

1. Relation with the international standards

This Standard is based on the ITU-T Recommendation Q.932 approved in the ITU-T SG11 meeting at Geneva in May 1998.

2. Differences from ITU-T Recommendations / international standards

2.1 Selected Options

Of the optional items in ITU-T Recommendation Q.932, the followings have been selected as the TTC standard. (Corresponding Chapter and Section numbers are shown in parentheses).

(a) Transport of keypad facility information element from network to user (4.1)

Although the transport of keypad facility information element from network to user is specified as an option in the ITU-T, this is defined as non-standard in TTC.

The reason for non-standardization is because exact coding of the keypad facility information element is defined as network-dependent and if this is sent from network to user, terminal portability cannot be guaranteed.

(b) Sending procedure for access codes (2.1.1.3, 4.5, 5.2.3, etc.)

As for the transfer of access codes (keypad facility information elements) at the call set-up phase or in response to the prompts (solicitations) from the network, the en bloc sending is considered as standard and the overlap sending as non-standard.

The reason for this is because the overlap sending procedure of the called party number or keypad facility information elements is not standardized in JT-Q931 and the en bloc sending covers all the required functions of the overlap operation.

2.2 Optional Items

Items with multiple options in ITU-T Recommendation Q.932 that TTC considers as optional items except for those described in 2.1 above, are listed in Table 1-1 to 1-5.

2.3 Others

A Supplement to this Standard to complement the contents is provided.

3. History of revised versions

Version	Date	Outline
1	November 30, 1988	Published
2	November 26, 1993	Updated based on the corresponding Recommendation approved in WTSC-93 in March, 1993
3	November 26, 1998	Updated based on the corresponding Recommendation approved in ITU-T SG11 meeting at Geneva in May, 1998.

4. Remarks

Sufficient attention must be paid to the following items in applying the TTC JT-Q932 Standard.

- (1) Compatibility checking of options in 2.2 above is required between the communicating user and network based on this Standard.
- (2) Exact applications of the common information element procedure (using Facility information elements) among the functional procedures to individual supplementary services are out of the scope of this Standard.
- (3) Items that are specified in the ITU-T Recommendation but not standardized by TTC as described in section 2 above of this Summary remain in the main body of the TTC Standard with the note that they are non-standard in the TTC Standard at each appropriate part. This is to clarify the relation between the contents of this Standard and the ITU-T Recommendation,

Table 1-1 List of optional items (of general nature)

No.	Item (Where referred)	Options	*1	Provision/ Selection Side	Condition for Selection and Remarks
1	Generic procedures to be supported (3)	a. Keypad protocol b. Feature key management protocol c. Functional protocol	A	Network	Multiple options may be selected.
2	Allocation of service profile (2.1.1.2)	a. One per interface b. Multiple per interface	E O	Network	Necessary to apply the terminal identification procedure (Annex A) in case that b. is selected.
3	Generic Notification procedure (9)	a. Not supported b. Supported	E O	Network	
4	Terminal identifications procedure (Annex A)	a. Not supported b. Supported	E O	Network	
5	Channel identification information element in SETUP message to establish NCICS connection at originating interface (10.1.1.1)	a. Not included b. Included	E O	User	
6	Channel identification information element in CALL PROCEEDING message to establish NCICS connection at originating interface (10.1.1.3)	a. Not included b. Included	E O	Network	
7	Channel identification information element in SETUP message to establish NCICS connection at terminating interface (10.1.2.1)	a. Not included b. Included	E O	Network	

8	Channel identification information element in CALL PROCEEDING message to establish NCICS connection at terminating interface (10.1.2.2)	a. Not included b. Included	E O	User	
9	Second Cause information element in RELEASE message retransmitted by user on the expiry of T308 (10.1.3.2)	a. Not included b. Included	E O	User	
10	Second Cause information element in RELEASE message retransmitted by network on the expiry of T308 (10.1.3.3)	a. Not included b. Included	E O	Network	

*1 Option selection E:Essential, O:Optional, A:Selection of one or multiple options

Table 1-2 List of optional items (concerning keypad protocol)

