

Network Working Group
Internet-Draft
Intended status: Informational
Expires: September 6, 2012

P. Liang
ICANN
A. Melnikov
Isode Ltd
March 5, 2012

**Private Enterprise Number (PEN) practices and registration procedures
draft-liang-iana-pen-00**

Abstract

Private Enterprise Numbers (PENs), are assigned as part of the technical protocol parameters and are frequently used in the management of network connected equipment or software via SNMP-based network management systems, LDAP, DIAMETER or GSS-API. This document discusses what a Private Enterprise Number (PEN) is, common uses and registration procedures. The registration procedures include instructions for obtaining a new Private Enterprise Number, modification to existing numbers and removal.

Status of this Memo

This Internet-Draft is submitted in full conformance with the provisions of [BCP 78](#) and [BCP 79](#).

Internet-Drafts are working documents of the Internet Engineering Task Force (IETF). Note that other groups may also distribute working documents as Internet-Drafts. The list of current Internet-Drafts is at <http://datatracker.ietf.org/drafts/current/>.

Internet-Drafts are draft documents valid for a maximum of six months and may be updated, replaced, or obsoleted by other documents at any time. It is inappropriate to use Internet-Drafts as reference material or to cite them other than as "work in progress."

This Internet-Draft will expire on September 6, 2012.

Copyright Notice

Copyright (c) 2012 IETF Trust and the persons identified as the document authors. All rights reserved.

This document is subject to [BCP 78](#) and the IETF Trust's Legal Provisions Relating to IETF Documents (<http://trustee.ietf.org/license-info>) in effect on the date of publication of this document. Please review these documents carefully, as they describe your rights and restrictions with respect

to this document. Code Components extracted from this document must include Simplified BSD License text as described in Section 4.e of the Trust Legal Provisions and are provided without warranty as described in the Simplified BSD License.

Table of Contents

1.	Introduction	3
2.	Example of use for Private Enterprise Numbers	3
3.	Who can get a Private Enterprise Number?	4
4.	Other useful things to know	4
5.	Syntax for Private Enterprise Numbers	5
6.	Acknowledgements	6
7.	IANA Considerations	6
8.	Security Considerations	8
9.	References	8
9.1.	Normative References	8
9.2.	Informative References	9
	Authors' Addresses	9

1. Introduction

A Private Enterprise Number (PEN) is a non-negative integer that can be used to reference an organization ("enterprise") in protocols that require numeric values instead of a human readable organization name.

Currently, the assignment procedures for assignment of new PENs and the modification of existing PENs is not clearly documented. Private Enterprise Numbers are referenced in RFCs [[RFC1157](#)] [[RFC1213](#)] and [[RFC2578](#)]. These documents mostly define Simple Network Management Protocol (SNMP), Management Information Base (MIB), and Structure of Management Information (SMI). However, none of the above mentioned RFCs clearly describe PENs and define the registration procedures.

Additionally, updates to existing Private Enterprise Numbers can also be problematic resulting from the lack of clear registration requirements. Historical assignments that pre-exist ICANN's management of the registry, contains inaccurate information. As result of that, ICANN/IANA has no reliable records of the historical registrations to verify new information against the original requests. Furthermore, modification requests can be hardly validated in cases like companies change names and/or legal ownerships, a product was sold to another company, email addresses of existing assignments were not coming from the original companies, etc.

This purpose of this document is to describe the basics of PENs, how they are most commonly used and define the registration and update procedures.

2. Example of use for Private Enterprise Numbers

PENs, are frequently embedded in OIDs (Object Identifiers) , which are often used in Simple Network Management Protocol (SNMP) Management Information Base (MIB) configurations but are also commonly used in a number of other protocols. These include:

Distinguished Names and other components in X.509 certificates;

Various schema elements in X.500/LDAP directories;

GSS-API

extensions to DIAMETER

PA-TNC [[RFC5792](#)] and PB-TNC [[RFC5793](#)]

Various healthcare related standards, including HL7.

3. Who can get a Private Enterprise Number?

Private Enterprise Numbers (PENs) are assigned through First Come First Served registration policy as described in [[RFC5226](#)]. A new request can be submitted to IANA by individuals or organizations for obtaining a unique value with a little required information that includes the organization name (or the name of an individual), contact name, and e-mail address. In some cases, users submit a program name, product, project, and random abbreviation as the organization name to apply for a new registration. However this should be discouraged since the program name is not and should not be considered as the name of the Registrant (Company/Organization) Name as described in [Section 7](#) below.

