P802c to RevCom: Conditional Approval Request

17 March 2017

General Conditions: OM (v19) Clause 11

Conditional approval is only appropriate when ballot resolution efforts have been substantially completed and the approval ratio is sufficient.

"Substantially complete" is when there is a very low likelihood of receiving valid new Disapprove comment(s)/vote(s) upon the next recirculation ballot.

Rules: OM (v19) Clause 11

motions requesting conditional approval to forward when the prior ballot has closed shall be accompanied by:

- *Date the ballot closed*
- *Vote tally including Approve, Disapprove and Abstain votes*
- *Comments that support the remaining disapprove votes and WG responses.*
- *Schedule for recirculation ballot and resolution meeting.*

Approved PAR and CSD

Approved PAR (2016-12-07): https://development.standards.ieee.org/P974300033/par

(modification of original PAR authorized 2015-06-11)

Title:

Overview and Architecture - Amendment: Local Medium Access Control (MAC) Address Usage

LMSC Motion #14, 2015-03-13: *EC approves the CSD for 802c and forwards the 802c PAR to NesCom*

- CSD: https://mentor.ieee.org/802-ec/dcn/16/ec-16-0217-00-ACSD-802c.pdf

Date the ballot closed

Stage	Open	Close
Sponsor Ballot	2017-01-23	2017-02-23

Vote tally including Approve, Disapprove and Abstain votes

- 80* Approve (93%)
- 6 Disapprove
- 4 Abstain
- Return ratio requirement met (78%)

*Initial results; have not reclassified Disapprove ballot voters based on comment resolution

Comment resolution

44 Comments

Comment resolution

- DCB Task Group (802.1), 14-15 March 2017
- Addressed all comments
  - <http://ieee802.org/1/files/private/802-c-drafts/d2/802c-D2-0-dis.pdf>

Dis Voters and Dis Comments

	Dis Comments	Response	Unsatisfied Dis Comments
Demetrio Bucaneg	7	no	7
Donald Eastlake	3	no	3
Robert Grow	1	yes	0
Mark Hamilton	2	no	2
Richard Roy	5	no	5
Dorothy Stanley	0	yes	0
TOTAL			17

Remaining Dis Comments

See Appendix

Schedule for recirculation ballot and resolution meeting

2017-03-17	EC Conditional Approval for Sponsor Ballot
2017-03-22	SB recirc #1 open
2017-04-01	SB recirc #1 close
2017-04-12	DCB TG comment resolution teleconference
2017-04-22	SB recirc #2 open
2017-05-01	SB recirc #2 close
2017-05-05	submit D2.2 to RevCom (deadline)