No.	Item (Where referred)	Options	*1	Provision/ Selection Side	Condition for Selection and Remarks
11	Information request procedure for keypad protocol (2.1.1.3/4.5)	a. Not supported b. Supported	E O	Network	
12	Supplementary service indication/notification from network to user for keypad protocol (3)	a. Not supported b. Supported	E O	Network	
13	Prompting using display info. element (4.1/4.4.1)	a. Not supported b. Supported	S	Network	
14	Use of in-band tones/announcements (4.1/4.4.1)	a. Not supported b. Supported	S	Network	
15	Number of stages for sending information (4.4.1)	a. 1 (no prompt) b. Multiple	S	Network	
16	Message carrying keypad facility info. Element (4.4.1)	a. SETUP b. INFORMATION	S	Network	
17	Network responses to user requests (4.5.2.1)	a. Call clearing b. Send CALL PROC. c. Send INFORMATION d. Prompt the user e. Wait for more info.	S	Network	
18	Phase of invocation (4.4.1)	a. Call set up phase b. Active phase c. Call clearing phase	S	Network	

*1 Option selection E: Essential, O: Optional, A: Selection of one or more options

S: Selection of one or more options depending on supplementary service

Table 1-3 List of optional items (concerning feature key management protocol)

No.	Item (Where referred)	Options	*1	Provision/ Selection Side	Condition for Selection and Remarks
19	Supplementary service indication/notification from network to user for feature key management (3)	a. Not supported b. Supported	E O	Network	
20	Use of call reference at invocation of non-call associated service (5.2.2.1)	a. Use of dummy call reference b. Use of call reference of call being set up	A	User	
21	Use of call reference at invocation of call associated service (5.2.2.1/5.2.5.1)	a. Use of call reference of associated call b. Use of dummy call (reference)	A	User	b. is applicable only when single call reference is required for one CES
22	Information request procedures for feature key management protocol (2.1.7.3/5.2.3.1.2)	a. Not supported b. Supported	E O	Network	
23	Normal responses to feature activation request (5.2.3.1)	a. Return feature indication info. Element b. Prompt for more information c. Implicit response d. Return one of Signal/Cause/ Display info. Elements	S	Network	
24	Responses to feature activation request on error conditions (5.2.3.2)	a. Return some response b. Ignore request	S	Network	
		a. Not clear call b. Clear call	S	Network	
25	Response when a. is selected for the first part of 18 above (5.2.3.2)	a. Return feature indication info. Element b. Prompt for more information c. Implicit response d. Return one of Signal/Cause/ Display info. Elements	S	Network	
26	Call state when feature indication is sent (5.2.4.1)	a. Any state b. Only at specific call state(s)	S	Network	
27	Number of feature indications in one message (5.2.4.1)	a. Possibly more than one b. Only one	S	Network	
28	Service deactivation procedures (5.2.4.2)	a. Use of same feature key b. Use of different feature key	S	Network	

29	Transfer method of feature indication info. Element (5.2.4.3)	a. Transfer in call clearing messages b. Transfer using dummy call reference after call clearing	S	Network	
30	Responses to multiple feature activation (5.2.5.3)	a. Act upon first activation only b. Act upon all the activation	E O	Network	

*1 Option selection E: Essential, O: Optional, A: Selection of one or more options
S: Selection of one or more options depending on supplementary service

Table 1-4 List of optional items (concerning hold procedures)

No.	Item (Where referred)	Options	*1	Provision/ Selection Side	Condition for Selection and Remarks
31	Whether to reserve B-channel by network on hold (6.2.1)	a. Reserved b. Released	A	Network	
32	Number of B-channels reserved (6.2.1)	a. One b. Multiple	E O	Network	
33	Indication of channel on retrieve (6.2.3)	a. Not indicated b. Indicated	E O	Network/User	

*1 Option selection E: Essential, O: Optional, A: Selection of one or more options
S: Selection of one or more options depending on supplementary service

Table 1-5 List of optional items (concerning virtual private network)

No.	Item (Where referred)	Options	*1	Provision/ Selection Side	Condition for Selection and Remarks
34	Extensions of the generic functional protocol for virtual private network (D.1)	a. Not supported b. Supported	E O	Network	Based on the bilateral agreement between network and user
35	Transit counter information element in SETUP message from user to network (D.2.1)	a. Not included b. Included	E O	User	
36	Transit counter information element in SETUP message from network to user (D.2.1)	a. Not included b. Included	E O	Network	
37	Network specific facilities information element instead of VPN indicator information element (D.4.1.3)	a. Not used b. Used	E O	Network	
38	Burst parameter X, replenishment parameter Y and timer T to support flow control (D.6.1)	a. Not implemented b. Implemented	E O	Network	

39	Notification of flow control of FACILITY and NOTIFY messages, from network to physical PINX (D.6.2)	a. Not notified b. Notified	E O	Network	
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*1 Option selection E: Essential, O: Optional, A: Selection of one or more options
S: Selection of one or more options depending on supplementary service