INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

G.8264/Y.1364

Amendment 1

(01/2015)

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

Packet over Transport aspects – Synchronization, quality and availability targets

SERIES Y: GLOBAL INFORMATION INFRASTRUCTURE, INTERNET PROTOCOL ASPECTS AND NEXT-GENERATION NETWORKS

Internet protocol aspects – Transport

Distribution of timing information through packet networks

Amendment 1

CAUTION !

PREPUBLISHED RECOMMENDATION

This prepublication is an unedited version of a recently approved Recommendation. It will be replaced by the published version after editing. Therefore, there will be differences between this prepublication and the published version.

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.

INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, ITU [had/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/.

© ITU 2015

All rights reserved. No part of this publication may be reproduced, by any means whatsoever, without the prior written permission of ITU.

Amendment 1 to Recommendation ITU-T G.8264/Y.1364 (2014)

Distribution of timing information through packet networks: Amendment 1

Summary

Amendment 1 to Recommendation ITU-T G.8264/Y.1364 contains additional material to be incorporated in Recommendation ITU-T G.8264/Y.1364, Distribution of timing information through packet networks.

Amendment 1 to Recommendation ITU-T G.8264/Y.1364 (2014)

Distribution of timing information through packet networks: Amendment 1

1) Scope

This amendment contains updated material to be added to Recommendation ITU-T G.8264/Y.1364.

2) References

No new references are added.

3) Abbreviations and acronyms

No new abbreviations or acronyms are added.

4) Additional material to be added to Recommendation ITU-T G.8264/Y.1364

Modify the last two paragraphs of Clause 11.1 as follows:

11.1.1 ESMC operation with link aggregation (LAG)

~~Note,~~ [IEEE 802.3] defines multiple slow protocols and allows different slow protocols to be used within a single system over a single link segment. With respect to the ESMC, implementations must respect that the QL applies to the physical layer clock and process the ESMC appropriately. For example, link aggregation (LAG) [IEEE 802.1AX] is another function that utilizes slow protocols and provides a mechanism for carrying MAC frames over a group of links. As noted in [IEEE 802.3] clause 57.2.2, LAG operates above OAM and hence above the ESMC. Since the ESMC is modelled on Link OAM, processing of ESMC messages is therefore required on each synchronous Ethernet enabled link in the LAG group.

It is also important to note that the use of parallel links, such as the case with LAG, needs to be carefully considered due to the potential for creation of timing loops (see clauses 5.13.2 and 5.13.3.1 of [ITU-T G.781]. As noted in clause 5.13.2 of [ITU-T G.781], the concept of a "bundle" is introduced in cases where multiple timing links share the same synchronization source (i.e. the same EEC in the case of synchronous Ethernet). In this situation, which also applies to LAG, when a network element selects one port of a bundle as its synchronization input, it has to return DNU/DUS on all timing capable ports of the bundle. It is left to the operators either to configure several synchronous Ethernet enabled ports or only one synchronous Ethernet enabled port of the LAG.