Comment #	Name	Affiliation	Category	Page	Subclause	Line	Comment	Must Be Satisfied	Proposed Change	Disposition Status	Disposition Detail
i-23	BUCANEG, DEMETRIO JR	Hawaiian Electric Company	General	2	8.2.2	40	Proposed change in Octet 4 as indicated in Figures 10 and 11. However, Figures 10 & 11 were not shown and only Figure 11a is shown in Page 4.	Yes	Add Figures 10 and 11 with the suggested changes to Octet 4.	Rejected	The changes specified to Figures 10 and 11 are explicit and easy to understand; furthermore, the corrections relate only to non-normative examples. Reproducing the entirety of these complex figures, serving only to show additional material that is not being changed, would not improve the quality of the draft.
i-19	BUCANEG, DEMETRIO JR	Hawaiian Electric Company	Editorial	2	8.4.1	55	The sentence starting on Line 55 and ends on Line 58 is very long. The message is lost and seemed confusing.	Yes	Rewrite as: "Within a unique LAN, The the locally administered bits of local MAC addresses are arbitrarily assignable. under the condition that local MAC addresses are unique within a LAN (which may be a bridged LAN or virtual bridged LAN) unless Unless, they these local MAC addresses are assigned to distinct VLANs in which that bridges support to Independent VLAN Learning. LAN may be a bridged LAN or virtual bridged LAN."	Revised	Change sentence to "The locally administered bits of local MAC addresses are arbitrarily assignable under the condition that local MAC addresses are unique within a LAN (which may be a bridged LAN or virtual bridged LAN). In a virtual bridged LAN wherein the bridges use Independent VLAN Learning, the uniqueness condition applies to each VLAN rather than to the entire virtual bridged LAN."
i-20	BUCANEG, DEMETRIO JR	Hawaiian Electric Company	Editorial	3	8.4.2	23	Sentence is very long.	Yes	Rewrite as: "Administrators who deploy multiple protocols on a LAN in accordance with the SLAP will enable the unique assignment of local MAC addresses within the LAN. as long as each Each protocol maintains unique assignments within its own address subspace."	Rejected	The sentence loses its meaning if the conditional is separated into a separate sentence. The length of the sentence does not appear excessive.
i-24	BUCANEG, DEMETRIO JR	Hawaiian Electric Company	Technical	4	8.4.3	24	Figure 11a should have similar Octet 4 changes as Figures 10 & 11 written as '0111 1011' per Page 2 Line 42. Figure 11a Octet 4 is written as '1101 1110' that needs coorection.	Yes	Rewrite Figure 11a Octet 4 as: "0111 1011" in both Lines 8 and 21 respectively.	Rejected	The figures are correct.
i-9	Grow, Robert	RMG Consulting	Editorial	3	8.4.3	31	Inconsistent use of names. Including front matter and <<editor notes>>, the name local MAC address space occurs 7 times, the name local address space occurs 5 times.	Yes	Pick one name and use consistently.	Revised	Change "local address space" to "local MAC address space" throughout (three places), excluding the quotations from (a) the PAR in the frontmatter; (b) the RAC tutorial [B8]. This will align with the base standard.
i-21	BUCANEG, DEMETRIO JR	Hawaiian Electric Company	Editorial	5	8.4.4.1	54	Sentence is very long. It is not clear which one, the assigned extension or the information, should not interfere with other receivers.	Yes	Rephrase as: "Such information may be used by receivers and bridges that recognize the CID and are cognizant of the protocol identified by the CID., without interfering Information having assigned ELI extension should not interefere with the functionality of receivers and bridges that do not recognize the CID."	Revised	Change sentence at Page 5 Line 54 to: "Such information may be interpreted by receivers and bridges that recognize the CID and are cognizant of the protocol identified by the CID. The functionality of receivers and bridges that do not recognize the protocol is not affected."
i-25	BUCANEG, DEMETRIO JR	Hawaiian Electric Company	Technical	6	8.4.4.1	21	Figure 11b should have similar Octet 4 changes as Figures 10 & 11 written as '0111 1011' per Page 2 Line 42. Figure 11b Octet 4 is written as '1101 1110' that needs coorection.	Yes	Rewrite Figure 11b Octet 4 as: "0111 1011" in both Lines 8 and 21 respectively.	Rejected	The figures are correct.
i-22	BUCANEG, DEMETRIO JR	Hawaiian Electric Company	Editorial	6	8.4.4.2	47	Sentence is very long. It is not clear which one, the assigned SAI or the information, should not interfere with other receivers.	Yes	Rephrase as: "Such information may be interpreted by receivers and bridges that recognize the specific SAI assignment protocol, as identified by the subspace of the SAI., without interfering Information having assigned SAI should not interfere with the functionality of receivers and bridges that do not recognize the protocol."	Revised	Change sentence at Page 6 Line 47 to: "Such information may be interpreted by receivers and bridges that recognize the specific SAI assignment protocol, as identified by the subspace of the SAI. The functionality of receivers and bridges that do not recognize the protocol is not affected."
i-44	Roy, Richard	SRA Incorporated	Technical	1	All	1	In the EUI-48 Guidelines on the IEEE website, use of the mechanism for creating EUI-64 addresses from EUI-48 address is described and it is stated that such use is deprecated because there is a finite chance of creating a duplicate EUI-64 from an EUI-48. There should be a mechanism for creating a valid MAC-64 from a MAC-48 to allow for the possibility of transitioning from MAC-48 to MAC-64 LANs at some point in the future. Since this could be accomplished by setting aside 1/(2^16) of the MAC-48 address space (a single 16-bit prefix or MAP-16-48 in the language proposed in the previous comment) which is really insignificant, it should be adopted.	Yes	Reserve a MAP-16-48 for MAC-48 to MAC-64 extensions and change the extension mechanism for inserting 16-bits in the middle of a MAC-48 to prepending the allocated extension prefix (MAP-16-48) to a MAC-48 to create a globally unique MAC-64. Add a clause in 802 describing this mechansim and specify the MAP-16-48 to be used.	Rejected	The tutorial under discussion is not under review in this ballot. The proposal should be brought to the attention of the RAC.
i-43	Roy, Richard	SRA Incorporated	Technical	1	All	1	In the EUI-48 Guidelines on the IEEE website, the following text appears "The all-zeros and all-ones EUI-48 values, 00-00-00-00-00-00hex and FF-FF-FF-FFFF-FFhex, are owned by the IEEE Registration Authority and will never be assigned, and are invalid for use as identifiers." Turns out the 0xFF-FF-FF-FF-FF-FF is used virtually everywhere as the "Broadcast MAC address" and is assumed to validly address ANY interface that uses MAC addresses.	Yes	Fix the EUI-48 Guidelines webpage while making these changes to 802..	Rejected	The tutorial under discussion is not under review in this ballot. The proposal should be brought to the attention of the RAC.

