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SERIES Q: SWITCHING AND SIGNALLING

Broadband ISDN – B-ISDN application protocols of the network

B-ISDN user part – ATM end system address

ITU-T Recommendation Q.2726.1

Superseded by a more recent version

(Previously CCITT Recommendation)

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ITU-T RECOMMENDATION Q.2726.1

B-ISDN USER PART – ATM END SYSTEM ADDRESS

Summary

This Recommendation contains formats and procedures for carrying ATM End System Address (AESA) of calling and called party in B-ISDN User Part. It also contains the mapping tables for the associated messages and information elements.

Source

ITU-T Recommendation Q.2726.1 was prepared by ITU-T Study Group 11 (1993-1996) and was approved under the WTSC Resolution No. 1 procedure on the 9th of July 1996.

FOREWORD

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The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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As of the date of approval of this Recommendation, the ITU had/had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

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Recommendation Q.2726.1

B-ISDN USER PART – ATM END SYSTEM ADDRESS

(Geneva, 1996)

1 ATM end system address

1.1 Overview

1.1.1 Scope

This Recommendation contains formats and procedures for carrying ATM End System Address (AESA) of calling, called and connected party in B-ISDN User Part. It also contains the mapping tables for the associated messages and information elements.

The format of the AESA is based on the ISO Network Service Access Point (NSAP) format as described in ISO/IEC 8348. Only support of the E.164 version of AESA is required in B-ISDN User Part. An ATM end system may or may not be directly attached to the public UNI. AESA allows identification of multiple elements that are collectively identified by an E.164 address from the public network point of view.

Routing is always based on the E.164 number in the called party number parameter as defined in Recommendation E.191.

1.1.2 References

The following ITU-T Recommendations, and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published.

[1] CCITT Recommendation E.164 (1991), *Numbering plan for the ISDN era*.

[2] ITU-T Recommendation E.191 (1996), *B-ISDN numbering and addressing*.

[3] ITU-T Recommendation Q.2931 (1995), *Broadband Integrated Services Digital Network (B-ISDN) – Digital Subscriber Signalling System No. 2 (DSS 2) – User Network Interface (UNI) layer 3 specification for basic call/connection control*.

[4] ITU-T Recommendation Q.2650 (1995), *Broadband-ISDN, interworking between Signalling System No. 7 Broadband ISDN User Part (B-ISUP) and Digital Subscriber Signalling System No. 2 (DSS 2).*

[5] ITU-T Recommendation Q.2764 (1995), *Broadband Integrated Services Digital Network (B-ISDN) – Signalling System No. 7 B-ISDN User Part (B-ISUP) – Basic call procedures*.

[6] ITU-T Recommendation Q.2951.5 (1995), *Stage 3 description for number identification supplementary services using B-ISDN digital subscriber Signalling System No. 2 (DSS 2), Basic call – Connected Line Identification Presentation (COLP)*.

1.1.3 Abbreviations

This Recommendation uses the following abbreviations:

AESA ATM End System Address

ATM Asynchronous Transfer Mode

UNI User-Network Interface

NSAP Network Service Access Point

1.2 B-ISDN user part messages and parameters

The parameters described in this clause are required to support AESA in B-ISDN.

1.2.1 Definitions

This Recommendation uses the following definitions:

1.2.1.1 AESA for called party: This parameter is used to carry AESA received in the UNI called party number IE transparently across a public network.

1.2.1.2 AESA for calling party: This parameter is used to carry AESA received in the UNI calling party number IE transparently across a public network.

1.2.1.3 AESA for connected party: This parameter is used to carry AESA received in the UNI connected number IE transparently across a public network.

1.2.2 Formats

1.2.2.1 AESA for called party parameter

The format of the AESA for called party parameter field is shown in Figure 1.

The parameter name code allocated to the AESA for called party parameter is 0101 1000.

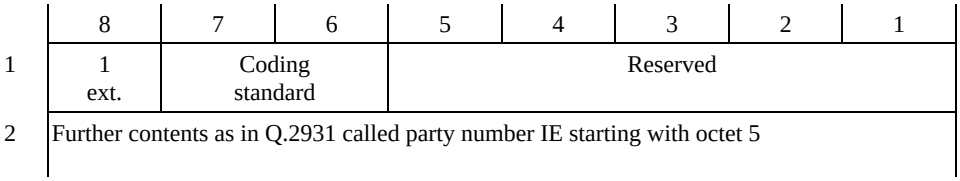

Figure 1/Q.2726.1 – AESA for called party parameter field

The codes to be used in the subfields of the AESA for called party parameter field are defined in the called party number information element in Recommendation Q.2931.

