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Širokopasovno digitalno omrežje z integriranimi storitvami (B-ISDN) – Razpoložljivost in obseg obdržljivosti za polstalne zveze v B-ISDN

Broadband Integrated Services Digital Network (B-ISDN); Availability and retainability performance for B-ISDN semi-permanent connections

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Foreword

This Interim European Telecommunication Standard (I-ETS) has been produced by the Network Aspects (NA) Technical Committee of the European Telecommunications Standards Institute (ETSI).

An ETSI standard may be given I-ETS status either because it is regarded as a provisional solution ahead of a more advanced standard, or because it is immature and requires a "trial period". The life of an I-ETS is limited to three years after which it can be converted into an ETS, have it's life extended for a further two years, be replaced by a new version, or be withdrawn.

Proposed announcement date	
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Date of latest announcement of this I-ETS (doa):	31 May 1996

Introduction

From an availability and retainability point of view, a portion of a Broadband Integrated Services Digital Network (B-ISDN) semi-permanent connection should have the following properties:

- **unavailability**

  The unavailability of a B-ISDN semi-permanent connection portion is the fraction of time during which it cannot accommodate a transaction (i.e. it is in a down state). This down state is to be characterized by a set of decision parameters, specific to the information transfer phase, and their associated outage criteria.

  The fraction of time during which it is in a down state should be as low as possible;

- **retainability**

  The retainability performance of B-ISDN semi-permanent connection portions is defined in this I-ETS as the probability that a transaction using a B-ISDN semi-permanent connection portion once obtained (i.e. is available), will neither be interrupted nor prematurely released (i.e. does not become unavailable) for a given duration. In this I-ETS the retainability performance is specified in terms of outage intensity.

  Once a transaction is started on a B-ISDN semi-permanent connection, it should have a low probability of being either interrupted (because of insufficient data transfer performance) or prematurely released (due to the failure of some network component) before the requested end of the transaction.

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1 Scope

This Interim European Telecommunication Standard (I-ETS) specifies availability and retainability parameters for Broadband Integrated Services Digital Network (B-ISDN) semi-permanent connections (VPCs and VCCs)

An international B-ISDN semi-permanent connection is partitioned into two national portions and an international portion. The international portion is further partitioned into connection portions delimited by International Measurement Points (MPIs) as defined in prI-ETS 300 464 [1].

A futur version of this I-ETS will specify objectives for the availability and retainability performance of each of these portions, and measurement methods will be defined.

2 Normative references

This I-ETS incorporates by dated and undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this I-ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] I-ETS 300 464: "Asynchronous Transfer Mode (ATM); Broadband Integrated Services Digital Network (B-ISDN); ATM layer cell transfer performance for B-ISDN connection types".

[2] ITU-T Recommendation I.610 (1994): "B-ISDN operation and maintenance principles and functions".

[3] ITU-T Recommendation E.800 (1994):."Terms and definitions related to quality of service and network performance including dependability".

3 Symbols and abbreviations

For the purposes of this I-ETS, the following abbreviations apply:

AIS	Alarm Indication Signal
ATM	Asynchronous Transfer Mode
FS	Frontier Station
ISC	International Switching Center
MPI	International Measurement Point
MTBO	Mean Time Between Outages
MTTR	Mean Time To Restore
OAM	Operation Administration and Maintenance
SECB	Severely Errored Cell Block
SES_{ATM}	Severely Errored Second

4 Definition of parameters

The decision parameters which characterize the down state of a B-ISDN semi-permanent connection portion are based on a subset of the performance parameters defined in prI-ETS 300 464 [1].

NOTE: It is likely that CLR and SECBR will be the parameters that form this subset.

The observation process of these decision parameters will include the specification of time during which they are estimated. It is necessary to base the outage criteria for the unavailable state on successive observations of decision parameters.

In order to classify available and unavailable states, entry/exit criteria are defined.