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1. Relationship between this TTC Standard and the international recommendations or standards

This TTC Standard is based on ITU-T Recommendation X.32 adopted at the IXth Plenary Assembly, November 1988.

2. Considerations to the above international recommendations or standards

(1) DTE identification methods

In Sec. 2.4 of ITU-T Recommendation X.32, four methods indicated by a) to d) are defined for an identification of the DTE.

The support of the use of a DTE identification method by means of the calling address field in call request packets, which is treated as a national matter in the note to 2.1, is defined by this TTC Standard, because some networks had already provided DTE with this method.

(2) Modem characteristics

ITU-T Recommendation X.32 defines the physical layer interface for V-series modems selectable by networks in Sec. 4.3. Also in the note to 4.3.1 other modem characteristics are left for further study as a national matter.

Because the selection of a single modem type is difficult, this TTC standard specifies the use of the other modem characteristics as a network option after considering the modem market that will evolve from future technology.

(3) Definition of further study items

This TTC Standard has not clearly defined most of the descriptions, and has left them for further study, because the descriptions may depend on the future study activities of the international recommendations. However, some further study items, which depend on the network service, have been defined as a network option.

This TTC Standard treats the further study items in ITU-T Recommendation X.32 as shown in Table 1.

(4) Definitions of national items

After considering national requirements or characteristics, this TTC standard has defined the national issues, in ITU-T Recommendation X.32 as shown in Table.2.

Table 1 Definitions of ITU-T Rec. X.32 further study items in this TTC Standard

No.	Sec. in ITU-T Rec. X.32	Description	Difference from ITU-T Rec.X.32
1	2.5 DCE identification methods	The identification of the DCE to the DTE on a per-virtual-call basis is for further study.	Delete all of sec.2.5.2
2	2.10 negotiation of values	Negotiation of link layer parameters is left for further study.	Delete
3	3.1.3 DTE address	Note: the inclusion or application of the TOA/NPI address format to Rec.X.32 as defined in Rec.X.25 requires for further study.	Delete
4	3.1.3.1 DTE address not provided	The means to convey this information are for further study. Pending the results of such a study, this option may be used nationally.	Delete
5	3.1.12 Link layer assignment	Note: other methods of link layer address assignment than those described below are for further study.	Delete

6	TABLE 3/X.32 Note 1(TABLE 3-4/JT-X32)	Further study is required to determine whether subscription should be equivalent to use in a call set-up packet (either in the general format identifier for the extended packet sequence numbering facility or in the facility field for other facilities) under the nonidentified DTE service.	Delete
7	TABLE 4/X.32 Note 1(TABLE 3-4/JT-X32)	The use of multilink procedures other than the switched access path is left for further study.	Delete
8		TABLE 4/X.32 Note 2 (TABLE 3-4/JT-X32) The criteria for determining that the DTE is out of order (for the purpose of call redirection) has been left for further study.	Delete
9	4.3.1 Modem characteristics	Other modem characteristics are left for further study.	Delete
10	5.1.1 Compatibility with the ISO balanced class of procedures	Note: the operating conditions under which modulo 128 sequence numbering applies are left for further study.	Delete
11	5.2.1 Assignment depending on switched access call direction	These procedures are left for further study.	Delete
12	5.3.1 General	Note: the use of the XID command/response for address negotiation and the negotiation of link layer parameters is left for further study.	Delete
13	5.3.2 Format of XID frame	The use of these subfields within the scope of this Rec. is left for further study.	Delete
14	5.5 Multilink	The need for multilink procedures over a switched access path is left for further study.	Delete
15	5.6.4 Time XT1	The values of XT1a and XT1b have been left for further study.	Delete
16	7.1.2 Identification protocol procedure	Note 1: it is left for further study whether or not to define, as a mechanism for protecting against specific forms of intrusion, the value of RAND as odd or even depending on the direction of the switched access call.	Delete
17	7.2.2 Temporary location facility	Note: extension of a switched access number to accommodate additional digits, secondary digits, second dial tone, or dialing delays as allowed by V.25 and/or X.24 is left for further study.	Network dependent
18	TABLE 9/X.32 Note 2 (TABLE 7-2/JT-X32)	Replacement of this call progress signals is for further study in close liaison with the revision of Rec.X.96	Call progress signal follows Rec.X.96.
19	TABLE 9/X.32 Note 3 (TABLE 7-2/JT-X32)	Note 3: whether multiple switched connections can be simultaneously active using the same DTE identity is for further study.	Delete

20	7.3.3.6 Temporary location facility	Note: such use it left for further study.	Network dependent
21	7.4 Security grade 2 method	The characteristics and length constraints of the various numbers and parameters to be used in security grade 2 algorithms.	Delete all of note
22	7.6 DCE timer T15	The period of timer T15 is left for further study.	Network dependent

Table 2 Definitions of ITU-T Rec. X.32 national matters in this TTC Standard

No.	Sec. in ITU-T Rec. X.32	Description	Difference from ITU-T Rec.X.32
1	2.4 DTE identification methods	Note: for an interim period, support of the use of a DTE identification method by means of the calling address field in call request packets is a national matter.	Added to the DTE identification methods
2	3.1.9 Dial-out access type	A national default dial-out access type is made by the PSPDN for each PSN through which access is permitted	National default => network default
3	4.3.1 Modem characteristics	Other modem characteristics are a national matter.	Network option
4	6.3 NUI in call set-up packets	The formats of the user identifier and the password are national matters.	Delete
5	7.1.1 Protocol elements	The size of values of the identity, signature, and random number elements are national matters.	Network option
6	7.3.3.5 TABLE 10/X.32 (TABLE 7/JT-X32)	Note 1: bits 1 to 7 are for maintenance purposes and are a national matter.	Delete the part underlined
7	7.4 Security grade 2 method	The selection and the use of security grade 2 algorithms is a national matter.	Network option

3. Others

(1)Optional items are shown in Table 3.

Table 3 Optional items

No.	Sec. in ITU-T Rec.X.32	Item	Options	Descriptions in Rec.X.32	Definition in this TTC standard
1	1	Transmission facility	* Full-duplex * Half-duplex	Basic Option	Basic Option
2	2.4	DTE identification methods	* Public switched network * XID frame * Registration packet * NUI facility	Option Option Option Option	Option Option Option Option
3	2.5	DCE identification methods (option)	* Public switched network * XID frame * Registration packet * Identification per virtual call	Option Option Option Further study	Option Option Option Delete

4	2.6	Operation	* Dial-in-by-the-DTE * Dial-out-by-the-PSPDN	Shall provide Option	Shall provide Option
5	7.1	Identification protocol (option)	* Security grade 1 * Security grade 2	Basic option Enhanced option	Basic option Enhanced option
6	7.2	Procedure for X.32 optional user facilities	* Secure dial-back facility * Temporary location facility	Option Option	Option Option

(2)The followings are the TTC Standards, international recommendations and the international standards that are referred to by this TTC Standard.

TTC standards : JT-X25, JT-X31

ITU-T Rec : X.1, X.2, X.10, X.21, X.21bis, X.24, X.25, X.31, X.32, X.96 X.121, X.150, X.301, T.70, E.163, E.164, V.22, V.22bis, V.24, V.25, V.25bis, V.26bis, V.26ter, V.27ter, V.32, V.54

ISO standards : ISO 8885