ICC_Operator_ID Attachment Individual Identifier (AII)
draft-chen-pwe3-mpls-tp-aii-icc-01

Abstract

This document defines a new Attachment Individual Identifier (AII) type which could be used when ICC_Operator_ID is used to uniquely identify an operator. The new AII (ICC_Operator_ID AII) consists a ICC_Operator_ID, a prefix and a AC ID field.

Requirements Language

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 RFC 2119 [RFC2119].

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1. Introduction

RFC6370 [RFC6370] specifies an initial set of identifiers to be used in the Multiprotocol Label Switching Transport Profile (MPLS-TP). The Global_ID is defined in RFC6370 [RFC6370] to uniquely identify an operator. [I-D.draft-ietf-mpls-tp-itu-t-identifiers] [I-D.ietf-mpls-tp-itu-t-identifiers] specifies the ICC_Operator_ID, an alternative way to uniquely identify an operator based on ITU-T conventions.

RFC4447 [RFC4447] defines the signaling mechanisms for establishing point-to-point pseudowires (PWs) between two provider edge (PE) nodes. It defines the format of the GID FEC TLV and the use and semantics of the attachment group identifier (AGI). Two types of Attachment Individual Identifier (AII) have been defined. AII Type 1 defined in RFC6074[RFC6074] has a fixed-length 32-bit value that is unique within the scope of the local Provider Edge (PE). AII Type 2 defined in RFC5003 [RFC5003] consists a 4-octet length Global ID, a 32-bit prefix field and a 4-octet attachment circuit identifier (AC ID) field. Existing AIIIs do not support ICC_Operator_ID based identifier.

This document defines a new AII type (ICC_Operator_ID AII). It use a combination of a 8-octet length ICC_Operator_ID, a 4-octet length prefix and a 4-octet length AC ID to create globally unique AII values.

2. ICC_Operator_ID AII

ICC_Operator_ID AII has the consistent structure with AII Type 2, which permits varying levels of AII summarization to take place, thus reducing the scaling burden on the AII distribution mechanisms and PE memory as described in RFC5003[RFC5003]. The encoding of ICC_Operator_ID AII is as follows:
AII Type: To be allocated by IANA (0x03 is recommended).

Length: 1 octet in length, specifies the length of the value field in octets. The length is set to 14.

ICC_Operator_ID: ICC_Operator_ID of the sender node. As defined in [I-D.ietf-mpls-tp-itu-t-identifiers], the ICC_Operator_ID is formed by Country Code (CC) and ICC(ITU-T Carrier Code ) as CC::ICC. The ICC itself is a string of one to six characters, global uniqueness is assured by concatenating the ICC with a CC. The Country Code (alpha-2) is a string of two alphabetic characters represented with upper case letters (i.e., A-Z). When the length of a ICC_Operator_ID string is less than 8 octets, the higher-order unused octets of the ICC_Operator_ID field MUST be set to zero.

Prefix: Same as [RFC5003].

AC ID field: Same as [RFC5003].

2.1. Procedures

Since the operator could be identified by either the Global_ID or ICC_Operator_ID, the two ends of a PW may use the different AII type. During the Label Mapping procedure, one end may not map the TAI to one of its Forwarders. In this case, it MUST send a Label Release message to the other end, with a Status Code of "Unassigned/ Unrecognized TAI", and the processing of the Label Mapping message is complete.

3. IANA Considerations

IANA maintains a registry of "Attachment Individual Identifier (AII)"
This document request IANA to assign a new AII Type as follows:

**AII Type**

**ICC_Operator_ID 0x03 (TBD)**

### 4. Security Considerations

This draft does not introduce any new security issues, the security mechanisms defined in [RFC5003] apply here.

### 5. Acknowledgements

### 6. References

#### 6.1. Normative References

[I-D.ietf-mpls-tp-itu-t-identifiers]
Winter, R., Gray, E., Helvoort, H., and M. Betts, "MPLS-TP Identifiers Following ITU-T Conventions",
draft-ietf-mpls-tp-itu-t-identifiers-01 (work in progress), October 2011.


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