Cl **00**   *SC* **0**   *P*   *L*   # I-3

Berger, Catherine   Editorial Coordination

Comment Type **GR**   *Comment Status* **A**

Interspersed normative and informative text is not allowed. As such, neither clauses nor subclauses shall be labeled as informative. Currently you have many subclauses labeled as "(informative)". These labels will need to be removed and all subclauses with the main body of the text will be considered normative as per their placement in the document. Anything that really needs to be informative only should be set in a note or appear in an annex to the document.

SuggestedRemedy

Remove "informative" labels in the main text of the document. If something is truly informative and you don't want it to be included as normative text, please set that information as a NOTE or move to an annex

Response   *Response Status* **U**

ACCEPT IN PRINCIPLE.

Implement changes listed in <https://www.ieee802.org/3/dc/comments/I-3%20anslow_3dc_01_0122.xlsx> with editorial license.

Motion #4
Adopt the proposed response to comment I-3.
M: S. Carlson
S: R. Grow
Y: 12, N: 1, A: 3
Motion passes

Cl **22**   *SC* **22.2.4.2**   *P* **722**   *L* **26**   # I-42

Grow, Robert   Robert M Grow Consulting

Comment Type **ER**   *Comment Status* **A**

The draft is inconsistent in capitalization of "register". There is an inconsistent practice of captilizing the word when combined with a register number. This is most significant in Clause 45, but applies to other clauses as well. (Inconsistencies go back to Clause 22 so this has existed for a long time.) The unnecessary capitalization is on references to a specific register. E.g., "Register 0" in Clause 22 or "Register 1.0" in Clause 45. Less frequently the capitalization is when associated with the register name The inconsistency in Table 22-6 is easy to see.

SuggestedRemedy

Search and replace the unnecessary capitalization. Unfortunately, a global search and replace won't work because sometimes, the word "Register" leads a sentence and needs to be capitalized, but a search and replace can be done by an editor for the >1000 occurances of the unnecessary capitalization.

Response   *Response Status* **U**

ACCEPT IN PRINCIPLE.

Editors to change the capitalization of register as follows:
Replace "Register" with "register" throughout the draft where "Register" is not at the start of a sentence, is not part of a phrase that is a proper noun (e.g., a parameter name), and is not preceded by "(" as part of a Clause 22 or Clause 45 heading. All with editorial license.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **I-42**   Page 1 of 6
                                        2/14/2022 1:16:30 PM

Cl **30**   *SC* **30.3.2.1.2**   *P* **1050**   *L* **6**   # I-51

Grow, Robert   Robert M Grow Consulting

Comment Type **ER**   *Comment Status* **A**   *row_order, bucket*

Though someone my want to quote Emerson to me about my desire for consistency, I note
that we are generating increasing inconsistency in the sort order of MIB items.   Please
note that at line 6, sort order is clause number in the Description column; but 1000BASE
items following don't have any discernable order, then 2.5GBASE appears to be
alphanumeric in the first column. Looking at aMAUType, one examining will see 50GBASE
followed by 50/25GBASE followed by 50GBASE spread over almost two pages.

Looking at proposed amendments 3-5 to the 20xx revision, I cannot discern a consistent
insert order in these amendments (nor for the"yet to be assigned a number" amendment
project I chair).

SuggestedRemedy

As we revisit lower data rates for new applications, the number of entries for aPhyType,
aPhyTypeList, and aMAUType will increase. We need to make clear what the insert point
is for new enumerations of these attributes and make it available to editors (e.g.,
Extension: Attribute enumeration sort order on the "tools and resources" page)

Re-sort the enumerations in D3.0 as required by the convention chosen.

Beacuse we no longer have enumeration values included in our specifications, I favor a
alphanumeric sort order consistent with our modification of IEEE Style consistent with 1.4.
My second choice would be to insert at the end of the xxBASE grouping, but this would be
difficult to do for amendments added since dropping the enumeration values.

Response   *Response Status* **U**

ACCEPT IN PRINCIPLE.

The application of the definition sort order described in
<https://www.ieee802.org/3/WG_tools/editorial/requirements/words.html#sort> to
enumerations would yield a non-intuitive progression with respect to data rate.

