Annex D - Universal Identifier

(normative)

ANSI C12.19 and C12.22 make use of the ISO Universal Identifier to uniquely identify objects. These Universal Identifiers are registered under two branches. The first one is used for ANSI C12.19 and related standards to uniquely identify components of the End Device Class, EDL and TDL.

```
<device-class-root-oid> ::= 2.16.124.113620.1.19    {ISO registered
                                      absolute object identifier root for
                                      End Device Classes. This value
                                      shall be encoded for the purpose of
                                      transmission using ISO/IEC 8825-
                                      1:2002 [BER] as:
                                      06 07 60 7C 86 F7 54 01 13_H }
```

The second one is used for uniquely identifying Standard communication parameters, such as the Standard-defined communication application context, Standard-defined security mechanisms, and Standard's root ApTitle for all C12.22 Nodes.

```
<application-context-oid> ::= 2.16.124.113620.1.22  {ISO registered
                                      absolute object identifier for the
                                      context of this Standard. This
                                      value shall be encoded for the
                                      purpose of transmission using
                                      ISO/IEC 8825-1:2002 [BER] as:
                                      06 07 60 7C 86 F7 54 01 16_H }
```

The following table summarizes the list of objects actually defined:

Use	Universal identifier
ANSI C12.19 Device Class	<device-class-root-oid>.<device class id>
ANSI C12.22 Application context	<application-context-oid>
(Reserve for future sub context)	<application-context-oid>.1
ANSI C12.22 Mechanism name for compatibility with ANSI C12.21 Authentication Service algorithm 00_H.	<application-context-oid>.2.0
ANSI C12.22 native Mechanism Name	<application-context-oid>.2.1
ANSI C12.22 ApTitles	<application-context-oid>.0.<service provider id>.<node id> or any other registered Universal Identifier.
ANSI C12.22 ApTitles Broadcast	<application-context-oid>.0.[<service provider id>[.<node id>].]0
ANSI C12.22 ApTitles Multicast	<application-context-oid>.0.[<service provider id>[.<node id>].]0.xxx

ANSI C12.19 Device Class

Absolute C12.19 Device Class identifiers shall be globally unique. To assure this, organizations implementing this Standard can register a Device Class Universal Identifier. This identifier can be used for one or multiple C12.22 Node types that share the same data structure (C12.19 EDL and TDL). This identifier is used by upstream device to understand incoming data structures.

Device Classes will be assigned on a first come first serve basis. The first 128 Device Class IDs

are reserved for registration of one way devices. Preferred Device Class IDs may also be requested and assigned if available.

Also submitted with the registration request is a simple XML-text TDL file (as defined in Version 2 of ANSI C12.19) and an optional EDL if desired. For one-way devices, EDL and TDL shall include enough information to completely describe any unsolicited messages that the C12.22 Node might generate. For two-way devices, no specific information is required to be included in the EDL and TDL.

ANSI C12.22 Node ApTitles

C12.22 Node ApTitles shall be globally unique. To assure this, organizations implementing this Standard can register an ApTitle Universal Identifier. Under this registered branch, each organization can assign a unique ApTitle for each node installed on the network. There is no limit on the number of C12.22 Nodes assigned under the same branch.

For use in ACSE messages, this ApTitle forms the local root object identifier for either a client or server in a C12.22 Network. This ApTitle is used by C12.22 Networks to propagate C12.22 Messages from source to destination over any network architecture.

Multicast addressing

Multicast addressing is similar to broadcast except that it can be assumed that some communications process has a distribution list (found in Table 122 Interface Control Table) and only routes the message to certain recipients. These recipients, knowledgeable about their membership in the multicast group can respond to such a message as if directly addressed to them.

Broadcast and multicast messages shall be targeted to one C12.22 Network Segment. A C12.22 Relay may forward broadcast and multicast C12.22 Messages to other network segments according to its internal configuration.

A broadcast is addressed to <application-context-oid>.0.[<service provider id>[.<node id>].]0. A multicast is addressed to <application-context-oid>.0.[<service provider id>[.<node id>].]0.xxx where xxx is a specific multicast address. The specific multicast address can be any relative branch of a Universal Identifier. Note that routers and C12.22 Relays may want to optimize the distribution of such messaging.

Registration

It is the intent of ANSI C12 Subcommittee 17, IEEE SCC31 and Measurement Canada, to form an oversight group (the ANSI/IEEE/MC OID Oversight group) to oversee/manage the issuance, to Certified Registrars, of root level numbers associated with the Root ApTitle and Root Class Object ID.

It is possible, that with adequate rights transfer, the ANSI/IEEE/MC OID Oversight group can use www.naedra.org as a location to publicize, to the industry, the Certified Registrars. If that is accomplished, then www.naedra.org could be placed in the C12.19-200x and C12.22-200x standards as the reference for registration.