

5 Criteria Examples

- PoE

<http://www.ieee802.org/3/af/criteria.pdf>

- Frame Expansion

http://www.ieee802.org/3/as/public/802_3as_5_criteria.pdf

5 Criteria

Broad Market Potential

- Broad set(s) of applications.
In 2005, VDC market predictions claim that 45% of all Ethernet ports shipped will support 802.3af. There is a demonstrated need for more power to support PTZ security cameras, multiband wireless access points, IP videophones, POS terminals, thin client, 802.16, laptop computers and RFID readers. The proposed increase in the supplied power will result in a potential doubling or tripling of the PoE market.
- Multiple vendors, multiple users.
At the Call for Interest, 43 individuals from 22 companies supported this initiative, and 27 organizations stated an intention to work on the development of such a standard. There are existing proprietary solutions in the market demonstrating an active demand. The goal of the standard is to reduce the issue of interoperability in the powered LAN market.
- Balance cost, LAN vs. attached stations.
For some markets the cost of providing AC power is a barrier to the use of a LAN solution. Increasing the power available at the MDI will increase the market potential and station functionality.

5 Criteria

Compatibility with IEEE Standard 802.3

- Conformance with CSMA/ CD MAC, PLS.
All enhancements will backward compatible with 802.3af. And be compatible with 10BASE-T, 100BASE-TX, 1000BASE-T, and do no harm to 10GBASE-T with no changes to the existing MAC.
- Conformance with 802.2.
There will be no changes to the current MAC client interface
- Conformance with 802.1D, 802.1Q and 802.
The proposed standard will conform to the 802.1D, 802.1Q and 802.

5 Criteria

Distinct Identity

- Substantially different from other 802.3 specifications/ solutions.
The project will increase the PD load from 12.95W to a minimum of 30W. This needs work!!!
- Unique solution for problem (not two alternatives/ problem).
- Easy for document reader to select relevant spec.
The project will edit and enhance Clause 33 which is the only 802.3 clause that provides power over the MDI; which will ensure that the power specification is unique and easy to find within the 802.3 document.

5 Criteria

Technical Feasibility

- Demonstrated feasibility; reports - - working models.
At least five vendors are shipping products, based on proprietary schemes, which exceed the power limits of 802.3af specification. Numerous studies indicate methods for increasing power are viable for standardization.
- Proven technology, reasonable testing.
- Confidence in reliability.
PoE technology has been used in the field for at least six years, 802.3af has been published for over two years. In 2004 an estimated 28 million PSE ports shipped according to EDN and VDC. Laboratory testing on extended power has been performed and reported to the Study Group.

5 Criteria

Economic Feasibility

- Cost factors known, reliable data.
Extrapolation from the experience of 802.3af provides a reliable baseline.
- Reasonable cost for performance expected.
In the expected range of increased power capability, the cost increase is a declining curve of cost per watt. Intelligent power management will further reduce the cost of the increased capability.
- Total Installation costs considered.
PoE installation costs vs. traditional powering methods have been demonstrated to be significantly lower in many cases.