i-41	Roy, Richard	SRA Incorporated	Technical	1	All	1	There is a fundamental problem with the 48-bit (and 64-bit) identifiers that are the subjects of this amendment. Simply put, too many identifiers are sharing the same (precious) number space, i.e., the space of 48-bit MAC addresses. The most important issue (see the tutorials on EUI-48 and EUI-64) is the preservation of the number space for the assignment of 48-bit (or 64-bit) hardware addresses for uniquely identifying (globally) hardware interfaces on 802 LANs. Assigning blocks of numbers from this 48-bit space for any use other than the original stated purpose is simply a recipe for premature exhaustion (of the RAC members and the number space itself)! That this is true is evidenced by the many admonitions and "rules/policies for assignment" in the tutorials and the 802 standard itself. It is the unfortunate decision to allocate from this precious number space to something other than MAC address prefixes (i.e. OUIs and CIDs) for purposes other than uniquely identifying interfaces on 802 LANs that not only complicates the 802 standard and the assignment process, it also leads to massive waste in "assigning blocks" that will never be fully allocated to the purpose for which they were originally intended. As one of the least egregious examples of such waste, an OUI-36 was assigned to the IEEE 1609 WG which has no intention of using more than a handful (actually only one to date) of the 4096 addresses allocated to it, and that use is NOT as an interface identifier! Obviously such assignments should cease as soon as possible.	Yes	The solution is quite simple, at least in principle, and it involves instantiating separate spaces for different identifiers that are used for different purposes (i.e., in different "contexts"). The EUI-48 space (which hereafter will be referred to as the MAC-48 for clarity) should be reserved for 48-bit MAC addresses only! Similarly, the MAC-64 space should be reserved for 64-bit MAC addresses only. Furthermore, the RA should NOT "assign" OUIs (or CIDs) to be used as prefixes. The RA should "allocate" blocks of identifiers by allocating a prefix (which is NOT an OUI or CID) to entities that are then granted the authority to "assign" globally unique interface identifiers (MAC-48 or MAC-64 addresses) using those prefixes. If that entity also wants an OUI (or CID) for globally uniquely identifying a protocol or some other functionality, that should be assigned from a different number space (an OUI or CID number space), and that OUI/CID need NOT be the same as the allocated prefix from the MAC-48 number space that the entity will be using to assign MAC-48 addresses. Once separate number spaces are created for different identifiers (MAC-48, MAC-64, OUI, CID, ...), MAC-48 prefixes that are no longer being used by the organization to which they were assigned can be returned for reissuance with the restriction that previously assigned suffixes that are not known to be retired are not to be reissued by the organization to which that prefix is to be allocated. This will allow "recovery" of a substantial number of 48-bit addresses that still remain unassigned (perhaps because the company to which the prefix was originally assigned is no longer in business). This also opens up the possibility of reusing MAC addresses previously assigned to interfaces that no longer exist/have been retired (e.g. 802.11b interfaces by the year 2030). Change the 802 draft such that all mention of anything other than 48-bit or 64-bit EUIs is removed from the description of EUI-48s and EUI-64s (which have different/distinct number spaces by the way). Change EUI-48 to MAC-48 and EUI-64 to MAC-64 everywhere a reference is being made to MAC addresses. Create a separate registry for MAC-64 allocations, and use the same MA-X paradigm to segment the 64-bit space into different size allocations. For backward compatibility, allow previous assignees of 48-bit prefixes to request the same prefix be allocated in the 64-bit space if they have started using such prefixes. For possible future transition from MAC-48 to MAC-64 LANs, allocate a single MAP-16-48 from the MAC-48 registry for creating a valid unique MAC-64 from a valid unique MAC-48 by prepending the prefix. In the MAC address (MAC-48 