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TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

SERIES Q: SWITCHING AND SIGNALLING

Broadband ISDN – B-ISDN application protocols for the network signalling

Extensions to the B-ISDN user part – Application generated identifiers

ITU-T Recommendation Q.2726.4

(Previously CCITT Recommendation)

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ITU-T RECOMMENDATION Q.2726.4

EXTENSIONS TO THE B-ISDN USER PART – APPLICATION GENERATED IDENTIFIERS

Summary

This Recommendation defines B-ISUP capability to transport application generated identifiers. This capability allows the transport through the B-ISDN of identifiers required and used by various distributed applications. This capability allows an originating entity (e.g. a calling party) to transmit identifiers that can be used by a peer entity.

Source

ITU-T Recommendation Q.2726.4 was prepared by ITU-T Study Group 11 (1997-2000) and was approved under the WTSC Resolution No. 1 procedure on the 12th of September 1997.

FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the ITU. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

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.

INTELLECTUAL PROPERTY RIGHTS

The ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. The ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, the ITU 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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EXTENSIONS TO THE B-ISDN USER PART – APPLICATION GENERATED IDENTIFIERS

(Geneva, 1997)

1 Scope

This Recommendation defines B-ISUP capability to transport application generated identifiers. This capability allows the transport through the B-ISDN of identifiers required and used by various distributed applications. This capability allows an originating entity (e.g. a calling party) to transmit identifiers that can be used by a peer entity.

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] ITU-T Recommendation Q.2722.1 (1996), *B-ISDN User Part – Network Node Interface specification for point-to-multipoint call/connection control.*

[2] ITU-T Recommendation Q.2761 (1995), *Functional description of the B-ISDN User Part (B-ISUP) of Signalling System No. 7.*

[3] ITU-T Recommendation Q.2762 (1995), *General Functions of messages and signals of the B-ISDN User Part (B-ISUP) of Signalling System No. 7.*

[4] ITU-T Recommendation Q.2763 (1995), *Signalling System No. 7 B-ISDN User Part (B-ISUP) – Formats and codes.*

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

[6] ITU-T Recommendation Q.2941.1 (1997), *Digital subscriber Signalling System No. 2 – Generic identifier transport.*

3 Definitions

No new definitions are required.

4 Abbreviations

No new abbreviations are used. The abbreviations of Recommendations Q.2722.1, Q.2761, Q.2762, Q.2763 and Q.2764 apply.

5 B-ISDN user part messages and parameters

5.1 Messages

5.1.1 IAM

The IAM contains the following additional parameter:

– Application generated identifier.

5.1.2 ACM

The ACM contains the following additional parameter:

– Application generated identifier.

5.1.3 CPG

The CPG contains the following additional parameter:

– Application generated identifier.

5.1.4 ANM

The ANM contains the following additional parameter:

– Application generated identifier.

5.1.5 REL

The REL contains the following additional parameter:

– Application generated identifier.

5.2 Application generated identifier parameter

The parameter name code allocated to the application generated identifier parameter is 0110 1010.

The application generated identifier parameter carries one or more instances of the DSS 2 generic identifier transport information element. The format of the application generated identifier is shown in Figure 1.

