

## IANA Considerations for PPP over Ethernet (PPPoE)

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### Abstract

This document describes the IANA considerations for the PPP over Ethernet (PPPoE) protocol.

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## 1. Introduction

This document provides guidance to the Internet Assigned Numbers Authority (IANA) regarding the registration of values related to the PPP over Ethernet Protocol (PPPoE), defined in [RFC2516], in accordance with BCP 26, [RFC2434]. It also reserves PPPoE TAG values as well as PPPoE packet Code fields, which are or have been in use on the Internet.

### 1.1. Terminology

The following terms are used here with the meanings defined in BCP 26: "name space", "registration".

The following policies are used here with the meanings defined in BCP 26: "First Come First Served".

### 1.2. Specification of Requirements

In this document, several words are used to signify the requirements of the specification. These words are often capitalized. The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119].

## 2. IANA Considerations

The PPPoE protocol, as defined in [RFC2516], defines two name spaces that require registration, the PPPoE TAG and the PPPoE Code field.

### 2.1. Registration Policies for PPPoE TAG Values

IANA has set up a registry of "PPPoE TAG Values". These are 16-bit values. PPPoE TAG values already in use are specified as reserved in this document. All other TAG values between 0 and 65535 are to be assigned by IANA, using the "First Come First Served" policy defined in [RFC2434].

A TAG-Name and a description for the usage, as well as a point of contact, MUST be provided for any assignment from this registry. A document reference SHOULD also be provided.

## 2.2. Reserved PPPoE TAG Values

| TAG Value | TAG Name | Tag Description    | Reference                   |
|-----------|----------|--------------------|-----------------------------|
| 0         | 0x0000   | End-Of-List        | See the reference [RFC2516] |
| 257       | 0x0101   | Service-Name       | See the reference [RFC2516] |
| 258       | 0x0102   | AC-Name            | See the reference [RFC2516] |
| 259       | 0x0103   | Host-Uniq          | See the reference [RFC2516] |
| 260       | 0x0104   | AC-Cookie          | See the reference [RFC2516] |
| 261       | 0x0105   | Vendor-Specific    | See the reference [RFC2516] |
| 262       | 0x0106   | Credits            | See the reference [RFC4938] |
| 263       | 0x0107   | Metrics            | See the reference [RFC4938] |
| 264       | 0x0108   | Sequence Number    | See the reference [RFC4938] |
| 272       | 0x0110   | Relay-Session-Id   | See the reference [RFC2516] |
| 273       | 0x0111   | HURL               | See the reference [CARREL]  |
| 274       | 0x0112   | MOTM               | See the reference [CARREL]  |
| 288       | 0x0120   | PPP-Max-Payload    | See the reference [RFC4638] |
| 289       | 0x0121   | IP_Route_Add       | See the reference [CARREL]  |
| 513       | 0x0201   | Service-Name-Error | See the reference [RFC2516] |
| 514       | 0x0202   | AC-System-Error    | See the reference [RFC2516] |
| 515       | 0x0203   | Generic-Error      | See the reference [RFC2516] |

## 2.3. Registration Policies for PPPoE Code Fields

IANA has set up a registry of PPPoE Active Discovery Code fields. These are 8-bit values. PPPoE Code fields already in use are specified as reserved in this document. All other Code values between 0 and 255 are to be assigned by IANA, using the "First Come First Served" policy defined in [RFC2434].

A PPPoE Active Discovery packet name and a description for the usage, as well as a point of contact, MUST be provided for any assignment from this registry.

A document reference SHOULD also be provided.

## 2.4. Reserved PPPoE Code fields

| Code     | PPPoE Packet Name             | Description       | Reference |
|----------|-------------------------------|-------------------|-----------|
| 0 0x00   | PPP Session Stage             | See the reference | [RFC2516] |
| 7 0x07   | PADO, Offer                   | See the reference | [RFC2516] |
| 9 0x09   | PADI, Initiation              | See the reference | [RFC2516] |
| 10 0x0a  | PADG, Session-Grant           | See the reference | [RFC4938] |
| 11 0x0b  | PADC, Session-Credit Response | See the reference | [RFC4938] |
| 12 0x0c  | PADQ, Quality                 | See the reference | [RFC4938] |
| 25 0x19  | PADR, Request                 | See the reference | [RFC2516] |
| 101 0x65 | PADS, Session-confirmation    | See the reference | [RFC2516] |
| 167 0xa7 | PADT, Terminate               | See the reference | [RFC2516] |
| 211 0xd3 | PADM, Message                 | See the reference | [CARREL]  |
| 212 0xd4 | PADN, Network                 | See the reference | [CARREL]  |

## 3. Security Considerations

This document focuses on IANA considerations for the PPPoE protocol, and as such, should help remove the possibility of the same PPPoE code field and PPPoE TAG value being used for different functionalities.

## 4. References

## 4.1. Normative References

- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.
- [RFC2434] Narten, T. and H. Alvestrand, "Guidelines for Writing an IANA Considerations Section in RFCs", BCP 26, RFC 2434, October 1998.
- [RFC2516] Mamakos, L., Lidl, K., Evarts, J., Carrel, D., Simone, D., and R. Wheeler, "A Method for Transmitting PPP Over Ethernet (PPPoE)", RFC 2516, February 1999.

## 4.2. Informative References

- [CARREL] Carrel D., Simone D., Ho C. and T. Stoner, "Extensions to a Method for Transmitting PPP Over Ethernet (PPPoE)", Work in Progress.

- [RFC4938] Berry, B. and H. Holgate, "PPP Over Ethernet (PPPoE) Extensions for Credit Flow and Link Metrics", RFC 4938, June 2007.
- [RFC4638] Arberg, P., Kourkouzelis, D., Duckett, M., Anschutz, T., and J. Moisand, "Accommodating a Maximum Transit Unit/Maximum Receive Unit (MTU/MRU) Greater Than 1492 in the Point-to-Point Protocol over Ethernet (PPPoE)", RFC 4638, September 2006.

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