

Recommendation

ITU-T Q.931 (1998) Amd. 2 (12/2023)

SERIES Q: Switching and signalling, and associated measurements and tests

Digital subscriber Signalling System No. 1 – Network layer

ISDN user-network interface layer 3 specification for basic call control

Amendment 2 – Extensions for the support for the calling line identification authentication

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Recommendation ITU-T Q.931

ISDN user-network interface layer 3 specification for basic call control

Amendment 2 – Extensions for the support for the calling line identification authentication

Summary

Amendment 2 to Recommendation ITU-T Q.931 was produced to meet the need for the implementation of calling line identification authentication (CIDA) as specified in Recommendation ITU-T Q.3063 (2022). This amendment contains the modifications to Recommendation ITU-T Q.931 (1998) in order to accommodate these needs.

History *

Edition	Recommendation	Approval	Study Group	Unique ID
1.0	ITU-T I.451/Q.931	1984-10-19		11.1002/1000/5727
2.0	ITU-T I.451/Q.931	1988-11-25		11.1002/1000/2325
3.0	ITU-T Q.931	1993-03-12	11	11.1002/1000/2326
4.0	ITU-T Q.931	1998-05-15	11	11.1002/1000/4378
4.1	ITU-T Q.931 (1998) Amd. 1	2002-12-29	11	11.1002/1000/6199
4.2	ITU-T Q.931 (1998) Amd. 2	2023-12-14	11	11.1002/1000/15751

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Recommendation ITU-T Q.931

ISDN user-network interface layer 3 specification for basic call control

Amendment 2 – Extensions for the support for the calling line identification authentication

1 Scope

The amendment was produced to meet the need for the implementation of the calling line identification authentication. This amendment contains the modifications to Recommendation ITU-T Q.931 (1999) in order to accommodate these needs.

2 Formats and codes of ISDN user-network interface layer 3 specification

1) Table 4-3/Q.931

Modify Table 4-3/Q.931 in order to introduce the following new calling party number authentication information element.

Table 4-3/Q.931 – Information element identifier coding

	Reference subclause	Maximum length
Bits <u>8 7 6 5 4 3 2 1</u> 0 : : : : : : : : <i>Variable length information element:</i> 0 0 1 1 1 0 1 calling party number authentication	4.5.31	3

2) Table 3-15/Q.931

Modify Table 3-15/Q.931 to include the calling party number authentication information element in the SETUP message.

Table 3-15/Q.931 – SETUP message content

Message type: SETUP Significance: Global Direction: Both				
Information element	Reference (subclause)	Direction	Type	Length
calling party number authentication	4.5.31	n-u	O (note 20)	3
NOTE 20 – As a network option, it may be included to provide calling party number authentication information to the called user.				

3) New clause 4.5.31

Add new clause 4.5.31 defining the calling party number authentication information element as follows:

4.5.31 calling party number authentication

The purpose of the calling party number authentication information element is to indicate information pertaining to a call.

The calling party number authentication information element is coded as shown in Figure 4-37 and Table 4-27.

The maximum length of this information element is three octets.

8	7	6	5	4	3	2	1	Octet
calling party number authentication identifier								
0	0	1	0	0	1	1	1	1
Length of calling party number authentication								2
ext. 1	calling party number authentication description							3

Figure 4-37/Q.931 – calling party number authentication information element

Table 4-27/Q.931 – calling party number authentication information element

<i>calling party number authentication description (octet 3)</i>							
Bits							
<u>7</u>	<u>6</u>	<u>5</u>	<u>4</u>	<u>3</u>	<u>2</u>	<u>1</u>	
0	0	0	0	0	0	0	successful authentication
0	0	0	0	0	0	1	unsuccessful authentication
All other values are reserved.							

4) Re-numbering figure and table in clause 4.6

Figure 4-37/Q.931-Figure 4-45/Q.931 are changed to Figure 4-38/Q.931-Figure 4-46/Q.931.

Table 4-27/Q.931-Table 4-34/Q.931 are changed to Table 4-28/Q.931-Table 4-35/Q.931.

3 Appendix IV

Add the codepoint for Calling party number authentication (code - 0 0 1 1 1 0 1) in Appendix IV as indicated in Table IV.1 below.