1.2.2.2 AESA for calling party parameter

The format of the AESA for calling party parameter field is shown in Figure 2.

The parameter name code allocated to the AESA for calling party parameter is 0101 1001.

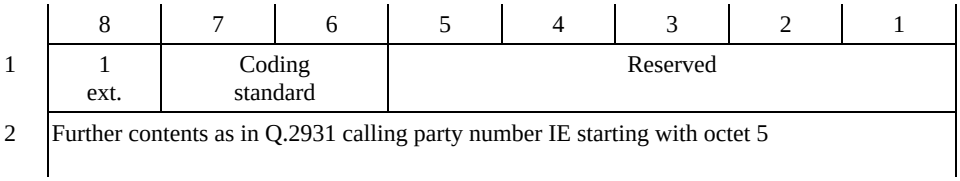

Figure 2/Q.2726.1 – AESA for calling party parameter field

The codes to be used in the subfields of the AESA for calling party parameter field are defined in the calling party number information element in Recommendation Q.2931.

1.2.2.3 AESA for connected party parameter

The format of the AESA for connected party parameter field is shown in Figure 3.

The parameter name code allocated to the AESA for connected party parameter is 0110 1101.

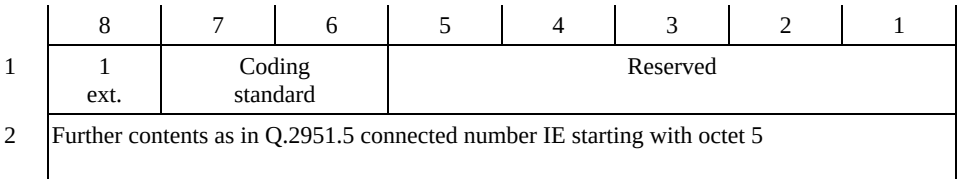

Figure 3/Q.2726.1 – AESA for connected party parameter field

1.3 Application process procedures

1.3.1 AESA for called party parameter

a) Originating exchange

A calling user may request call set up using AESA of called party. The called party number, containing only the E.164 part of the AESA, will be used for routing the call through public networks. The Set_Up request primitive shall include the AESA for called party parameter. The format for this parameter is shown in Figure 1.

NOTE – If called party subaddress IE received from the user contains an AESA, it will be mapped into the B-ISUP called party subaddress parameter by the originating exchange.

b) Intermediate exchange

Intermediate exchanges are not required to act on AESA for called party parameter and will pass this parameter unaltered.

c) Destination exchange

The destination exchange shall offer the call to the UNI identified by the E.164 address in the called party number parameter as described in Recommendation Q.2764. If the Set_Up indication primitive includes the AESA for called party parameter, it is sent to the user.

1.3.2 AESA for calling party parameter

a) Originating local exchange

An originating exchange may receive a calling party number IE over the UNI in the SETUP message. If this IE contains an NSAP format address, the AESA for calling party parameter will be additionally included in the Set_Up request primitive provided its inclusion is allowed by subscription or prior arrangement. The format of this parameter is shown in Figure 2.

The originating exchange will include the E.164 part of the AESA from the calling party number IE in the calling party number parameter.

The Set_Up request primitive will include the AESA for calling party parameter if allowed.

NOTE – If calling party subaddress IE received from the user, contains an AESA, it will be mapped into the B-ISUP calling party subaddress parameter by the originating exchange.

b) Intermediate exchange

Intermediate exchanges will pass AESA for calling party parameter unaltered.

c) Destination exchange

Both the calling party number parameter and the AESA for calling party parameter may be present in the Set_Up indication primitive. AESA for calling party parameter is used for mapping into calling party number IE in the SETUP message.

1.3.3 AESA for connected party parameter

a) Destination exchange

A destination exchange may receive a connected number IE over UNI in the CONNECT message. If this IE contains an NSAP address, the AESA for connected party parameter will be additionally included in the answer request primitive provided its inclusion is allowed by subscription or prior arrangement. The format of this parameter is shown in Figure 3.

The destination exchange will include the E.164 part of the AESA from the connected number IE in the connected number parameter.

The answer request primitive will include the AESA for connected party parameter if allowed.

NOTE – If connected subaddress IE received from the user contains an AESA, it will be mapped into the B-ISUP connected subaddress parameter by the destination exchange.

b) Intermediate exchange

Intermediate exchange will pass the AESA for connected party parameter unaltered.

c) Origination exchange

Both the connected number parameter and the AESA for connected party parameter may be present in the answer indication primitive. AESA for connected party parameter is used for mapping into connected number IE in the CONNECT message.

