

Network Working Group  
Request for Comments: 4152  
Category: Informational

K. Tesink  
R. Fox  
Telcordia Technologies  
August 2005

## A Uniform Resource Name (URN) Namespace for the Common Language Equipment Identifier (CLEI) Code

### Status of This Memo

This memo provides information for the Internet community. It does not specify an Internet standard of any kind. Distribution of this memo is unlimited.

### Copyright Notice

Copyright (C) The Internet Society (2005).

### Abstract

This document describes a Uniform Resource Name (URN) namespace (RFC 3406) for the assignment of the Common Language Equipment Identifier (CLEI) code, which is used in messages standardized by ANSI. The URN namespace is managed by Telcordia Technologies, Inc., as the maintenance agent for ANSI T1.213. The CLEI code is a globally unique, ten-character alphanumeric intelligent code assigned by Telcordia Technologies at the request of equipment suppliers. The CLEI code identifies communications equipment by specifying product type and features. There is a one-to-one relationship between a CLEI code and supplier's product ID (the manufacturer's name and the part number along with its version number).

### Table of Contents

1. Introduction .....	2
2. Specification Template .....	2
3. Examples .....	4
4. Namespace and Community Considerations .....	4
5. Security Considerations .....	5
6. IANA Considerations .....	5
7. Acknowledgments .....	5
8. Normative References .....	5

## 1. Introduction

Many circuit cards used in the global telecommunications network have a CLEI code assigned and have a bar code or two-dimensional symbol on a label affixed to the front. Service providers utilize the CLEI code to:

- o Track inventory, both working and spare
- o Handle logistics (movement of circuit cards, along with the serial number)
- o Provision equipment
- o Maintain asset records (accounting information)

The goal of the CLEI namespace is to ensure the stability and uniqueness of the names of various (specific) items that are used within the messages exchanged between equipment of the global telecommunications network.

The assigned maintenance agent for the CLEI code, Telcordia Technologies, is responsible for assigning certain equipment and other identifiers (e.g., location, manufacturer/supplier) for the telecommunications industry. The code assignment process identifies the structure and intelligence of the CLEI code to identify the circuit card's form, fit, functions, and features. Equipment may exist in multiple physical locations with the exact same form, fit, functions, and features; such equipment will have the same CLEI code if their product ID is the same.

## 2. Specification Template

Namespace ID:

"CLEI"

Registration information:

Version 1

Date: 2004-12-31

Declared registrant of the namespace:

Telcordia Technologies, Inc.  
Customer Support Center  
8 Corporate Place  
Piscataway, NJ 08854

U.S.A.  
+1.732.699.5577  
<http://www.commonlanguage.com>

#### Declaration of syntactic structures:

The structure of the Namespace Specific String is a flat space of 10 characters, as defined in [T1.213][T1.213a].

#### Relevant ancillary documentation:

[T1.213] and [T1.213a].

#### Identifier uniqueness considerations:

Identifiers are assigned by Telcordia URN registration that guarantees uniqueness for items with different form, fit, functions, and features. This is achieved simply by comparing all new proposed names to the already assigned names contained in a database. If the name already exists, a new one is created per the rules of the process. See [T1.213][T1.213a] for assignment examples.

#### Identifiers persistence considerations:

The process defined by ANSI and the CLEI maintenance agent ensure that the binding between the name and its resource is permanent, and that names are not reassigned.

#### Process of identifiers assignment:

A CLEI code is an intelligent code that consists of 10 alphanumeric characters with 4 data elements. The first data element is considered the basic code with the first 2 characters indicating the technology or equipment type, and the third and fourth characters denoting the functional sub-category. The second data element represents the features, and its three characters denote functional capabilities or changes. The third data element has one character and denotes a reference to a manufacturer, system ID, specification, or drawing. The fourth data element consists of two characters and contains complementary data. These two characters provide a means of differentiating or providing uniqueness between the eight character CLEI codes by identifying the manufacturing vintage of the product. Names are assigned via procedures defined in [GR485].

**Process for identifier resolution:**

Telcordia URNs are resolved via Telcordia resolvers run under Telcordia responsibility. For further information see [www.commonlanguage.com](http://www.commonlanguage.com).

**Rules for lexical equivalence:**

Lexical equivalence of two CLEI URN namespace specific strings is defined as an exact, case-insensitive string match. CLEI codes are assigned in a case-insensitive fashion, so that there will not be two CLEI codes that differ only in case. See [T1.213] and [T1.213a] for further information.