Sort enumerations defined in 30.3.2.1.2 (aPhyType), aPhyTypeList (30.3.2.1.3), and
30.5.1.1.2 (aMAUType) in order of increasing data rate with the entries with a common
data rate sorted alphanumerically.

Cl **146**   *SC* **146.8.6**   *P* **5880**   *L*   # I-62

Maytum, Michael   None-Retired

Comment Type **TR**   *Comment Status* **A**   *elv*

PELV is mentioned, but not explained

SuggestedRemedy

On page 232 add
PELV   Protective Extra Low Voltage

Response   *Response Status* **U**

ACCEPT IN PRINCIPLE.

Change 146.8.6 first sentence from
"The wire pair of the MDI shall withstand without damage the application of short circuits of
any wire to the other wire of the same pair or ground potential, as per Table 146-9, under
all operating conditions, for an indefinite period of time."
To
"The wire pair of the MDI shall withstand without damage the application of short circuits of
any wire to the other wire of the same pair or ground potential, as per Table 146-9, under
all operating conditions, for an indefinite period of time with the source current limited to
2000mA."

Delete the entire note at the end of subclause 146.8.6. The current draft of IEEE P802.3dd
Power over Data Lines of Single Pair Ethernet (Maintenance #17), which is a draft
amendment to this revision, proposes the deletion of note at the end of 146.8.6. As this
note contains the only instance of PELV in the entire IEEE P802.3 draft, implementing the
deletion of this note in IEEE P802.3, rather than waiting for IEEE P802.3dd, addresses this
comment, with the more complete remedy above, based on the following rationale
documented by slide 4 in
<https://www.ieee802.org/3/dd/public/Stewart_3dd_01a_06152021.pdf>.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **I-62**

Page 2 of 6
2/14/2022 1:16:31 PM

Cl **J**	*SC* **J.1**	*P* **6317**	*L*	# I-65			

Maytum, Michael   None-Retired

Comment Type **TR**   *Comment Status* **R**

The three test voltages a) or b) or c) could be used by a manufacturer for verifying an isolating transformer. However, the voltages of a) and b) do not represent conditions that occur in the field and should not be used to verify the entire wired Ethernet interface which may have components that suffer hazardous breakdown under non-impulse conditions. IEC 60664-1, Insulation coordination for equipment within low-voltage supply systems - Part 1: Principles, requirements and tests warns "While tests with AC and DC voltages of the same peak value as the impulse test voltage specified in Table F.6 verify the withstand capability of clearances, they more highly stress solid insulation because the voltage is applied for a longer duration. They can overload and damage certain solid insulations. Technical committees should therefore consider this when specifying tests with AC or DC voltages as an alternative to the impulse voltage test given in 6.4.5.". In addition, test voltages a) and b) do not have defined prospective short-circuit currents leading to possible damaging high currents.

SuggestedRemedy

Limit the test voltages a), b) for verifying transformer isolation and use impulse test voltage c) for transformer isolation verification and port withstand voltage testing. Equipment resistibility standards use impulse testing for wired Ethernet port voltage withstand testing and J.1 should recognise that.

Response   *Response Status* **U**

REJECT.

Commenter provides insufficient information to implement a remedy. Additionally, CRG disagrees with the commenter on only using certain tests for verifying transformer isolation, because the specification applies to the port, not the a single component of the Ethernet port (e.g., a transformer).

Cl **J**	*SC* **J.1**	*P* **6317**	*L*	# I-66			

Maytum, Michael   None-Retired

Comment Type **TR**   *Comment Status* **A**

The J.1 test procedure should only be used for equipment having a single wired Ethernet port. Recent multiport equipment testing showed a J.1 problem. One test house found the tested port withstood a 6 kV 1.2/50 voltage impulse. A second test house found the port broke down with a 2 kV impulse. The 2 kV test house got a lower breakdown voltage because it terminated the untested ports. This gave a path to earth and the actual breakdown was initially inter-port. Ethernet ports tend to be grouped together and have multiple link connections. In the end, the 6 kV test house conceded it was realistic to test with the untested ports terminated. Terminations on untested wired Ethernet ports are necessary to unify testing as several manufacturers have now replaced the Bob Smith termination network with alternative design techniques.

