5 CRITERIA:

1. Broad Market Potential
   Broad set(s) of applications
   Multiple vendors, multiple users
   Balance cost, LAN vs. attached stations

   Many applications and environments will benefit from this capability, in particular:
   - The ability to incrementally scale the bandwidth and increase the availability of server connections to the network and of switch-to-switch connections within the network.
   - Provide a network upgrade path utilizing existing physical layer media and the corresponding supported distances as existing 802.3 technology.

   Multiple vendors and users have demonstrated interest by attending the "Trunking and Link Aggregation" tutorial, attending the preliminary study group meeting, and subscribing to the "stds-802-3-trunking" e-mail reflector. Additionally, many vendors have brought products to market that aggregate parallel 802.3 links into a single logical link in some manner. ??? participants from ??? companies have indicated their support for creating an interoperable standard.

   When link aggregation is used for attaching end-stations to the network, the cost is balanced between the LAN and the attached station by requiring a symmetrical number of MACs and physical layer connections at each end of the aggregated link.

2. Compatibility with IEEE standard 802.3
   Conformance with CSMA/CD MAC, PLS
   Conformance with 802.2
   Conformance with 802 FR

   The proposed standard will conform to the CSMA/CD MAC and PLS, with currently authorized extensions.

   The proposed standard will conform to the 802.2 LLC interface.

   The proposed standard will conform to the 802 Functional Requirements document.

3. Distinct Identity
   Substantially different from other 802.3 specs / solutions
   Unique solution for problem (not two alternatives / problem)
   Easy for document reader to select relevant spec

   The proposed standard is an upgrade for 802.3 users, based upon the 802.3 CSMA/CD MAC. It differs from other 802.3 specifications and solutions in that it enables users to operate network connections at bandwidths incremental to those specified in current 802.3 standards.

   The proposed standard will be the only solution achieving linearly scaleable bandwidth per network connection, while simultaneously providing high availability and reliability through multiple links. Additionally, the proposed standard will achieve this without requiring the development of a new physical layer.

   The proposed standard will be a supplement to the existing 802.3 standard and will be formatted as a new clause(s) , making it easy for the reader to select the relevant specification.

4. Technical Feasibility
   Demonstrated feasibility; reports – working models
   Proven technology, reasonable testing
   Confidence in reliability

Technical feasibility has been demonstrated in widely deployed products from numerous vendors, which provide link aggregation capabilities similar to those proposed for this standard. These capabilities provide a new operating mode layered upon the existing and well-proven 802.3 MAC and Physical Layer technologies. In particular, the proposed standard would not require the development of a new physical layer or a new physical medium.

5. Economic Feasibility

Cost factors known, reliable data
Reasonable cost for performance expected
Total installation costs considered

The cost factors for the existing standard can be extrapolated from the cost of current 802.3 technologies, and will benefit from the "economy of scale" of the very large installed base and market forecasts for 802.3 technology.

The incremental cost of aggregating multiple links is not expected to be a significant increase over the sum of the cost of the individual links. Because the performance increases in proportion to the number of links, the cost will scale linearly with the performance.

Link aggregation is a very cost effective way of adding bandwidth to a network installation, because it does not require the adoption and installation of new Data Link Layer or Physical Layer technologies.