In other instances, applicants insist that new requests are subsidiaries of some groups but the subsidiaries are completely independent of the parent groups. The subsidiaries are located in different locations and countries from the parent companies and such the subsidiaries cannot use existing allocations. However, this does not contribute to new allocations as the global companies shall be able to create sub-trees and to allocate the sub-numbers globally. IANA does not further allocate new numbers to companies that are subsidiaries of existing registrations.

Further, joint ventures of business enterprises may request new allocations if the joint ventures are considered new legal bodies. Open resource forums may request new allocations under the registration requirement as describe in [Section 7](#) (IANA Considerations). Individuals may requests new allocations under the registration requirement as describe in [Section 7](#) (IANA Considerations).

4. Other useful things to know

As some examples documented on Wikipedia, the most common OIDs seen "in the wild" usually belong to the private enterprise numbers allocated by IANA under the 1.3.6.1.4.1 (iso.org.dod.internet.private.enterprise) arc. Increasingly used form of OID is in the area of health care and public health informatics in the United States. Health Level Seven (HL7), a standards-developing organization in the area of electronic health care data exchange, is an assigning authority at the 2.16.840.1.113883 (joint-iso-itu-t.country.us.organization.hl7) node.

Additional sub-trees of the existing arc iso.org.dod.internet.private.enterprise.<PEN> can be created by an administrator of the arc when the Registrant (Company) needs

additional OIDs. In such cases there is no need to request multiple PENs. Note that IANA does not manage allocations of sub-OIDs below a `iso.org.dod.internet.private.enterprise.<PEN>` OID, so it doesn't need to be notified about suballocations.

The owner of a Private Enterprise Number can append any number of numbers at the end (i.e. to perform its own sub-allocations). For example, for LDAP, one can use:

`iso.org.dod.internet.private.enterprise.<PEN>.1` for LDAP Object Classes

`iso.org.dod.internet.private.enterprise.<PEN>.2` for LDAP attribute types

`iso.org.dod.internet.private.enterprise.<PEN>.3` for LDAP syntaxes

A particular Object class can have OID:

`iso.org.dod.internet.private.enterprise.<PEN>.1.100`

`iso.org.dod.internet.private.enterprise.<PEN>.1.200` for subsidiaries an/or divisions

But in general any number of additional levels are permitted, for example:

`iso.org.dod.internet.private.enterprise.<PEN>.1.1` can be used as a parent OID for all email related object classes, and

`iso.org.dod.internet.private.enterprise.<PEN>.1.2` can be used for web related object classes, etc.

5. Syntax for Private Enterprise Numbers

Valid information for registrations are hereby normatively defined as follows:

- o MUST NOT begin or end with a hyphen
- o TBD: Subset of ASCII character (at least ALPHA, DIGIT and "-")
- o TBD: Special characters (At least Unicode letters?)

6. Acknowledgements

The authors would like to thank Dan Romascanu, Michelle Cotton, and (TBA if needed) for their contributions to this document.

7. IANA Considerations

o New Private Enterprise Numbers:

New Private Enterprise Numbers are assigned on a First Come First Served basis [[RFC5226](#)] and are assigned sequentially. There is no opportunity to request a particular private enterprise number. The requester can submit an online application form. Information to be included:

Registrant (Company/Organization) Name (REQUIRED)

Registrant Postal Address (REQUIRED)

Registrant Phone Number (Optional)

Registrant Fax Number (OPTIONAL)

Contact Name (REQUIRED)

Contact E-mail Address (REQUIRED)

Contact Postal Address (OPTIONAL)

Contact Phone Number (OPTIONAL)

Registrant (Company/Organization) Name: The name of the organization or individual responsible for the registration of Private Enterprise Number. If the organization is a company, it should be the full legal name including "Inc.", "Ltd.", etc.

Registrant Postal Address: The full postal address of the organization/individual requesting the PEN, including state/province, zip/postal code, country, etc.

Registrant Phone: The main telephone number of the organization/individual requesting the PEN, including the country code.

Registrant Fax Number: The facsimile number of the organization/individual responsible for the PEN, including the country code.

Contact Name: The full name of the individual who will be responsible

for the PEN on behalf of the company.

Contact Postal Address: The full postal address of the individual responsible the PEN, including state/province, zip/postal code, country, etc.

Contact Phone: The telephone number (with extension where appropriate) of the individual responsible for the PEN, including country code.

