

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

G.998.2

Amendment 3

(08/2013)

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

Digital sections and digital line system – Metallic access
networks

Ethernet-based multi-pair bonding

**Amendment 3 – Intentional temporary shutdown
of some bonded lines**

Recommendation ITU-T G.998.2 (2005) –
Amendment 3

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For further details, please refer to the list of ITU-T Recommendations.

Recommendation ITU-T G.998.2

Ethernet-based multi-pair bonding

Amendment 3

Intentional temporary shutdown of some bonded lines

Summary

Amendment 3 to Recommendation ITU-T G.998.2 (2005) includes:

- A new clause 9 defining "intentional temporary shutdown of some bonded lines" (new functionality).

History

Edition	Recommendation	Approval	Study Group
1.0	ITU-T G.998.2	2005-01-13	15
1.1	ITU-T G.998.2 (2005) Amd. 1	2006-12-14	15
1.2	ITU-T G.998.2 (2005) Amd. 2	2007-12-07	15
1.3	ITU-T G.998.2 (2005) Amd. 3	2013-08-29	15

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

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.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure, e.g., interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

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As of the date of approval of this Recommendation, ITU had 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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Recommendation ITU-T G.998.2

Ethernet-based multi-pair bonding

Amendment 3

Intentional temporary shutdown of some bonded lines

1) New clause 9 on "intentional temporary shutdown of some bonded lines"

Add a new clause 9 as follows:

9 Intentional temporary shutdown of some bonded lines

Customer premises equipment (CPE) with bonded DSL may temporarily shut down some lines in a bonded group of lines while keeping at least one other line of the group in operation. This could be done to reduce the power consumption of the CPE to extend the operating duration of a back-up battery or to conserve energy during idle periods. The normal procedure for orderly shutdown of a DSL line may be used and later the DSL start-up procedure may be used when all lines need to be active. The orderly shutdown procedure for VDSL2 is specified in clause 11.2.3.9 of [ITU-T G.993.2] and for ADSL2/2plus in clauses 9.5.3.1 and 9.5.3.5 of [ITU-T G.992.3]. When a portion, but not all, of the lines in a bonded group is shut down using the orderly shutdown procedure and later their operation resumes, the bonded group shall remain in service, without interruption of transmission. Furthermore, the service management function for the DSL access multiplexer (DSLAM) or the associated element management system (EMS) may need to be aware of the intentional shutdown of some lines so as to avoid unnecessary service alarms due to the resulting reduced bit-rate of the bonded DSL group.

A service alarm should be reported if all lines in a bonded group are shut down or if a line has a disorderly shut down.

For [ITU-T G.991.2], the behaviour in this situation is for further study.

2) Clause 2, References

Add the following new reference to clause 2:

[ITU-T G.993.2] Recommendation ITU-T G.993.2 (2011), *Very high speed digital subscriber line transceivers 2 (VDSL2)*.

3) Clause 4, Abbreviations and acronyms

Add the following new abbreviation to clause 4:

EMS Element Management System

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