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Resource ReserVation Protocol-Traffic Engineering (RSVP-TE) Extension for Additional Signal Types in G.709 OTN
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Status of this Memo

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Abstract

RFC 4328 and RFC 7139 provide Resource ReserVation Protocol-Traffic Engineering (RSVP-TE) signaling extensions 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.Sup43 (ODU1e, ODU3e1 and ODU3e2). This document defines new signal types for these additional containers.

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1. Introduction

[RFC7139] updates the Optical channel Data Unit (ODU)-related portions of [RFC4328] to provide Resource ReserVation Protocol-Traffic Engineering (RSVP-TE) extensions 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 containers defined in [G.Sup43] (ODU1e, ODU3e1, and ODU3e2). This document provides RSVP-TE signaling extensions to support these additional signal types.

These containers are non-standard data plane frame formats (not defined in ITU-T Recommendations). They are among some of the intra-domain approaches used in networks for transport of 10GBASE-R signals in optical transport networks. As a Supplement, [G.Sup43], does not guarantee interoperability in the data plane for these containers.

2. RSVP-TE extension for Additional 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 type for ODU1e, ODU3e1 and ODU3e2 as defined in the IANA considerations section. They are allocated from the Specification Required policy added to the subregistry by [RFC7892].

3. Security Considerations

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

4. IANA Considerations

IANA maintains a registry called "Generalized Multi-Protocol Label Switching (GMPLS) Signaling Parameters" with a subregistry called "OTN Signal Type". IANA is requested to make three further allocations from this registry under the Specification Required policy for ODU1e, ODU3e1 and ODU3e2 as follows:

Value	Type
TBD (IANA is requested to assign the value 23)	ODU1e (10Gbps Ethernet [G.Sup43])
TBD (IANA is requested to assign the value 26)	ODU3e1 (40Gbps Ethernet [G.Sup43])
TBD (IANA is requested to assign the value 27)	ODU3e2 (40Gbps Ethernet [G.Sup43])

These signaled types are carried in Traffic Parameters in OTN-TDM SENDER_TSPEC and OTN-TDM FLOWSPEC objects [RFC7139].

5. Acknowledgments

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6. References

6.1. Normative References

[RFC4328] Papadimitriou, D., Ed., "Generalized Multi-Protocol Label Switching (GMPLS) Signaling Extensions for G.709 Optical Transport Networks Control", RFC 4328, January 2006.

[RFC7139] F. Zhang, Ed., G. Zhang, S. Belotti, D. Ceccarelli, and K. Pithewan, "GMPLS Signaling Extensions for Control of Evolving G.709 Optical Transport Networks", RFC 7139, March 2014.

[RFC7892] Z. Ali, A. Bonfanti, M. Hartley, F. Zhang, "IANA Allocation Procedures for the GMPLS OTN Signal Type Registry", May 2016.

6.2. Informative References

[G.709-v3] ITU-T, "Interface for the Optical Transport Network (OTN)", G.709/Y.1331 Recommendation, February, 2012.

[G.Sup43] ITU-T, "Transport of IEEE 10GBASE-R in optical transport networks (OTN)", February, 2011.

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