Appendix IV

Summary of assigned information element identifier and message type code points for the Q.93.x series and Q.95.x series of Recommendations

Table IV.1/Q.931 – Information element codepoints

	Recommendation reference
Bits	
<u>8 7 6 5 4 3 2 1</u>	
1 : : : - - - - <i>Single octet information elements:</i>	
0 0 0 - - - - Reserved	Q.931
0 0 1 - - - - Shift	Q.931
0 1 0 0 0 0 0 More data	Q.931
0 1 0 0 0 0 1 Sending complete	Q.931
0 1 1 - - - - Congestion level	Q.931
1 0 1 - - - - Repeat indicator	Q.931
0 : : : : : : : <i>Variable length information elements:</i>	
0 0 0 0 0 0 0 Segmented message	Q.931
0 0 0 0 1 0 0 Bearer capability	Q.931
0 0 0 1 0 0 0 Cause	Q.931
0 0 0 1 1 0 0 Connected address	(Note 1)
0 0 0 1 1 0 1 Extended facility	Q.932
0 0 1 0 0 0 0 Call identity	Q.931
0 0 1 0 1 0 0 Call state	Q.931
0 0 1 1 0 0 0 Channel identification	Q.931
0 0 1 1 0 0 1 Data link connection identifier	Q.933
0 0 1 1 0 1 1 Coding decoding processing	Q.931
0 0 1 1 1 0 0 Facility	Q.932
<u>0 0 1 1 1 0 1</u> <u>Calling party number authentication</u>	<u>Q.931</u>
0 0 1 1 1 1 0 Progress indicator	Q.931
0 1 0 0 0 0 0 Network-specific facilities	Q.931
0 1 0 0 1 0 0 Terminal capabilities	(Note 1)
0 1 0 0 1 1 1 Notification indicator	Q.931
0 1 0 1 0 0 0 Display	Q.931
0 1 0 1 0 0 1 Date/time	Q.931
0 1 0 1 1 0 0 Keypad facility	Q.931
0 1 1 0 0 0 0 Keypad echo	(Note 1)
0 1 1 0 0 1 0 Information request	Q.932 [4]
0 1 1 0 1 0 0 Signal	Q.931
0 1 1 0 1 1 0 Switchhook	(Note 1)
0 1 1 1 0 0 0 Feature activation	Q.932

Table IV.1/Q.931 – Information element codepoints

			Recommendation reference	
0	1	1 1 1 0 0 1	Feature indication	Q.932
0	1	1 1 1 0 1 0	Service profile identification	Q.932
0	1	1 1 1 0 1 1	Endpoint identifier	Q.932
1	0	0 0 0 0 0 0	Information rate	Q.931
1	0	0 0 0 0 0 1	Precedence level	Q.955 (clause 3)
1	0	0 0 0 0 1 0	End-to-end transit delay	Q.931
1	0	0 0 0 0 1 1	Transit delay selection and indication	Q.931
1	0	0 0 0 1 0 0	Packet layer binary parameters	Q.931
1	0	0 0 0 1 0 1	Packet layer window size	Q.931
1	0	0 0 0 1 1 0	Packet size	Q.931
1	0	0 0 0 1 1 1	Closed user group	Q.931
1	0	0 1 0 0 0 0	Link layer core parameters	Q.933
1	0	0 1 0 0 0 1	Link layer protocol parameters	Q.933
1	0	0 1 0 1 0 0	Reverse charging indication	Q.931
1	0	0 1 1 0 0 0	Connected number	Q.951-series [85]
1	0	0 1 1 0 0 1	Connected subaddress	Q.951
1	0	1 0 0 0 0 0	X.213 priority	Q.933
1	0	1 0 0 0 0 1	Report type	Q.933
1	0	1 0 0 0 1 1	Link integrity verification	Q.933
1	0	1 0 1 1 1 1	PVC status	Q.933
1	1	0 1 1 0 0 0	Calling party number	Q.931
1	1	0 1 1 0 0 1	Calling party subaddress	Q.931
1	1	1 0 0 0 0 0	Called party number	Q.931
1	1	1 0 0 0 0 1	Called party subaddress	Q.931
1	1	1 0 1 0 0 0	Redirecting number	Q.931, Q.952 [86]
1	1	1 0 1 1 0 0	Redirection number	Q.952
1	1	1 1 0 0 0 0	Transit network selection	Q.931
1	1	1 1 0 0 0 1	Restart indicator	Q.931
1	1	1 1 1 0 0 0	Low layer compatibility	Q.931
1	1	1 1 1 1 0 0 1	High layer compatibility	Q.931
1	1	1 1 1 1 1 0	User-user	Q.931
1	1	1 1 1 1 1 1	Escape for extension	Q.931
NOTE 1 – These codepoints are reserved to ensure backward compatibility with earlier versions of this Recommendation.				
NOTE 2 – All reserved values with bits 5-8 coded "0000" are for future information elements for which comprehension by the user is required (see 5.8.7.1).				

Bibliography

- [b-ITU-T Q.3063] Recommendation ITU-T Q.3063 (2022), *Signalling procedures of calling line identification authentication*.

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