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 unspecifed 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** *P* **3** *L* **18** # 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** *P* **3** *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** *P* **5** *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** *P* **6** *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** *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, Uniqeness 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 adeministrated 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 divied 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 'valudation 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 sutable 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 folowing 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** *P* **4** *L* **1** # 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* **8.4.4** *P* **5** *L* **7** # 5

Rodney Cummings None entered

Comment Type **E** *Comment Status* **X**

Typo

SuggestedRemedy

Replace "specific" with "specify".

Proposed Response *Response Status* **O**

Cl **8** *SC* **8.4.4** *P* **5** *L* **35** # 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 **8** *SC* **8.4.5** *P* **5** *L* **44** # 7

Hal Keen None entered

Comment Type **ER** *Comment Status* **X**

typo

SuggestedRemedy

Change "SAI" to "AAI".

Proposed Response *Response Status* **O**

Cl **8** *SC* **8.4.6** *P* **6** *L* **30** # 6
Rodney Cummings None entered

Comment Type **E** *Comment Status* **X**

Typo

SuggestedRemedy

Replace "administrate" with "administrator".

Proposed Response *Response Status* **O**

Cl **9** *SC* **9** *P* **7** *L* **3** # 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 **9** *SC* **9** *P* **7** *L* **3** # 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 **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* **O**

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* **O**

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* **O**