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Registration Procedures for Private Enterprise Numbers (PENs) draft-pti-pen-registration-02

Abstract

This document describes how Private Enterprise Numbers (PENs) are registered by IANA. It shows how to request a new PEN and how to request an update to a current PEN. It also gives a brief overview of PEN uses.

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1. Introduction

Private Enterprise Numbers (PENs) are identifiers that can be used anywhere that an ASN.1 object identifier (OID) [ASN1] can be used. Originally, PENs were developed so that organizations that needed to identify themselves in Simple Network Management Protocol (SNMP) [RFC3411] Management Information Base (MIB) configurations could do so easily. PENs are also useful in any application or configuration language that needs OIDs to identify organizations.

The IANA Functions Operator, referred to in this document as "IANA", manages and maintains the PEN registry in consultation with the IESG. PENs are issued from an OID prefix that was assigned to IANA. That OID prefix is 1.3.6.1.4.1. Using the (now archaic) notation of ownership names in the OID tree, that corresponds to:

```
1   3   6   1       4       1
iso.org.dod.internet.private.enterprise
```

A PEN is an OID that begins with the PEN prefix. Thus, the OID 1.3.6.1.4.1.32473 is a PEN.

1.1. Uses of PENs

Once a PEN has been assigned to an organization, that organization can use the PEN by itself (possibly to represent the organization) or as the root of other OIDs associated with the organization. For example, if an organization is assigned the PEN 1.3.6.1.4.1.32473, it might use 1.3.6.1.4.1.32473.7 to identify a protocol extension and

use 1.3.6.1.4.1.32473.12.3 to identify a set of algorithms that it supports in a protocol.

Neither IANA nor the IETF can control how an organization uses its PEN. In fact, no one can exert such control: that is the meaning of "private" in "private enterprise number". Similarly, no one can prevent an organization that is not the registered owner of a PEN from using that PEN, or any PEN, however they want.

A very common use of PENs is to give unique identifiers in IETF protocols. SNMP MIB configuration files use PENs for identifying the origin of values. Some protocols that use PENs as identifiers of extension mechanisms include RADIUS [RFC2865], DIAMETER [RFC3588], Syslog [RFC5424], RSVP [RFC5284], and vCard [RFC6350].

2. PEN Assignment

Private Enterprise Numbers (PENs) are assigned by IANA. Requests for new assignments and for the modification of existing assignments can be submitted through the IANA web site.

2.1. Requesting a PEN Assignment

IANA maintains the PEN registry in accordance with the "First Come First Served" registration policy described in [RFC8126]. Values are generally assigned sequentially.

First Come First Served registries require the identification of a "change controller," as described in [RFC8126]. In this registry, the assignee is understood to be the change controller, unless the requester specifies otherwise. The assignee may be an individual, an organization, a project, or some other entity. In addition, requesters must supply contact information that can be used to verify an attempt to modify or delete the registration.

ASCII text representations are required, but requesters may provide additional non-ASCII representations.

Parties may request more than one PEN, but in most cases it is more appropriate to obtain a sub-assignment of the existing registration. Sub-assignments are maintained by the assignee. They are not recorded by IANA.

IANA may refuse to process abusive requests.

2.2. Modifying an Existing Record

Assignees can request the modification of any of the information associated with a registered value, including the name of the assignee.

Modification requests require authorization by the change controller. Authorization will be validated either with information kept on file with IANA or with other identifying documentation, if necessary.

2.3. Deleting a PEN Record

Although such requests are rare, an assignee can ask IANA to delete a registration. Values associated with deleted registrations will not become available for re-assignment until all other unassigned values have been exhausted.

3. PEN Registry Specifics

The range for values after the PEN prefix is 0 to 2**32-1. The values 0 and 4294967295 (2**32-1) are reserved. Note that while the original PEN definition had no upper bound for the value after the PEN prefix, there is now an upper bound due to some IETF protocols limiting the size of that value. For example, DIAMETER [RFC3588] limits the value to 2**32-1.

There is a PEN number, 32473, reserved for use as an example in documentation. This reservation is described in [RFC5612].

Values in the registry that have unclear ownership are marked "Reserved". These values will not be reassigned to a new company or individual without consulting the IESG.

The PEN registry has some missing assignments. These numbers will be available for assignment, but will only be assigned with the permission of the IESG. At the time of publication of this document, the list of missing assignments is: 2187, 2188, 3513, 4164, 4565, 4600, 4913, 4999, 5099, 5144, 5201, 5683, 5777, 6260, 6619, 14827, 16739, 26975 and the range from 11670 to 11769.

4. IANA Considerations

This entire document consists of considerations for IANA and for its customers who want to apply for, modify, or delete a PEN.

5. Security Considerations

Registering PENs does not introduce any significant security considerations.

There is no cryptographic binding of a registrant in the PEN registry and the PEN(s) assigned to them. Thus, the entries in the PEN registry cannot be used to validate the ownership of a PEN in use. For example, if the PEN 1.3.6.1.4.1.32473 is seen in a protocol as indicating the owner of some data, there is no way to securely correlate that use with the name and organization of the owner listed in the PEN registry.

6. Acknowledgements

An earlier version of this document was authored by Pearl Liang and Alexey Melnikov. Additional significant contributions have come from Dan Romascanu, Bert Wijnen, David Conrad, and Benoit Claise.

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