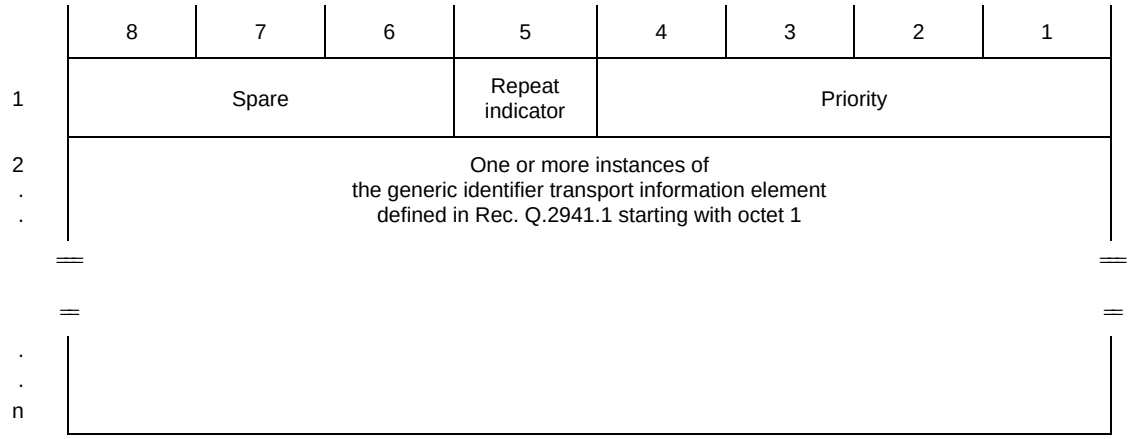

Figure 1/Q.2726.4 – Application generated identifier parameter

The following codes are used in the subfields of the application generated identifier parameter field.

a) *Repeat indicator (octet 1)*

0	Information element not repeated
1	Information element repeated

b) *Priority (octet 1)*

0000	No prioritized order
0001	Prioritized list for selecting one possibility: ascending order
0010	Prioritized list for selecting one possibility: descending order
0011 to 1111	Reserved

c) *Generic identifier transport information elements (octet 2-n)*

This field contains all instances of the generic identifier transport information element received from DSS 2. The format of the generic identifier transport information elements is the same as specified in Recommendation Q.2941.1[6]. The order of the information elements is not changed. The number of instances or maximum length of the generic identifier transport information element is network-dependent.

5.3 Application process procedures

5.3.1 Call/connection establishment

a) *Originating exchange*

The Set_Up request primitive may include an application generated identifier parameter carrying unaltered one or more instances of the generic identifier transport information element received from the DSS 2.

b) *Intermediate national exchange*

If an incoming side of an intermediate national exchange receives an application generated identifier parameter in a Set_Up indication primitive, the outgoing side of the exchange will include it unaltered in the Set_Up request primitive it will issue.

c) *Outgoing international exchange*

If an outgoing international exchange receives an application generated identifier parameter in a Set_Up indication primitive, it shall include it unaltered in the Set_Up request primitive it will issue.

d) *Incoming international exchange*

It is a network option how an incoming international gateway shall proceed when it receives an application generated identifier parameter. If the application generated identifier service is not supported by the network, the incoming international exchange may either:

i) clear the call with cause No. 63, "Service option not available, unspecified", or

ii) pass on the parameter and progress the call establishment.

If the incoming international gateway decides to progress the call establishment, it will issue a Set_Up request primitive containing unaltered the application generated identifier parameter it has received.

e) *Destination exchange*

If the Set_Up request primitive contains an application generated identifier parameter, it will be transferred unaltered in the indication sent to the called party as specified in Recommendation Q.2941.1[6].

5.3.2 Completion of the call/connection setup request

a) *Destination exchange*

Primitives issued by the destination exchange after receiving a signal from the called party may contain an application generated identifier parameter. The application generated identifier parameter will contain unaltered the identifiers received from the access. The following primitives may carry the application generated parameter:

– Address_Complete request;

– progress request;

– answer request.

b) *Intermediate national or international exchange*

The incoming side of an intermediate national or international exchange may receive in the Address_Complete indication, the progress indication or the answer indication primitive an application generated identifier parameter. The outgoing side of the exchange will pass the application generated identifier parameter in a corresponding Address_Complete indication, progress indication or answer indication primitive.

It is a network option how an incoming or outgoing international gateway shall proceed when it receives an application generated identifier parameter. The options defined in 5.3.1 d) are applicable.

c) *Originating exchange*

The originating exchange may receive an Address_Complete indication, a progress indication or an answer indication primitive containing an application generated identifier parameter. The access side of the originating exchange will relay the contents of the application generated identifier parameter to the calling party in the appropriate access signal.

