

Cl 00 SC 0 P- L- # 9
Roger Marks None entered

Comment Type T Comment Status X

At the meeting of the IEEE Registration Authority Committee (RAC) on 2015-11-12, during discussion of P802c/D0.1, I suggested that, upon approval of the eventual standard, it would be appropriate for the RAC to amend Reference [B8] ["Guidelines for Use Organizationally Unique Identifier (OUI) and Company ID (CID)"]. Subsequent discussion by the RAC suggested that the IEEE 802.1 Working Group should propose the amendment. Note: It appears that the two related RAC tutorials: ["Guidelines for 48-Bit Global Identifier (EUI-48)" and "Guidelines for 64-bit Global Identifier (EUI-64)"] are not affected by P802c, since they consider only global addresses.

SuggestedRemedy

Include draft amendments of Reference [B8] with packages circulated in Working Group ballot and Sponsor Ballot of P802c. The amendments should target the sections entitled "Structure of OUI and CID" and "Company ID" (under "Use of Terms"). It should define the Y and Z bits and and the four [Y,Z] quadrants of the local space, indicating that RA CID assignments are expected to be limited to [Y,Z]=[0,1], forming the basis of ELIs. It should also summarize the usage of the SAI and AAI quadrants, and it should specify that the SAI space is administered by the RA, with part of the space allocated for assignments administered by 802. Also, it should specify that the quadrant that remains unspecified in the 802c draft ([Y,Z]=[1,0]) is reserved by the RA (not by 802).

Proposed Response Response Status O

Cl 8 SC 8.4 P3 L18 # 17
Mick Seaman None entered

Comment Type TR Comment Status X

This amendment concentrates on address assignment protocols and ignores the fact that a local administrator may wish to assign local addresses, and indeed that there can be multiple administrators (certainly if you count IEEE standards and the RAC). MAC Address assignment is (most regrettably) being moved inexorably in the direction of greater complexity and confusion. Since the AAI space will inevitably be completely consumed by randomized allocation procedures in support of privacy, and the design (and in some cases the use) of these procedures will be under vendor control and/or equipment user control and not the control of any local network administrator, this amendment effectively proposes removal of local administrative control over address assignment - unless each local administrator applies for a CID (which would be a very bad idea if it took hold, since having each end user organization - or even end user site location - have a CID could rapidly exhaust the whole CID space).

SuggestedRemedy

Ensure that there is a space available for address assignment by local administrator that is separate from the proposed AAI space, preferably by removing the CID provisions and returning that space to local network administrator control (with some guidelines in space partitioning where the local network has multiple administrators).

Proposed Response Response Status O

Cl 8 SC 8.4 P3 L 19 # 28
 Hal Keen None entered

Comment Type T Comment Status X

I write to pick up on the following comment from Mick Seaman: This amendment concentrates on address assignment protocols and ignores the fact that a local administrator may wish to assign local addresses, and indeed that there can be multiple administrators (certainly if you count IEEE standards and the RAC). MAC Address assignment is (most regrettably) being moved inexorably in the direction of greater complexity and confusion. Since the AAI space will inevitably be completely consumed by randomized allocation procedures in support of privacy, and the design (and in some cases the use) of these procedures will be under vendor control and/or equipment user control and not the control of any local network administrator, this amendment effectively proposes removal of local administrative control over address assignment - unless each local administrator applies for a CID (which would be a very bad idea if it took hold, since having each end user organization - or even end user site location - have a CID could rapidly exhaust the whole CID space)." I considered expressing similar misgivings in my own response, but refrained because I understood the present draft to properly maintain the concept of local administration. That is, it did not excise a large chunk from the three-decades-established locally administered space and commit it to exclusively standardized use. Rather, it provided for a way in which, entirely under the authority of local administration, that space could be employed in an environment intended to support certain uses. The distinction lies in whether local administrators may choose an alternative to the structure provided. I took this to be the reason the focus was on address assignment protocols, that being the case for which new provisions are needed. Since I submitted my ballot, some of the material in the one from Roger Marks has raised new misgivings. How does the RAC view this matter? Does it see this as permanently devoting the locally administered MAC address space to a new use, in effect universally administered although providing addresses which are not globally unique? I would be opposed to that course, and hope that any registration authority would see it as perilous. Perhaps we need to clarify the scope of locally administered address domains--even if it means revising the scope of this amendment."

SuggestedRemedy

Proposed Response Response Status O

Cl 8 SC 8.4 P5 L 5 # 30
 Mick Seaman None entered

Comment Type TR Comment Status X

This clause contains a number of apparent conformance recommendations without clarifying who or what needs to be in conformance or might claim conformance.

SuggestedRemedy

Clarify the following: (a) the standard makes recommendations to be followed by a local administrator where the responsibility for address administration is to be divided (b) allows for a claims of conformance in respect of various address administration protocols and procedures, specifically: (1) a claim that an address administration protocol (or its implementation) uses only the space identified by CIDs within the ELI space [requirement on this claim is to provide a way that the local administrator can select which CIDs to use/permit]; (2) a claim that the address administration protocol allocates only addresses within the SAI space (3) a claim that the address administration protocol uses only addresses within the AAI space.