SuggestedRemedy

Either state that J.1 testing only applies to equipment with a single Ethernet port or state when testing, untested Ethernet ports shall be terminated using a network such as defined in IEC 61156-1, Multicore and symmetrical pair/quad cables for digital communications - Part 1: Generic specification. For more details see https://ict-surge-protection-essays.co.uk/downloads/whats-going-on-termination-of-untested-wired-ethernet-twisted-pairs/

Response   *Response Status* **U**

ACCEPT IN PRINCIPLE.

Insert the following new note at the end of J.1: "NOTE 3 - Implementers should consider the effect of whether other ports are terminated or unterminated when testing the insulation of multi-port devices."

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **I-66**

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Cl **33**   *SC* **33.7.1**   *P*   *L*   # I-69

Maytum, Michael   None-Retired

Comment Type **GR**   *Comment Status* **R**   *elv*

Having worked on SELV, PELV and FELV systems I fail to see how an Ethernet PSE interface linked to another network powered Ethernet device is other than an FELV system. (Mains powered injectors and network powered devices are the exception) The isolation transformer used for SELV and PELV provides double fault protection against the hazardous voltage applied to one winding by reinforced or double insultation. Also such transformers should be marked with concentric square symbol on the safety label. To my knowledge hazardous voltages like AC mains do not occur on Ethernet transformer windings. Ethernet transformer manufactures would have an additional burden by 802.3 imposing an SELV/PELV construction requirement. Looking at old ballot comments the main reason given for using a wired Ethernet isolation transformer as to avoid earth loops.

SuggestedRemedy

I propose that TC64 be asked for an interpretation on this. The IEC does not harmonise its stance on ELV. This is very evident from the Web posting https://ict-surge-protection-essays.co.uk/downloads/whats-going-on-electric-shock-and-extra-low-voltage-elv-related-terms-and-definitions/

Response   *Response Status* **U**

REJECT.

This comment does not propose any change to the draft.

Cl **33**   *SC* **33.1.1**   *P* **1311**   *L*   # I-74

Maytum, Michael   None-Retired

Comment Type **TR**   *Comment Status* **A**   *elv*

b) Safety-A PSE designed to the standard does not introduce non-SELV (Safety Extra Low Voltage) power into the wiring plant.
This statement does not reflect industry practice where the PoE injector and network powered device, such as a camera or network bridge, are sold as a system. The injector is commonly PELV and a fixed voltage supply as the intended load is known. In addition, the network powered device often has a functional earth.

SuggestedRemedy

Change the text to reflect industry practice to
Safety-A PSE designed to the standard only supplies SELV (Safety Extra Low Voltage) or PELV (Protective Extra Low Voltage) power into the wiring connecting to the network powered device.

Response   *Response Status* **U**

ACCEPT IN PRINCIPLE.

Change: '... non-SELV (Safety Extra Low Voltage) power into the wiring ...' to read '. non-SELV (Safety Extra Low Voltage) power, as defined by IEC 60950-1, into the wiring .'.

The referenced text is provided as documentation of the objectives of the amendment projects which developed this Clause. The initial IEEE P802.3af DTE Power via MDI project requirements document <https://ieee802.org/3/af/requirements.pdf> includes 'Regardless of the final voltage selected, the DTE power max voltage shall not exceed the limits of SELV per IEC 950.'. The IEEE P802.3at DTE Power Enhancements project objectives <https://ieee802.org/3/at/objectives.html> includes 'IEEE STD 802.3 will continue to comply to the limited power source and SELV requirements as defined in ISO/IEC 60950.'.

As this text is provided for historical reference, based on the above, modifying it as the commenter suggests would, in effect, be an attempt to revise that history. However, to clarify the SELV being referenced by this item the text '. Non-SELV (Safety Extra Low Voltage) power into the wiring .' will be changed to read '. Non-SELV (Safety Extra Low Voltage) power, as defined by IEC 60950-1, into the wiring .'.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **I-74**   Page 4 of 6
2/14/2022 1:16:31 PM

Cl **3** *SC* **3.4** *P* **244** *L* **53** # I-75

Thompson, Geoffrey GraCaSI S.A.