Contact E-Mail: The e-mail address of the individual responsible for the PEN. This e-mail address will be publicly available in the IANA PEN Registry.

A single PEN is granted per organization. IANA does not expect to allocate additional PENS to Registrants (Companies/Organizations) that have existing PEN records listed in the IANA PEN registry.

o Modification of existing Private Enterprise Numbers:

Registrant (Company/Organization) Name can never be changed. However if the Company/Organization has been merged or acquired by another enterprise, the Registrant Name can be annotated in the registry with the new owner. Note that such annotations would require emails from the both existing Contact and proposed Contact, and/or official letters from the existing owner (if applicable) to provide proofs of the changes. If either the existing owner or Contact is obsoleted, an official letter from the proposed Registrant (Company/Organization) Name will be required. Additional documentations will be required subject to the conditions of the changes of the numbers in questions.

All information associated with existing PEN records, excluding the Registrant (Company/Organization) Name, shall be updated if the information is obsoleted. (See the preceding section to update the Registrant (Company/Organization) Name.) A request to update information associated with an existing PEN record shall be submitted to IANA. Requests can only be fulfilled upon verification by IANA and/or subject matter experts. Additional documentations will be required if it deems to be necessary to validate the request.

A change to the Contact Name of existing PEN records can be made to IANA in case of personnel changes, change of employment, acquisitions, etc. It would be ideal that new requests shall be completed by the existing Contacts for the PEN records. E-mail verifications of the requested changes are required. Alternatively, supplemental documentations and/or letters issued by the Company/Organization (Registrant Name) will be required if E-mail

verifications cannot be fulfilled and if it deems to be necessary.

Letters and documentations can be in forms of e-documents, PDF, fax however feasible to the applicants. The documents can be supplied to IANA via an email message or in facsimile.

Requests can only be fulfilled upon verification by IANA and/or subject matter experts.

o Removal of Private Enterprise Numbers:

A Contact Name can request to remove the corresponding PEN allocation if the resource is no longer in used or the resource does not meet the needs. (In a case when the Contact Name is no longer with the Company/Organization, the Modification procedure described above MUST be used first.) Such request does not happen often and regularly.

Requests can only be fulfilled upon verification by IANA and/or subject matter experts.

If the removal request is honoured, the entry is marked as "Unassigned" and can be reallocated by IANA later unless specified otherwise, i.e. by marking the entry as "Reserved".

8. Security Considerations

See the Security Considerations section in [BCP 26](#) [[RFC5226](#)], and note that improper definition and application of IANA registration policies can introduce both interoperability and security issues. It is critical that registration policies be considered carefully and separately for each registry. Overly restrictive policies can result in the lack of registration of code points and parameters that need to be registered, while overly permissive policies can result in inappropriate registrations. Striking the right balance is an important part of document development.

9. References

9.1. Normative References

- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.
- [RFC5226] Narten, T. and H. Alvestrand, "Guidelines for Writing an IANA Considerations Section in RFCs", [BCP 26](#), [RFC 5226](#), May 2008.

9.2. Informative References

- [RFC1157] Case, J., Fedor, M., Schoffstall, M., and J. Davin, "Simple Network Management Protocol (SNMP)", STD 15, [RFC 1157](#), May 1990.
- [RFC1213] McCloghrie, K. and M. Rose, "Management Information Base for Network Management of TCP/IP-based internets:MIB-II", STD 17, [RFC 1213](#), March 1991.
- [RFC2578] McCloghrie, K., Ed., Perkins, D., Ed., and J. Schoenwaelder, Ed., "Structure of Management Information Version 2 (SMIv2)", STD 58, [RFC 2578](#), April 1999.
- [RFC5792] Sangster, P. and K. Narayan, "PA-TNC: A Posture Attribute (PA) Protocol Compatible with Trusted Network Connect (TNC)", [RFC 5792](#), March 2010.
- [RFC5793] Sahita, R., Hanna, S., Hurst, R., and K. Narayan, "PB-TNC: A Posture Broker (PB) Protocol Compatible with Trusted Network Connect (TNC)", [RFC 5793](#), March 2010.

Authors' Addresses

Pearl Liang
ICANN
4676 Admiralty Way Suite 330
Marina del Rey, CA 90232
USA

Email: pearl.liang@icann.org

Alexey Melnikov
Isode Ltd
5 Castle Business Village
36 Station Road
Hampton, Middlesex TW12 2BX
UK

Email: Alexey.Melnikov@isode.com

