# Five Criteria for 802.1AXb? – Link Aggregation Amendment: Resilient Network Network Interface

## 1. Broad Market Potential

### a. Broad sets of applicability

Connections between a Bridged LAN on the one hand, and on the other, either another Bridged LAN or a single bridge, 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 network network interface capabilities, 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

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

## 3. Distinct Identity

### a. Substantially different from other IEEE 802 standards

There is only one link aggregation standard in IEEE 802. There are none for Network Network Interfaces.

### 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 Network Network Interfaces.

## 4. Technical Feasibility

### a. Demonstrated system feasibility

Similar techniques have been deployed as proprietary enhancements to IEEE 802 link aggregation. The redundancy and isolation techniques 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 definition 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

### a. Known cost factors, reliable data

The proposed changes have no impact on the cost factors applicable to link aggregation, as the necessary changes are in the software control plane.

### b. Reasonable cost for performance

The proposed changes have negligible impact on the cost factors applicable to link aggregation or provider bridging.

### c. Consideration of installation costs

The proposed changes require a certain amount of inter-provider negotiation to configure a connection between their networks. This is consequent to and commensurate to the new capabilities offered, and eliminates a large amount of similar effort currently required in the absence of a standard.