# JT-Q931 ISDN User-Network Interface Layer 3 Specification for Basic Call Control

**1. Relations with international standards**

This Standard is based on the ITU-T Recommendation Q.931 approved in the SG11 meeting( March 1993) and the changes approved in the SG11 meeting(May 1998).

**2. Summary of differences from the international recommendations**

(1) Of the optional items in ITU-T Recommendation Q.931, the following have been selected as the TTC standards. (Corresponding Chapter and Section numbers are shown in parentheses).

(A) Because the support of 2 octets is always essential as the length of a Call Reference, a 2-octet Call Reference is regarded as the unified standard. A 1- or 2-octet Call Reference for the primary-rate interface, however, is specified to be sent as a network option.

(B) As the sending procedure of the Called Party Number from the calling party, en bloc sending is considered as a standard and the overlap sending is non-standard.

Because the en bloc sending procedure as the basic procedure shares the functions of the overlap sending procedure, the two procedures are unified into one; namely, the en bloc sending procedure. (5.1.3)

(C) As the incoming call procedure to the called party, the en bloc procedure is considered as a standard, while the overlap procedure is non-standard.

The en bloc incoming call procedure is viable in Japan, since the fixed numbering plan is employed there. In addition, the en bloc incoming call procedure as the basic procedure shares all the functions of the overlap procedure. Therefore, the en bloc incoming call procedure is considered as a standard.

(D)The incoming call procedure over a data link with SAPI=16 on the D-channel for packet-mode is regarded as non-standard.(6.2.2.3) only the procedures making use of the SAPI=0 data link are regarded as standard, while those making use of the SAPI=16 link are considered to be provisional and their necessity can not be identified. As information, it is specified in the ITU-T Recommendation Q.931 that terminals implemented with the procedures with the SAPI=16 must be implemented with also the procedures with the SAPI=0 to guarantee terminal portability .

(2) TTC has analyzed the optional items in ITU-T Recommendation Q.931 and they are summarized, except for (1) above, in Table 1 of this Summary.

(3) A Supplement to this Standard to complement the contents is provided.

(4) TTC specifies the High Layer characteristics identification (national use) in octet 4 of the High Layer compatibility information element for terminal selection using a still-video transmission equipment.

(5) Considering the interworking with other networks operating at less than 64 kbit/s (e.g. PHS) and

rate adaptation defined in the TTC standard JT-I460 at the interworking function, interpreting of codepoints for ‘User information layer 1 protocol’ and ‘User rate’ in the Bearer capability information element and those in the Low layer capability information element for user-to-user compatibility checking is described in Annex B and Annex I.

Note: “PHS” is the Personal Handy Phone System utilizing ‘Personal Handy Phone System ARIB Standard version 2’ (STD-28) instituted by Association of Radio Industries and Businesses (ARIB).

(6) TTC specifies the domestic codepoint in the protocol identifier of user user information element for the domestic services.

**3. History of revised versions**

| Version | Date | Outline |
|---|---|---|
| ..... | ..... | ..... |
| 7 | April 24, 1996 | Amendments of the description considering the interworking with other networks operating at less than 64 kbit/s (e.g.PHS) utilizing rate adaptation defined in the TTC standard JT-I460. |
| 7.1 | September 10,1996 | Editorial modification in Figure 4-25/JT-Q931 |
| 8 | November 26, 1998 | Revision based on the changes of ITU-T recommendation Q.931 approved in the SG11 meeting(May 1998), and reservation of the domestic codepoint in the protocol identifier of user user information element |
| 9 | April 22, 1999 | Deletion of reservations of the domestic codepoint in the protocol identifier of user user information element based on the revision of the supplement JT-Q957. |

**4. Others**

Sufficient attention must be paid to the following items in applying the TTC JT-Q931 Standard.

(1) Handling of other optional items as identified here is a matter of future assessment.

(2) This Standard specifies layer 3 of the ISDN user-network interface, but it does not require the user-network interfaces to provide all the capabilities described there.

(3) Some of the codes used in this Standard are associated with those services not contained in the TTC Standards. These codes have the possibility of being used when the corresponding services are officially recognized. In practical applications, therefore, coordination with other TTC Standards must be considered (e.g. for Recommendation G.711 A-law).

(4) Items that are specified in the ITU-T Recommendation, but are non-standard according to TTC, are described in this Summary. However, they remain published in the main body of the TTC Standard, along with the technical contents of non-standardized items to avoid the deviations in numbering of chapters and sections or Figures and Tables from the international standard. Note that "overlap

operation is non-standard in the TTC Standard" at each appropriate part.

(5) Concerning the references to documents in this Standard, those standardized by TTC are quoted like `JT-Q931' and those not standardized by TTC are quoted with the original international standards numbers. However, as exclusions, modifications, and additions are sometimes made in the TTC Standards, replacement of the standard number does not always apply.

(6) Concerning packet switching, `X.25' is sometimes used as a generic name for the packet switching scheme and not as the name of an international standard.

In those cases, the word `X.25' and not the word `JT-X25' is used.

(7) Call clearing messages in JT-Q931 mean the DISCONNECT, RELEASE, and RELEASE COMPLETE messages are used for call clearing for the circuit-switched mode as described in Section 3.1.

Terms for disconnecting and releasing have also been used for the conventional digital data circuit-switched service, but the meanings of these terms for the circuit-switched service and those used in JT-Q931 are differences described below.

`Disconnect' in the circuit-switched service is used for clearing from the DCE side and `Release' is used for clearing from the DTE side. That is, they are used depending on the direction of initiation of clearing.

On the other hand, a `DISCONNECT' message is used for initiation of disconnecting a call and `RELEASE' and `RELEASE COMPLETE ' message are used for releasing a call independent of the direction of initiation of clearing.

(8) The TTC standard JT-X25 corresponds to the ITU-T Recommendation X.25 before 1984 version and JT-X25(88) corresponds to the ITU-T Recommendation X.25 1988 version.

The notations of reference to JT-X25 in this standard are as follows,

| | |
|---|---|
| Refers to both JT-X25 and JT-X25(88) | (TTC Standard) JT-X25 |
| Refers to only JT-X25(88) | (TTC Standard) JT-X25(88) |

(9) The ITU-T Recommendation needs to be clarify how to treat X.25 virtual class and permanent virtual circuits upon receiving a RESTART message because there are inconsistencies in it. The TTC standard will be revised with the progress of the corresponding ITU-T Recommendation.

(see 5.5.3, 6.4.1, 6.4.4.2, Figure II-14/Q.931)

(10) The terminal uses the information elements whose coding standard set to national standard shall not place a call with such information elements in case of an international call.