

## 802 Chair's Guideline

### Procedure for registration of Object Identifier arcs for use in IEEE 802 standards

#### Background

From time to time, various 802 standards have a requirement to allocate Object Identifier values – the most common example being for the purpose of defining SNMP MIBs, but other examples exist. This procedure defines a simple and consistent scheme that can be used by all current and future 802 working groups, and that can be used flexibly to meet the needs of those working groups.

#### Procedure for OID allocations

There is an existing registration arc that is associated with the ISO/IEC 8802 series of standards (i.e., the ISO/IEC versions of the 802 LAN MAC standards). This arc exists as a consequence of the fact that the act of publishing an ISO standard also has the effect of automatically assigning an OID arc that is “owned” by that standard, and therefore no further administrative effort is needed before that standard can allocate OID values. The root arc assigned to the 8802 series of standards is:

```
iso(1) std(0) iso8802(8802)
```

Two of the 802 working groups already make use of this arc, by adding a fourth arc to distinguish between working groups (i.e., to distinguish 8802-X from 8802-Y), as follows:

- 802.3 makes use of this arc:

```
iso(1) std(0) iso8802(8802) csma(3)
```

- 802.1 makes use of this arc:

```
iso(1) std(0) iso8802(8802) ieee802dot1(1)
```

It is clear from the above that this scheme can be extended for use by any 802 working group, simply by replacing the fourth arc with “ieee802dot??(??)”, where ?? is the dot number concerned, so for 802.15, for example, the root arc would be:

```
iso(1) std(0) iso8802(8802) ieee802dot15(15)
```

Under this scheme, the Working Group concerned is free to decide how sub-arcs will be allocated, in a manner that makes sense for their particular needs. For example, in 802.1, the fifth arc is used to define the type of allocations that are being made. The only type defined so far is for MIBs, but others can be added in the future:

iso(1) std(0) iso8802(8802) ieee802dot1(1) ieee802dot1mibs(1)

Below this arc, each individual 802.1 MIB can get its own identifier. Again, only 802.1X's mib (ieee8021paeMIB) appears in this scheme so far, but clearly others can easily be added:

iso(1) std(0) iso8802(8802) ieee802dot1(1) ieee802dot1mibs(1) ieee8021paeMIB(1)

And so on.

None of the above needs to have any effect upon existing standards that have already solved this problem by using a specific allocation obtained from ANSI; the primary aim of documenting this procedure is to avoid the need to go to ANSI for any more root OIDs for any future OID uses that we may have in 802 standards. Clearly, with this scheme, as new dot groups are created, their root OID arc is also created automatically, so the administrative effort required is zero, other than for the dot group concerned to determine how the fifth and subsequent arcs will be used in their standards.

It is the responsibility of the owner of a particular arc (i.e., the Chair of a dot group) to ensure that any values that are allocated under that arc are documented, in a manner that ensures that the same OID value cannot be assigned to two different objects. In 802.1, this has been achieved in the past for the ANSI allocations by placing tables of OID allocations in Annexes within the standard concerned; in 802.3, a master spreadsheet of allocated OID values is maintained by the Chair and posted on their website. For future allocations, adopting a similar approach to 802.3 seems appropriate.

It is clearly important to construct the allocation scheme below a dot group's root OID in a manner that leaves appropriate "escapes" for uses that cannot be foreseen. The simple expedient of allocating a "type of allocation" arc immediately below the root (as described above) is sufficient to ensure that such an escape is always available.

The intent is that this procedure will be documented in due course as a new chapter of IEEE Std 802; therefore, it is considered to be covered by the 5 criteria requirement of compatibility with the 802 architecture. Therefore, once the amendment to Std 802 has been approved, this Chair's Guideline will no longer be required.

## Migration

For those working groups that have already made use of other allocation schemes (802.3 and 802.1 are both examples), it may be considered appropriate to migrate existing allocations to the new scheme. In considering this, the following should be borne in mind:

- While it might be "tidy" to have all 802 OIDs allocated under a single root, this is by no means essential for any other reason; one OID arc is no better or no worse than any other from a technical point of view.
- If migration is felt desirable, there is no requirement to remove uses of the old arc; it is possible to add a second OID value to identify a single object. An analogy here is UK postal addresses; house number, road name, town and county is sufficient to identify a particular house, but substituting house number and Zip code identifies the house equally well. From the point of view of stability, double naming rather than delete old and insert new is probably a preferable route.