5.3.3 Call/connection release

a) *Access exchange initiating the release procedure*

When the call/connection release is initiated by a user, the access exchange may receive from the user initiating the release a signal carrying one or more application generated identifiers. The release request primitive will carry them in an application generated identifier parameter.

b) *Intermediate national or international exchange*

If an incoming side of an intermediate exchange receives an application generated parameter in a release indication primitive, the outgoing side of the exchange will include them unaltered in the release request primitive to be issued.

It is a network option how an incoming or outgoing international gateway shall proceed when it receives an application generated identifier parameter. The options defined in 5.3.1 d) are applicable.

c) *Access exchange receiving a release indication*

If an access exchange receives a release indication primitive containing an application generated identifier parameter, the contents will be transferred unaltered in the indication sent to the user as specified in Recommendation Q.2941.1[6].

5.4 Application service elements and primitives

The following primitives are affected.

5.4.1 Primitives between SACF and AP

5.4.1.1 Set_Up request/indication primitives

Table 1 shows the parameter that must be added to the Set_Up request/indication primitives.

Table 1/Q.2726.4 – Parameter for the Set_Up request/indication primitives

Set_Up request/indication	B-ISDN
Application generated identifier	O

5.4.1.2 Address_Complete request/indication primitives

Table 2 shows the parameter that must be added to the Address_Complete request/indication primitives.

Table 2/Q.2726.4 – Parameter for the Address_Complete request/indication primitives

Address_Complete Request/indication	B-ISDN
Application generated identifier	O

5.4.1.3 Progress request/indication primitives

Table 3 shows the parameter that must be added to the progress request/indication primitives.

Table 3/Q.2726.4 – Parameter for the progress request/indication primitives

Progress request/indication	B-ISDN
Application generated identifier	O

5.4.1.4 Answer request/indication primitives

Table 4 shows the parameter that must be added to the answer request/indication primitives.

Table 4/Q.2726.4 – Parameter for the answer request/indication primitives

Answer request/indication	B-ISDN
Application generated identifier	O

5.4.1.5 Release request/indication primitives

Table 5 shows the parameter that must be added to the release request/indication primitives.

Table 5/Q.2726.4 – Parameter for the release request/indication primitives

Release request/indication	B-ISDN
Application generated identifier	O

5.5 Interworking

5.5.1 Interworking with nodes which do not support the procedures described in this Recommendation

The application generated identifier parameter shall be passed on a such a node. If it cannot be passed on, the call shall be released.

NOTE – The instruction indicators are set as shown in Appendix I in order to support the correct behaviour.

5.5.2 Interworking with ISUP

The application generated identifier parameter is not supported in ISUP. Therefore, the call shall be released at the B-ISUP/ISUP interworking point with cause No. 63 "Service or option not available".

NOTE – The instruction indicators are set as shown in Appendix I in order to support the correct behaviour.

5.5.3 Interworking with DSS 2

a) *Messages*

- SETUP --------> IAM --------> SETUP
- ADD PARTY --------> IAM --------> SETUP or ADD PARTY
- ALERTING <-------- ACM or CPG <-------- ALERTING
- ADD PARTY ALERT <-------- ACM or CPG <-------- ADD PARTY ALERT
- CONNECT <-------- ANM <-------- CONNECT

- ADD PARTY ACK <-------- ANM <-------- ADD PARTY ACK
- RELEASE --------> REL --------> RELEASE or DROP PARTY
- RELEASE COMPLETE --------> REL --------> RELEASE or DROP PARTY
- DROP PARTY --------> REL --------> RELEASE or DROP PARTY
- ADD PARTY REJECT <-------- REL <-------- ADD PARTY REJECT

b) *Parameters*

All instances of the DSS 2 generic identifier transport information element are mapped into an application generated identifier parameter. The priority subfield shall be set to "No prioritized order".

Appendix I

Setting of instruction indicators

The setting of the instruction indicators for the application generated identifier parameter is as follows:

Indicator	**Value**
Pass on not possible indicator	Release call
Discard parameter indicator	Do not discard parameter
Discard message indicator	Do not discard message
Send notification indicator	Do not send notification
Release call indicator	Do not release call
Transit at intermediate exchange indicator	Transit node interpretation
BB/NB interworking indicator	Release call

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