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1 Foreword

ETSI Technical Reports (ETRs) are informative documents resulting from ETSI studies which are not appropriate for European Telecommunication Standard (ETS) or Interim - European Telecommunication Standard (I-ETS) status. An ETR may be used to publish material which is either of an informative nature, relating to the use or application of ETSs or I-ETSs, or which is immature and not yet suitable for formal adoption as an ETS or I-ETS.

This ETR has been produced by the Network Aspects (NA) Technical Committee of the European Telecommunications Standards Institute (ETSI).

2 References

- [1] CCITT Recommendation I.601 (1988): General maintenance principles of ISDN subscriber access and subscriber installation
- [2] CCITT Recommendation I.602 (1988): Application of maintenance principles to ISDN subscriber installations
- [3] CCITT Recommendation I.603 (1988): Application of maintenance principles to ISDN basic accesses
- [4] CCITT Recommendation I.604 (1988): Application of maintenance principles to ISDN primary rate accesses
- [5] CCITT Recommendation I.605 (1988): Application of maintenance principles to static multiplexed ISDN basic accesses
- [6] CCITT Recommendation I.430 (1988): Basic user-network interface - Layer 1 specification
- [7] CCITT Recommendation I.431 (1988): Primary rate user-network interface - Layer 1 specification
- [8] CCITT Recommendation M.20 (1988): Maintenance philosophy for telecommunication networks
- [9] CCITT Recommendation Q.940 (1988): ISDN user-network interface protocol for management - general aspects
- [10] CCITT Recommendation G.960 (1988): Digital section for ISDN basic rate access
- [11] CEPT Recommendation T/N 46-02 (1987): Maintenance philosophy for digital and mixed networks
- [12] CEPT Recommendation T/S 46-60 (1988): ISDN user-network interface protocol for management - general aspects
- [13] CEPT Recommendation T/L 03-07 (1987): Layer 1 of the basic user-network interface
- [14] CEPT Recommendation T/L 03-14 (1988): Primary rate user-network interface - Layer 1 specification

3 CCITT I.600 Series of Recommendations

ETSI agrees with the adoption of the CCITT I.600 series of Recommendations for maintenance principles in the area of the ISDN customer access and customer equipment, with the following exceptions:

3.1 General

Where reference is given in the I.600 Series of Recommendations to other CCITT Recommendations, CEPT references are in general identical to the respective CEPT Recommendations. In particular:

CCITT M.20 [8]	-	CEPT T/N 46-02 [11]
CCITT Q.940 [9]	-	CEPT T/S 46-60 [12]
CCITT I.430 [6]	-	CEPT T/M 03-07 [13]
CCITT I.431 [7]	-	CEPT T/M 03-14 [14]

In European countries, as a general principle, the customer equipment is not allowed to control maintenance functions in the customer access without prior authorisation of an Access Connection Element Maintenance Centre (ACEMC - SAMC in the current terminology (see item below)). Therefore, ETSI does not support the notes to Figures 5/I.601 [1], 6/I.601 [1] and 1/I.602 [2] (ie the "some countries" referred to by these notes are not European countries).

ETSI support the vocabulary of terms contained in annexes to Recommendations I.430 [6] and G.960 [10]. Maintenance terms which are derived from that terminology are given below and are preferred to the terms currently used in the I.600 Series of Recommendations.

Derived term: customer equipment management entity (CEME)
I.600 term: subscriber installation maintenance entity (SIME)

Derived term: access connection element management entity (ACEME)
I.600 term: subscriber access maintenance entity (SAME)

Derived term: access connection element management centre (ACEMC)
I.600 term: subscriber access maintenance centre (SAMC)

3.2 General maintenance principles for ISDN customer access and customer equipment (CCITT Recommendation I.601 [1])

Loopbacks B₁, C, 2₁ and 4 are not recommended.

3.3 Application of maintenance principles to ISDN customer equipment (CCITT Recommendation I.602 [2])

Loopbacks B₁, C and 4 are not recommended.

Notes 1 to 6 of Table 2/I.602 [2] are not required by ETSI.

3.4 Application of maintenance principles to ISDN basic access (CCITT Recommendation I.603 [3])

Loopback 2₁ is not recommended.

3.5 Application of maintenance principles to ISDN primary rate access (CCITT Recommendation I.604 [4])

In line with the CEPT T/M 03-14 Recommendation [14], ETSI supports maintenance principles only for the transmission rate of 2048 kbit/s and not 1544 kbit/s.

Loopback 2 is recommended to complement ISDN primary rate accesses making use of Cyclic Redundancy Check (CRC) option 2 (see item below).

Loopback 2₁ is not recommended.

With regard to Table 1/I.604 [4], the following additional information is provided on the control point for loopbacks 1, 1A and 2. The control point for these loopbacks is generally considered to be located in the ET, but for loopback 1A it could alternatively be located in the LT. However, if the control point for loopback 1A is located in the LT then no automatic control of the higher layers is possible and live traffic may be lost when the loopback is activated. Further consideration is required.

With regard to Figure 4/I.604 [4], the following comment is given: normally in European countries only the Access Connection Element Management Entity (ACEME - SAME in the I.600 terminology) exists in the local exchange. In some cases the SAME is shown in Figure 4/I.604 [4] may be divided into two sub-functional parts of a SAME.

The CRC monitoring techniques described in paragraphs A.1 and A.2 of Annex A to I.604 [4] (known as "option 1" and "option 2") are recommended. The CRC monitoring techniques described in paragraphs A.3 and A.4 of Annex A to I.604 [4] (known as "option 3" and "option 4") are not recommended. Generally, option 1 is preferred by countries wishing to use the CRC procedure in connection with network performance monitoring and option 2 is preferred by countries wishing to use the CRC procedure in connection with failure localization.

Spare bits (Sa-bits) in bit positions 4 and 8 of time slot zero in frames not containing the frame alignment word are reserved in CEPT Recommendation T/M 03-14 (March 1988) [14]. The three other Sa-bits are available for national standardization at the user-network interface. In the absence of any other relevant recommendation it is stated here that the same Sa-bits in bit positions 4 and 8 of the primary rate access digital section should also be reserved for future international standardization.

3.6 Application of maintenance principles to ISDN static multiplexed basic access (CCITT Recommendation I.605 [5])

There are no exceptions to Recommendation I.605 [5].

History

Document history	
August 1990	First Edition
January 1996	Converted into Adobe Acrobat Portable Document Format (PDF)