and MAC-64) registries, add a column for identifying the entity to which the associated prefix was assigned, as the prefix is no longer an OUI/CID. Consider using ISO organization IDs for this purpose so organizations who have no need for OUIs/CIDs don't need to apply for one. With regard to prefix allocation, use the following naming convention. All prefixes are labeled MAP-XX-YY where MAP stands for "MAC Address Prefix". XX is the length in bits of the prefix (currently 24, 28, or 32 bits), and YY is the size of the address space in bits. For example, a MAP-24-48 allocation is a MAC address prefix of length 24 from the 48-bit MAC address space (aka MAC-48). This makes it perfectly clear what has been allocated and the space from which it was allocated. Consider adding even longer prefixes in the future (which requires some foresight in planning allocations!) as needs for small numbers of MAC-48s are expressed (e.g. a MAP-44-48 would be appropriate for an entity needing fewer than 17 MAC-48 interface addresses). With OUIs/CIDs out of the MAC address picture, there is no longer any need to discuss abuse of CIDs and OUIs by flipping the U/L bits to create EUI-48s ..., so all that should be removed. To accommodate the need of organizations to have a globally unique identifier (other than the well-known, but very lengthy ISO identifiers) of a reasonable size for use in "over-the-air" protocols, establish a CID/OUI registry that assigns a globally unique integer to any company/organization/entity that requests one for any reason whatsoever and stress to the applicant/assignee that such identifiers are NOT to be (converted into bit strings of any length and) used as MAC address prefixes under any circumstances to avoid any confusion going forward. For backward compatibility, allow organizations to request specific integer identifiers (the decimal integer equivalent of an original hexadecimal assignment) that the RA previously assigned to them as OUIs (or CIDs) whether they were previously used as prefixes for MAC addresses or not (i.e., assign the decimal value of the original 24, 28, or 32 bit hex assignment). To accommodate the need of organizations to have a globally unique identifier (other than the well-known, but very lengthy ISO identifiers) of a reasonable size for use in "over-the-air" protocols, establish a CID/OUI registry that assigns a globally unique integer to any company/organization/entity that requests one for any reason whatsoever and stress to the applicant/assignee that such identifiers are NOT to be (converted into bit strings of any length and) used as MAC address prefixes under any circumstances to avoid any confusion going forward. For backward compatibility, allow organizations to request specific integer identifiers (the decimal integer equivalent of an original hexadecimal assignment) that the RA previously assigned to them as OUIs (or CIDs) whether they were previously used as prefixes for MAC addresses or not (i.e., assign the decimal value of the original 24, 28, or 32 bit hex assignment).	Rejected	ELIs are assigned with CIDs in local MAC address space, not the global MAC address space. The decision was made long ago to allocate half of the address space for local MAC addresses. It is not practical to reclaim local MAC address space for hardware MAC addresses. The draft is consistent with RAC policy; concerns with that policy should be directed to the RAC. The standard will promote the use of local space, which will some pressure off the growth in EUI space.
i-40	Roy, Richard	SRA Incorporated	General	6	8.4.4.2	36	Text states that "Specification of the use of the SAI quadrant for SLAP address assignments is reserved for IEEE Std 802.1CQ [B9]." then 3 paragraphs later states "Multiple protocols for assigning SAI may be specified within various IEEE 802 standards.".	Yes	Pick one.	Rejected	The two statements are complementary. P802.1CQ will specify the use of the quadrant; this is parallel to the way that P802c specifies the use of the whole space. We don't yet know how P802.1CQ will specify the use of the quadrant; for example, it might (or might not) specify the use of a registry. Detailed SAI address formats may nonetheless be specified in other IEEE 802 standards (which could include P802.1CQ).