**Conformance with URN syntax:**

No special consideration.

**Validation mechanism:**

None specified.

**Scope:**

Global.

**3. Examples**

The following three examples are based on the examples provided in [T1.213a], and correspond with three different sets of features by three different manufacturers (Nortel Networks, Lear, and Lucent Technologies) producing "D4CE" (a particular D4 channel bank type) equipment. The fourth example refers to a SONET power unit convertor of Alcatel.

URN:CLEI:D4CE18B7AA  
URN:CLEI:D4CE4248AA  
URN:CLEI:D4CE363PAB  
URN:CLEI:SNPWBBC7AA

**4. Namespace and Community Considerations**

CLEI codes have historically been used in a variety of communications equipment (see examples above and [T1.213a]). There are circumstances in which entities with CLEI codes need to be managed or exposed in a larger context, such as the general Internet. In these

cases, the use of the CLEI URN namespace will provide general interoperability benefits to the Internet at large, as well as to specific internets.

## 5. Security Considerations

There are no additional security considerations other than those normally associated with the use and resolution of URNs in general.

However, note that attempting to resolve a Telcordia URN through a resolver other than the one provided by Telcordia is not considered authoritative.

## 6. IANA Considerations

The IANA has registered the formal URN namespace CLEI within the IANA registry of URN NIDs.

## 7. Acknowledgments

The contributions of the Entity MIB Working Group members are gratefully acknowledged. Special thanks go to Mike Heard, Juergen Schoenwaelder, Dave Perkins, and Dan Romascanu.

## 8. Normative References

- [RFC3406] Daigle, L., van Gulik, D., Iannella, R., and P. Faltstrom, "Uniform Resource Names (URN) Namespace Definition Mechanisms", RFC 3406, October 2002.
- [T1.213] ATIS T1.213-2001, Coded Identification of Equipment Entities in the North American Telecommunications System for Information Exchange, 2001, [www.ansi.org](http://www.ansi.org).
- [T1.213a] ATIS T1.213a, Supplement to T1.213-2001, Coded Identification of Equipment Entities in the North American Telecommunications System for Information Exchange, to correct the representation of the Basic Code in Figure B.1, 2001, [www.ansi.org](http://www.ansi.org).
- [GR485] GR-485-CORE, COMMON LANGUAGE Equipment Codes (CLEI Codes), Generic Requirements for Processes And Guidelines, Issue 5, Telcordia Technologies, April 2004.

**Authors' Addresses**

**Kaj Tesink  
One Telcordia Drive  
Piscataway, NJ 08854  
USA**

**Phone: +1 732 699-6068  
EMail: kaj@research.telcordia.com**

**Robert H. Fox  
3545 S.Ocean Blvd, #417  
Palm Beach, FL 33480-5715  
USA**

**Phone: +1 732 699-8968  
EMail: rfox@telcordia.com**

## Full Copyright Statement

Copyright (C) The Internet Society (2005).

This document is subject to the rights, licenses and restrictions contained in BCP 78, and except as set forth therein, the authors retain all their rights.

This document and the information contained herein are provided on an "AS IS" basis and THE CONTRIBUTOR, THE ORGANIZATION HE/SHE REPRESENTS OR IS SPONSORED BY (IF ANY), THE INTERNET SOCIETY AND THE INTERNET ENGINEERING TASK FORCE DISCLAIM ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

## Intellectual Property

The IETF takes no position regarding the validity or scope of any Intellectual Property Rights or other rights that might be claimed to pertain to the implementation or use of the technology described in this document or the extent to which any license under such rights might or might not be available; nor does it represent that it has made any independent effort to identify any such rights. Information on the procedures with respect to rights in RFC documents can be found in BCP 78 and BCP 79.

Copies of IPR disclosures made to the IETF Secretariat and any assurances of licenses to be made available, or the result of an attempt made to obtain a general license or permission for the use of such proprietary rights by implementers or users of this specification can be obtained from the IETF on-line IPR repository at <http://www.ietf.org/ipr>.

The IETF invites any interested party to bring to its attention any copyrights, patents or patent applications, or other proprietary rights that may cover technology that may be required to implement this standard. Please address the information to the IETF at [ietf-ipr@ietf.org](mailto:ietf-ipr@ietf.org).

## Acknowledgement

Funding for the RFC Editor function is currently provided by the Internet Society.