International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

Y.1563

Amendment 1

(12/2009)

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

Internet protocol aspects – Quality of service and network performance

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Ethernet frame transfer and availability performance

Amendment 1: New Annex B – Terminology for consecutive severely errored seconds in Ethernet services

Recommendation ITU-T Y.1563 (2009) – Amendment 1

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New Annex B – Terminology for consecutive severely errored seconds in Ethernet services

Summary

Recommendation ITU-T Y.1563 for Ethernet performance and availability parameters includes a definition for severely errored seconds (SESs). As the quantification of consecutive SESs has been useful in the past, and the definition is widely implemented in other ITU-T Recommendations, Annex B to Recommendation ITU-T Y.1563 gives a definition of consecutive SESs.

Source

Amendment 1 to Recommendation ITU-T Y.1563 (2009) was approved on 14 December 2009 by ITU-T Study Group 12 (2009-2012) under Recommendation ITU-T A.8 procedures.

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.

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Recommendation ITU-T Y.1563

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New Annex B – Terminology for consecutive severely errored seconds in Ethernet services

(This annex forms an integral part of this Recommendation)

B.1 Introduction

The body of this Recommendation specifies a normative definition for severely errored second performance of Ethernet services (SES_{ETH}) in clause 9.1. This annex defines a related parameter which can be used to quantify short-time outages of more than one-second duration, consecutive severely errored seconds for Ethernet services ($CSES_{ETH}$).

B.2 Definition of consecutive severely errored seconds for Ethernet services ($CSES_{ETH}$)

A $CSES_{ETH}$ outcome is detected at an egress MP_i when two or more SES_{ETH} outcomes occur for blocks of frames observed during consecutive one-second intervals at ingress MP_0. The consecutive sequence terminates when a second occurs with insufficient frame loss to qualify as an SES_{ETH} outcome.

$CSES_{ETH}$ outcomes are not detected during unavailable time.

Since the SES_{ETH} outcome is dependent on frame loss ratio (FLR) (i.e., an SES_{ETH} occurs when the ratio of lost frames to total frames in the block at egress MP_i exceeds $\mathbf{s_1}$), $CSES_{ETH}$ is also dependent on the loss threshold, $\mathbf{s_1}$, and the provisional value of $\mathbf{s_1} = 0.5$ is used.

B.3 Definition of n-$CSES_{ETH}$ for Ethernet services

An n-$CSES_{ETH}$ outcome is detected at an egress MP_i when **n** or more SES_{ETH} outcomes occur for blocks of frames observed during consecutive one-second intervals at ingress MP_0. The permissible values for **n** range from 2 to 9, inclusive.

n-$CSES_{ETH}$ outcomes are not detected during unavailable time.

The variable **n** permits the user to focus on a particular $CSES_{ETH}$ duration of interest.

B.4 Form of n-$CSES_{ETH}$ objectives for Ethernet services

Numerical objectives for n-$CSES_{ETH}$ will usually be expressed as a limit on the frequency of the outcomes (for a pair of ingress and egress MP) per unit time.

Usually one value of **n** will be chosen as a basis for the objectives. For example, the objective could be specified as less than X n-$CSES_{ETH}$ outcomes per month.

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