i-39	Roy, Richard	SRA Incorporated	Technical	8	9.2.1	19	The changes made are incorrect. If the value in the Type/Length field is greater than 1535, the value is interpreted as an Ethertype, NOT a length. In this case, EPD is used on the value of that field. If the value in that field is less than 1536, it is interpreted as the length of the LPDU that is assumed to be conformant to 802.2 (ie. DSAP/SSAP addessing) and that LPDU can only be parsed by the 802.2 conformant LLC sublayer protocol. What is still a problem with the text is the statement that "This allows frames of both formats to be freely intermixed on a given IEEE 802 network and at a given station.". Frames formatted according to 802.2 do NOT have the Type/Length field; their first two octets are the DSAP/SSAP addresses! More importantly, while it is possible in 99.99999999999999% of the cases to distinguish between the two LLC sublayer protocols, it is not trival to do so, and the Type/Length field is NOT the mechanism for doing so.	Yes	I suggest changing the paragraph to read as follows: Protocol discrimination performed by the EPD method is based on EtherTypes. If the value of the Type/ Length field in the IEEE 802.3 MAC frame format is a valid EtherType (greater than 1535), that EtherType identifies the network layer protocol. If the value of the Type/ Length field value is less than 1536, the EPD protocol parser sends the frame to the LPD HLPDE. This allows ISO/IEC 8802.2 conformant LPDUs to be carried inside IEEE 802.3 conformant LPDUs. Protocol discrimination based on the LPD method is based on DSAP/SSAP addresses. Due to the fact that there is no LLC sublayer protocol identifier in any IEEE 802 MPDU, it is not possible to discern to which LLC sublayer protocol (IEEE 802.3 or ISO/IEC 8802.2) a given LPDU conforms by the value of a field in the header of such an MPDU. Either the LLC sublayer protocol being used is known a priori (e.g. "all nodes on a given LAN are IEEE 802.3 conformant"), or information concerning to which protocol (EPD or LPD) the LPDU is conformant is passed along with the LPDU, or the LPDU is sent to both HLPDEs and, with very high probability, only one of them will return without an error. Note that since the vast majority of LPD conformant LPDUs are contained in IEEE 802.11 MPDUs, and virtually all those frames use LLC-SNAP wherein the first six octets are fixed at 0xAA-AA-03-00-00-00 (followed by a valid EtherType), and since the value 0xAA-AA is not currently an assigned EtherType, it is possible to use the first two octets to correctly ascertain with high probability the LLC sublayer protocol to which such an LPDU conforms.	Revised	We agree that the markup of the paragraph in the draft is incomplete. We also agree with the concerns raised with the last sentence of the paragraph. However, we believe that the proposed replacement paragraph would, in effect, be adding a new functionality to the standard, and we believe that is out of scope of the PAR. The entire paragraph is unnecessary in Clause 9, since the topic of protocol discrimination is addressed in Subclause 5.2.2. Also, the issue of protocol discrimination is more thoroughly discussed in IEEE Std 802.1AC-2016, in particular, in its new additions to Clause 12 on "Protocol discrimination and media." Therefore, the resolution of the comment is to delete the entire paragraph, while revising Subclause 5.2.2: Delete the first paragraph of Subclause 9.2.1. Add editing instructions necessary to record the following change to 5.2.2: Change the last paragraph on Page 13 of IEEE Std 802-2014 (beginning "IEEE Std 802.3") as follows: "IEEE Std 802.3TM is capable of natively representing the EtherType within its MAC frame format, which is used to support EPD. IEEE Std 802.3 also natively supports ISO/IEC 8802-2 LPD (over a limited range of frame sizes). In other IEEE 802 networks, such as <del>~~for~~</del> IEEE Std 802.11TM, LPD <del>~~is also achieved using~~</del> <ins>**with**</ins> SNAP <ins>**is used**</ins><del>~~, as described in Clause 9~~</del>. In either of these techniques, the EtherType is effectively being used as a means of identifying an LSAP that provides LLC sublayer service to the protocol concerned. <ins>**For further details, refer to Clause 12 ("Protocol discrimination and media") of IEEE Std 802.1AC-2016.**</ins> New IEEE 802 standards shall support protocol discrimination in the LLC sublayer using EPD."
