International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

G.873.1

Amendment 1

(12/2014)

SERIES G: TRANSMISSION SYSTEMS AND MEDIA, DIGITAL SYSTEMS AND NETWORKS

Digital networks – Optical transport networks

Optical Transport Network (OTN): Linear protection

Amendment 1: New Appendix III – Optical layer protection

Recommendation ITU-T G.873.1 (2014) – Amendment 1

International Telecommunication Union

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Recommendation ITU-T G.873.1

Optical Transport Network (OTN): Linear protection

Amendment 1

New Appendix III – Optical layer protection

Summary

Amendment 1 to Recommendation ITU-T G.873.1 (2014) adds an appendix that describes the optical layer protection.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
1.0	ITU-T G.873.1	2003-03-29	15	11.1002/1000/6306
2.0	ITU-T G.873.1	2006-03-29	15	11.1002/1000/8762
3.0	ITU-T G.873.1	2011-07-22	15	11.1002/1000/11120
3.1	ITU-T G.873.1 (2011) Amd. 1	2012-10-29	15	11.1002/1000/11790
4.0	ITU-T G.873.1	2014-05-14	15	11.1002/1000/12181
4.1	ITU-T G.873.1 (2014) Amd. 1	2014-12-05	15	11.1002/1000/12368

* To access the Recommendation, type the URL http://handle.itu.int/ in the address field of your web browser, followed by the Recommendation's unique ID. For example, http://handle.itu.int/11.1002/1000/11830-en.

FOREWORD

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The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at http://www.itu.int/ITU-T/ipr/.

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New Appendix III – Optical layer protection

Add the following appendix after Appendix II:

Appendix III

Optical layer protection

(This appendix does not form an integral part of this Recommendation.)

III.1 Overview over protection architectures of OTN optical layer protection

Table III.1 provides an overview of the linear OTN optical layer protection types which are supported by the description in this appendix.

Protection architecture	Switching type	Protection subclass and monitoring	Entities for protection switching, individual/ group	APS channel used	Server layer of protected entity	Protection switched entity	Trigger criteria used
1+1	Unidir	Trail Protection	Individual OMSn	No	One OTSn	OMSn	OMSn TSF
1+1	Unidir	SNC/I Protection	Individual OMSn	No	One OTSn	OMSn	OMSn SSF
1+1	Unidir	Trail Protection	Individual OTS	No	One fiber	OTSn	OTSn TSF
1+1	Unidir	SNC/N Protection	Individual OTS	No	One fiber	OTSn	OTSn SSF

III.2 Examples of functional models for optical layer protection

The OMS trail protection sub-layer (OMSnP) is generated by expanding the OMS trail termination. The functional model for OMS trail protection is included in Figure 10-13 of [ITU-T G.798]. The basic trail protection mechanism is identical to the SDH trail connection process described in [b-ITU-T G.841].

Figure III.1 shows the OTS SNC/N protection functions and the location.

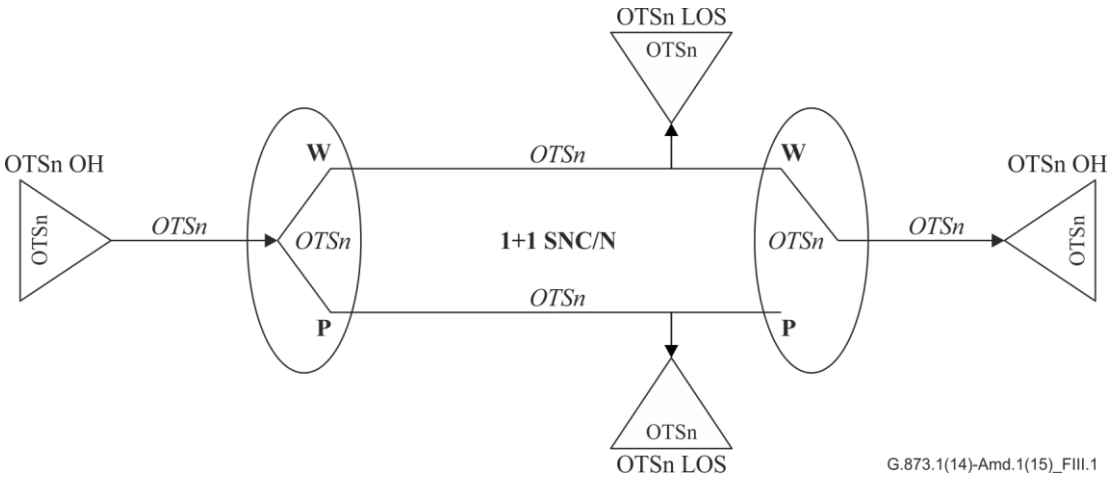

Figure III.1 – OTS protection atomic function – SNC

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Printed in Switzerland
Geneva, 2015