Comment Type **ER** *Comment Status* **A** *bucket*

Also line 16. The referenced footnote seems like a hangover from the days when EtherType based frames were "outside" the scope of the standard. Now that Type based operation is fully legitimate within the standard and is, in fact, fundamental to the operation of several 802.1 standards it is time to elevate the note or a derivative thereof to fully normative text.

SuggestedRemedy

Delete the footnote "31" designation in line 16 and adjust the value of subsequent footnote designations accordingly.

Delete footnote "31" and replace it with the following as main body text: Invalid MAC frames may be ignored, discarded, or used in a private manner. The use of such frames by clients other than LLC or MAC control is beyond the scope of this standard.

Response *Response Status* **U**

ACCEPT.

Cl **1** *SC* **1.3** *P* **178** *L* **43** # I-89

Maytum, Michael None-Retired

Comment Type **GR** *Comment Status* **A** *elv*

The IEEE SA Standards Style Manual requires that in IEEE standards normative references are those documents that contain material that must be understood and used to implement the standard. Further, reference to unpublished drafts may be used as normative references for compliance as long as they are; dated, readily available and retrievable

It is required to meet the SELV requirements in IEC 60364-7-716:20XX, yet the current draft fails the IEEE SA Standards Style Manual requirements of dated, readily available and retrievable.

Following the IEC 64/2413/CDV Brazil, France, Germany, Norway, Portugal, Russian Federation, Spain and United Kingdom all cast negative votes. Comment results were that SELV and PELV voltages will be aligned and it appears wire current capability will be based on temperature rise and not current value. The IEC, ANSI Webstores do not list IEC 60364-7-716. You cannot test for compliance if the document isn't available.

SuggestedRemedy

Remove all body text compliance requirements mentioning IEC 60364-7-716:20XX. Pages 1386, 1403, 4415, 4427 and 5800.

Response *Response Status* **U**

ACCEPT IN PRINCIPLE.

Since IEC 60364-7-716 is not anticipated to be published by the time this draft is approved, implement the following changes with editorial license.

Remove IEC 60364-7-716:20XX from the list of normative reference.

Remove references to IEC 60364-7-716:20XX in 33.7.1, 33.8.3.10 (item PSEES1), 104.8, 104.9.4.8 (item ENV2), 145.6.1 and 145.7.3.8 (item PSEES1).

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Comment ID

Comment ID **I-89**

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Cl **22**   *SC* **22.2.4.3.1**   *P* **726**   *L* **46**   # I-118

Thomas, Angela   RAC Coordination

Comment Type **TR**   *Comment Status* **A**   *LATE*

The NOTE here (also on p 1737 line 38) should be expanded, to clarify the risk of a CID, for reference during future revisions, by adding a middle sentence: " In this case, CID is not an acceptable alternative to OUI due to the possibility that a CID and OUI could be identical in the 22-bit subset."

SuggestedRemedy

Please replace the NOTE (on p 726 and p 1737) with the following modified wording:
NOTE—The use of only 22 bits of the Organizationally Unique Identifier (OUI) as described here has been deprecated by the IEEE Registration Authority. In this case, Company ID (CID) is not an acceptable alternative to OUI due to the possibility that a CID and OUI could be identical in the 22-bit subset. The definition of vendor-specific device identifiers for other applications is expected to use the full 24 bits to accommodate the use of either an OUI or CID.

Response   *Response Status*   **U**

ACCEPT IN PRINCIPLE.

Replace the notes on p726 and p1737 with the following:
"NOTE—The use of only 22 bits of the OUI as described here has been deprecated by the IEEE Registration Authority. In this case, Company ID (CID) is not an acceptable alternative to OUI due to the possibility that a CID and OUI could be identical in the 22-bit subset. The definition of vendor-specific device identifiers for other applications is expected to use the full 24 bits to accommodate the use of either an OUI or CID.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   Comment ID **I-118**   Page 6 of 6
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   2/14/2022 1:16:31 PM
SORT ORDER: Comment ID