

CCAMP Working Group
Internet Draft
Intended status: Experimental

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Expires: April 30, 2017

October 31, 2016

RSVP-TE Extension for Beyond 100G Signal Types in
G.709 Optical Transport Networks (OTNs)
draft-ali-ccamp-oducn-signal-type-00.txt

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Abstract

RFCs 4328 and 7139 provide signaling extensions in Resource ReserVation Protocol - Traffic Engineering (RSVP-TE) to control the full set of Optical Transport Network (OTN) features. However, these specifications do not cover the additional Optical channel Data Unit (ODU) containers defined in G.709/Y.1331 for ODUC1, ODUC2, ODUC3, ODUC4, ODUC5, ODUC6, ODUC7, ODUC8 and ODUC9. This document defines new Signal Types for these additional containers.

Conventions used in this document

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

[RFC7139] updates the portions of text related to the Optical channel Data Unit (ODU) described in [RFC4328] to provide extensions to Resource ReserVation Protocol - Traffic Engineering (RSVP-TE) to support control for [G.709-v3] in the OTN-TDM SENDER_TSPEC and OTN-TDM FLOWSPEC objects. However, it does not specify Signal Types for the beyond 100G ODUCn containers defined in [G.709/Y.1331]. This document provides RSVP-TE signaling extensions to support ODUC1, ODUC2, ODUC3, ODUC4, ODUC5, ODUC6, ODUC7, ODUC8 and ODUC9 Signal Types.

2. RSVP-TE extension for Beyond 100G Signal Types

[RFC7139] defines the format of Traffic Parameters in OTN-TDM SENDER_TSPEC and OTN-TDM FLOWSPEC objects. These traffic parameters have a Signal Type field. This document defines the Signal Types for ODUC1, ODUC2, ODUC3, ODUC4, ODUC5, ODUC6, ODUC7, ODUC8 and ODUC9, as defined in the IANA Considerations section. They are allocated via the Specification Required policy added to the subregistry by [RFC7892].

3. Security Considerations

This document does not introduce any additional security issues beyond those identified in [RFC7139].

4. IANA Considerations

IANA maintains the "Generalized Multi-Protocol Label Switching (GMPLS) Signaling Parameters" registry that contains the "OTN Signal Type" subregistry.

This document request IANA to add the following signal types in the subregistry via the Specification Required policy [RFC5226]:

Value	Type
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TBA1	ODUC1 (100Gbps OTN [G.709/Y.1331])
TBA2	ODUC2 (200Gbps OTN [G.709/Y.1331])
TBA3	ODUC3 (300Gbps OTN [G.709/Y.1331])
TBA4	ODUC4 (400Gbps OTN [G.709/Y.1331])
TBA5	ODUC5 (500Gbps OTN [G.709/Y.1331])
TBA6	ODUC6 (600Gbps OTN [G.709/Y.1331])
TBA7	ODUC7 (700Gbps OTN [G.709/Y.1331])
TBA8	ODUC8 (800Gbps OTN [G.709/Y.1331])
TBA9	ODUC9 (900Gbps OTN [G.709/Y.1331])

These Signal Types are carried in the Traffic Parameters in OTN-TDM SENDER_TSPEC and OTN-TDM FLOWSPEC objects [RFC7139].

5. References

5.1. Normative References

- [RFC4328] Papadimitriou, D., Ed., "Generalized Multi-Protocol Label Switching (GMPLS) Signaling Extensions for G.709 Optical Transport Networks Control", RFC 4328, DOI 10.17487/RFC4328, January 2006, <<http://www.rfc-editor.org/info/rfc4328>>.
- [RFC7139] Zhang, F., Ed., Zhang, G., Belotti, S., Ceccarelli, D., and K. Pithewan, "GMPLS Signaling Extensions for Control of Evolving G.709 Optical Transport Networks", RFC 7139, DOI 10.17487/RFC7139, March 2014, <<http://www.rfc-editor.org/info/rfc7139>>. [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.
- [RFC7892] Ali, Z., Bonfanti, A., Hartley, M., and F. Zhang, "IANA Allocation Procedures for the GMPLS OTN Signal Type Registry", RFC 7892, DOI 10.17487/RFC7892, May 2016, <<http://www.rfc-editor.org/info/rfc7892>>.

5.2. Informative References

- [G.709-v3] ITU-T, "Interfaces for the optical transport network", Recommendation G.709/Y.1331, June 2016.
- [G.709/Y.1331] ITU-T, " Interfaces for the optical transport network", G.709/Y.1331 (06/16).
- [RFC5226] Narten, T. and H. Alvestrand, "Guidelines for Writing an IANA Considerations Section in RFCs", BCP 26, RFC 5226, DOI 10.17487/RFC5226, May 2008, <<http://www.rfc-editor.org/info/rfc5226>>. [G.709-v3] ITU-T, "Interface for the Optical Transport Network (OTN)", G.709/Y.1331 Recommendation, February, 2012.

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