

Network Working Group
Internet-Draft
Intended status: Standards Track
Expires: January 6, 2012

M. Chen
Huawei Technologies Co., Ltd
P. Pan
Infinera
July 05, 2011

IPv6 Pseudowire Label Switched Path (LSP) Ping
draft-chen-pwe3-ipv6-lsp-ping-vccv-01.txt

Abstract

The existing Pseudowire LSP Ping can only work in IPv4 scenario, this document extends Pseudowire LSP Ping to IPv6 scenario where IPv6 target LDP session is used to signal Pseudowire and the Sender and Receiver's IP addresses are IPv6 addresses.

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](#)].

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 January 6, 2012.

Copyright Notice

Copyright (c) 2011 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. IPv6 FEC 128 Pseudowire](#) [3](#)
- [3. IPv6 FEC 129 Pseudowire Sub-TLV](#) [4](#)
- [4. Operation](#) [5](#)
- [5. IANA Considerations](#) [5](#)
- [6. Security Considerations](#) [5](#)
- [7. Acknowledgements](#) [5](#)
- [8. Normative References](#) [5](#)
- [Authors' Addresses](#) [5](#)

1. Introduction

Multi-Protocol Label Switching (MPLS) Label Switched Path (LSP) Ping is defined in [RFC4379]. It can be used to detect data path failures in all MPLS LSPs and Pseudowires (PWs). Currently, three PW related Target Forwarding Equivalence Class (FEC) sub-TLVs (FEC 128 Pseudowire-Deprecated, FEC 128 Pseudowire-Current and FEC 129 Pseudowire) are defined. These sub-TLVs contain the source and destination addresses of the target LDP session, and currently only IPv4 target LDP session is covered. When IPv6 target LDP session is used, these existing sub-TLVs can not be used.

This document defines two new Target FEC sub-TLVs (IPv6 FEC 128 Pseudowire sub-TLV and IPv6 FEC 129 Pseudowire sub-TLV) to extend the application of PW LSP Ping to IPv6 scenario. IPv6 FEC 128 Pseudowire (Deprecated) will not be considered in this document.

2. IPv6 FEC 128 Pseudowire

IPv6 FEC 128 Pseudowire sub-TLV has the consistent structure with FEC 128 Pseudowire sub-TLV as described in Section 3.2.9 of [RFC4379]. The encoding of IPv6 FEC 128 Pseudowire sub-TLV is as follows:

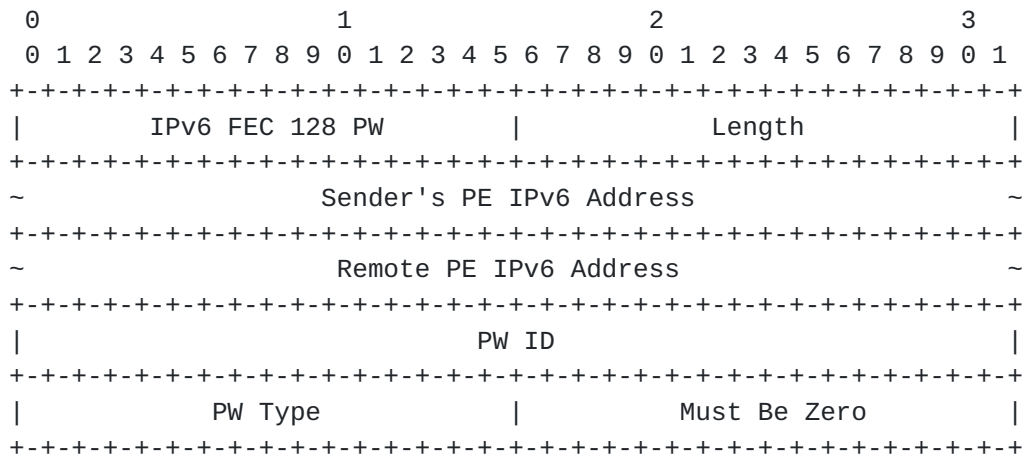


Figure 1. IPv6 FEC 128 Pseudowire

IPv6 FEC 128 PW: TBD.

Length: it defines the length in octets of the value field of the sub-TLV and its value is 40.

Sender's PE IPv6 Address: The source IP address of the target IPv6 LDP session.

Remote PE IPv6 Address: The destination IP address of the target IPv6

LDP session.

PW ID: Same as FEC 128 Pseudowire [RFC4379].

PW Type: Same as FEC 128 Pseudowire [RFC4379].