i-37	Hamilton, Mark	Ruckus/ Brocade	Technical	7	8.4.5		It seems one desire of this scheme is to allow devices that create "virtual ports" (for example, most 802.11 APs) to use the Local MAC address space for these virtual ports (rather than 'wasting' globally-unique addresses). Since many MAC chips match addresses relevant to the device by masking off LSBs and then comparing to the device's/port's assigned MAC address, it would be very useful if the Local MAC addresses could match the OUI in the upper bits (except the X bit, of course), so the chips could be easily configured to match the device's globally-unique assigned (OUI-based) MAC address, and its set of virtual port Local MAC addresses.	Yes	Consider the address space mappings, so that Local addresses and OUI-generated, globally-unique addresses are from spaces which differ only in the X bit.	Rejected	(a) We believe that this suggestion would essentially violate this sentence in the draft: "Changing the X bit of an RA-assigned OUI is not authorized by the IEEE RA, does not result in a valid CID, may invalidly duplicate a valid CID assignment, and shall not be used as the basis of an ELI." Based on past discussions, we believe that this statement is essential for RAC agreement. (b) CID space is limited to one of four quadrants. OUI space is intended to last 100 years; this requires the use of all four quadrants. (c) The CID basis of an ELI identifies a protocol, which in general cannot be related to the OUI, which is a hardware manufacturer ID. (d) Vendors may need to implement a second mask in order to mask by CID as well as OUI. This second mask may be a relatively small burden.
i-36	Hamilton, Mark	Ruckus/ Brocade	Technical	2	8	45	The intended use of MAC addresses formed with I/G set to 1 and U/L set to 1 are still not clear. This amendment suggests structure for addresses with U/L set to 1, but leaves it still vague whether these uses apply when the I/G bit is also set to 1 (although generally seeming to support such use), but provides no guidance for what such addresses can be used for. In particular, a proposed amendment in 802.11 (802.11ak) proposes a localized use (limited to an 802.11 BSS) of such addresses, but it very hard to tell if this may/will/won't/is likely to cause disruption. Clause 8.2.2 of 802 does not really help here, either.	Yes	Also clarify the intended/recommended applicability of local address allocation (U/L set to 1), when I/G is also set to 1. Consider, perhaps, a range of such local-group addresses for use by standardized protocols.	Rejected	The text does not limit the SLAP to M=0. Addresses identified in an IEEE 802 standard with M=1 and X=1 should lie in the SAI quadrant in order to be compatible with the SLAP.
i-34	Eastlake 3rd, Donald	Huawei Technologies Co., Ltd	Technical	7	8.4.4.3	1	IPv6 derived multicast addresses are in the AAI quadrant and have been there for over 20 years. See IETF RFC 2464 "Transmission of IPv6 Packets over Ethernet Networks" which obsoletes RFC 1972 of the same title. This is coded into all IPv6 software stacks and burned into silicon in a zillion chips. This usage is not going to change. Ignoring this fact of the real world is materially misleading to users of this standard.	Yes	Add a Note here or elsewhere saying something like "AAIs starting with CC-CC are used for groupcast addresses derived from IPv6 addresses (see IETF RFC 2464). Thus administrators that wish to use IPv6 and avoid duplication should not assign such AAIs for other uses."	Revised	At the end of 8.4.4.3, add the following paragraph: "AAIs beginning with 33-33 are used for groupcast addresses derived from IPv6 addresses, per IETF RFC 2464. Therefore, administrators who wish to support IPv6 and avoid duplication should not assign AAIs beginning with 33-33."
i-33	Eastlake 3rd, Donald	Huawei Technologies Co., Ltd	General	6	8.4.4.2	36	Text states that "Specification of the use of the SAI quadrant for SLAP address assignments is reserved for IEEE Std 802.1CQ [B9]." then 3 paragraphs later states "Multiple protocols for assigning SAI may be specified within various IEEE 802 standards.".	Yes	Suggest changing to "Specification of the use of the SAI quadrant for SLAP addresses is reserved for address assigment protocols specified within various IEEE 802 standards."	Rejected	The two statements are complementary. P802.1CQ will specify the use of the quadrant; this is parallel to the way that P802c specifies the use of the whole space. We don't yet know how P802.1CQ will specify the use of the quadrant; for example, it might (or might not) specify the use of a registry. Detailed SAI address formats may nonetheless be specified in other IEEE 802 standards (which could include P802.1CQ).

