-node interconnects.

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.
Similar techniques have been deployed as proprietary enhancements to IEEE 802 link aggregation. The redundancy and isolation techniques of DRNI are straightforward applications of existing bridge components as described in IEEE 802.1Q and its amendments.

b) Proven technology, reasonable testing.
Link aggregation and bridge component definitions are proven technologies, and test methodologies are well understood.

c) Confidence in reliability.
Link Aggregation is often deployed to enhance the reliability of data communication networks. The intended changes improve this aspect of the Link Aggregation capability. By isolating the fault recovery and load sharing capabilities of different networks that are interconnected by this new standard, the reliability of the combined network is enhanced.

d) Coexistence of 802 wireless standards specifying devices for unlicensed operation.
Not applicable.

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.
Existing implementations have demonstrated that the impact of the proposed changes are commensurate with the benefits obtained.

b) Reasonable cost for performance.
The proposed changes have negligible impact on the cost factors applicable to Link Aggregation or bridging.

c) Consideration of installation costs.
The proposed standard specifies the negotiation required between network administrations to interconnect their networks. This is consequent to and commensurate to the new capabilities offered, and eliminates a large amount of effort currently expended in the absence of a standard.