Proposed Response Response Status O

Cl 8 SC 8.4 P5 L 8 # 31
 Mick Seaman None entered

Comment Type TR Comment Status X

IEEE Std 802 lacks a conformance clause and a PICS and even a description of conformance terminology. Yet it would seem that the interpretation and force of some of the statements in this amendments depends on understanding that terminology. It is not a reasonable assumption that the reader will be familiar with the IEEE standards manual and its default terminology, as that differs from use in other standards bodies.

SuggestedRemedy

Add a requirements terminology clause. Suitable boiler plate text can be found in IEEE 802.1Q-2014 (start first sentence with "Requirements placed ..", leave out the NOTE, the PCS discussion unless a PICS is to be included, and the very last sentence about "allow") amongst other places.

Proposed Response Response Status O

Cl 8 SC 8.4 P5 L 18 # 29
 Mick Seaman None entered

Comment Type TR Comment Status X

The discussion of the use of multiple address assignment protocols needs to be generalized and moved to 8.4.1. Otherwise it is hard to escape the conclusion that this amendment is deprecating or indeed prohibiting all methods of local address assignment other than by "address assignment protocol". It is not until 8.4.7 that anything is said that is not within the context of address assignment protocol (first para of 8.4.7) and even that statement is open to interpretation.

SuggestedRemedy

In 8.4.1 clarify that a local administrator may assign local addresses using his or her choice of protocols and procedures, including (for example) prior to a system being used in the network, or by local (to the system) or remote (over the network) management, and may choose to delegate address assignment responsibility to other managers and/or a combination of address management protocols. Where responsibility is to be divided this standard makes that task easier by identifying various address spaces within the local address space.

Proposed Response Response Status O

Cl 8 SC 8.4 P5 L 45 # 16
 Mick Seaman None entered

Comment Type TR Comment Status X

This statement directly contradicts pg 5 line 10.

SuggestedRemedy

Change "SAI" to "AAI".

Proposed Response Response Status O

Cl 8 SC 8.4 P6 L 27 # 33
 Mick Seaman None entered

Comment Type TR Comment Status X

This would seem to ban local address assignment by YANG/NETCONF unless an arbitrary restriction is imposed.

SuggestedRemedy

Remove the restriction that a protocols assignment has to be restricted to one of the address pools. This can be a recommendation for certain types of protocol, but a blanket statement implies a constraint on local administrators that is unreasonable.

Proposed Response Response Status O

Cl 8 SC 8.4 P6 L 29 # 34
 Mick Seaman None entered

Comment Type TR Comment Status X

What does this "local administrator may" mean. Does it mean "without the benefit of an address protocol". What does it add to the conformance requirements in the Std 802. A local administrator is already permitted to do this.

SuggestedRemedy

Use "can" instead of may if this statement is only reiterating an existing provision of the standard. Clarify what it actually means if this means "without using any protocol".

Proposed Response Response Status O

Cl 8 SC 8.4 P6 L 35 # 18
 Mick Seaman None entered

Comment Type TR Comment Status X

The statement that address assignment protocols shall avoid duplicate assignments is a pious wish, not a practical conformance statement. Proposed and feasible protocols in the AAI space will (with non-zero probability) assign duplicates when using random procedures. So the statement is just motherhood and apple pie.

SuggestedRemedy

Remove the statement, it is only one of obvious intent/desire and is not practical beyond launching an argument about the meaning of "avoid".

Proposed Response Response Status O

Cl 8 SC 8.4 P6 L 37 # 32
 Mick Seaman None entered

Comment Type TR Comment Status X

"only ELIs, SAIs, or AAIs" is ambiguous in this context. If a protocol can assign an address that is any on of these then it can assign any local addresses. Unfortunately this might be read to mean that a protocol can assign addresses from only one of these pools, in which case it would be necessary for an administrator wanting unrestricted assignment by protocol to run three different protocols.

SuggestedRemedy

Disambiguate.

Proposed Response Response Status O

Cl 8 **SC 8.4** **P 6** **L 37** # 19
 Mick Seaman None entered
Comment Type **TR** **Comment Status** **X**
 The summary statements with "shall" in 8.4.7 only repeat conformance requirements already stated elsewhere. This duplication is not useful.
SuggestedRemedy
 Use the definite statement "is" or "are" where requirements are simply repeated (either here or above) and insert a cross-reference to the one place where the normative requirement is made (i.e. where "shall" is used).
Proposed Response *Response Status* **O**

