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SERIES J: CABLE NETWORKS AND TRANSMISSION
OF TELEVISION, SOUND PROGRAMME AND OTHER
MULTIMEDIA SIGNALS

Miscellaneous

**A framework for an efficient parallel video
transmission system including codecs with
functions of failure detection and picture quality
evaluation**

ITU-T Recommendation J.188

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CABLE NETWORKS AND TRANSMISSION OF TELEVISION, SOUND PROGRAMME AND OTHER
MULTIMEDIA SIGNALS

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ITU-T Recommendation J.188

A framework for an efficient parallel video transmission system including codecs with functions of failure detection and picture quality evaluation

Summary

Parallel transmission links including codecs are often set up to realize a highly reliable contribution and primary distribution of television programs, in particular of big events such as Olympics and World Cup Soccer. This configuration, however, has the following issues:

- 1) The reserve link is totally wasted during normal periods.
- 2) Switching to the reserve link should be perfect to avoid a disrupted television program, when a failure occurs in a transmission link.
- 3) In addition, objective assessment of received video quality has been strongly demanded in an actual operation of digital television program transmission.

This Recommendation, therefore, recommends a framework for methods that support solutions for these issues. This framework mainly consists of the following three elements:

- 1) It reduces coding noise and improves picture quality compared to only one link by outputting the average signal of two links, when both links are normal (Efficiency).
- 2) It detects a failure that occurs in one of the two links by monitoring the two links by comparing them (Support of failure detection).
- 3) It evaluates the quality of the two decoded pictures by comparing them (Automatic picture quality assessment).

Appendices show examples of methods in this framework. Such methods improve the operational efficiency and reliability of parallel video transmission links.

Source

ITU-T Recommendation J.188 was prepared by ITU-T Study Group 9 (2001-2004) and approved under the WTSA Resolution 1 procedure on 29 July 2002.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. 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.

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