

# Proposed Responses

## IEEE P802.3dw draft PAR & CSD review by IEEE 802 Working Groups as modified during meeting

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# PAR Comment Responses

IEEE P802.3dw PAR Review by IEEE 802 Working Groups

## PAR item 2.1 – Project title

Project title: Standard for Ethernet Amendment:  
Ethernet and Fault Managed Power (FMP)

Help text: The title of the base standard is uneditable. Please enter the amendment title in the text box. The title should be sufficiently unambiguous, understandable by NesCom member not from the society that submitted the PAR. All acronyms shall be spelled out in the title.

### Comment from IEEE 802.15 WG

“Is there coordination with IEEE Power Engineering Society (PES) or Product Safety Engineering Society (PSES) on this project? It seems that this may have implications for PES stakeholders?”

## EFMP SG Response

The proposed project is focused on interoperability of FMP with Ethernet. This project is known in the industry. One example is the National Electrical Code is in a revision cycle. A public input called out the project and known members of PES are in that group. The PAR stakeholders section is intended to notify industry participants who may have interest.

## PAR item 5.2B – Project scope

### 5.2B Scope of the Project:

The scope of the project is the specification of optional Fault Managed Power (FMP) delivery on Ethernet cabling, and additions and modifications to Physical Layer (including reconciliation sublayer) specifications and management parameters to support FMP.

Help text: State what the Amendment is changing or adding.

### Comment from IEEE 802.1 WG

Change “The scope of the project is ...” to “This amendment adds ...”

### Comment from IEEE 802.11WG

“This project specifies optional Fault Managed Power (FMP) delivery on Ethernet cabling with additions and modifications to the Physical Layer (PHY) (including reconciliation sublayer) and management parameters.”

## EFMP SG Response

The proposed change makes a direct, forward-looking statement about what the project will result in specifying rather than a bounding statement as to what scope the project may consider specifying. A bounding statement is appropriate for PAR item 5.2B. The text is also in harmony with recently SASB-approved PARs P802.3ds and P802.3dt, as well as P802.3dv.

## PAR item 5.5 – Project need

### 5.5 Need for the Project:

The success of Power over Ethernet (PoE) has created demand for power over Ethernet cabling that exceeds the maximum PoE power of 71.3 W. Updates to safety standards have enabled a new method, FMP, that can deliver up to several kilowatts over appropriate Ethernet Cabling while constraining the energy delivered into a fault. The specification of FMP operation on Ethernet cabling is needed to provide an interoperable method to meet the increased power demands. It is also necessary to specify concurrent operation between FMP and Ethernet to mitigate potential interference from FMP, which could cause data loss. This interference could occur within the cabling for twisted-pair Ethernet as well as within the port for both twisted-pair and fiber-optic Ethernet.

The need for the project details the specific problem that the standard will resolve and the benefit that users will gain by the publication of the standard. The need statement should be brief, no longer than a few sentences.

### Comment from IEEE 802.1 WG

No comment offered.

### Comment from IEEE 802.11WG

Change to “The success of Power over Ethernet (PoE) has created demand for power delivery over Ethernet cabling that exceeds it’s limit of 71.3 W.”

## Response from EFMP Study Group

Modify PAR item 5.5 text, “The success of Power over Ethernet (PoE) has created demand for power **delivery** over Ethernet cabling that exceeds it’s limit of 71.3 W.”

## PAR item 5.6 – Stakeholders

### 5.6 Stakeholders for the Standard:

Ethernet component providers (e.g., cabling, magnetics, and integrated circuit), system product providers (e.g., switch and end stations), network providers (e.g., installers, network support), and network implementers (e.g., enterprise, building automation, and industrial automation).

The stakeholders (e.g., telecom, medical, environmental) for the standard consist of any parties that have an interest in or may be impacted by the development of the standard.

### Comment from IEEE 802.1 WG

Change “switches” to “bridges”

### Comment from IEEE 802.11WG

No comment offered

## Response from EFMP Study Group

Modify PAR item 5.6 text, “... system product providers (e.g., switches and associated networking equipment)”

# CSD Comment Responses

IEEE P802.3dw CSD Review by IEEE 802 Working Groups

## Broad Market Potential

Each proposed IEEE 802 LMSC standard shall have broad market potential. At a minimum, address the following areas:

- a) Broad sets of applicability.
- b) Multiple vendors and numerous users.

Broad sets of applicability:

- Numerous devices require more than the maximum power (71.3 W) currently available from PoE with data rates that span the whole bandwidth gamut provided by Ethernet (Mb/s to 100s of Gb/s). FMP expands upon the success of PoE by bringing Ethernet and power to applications requiring greater than 100 W. Examples include 5G transmitters, distributed antenna systems, remotely-powered ICT equipment, small and large consumer appliances, HVAC units, EV chargers, and data center equipment.

Multiple vendors and numerous users:

At the Call for Interest, 19 individuals from 14 affiliations indicated they would support this project. The responding individuals include subject matter experts with experience in ICT equipment, infrastructure, silicon, cabling, connector, and test equipment vendors.

### Comment from IEEE 802.1 WG

Spell out PoE, FMP, ICT, HVAC, EV at first use.  
Align subsequent slides.

### Comment from IEEE 802.11WG

No comments offered

## Response from EFMP Study Group

Modify Broad Market Potential response to spell out acronyms, PoE – Power over Ethernet, FMP – Fault Managed Power, ICT – Information & Communications Technology, HVAC – Heating, Ventilation, & Air Conditioning, EV – Electric Vehicle.



## Compatibility

Each proposed IEEE 802 LMSC standard should be in conformance with IEEE Std 802, IEEE 802.1AC, and IEEE 802.1Q. If any variances in conformance emerge, they shall be thoroughly disclosed and reviewed with IEEE 802.1 WG prior to submitting a PAR to the Standards Committee.

- a) Will the proposed standard comply with IEEE Std 802, IEEE Std 802.1AC and IEEE Std 802.1Q?
  - b) If the answer to a) is “no”, supply the response from the IEEE 802.1 WG.
  - c) [Compatibility with IEEE Std 802.3](#)
  - d) [Conformance with the IEEE Std 802.3 MAC](#)
- a) As an amendment to IEEE Std 802.3 the proposed project shall comply with IEEE Std 802, IEEE Std 802.1AC and IEEE Std 802.1Q.
- b) Answer was yes, NA
- c) & d) By utilizing the existing IEEE Std 802.3 MAC protocol, this proposed amendment will maintain compatibility with the installed base of Ethernet nodes.

**Comment from IEEE 802.1 WG**  
Change a) to “Yes”

**Comment from IEEE 802.11WG**  
No comments offered

## Response from EFMP Study Group

Modify Compatibility text, change answer a) to Yes.