Cl 8 **SC 8.4.2** **P 3** **L 24** # 10
 Hiroki Nakano None entered
Comment Type **T** **Comment Status** **X**
 As the document mentions in Section 8.4.1, Uniqueness of MAC addresses is the fundamental premises of IEEE802 network operation and its breakage is fatal to the network. Until today, in order to keep the uniqueness, we depend on address assignment framework administered by human network operators and manufacturers of network equipment, though some of switch boxes have functionalities to avoid duplication of MAC addresses. The new mechanism proposed by this section has the same assumption. IMHO, it is the time to incorporate an appropriate framework and protocol that detect and prevent duplication of MAC addresses within a network, MECHANICALLY rather than manually.
 In this case, the procedure to obtain a MAC address is divided to two parts. The first part is 'assignment' and the other part is 'validation of uniqueness.' The first part is almost the same as mentioned in Section 8.4.2, however, less strict rules are allowed, for example, totally random addresses. The second part checks uniqueness of the MAC address the first part assigns. When it fails, that is, detects duplication, system goes back to the first part and repeats them.
 Let me mention the technical feasibility of the protocol for 'validation of uniqueness.' We have IEEE802.1X which checks something before a host is connected to a network. It is an idea to enable this protocol to check MAC addresses. Another idea is to define a protocol to share a MAC address list by flooding data among switches if you don't like centralized servers such as authentication servers.
 I am not sure that this idea is suitable for this task group because the current PAR looks to be constructed with some concrete means in mind. I, however, request to the members to discuss a protocol to assure uniqueness of MAC addresses.
SuggestedRemedy
 Add the following sentences:
 Instead of disjoint address pools, administrators can use a standardized protocol checking uniqueness of MAC addresses. This protocol avoid duplication of MAC addresses and assure the fundamental premises of IEEE802 network operation.
Proposed Response *Response Status* **O**

Cl 8 **SC 8.4.3** **P 3** **L 43** # 3
 Rodney Cummings None entered
Comment Type **E** **Comment Status** **X**
 Typo
SuggestedRemedy
 Replace "addresses" with "address".
Proposed Response *Response Status* **O**

Cl 8 **SC 8.4.3** **P4** **L1** # **4**
 Rodney Cummings None entered
Comment Type **T** **Comment Status** **X**
 Is it possible to take the OUI bits from an MA-L, and use them as the CID of an ELI?
SuggestedRemedy
 Add a NOTE to answer this question.
Proposed Response **Response Status** **O**

Cl 8 **SC 8.4.6** **P6** **L30** # **6**
 Rodney Cummings None entered
Comment Type **E** **Comment Status** **X**
 Typo
SuggestedRemedy
 Replace "administrate" with "administrator".
Proposed Response **Response Status** **O**

Cl 8 **SC 8.4.4** **P5** **L7** # **5**
 Rodney Cummings None entered
Comment Type **E** **Comment Status** **X**
 Typo
SuggestedRemedy
 Replace "specific" with "specify".
Proposed Response **Response Status** **O**

Cl 9 **SC 9** **P7** **L3** # **20**
 Mick Seaman None entered
Comment Type **TR** **Comment Status** **X**
 Agree fiddling with protocol identifiers is out of the scope of the project.
SuggestedRemedy
 Remove editors note and clause 9 changes from this amendment.
Proposed Response **Response Status** **O**

Cl 8 **SC 8.4.4** **P5** **L35** # **2**
 Craig Gunther None entered
Comment Type **E** **Comment Status** **X**
 Missing word in sentence
SuggestedRemedy
 Insert "by" or "in" in the following sentence: "...but may be specified _by_ other IEEE 802 standards."
Proposed Response **Response Status** **O**

Cl 9 **SC 9** **P7** **L3** # **24**
 Norm Finn None entered
Comment Type **T** **Comment Status** **X**
 To answer implied question in Editor's note, I think that the suggested text should be added. The two NOTEs on page 23 of the base standard 802-2014 illustrate why this is important. Many standards inside and outside 802.1 use an "OUI" to create various code points and protocol identifiers. The G/L usage introduced by P802c amplifies the ambiguity of such usage, making the additional text relevant, needful, and within the scope of the amendmen
SuggestedRemedy
 Replace Editor's note with text.
Proposed Response **Response Status** **O**

Cl 8 **SC 8.4.5** **P5** **L44** # **7**
 Hal Keen None entered
Comment Type **ER** **Comment Status** **X**
 typo
SuggestedRemedy
 Change "SAI" to "AAI".
Proposed Response **Response Status** **O**

Cl **9** SC **9** P**7** L **3** # **25**
 Norm Finn None entered
 Comment Type **T** Comment Status **X**
 Please add a new subclause to 9 for the use of "OUI" to create code point, as opposed to protocol identifiers, e.g., in IEEE Std 802.1AB LLDP TLVs.
 SuggestedRemedy
 See Comment.
 Proposed Response Response Status

Cl **1&2** SC **1&2** P**1** L **44** # **8**
 Roger Marks None entered
 Comment Type **E** Comment Status **X**
 Since Subclauses 1 and 2 are included in the amendment as useful placeholders. However, since they are currently without content, some readers might mistakenly believe that the intent is to delete the content of those subclauses from the base standard.
 SuggestedRemedy
 Add editor's notes to subclauses 1 and 2 indicating that no changes are made.
 Proposed Response Response Status

Cl **E** SC **E.3** P**7** L **34** # **26**
 Norm Finn None entered
 Comment Type **TR** Comment Status **X**
 Either supply text or remove editor's note.
 SuggestedRemedy
 See Comment
 Proposed Response Response Status