3. IPv6 FEC 129 Pseudowire Sub-TLV

IPv6 FEC 129 Pseudowire sub-TLV has the consistent structure with FEC 129 Pseudowire sub-TLV as described in Section 3.2.10 of [RFC4379]. The encoding of IPv6 FEC 129 Pseudowire is as follows:

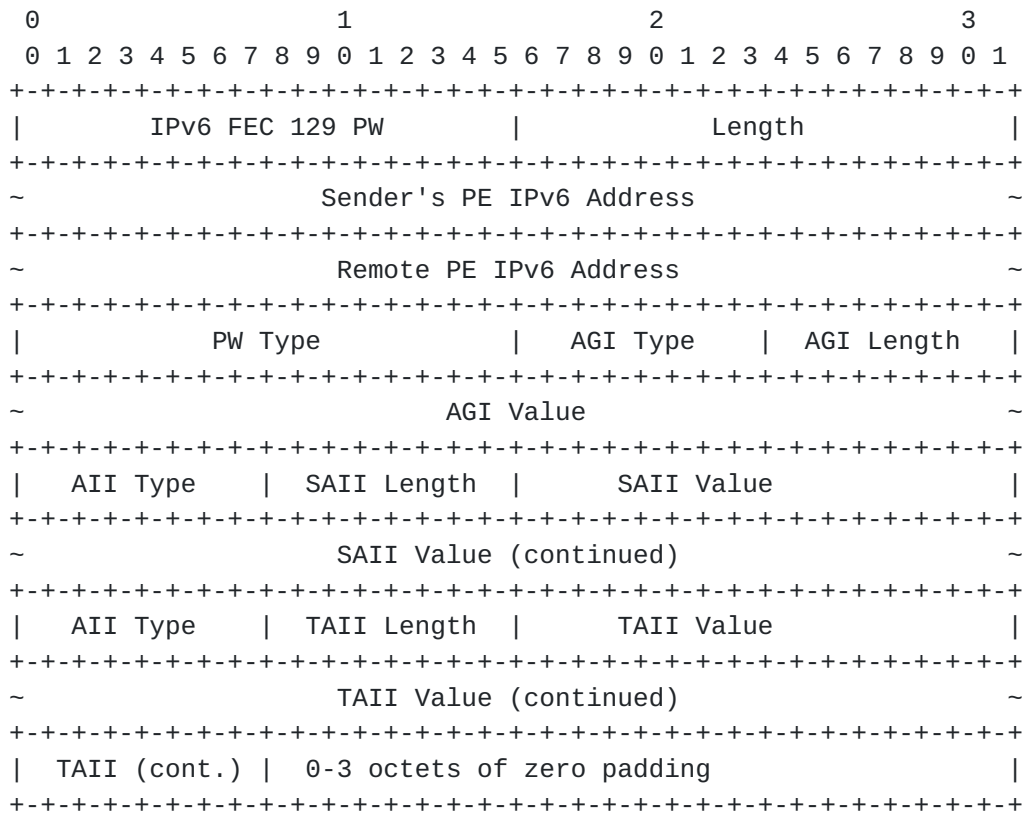


Figure 2. IPv6 FEC 129 Pseudowire

IPv6 FEC 129 PW: TBD.

Length: it defines the length in octets of the value field of the sub-TLV.

Sender's PE IPv6 Address: The source IP address of the target IPv6 LDP session.

Remote PE IPv6 Address: The destination IP address of the target IPv6 LDP session.

The other fields are same as FEC 129 Pseudowire [[RFC4379](#)].

4. Operation

This document does not define any new procedures, the process is the same as described in [[RFC4379](#)].

5. IANA Considerations

IANA is requested to create two new registry for the Sub-Type field of Target FEC TLV

IPv6 FEC 128 Pseudowire: TBD

IPv6 FEC 129 Pseudowire: TBD

6. Security Considerations

This draft does not introduce any new security issues, the security mechanisms defined in [[RFC4379](#)] apply here.

7. Acknowledgements

8. Normative References

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", [BCP 14](#), [RFC 2119](#), March 1997.

[RFC4379] Kompella, K. and G. Swallow, "Detecting Multi-Protocol Label Switched (MPLS) Data Plane Failures", [RFC 4379](#), February 2006.

Authors' Addresses

Mach(Guoyi) Chen
Huawei Technologies Co., Ltd
No. 3 Xixi Road, Shang-di, Hai-dian District
Beijing 100085
China

Email: mach@huawei.com

Ping Pan
Infinera
Sri Mohana Satya Srinivas Singamsetty
US

Email: ppan@infinera.com