1.4 Instruction indicators and interworking

Using the E.164 address in the called party number parameter, the call can be routed to the destination exchange serving the ATM end system, but the call can not be completed to the ATM end system without the complete AESA contained in the AESA for called party parameter. Therefore, if this latter parameter is not recognized at the destination exchange, the call shall be released. The instruction indicators for the AESA for called party shall be coded as shown in Appendix I.

The instruction indicators for the AESA for calling party shall be coded as shown in Appendix I.

The instruction indicators for the AESA for connected party shall be coded as shown in Appendix I.

1.5 Mapping tables

Table 1 /Q.2726.1 – Mapping the initial address message with the SETUP message

Orig. U/N	Network	Term. U/N
SETUP	IAM	SETUP

Orig. U/N	Network	Term. U/N
Called party number – Number digits (Note 1) – Numbering plan (Note 2) – Type of number (Note 3)	**AESA for called party** Contents as shown in Figure 1 **Called party number** – Address signals (Note 4) – Numbering plan (Note 5) – Nature of address indicator	**Called party number** Contents starting with octet 5 as in AESA for called party starting with octet 2
Calling party number – Number digits (Note 1) – Numbering plan (Note 2) – Type of number (Note 3) – Screening indicator – Presentation indicator	**AESA for calling party** Contents as shown in Figure 2 **Calling party number** – Address signals (Note 6) – Numbering plan (Note 5) – Nature of address indicator – Screening indicator – Addr. pres. restr. ind.	**Calling party number (Note 7)** Contents starting with octet 5 as in AESA for calling party starting with octet 2 – Number digits – Numbering plan – Type of number – Screening indicator – Presentation indicator

NOTE 1 – The address is coded as described in ITU-T Rec. X.213 | ISO/IEC 8348 using E.164 format.

NOTE 2 – The numbering plan is coded as NSAP addressing.

NOTE 3 – The type of number is coded as unknown when NSAP addressing is used.

NOTE 4 – The address signal is coded using E.164 address digits from the initial domain identifier field of the NSAP address in the called party number IE.

NOTE 5 – Numbering plan is coded as E.164.

NOTE 6 – The address signal is coded using E.164 address digits from the initial domain identifier field of the NSAP address in the calling party number IE.

NOTE 7 – If the terminating UNI does not support the AESA, the E.164 number in the calling party number parameter is used to map to the calling party number IE.

Table 2/Q.2726.1 – Mapping the answer message with the CONNECT message

Orig. U/N	Network	Term. U/N
CONNECT	ANM	CONNECT

Orig. U/N	Network	Term. U/N
Connected number (Note 6) Contents starting with octet 5 as in AESA for connected party starting with octet 2	**AESA for connected party** Contents as shown in Figure 3 **Connected number** – Address signals (Note 4) – Numbering plan (Note 5) – Nature of address indicator – Screening indicator – Addr. pres. restr. Ind	**Connected number** – Number digits (Note 1) – Numbering plan (Note 2) – Type of number (Note 3) – Screening indicator – Presentation indicator
NOTE 1 – The address is coded as described in ITU-T Rec. X.213 | ISO/IEC 8348 using E.164 format. NOTE 2 – The numbering plan is coded as NSAP addressing. NOTE 3 – The type of number is coded as unknown when NSAP addressing is used. NOTE 4 – The address signal is coded using E.164 address digits from the initial domain identifier field of the NSAP address in the connected number IE. NOTE 5 – Numbering plan is coded as E.164. NOTE 6 – If the originating UNI does not support the AESA, the E.164 number in the connected number parameter is used to map to the connect number IE.		

APPENDIX I

Setting of instruction indicators

The setting of the instruction indicators for the AESA for called party parameter is as follows:

Parameter	Pass on not possible ind.	Discard parameter ind.	Discard message ind.	Send notification ind.	Release call ind.	Transit at intermed. exchange ind.	Broadband/ narrow-band interworking ind.
AESA for called party	Default	Default	Default	Default	Release call	Transit node interpretation	Release call

The setting of the instruction indicators for the AESA for calling party parameter is as follows:

Parameter	Pass on not possible ind.	Discard parameter ind.	Discard message ind.	Send notification ind.	Release call ind.	Transit at intermed. exchange ind.	Broadband/ narrow-band interworking ind.
AESA for calling party	Discard	Do not discard	Do not discard message	Do not send notification	Do not release call	Transit node interpretation	Discard

The setting of the instruction indicators for the AESA for connected party parameter is as follows:

Parameter	Pass on not possible ind.	Discard parameter ind.	Discard message ind.	Send notification ind.	Release call ind.	Transit at intermed. exchange ind.	Broadband/ narrow-band interworking ind.
AESA for connected party	Discard	Do not discard	Do not discard message	Do not send notification	Do not release call	Transit node interpretation	Discard

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