i-32	Eastlake 3rd, Donald	Huawei Technologies Co., Ltd	Technical	8	9.2.1	19	The changes made are incorrect. If the value in the Type/Length field is greater than 1535, the value is interpreted as an Ethertype, NOT a length. In this case, EPD is used on the value of that field. If the value in that field is less than 1536, it is interpreted as the length of the LPDU that is assumed to be conformant to 802.2 (ie. DSAP/SSAP addessing) and that LPDU can only be parsed by the 802.2 conformant LLC sublayer protocol. What is still a problem with the text is the statement that "This allows frames of both formats to be freely intermixed on a given IEEE 802 network and at a given station.". Frames formatted according to 802.2 do NOT have the Type/Length field; their first two octets are the DSAP/SSAP addresses! More importantly, while it is possible in 99.9999% of the cases to distinguish between the two LLC sublayer protocols, it is not trival to do so, and the Type/Length field is NOT the mechanism for doing so.	Yes	I suggest changing the paragraph to read as follows: Protocol discrimination performed by the EPD method is based on EtherTypes. If the value of the Type/Length field in the IEEE 802.3 MAC frame format is a valid EtherType (greater than 1535), that EtherType identifies the network layer protocol. If the value of the Type/Length field value is less than 1536, the EPD protocol parser sends the frame to the LPD HLPDE. This allows ISO/IEC 8802.2 conformant LPDUs to be carried inside IEEE 802.3 conformant LPDUs. Protocol discrimination based on the LPD method is based on DSAP/SSAP addresses. Due to the fact that there is no LLC sublayer protocol identifier in any IEEE 802 MPDU, it is not possible to discern to which LLC sublayer protocol (IEEE 802.3 or ISO/IEC 8802.2) a given LPDU conforms by the value of a field in the header of such an MPDU. Either the LLC sublayer protocol being used is known a priori (e.g. "all nodes on a given LAN are IEEE 802.3 conformant"), or information concerning to which protocol (EPD or LPD) the LPDU is conformant is passed along with the LPDU, or the LPDU is sent to both HLPDEs and, with very high probability, only one of them will return without an error. Note that since the vast majority of LPD conformant LPDUs are contained in IEEE 802.11 MPDUs, and virtually all those frames use LLC-SNAP wherein the first six octets are fixed at 0xAA-AA-03-00-00-00 (followed by a valid EtherType), and since the value 0xAA-AA is not currently an assigned EtherType, it is possible to use the first two octets to correctly ascertain with high probability the LLC sublayer protocol to which such an LPDU conforms.	Revised	"We agree that the markup of the paragraph in the draft is incomplete. We also agree with the concerns raised with the last sentence of the paragraph. However, we believe that the proposed replacement paragraph would, in effect, be adding a new functionality to the standard, and we believe that is out of scope of the PAR. The entire paragraph is unnecessary in Clause 9, since the topic of protocol discrimination is addressed in Subclause 5.2.2. Also, the issue of protocol discrimination is more thoroughly discussed in IEEE Std 802.1AC-2016, in particular, in its new additions to Clause 12 on "Protocol discrimination and media." Therefore, the resolution of the comment is to delete the entire paragraph, while revising Subclause 5.2.2: Delete the first paragraph of Subclause 9.2.1. Add editing instructions necessary to record the following change to 5.2.2: Change the last paragraph on Page 13 of IEEE Std 802-2014 (beginning "IEEE Std 802.3") as follows: "IEEE Std 802.3TM is capable of natively representing the EtherType within its MAC frame format, which is used to support EPD. IEEE Std 802.3 also natively supports ISO/IEC 8802-2 LPD (over a limited range of frame sizes). In other IEEE 802 networks, such as ~~for~~ IEEE Std 802.11TM, LPD ~~is also achieved using~~ <ins>with</ins> SNAP <ins>is used</ins>~~, as described in Clause 9~~. In either of these techniques, the EtherType is effectively being used as a means of identifying an LSAP that provides LLC sublayer service to the protocol concerned. <ins>For further details, refer to Clause 12 ("Protocol discrimination and media") of IEEE Std 802.1AC-2016.</ins> New IEEE 802 standards shall support protocol discrimination in the LLC sublayer using EPD." "