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European Standard (Telecommunications series)

**Integrated Services Digital Network (ISDN);
Signalling System No.7 (SS7);
ISDN User Part (ISUP);
Application transport mechanism;
Part 1: Protocol specification**

[ITU-T Recommendation Q.765, modified]



Reference

REN/SPAN-01083

Keywords

ISDN, SS7, ISUP, APM, protocol

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

The present document is part 1 of a multi-part deliverable covering the Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Application transport mechanism, as identified below:

- Part 1:** "Protocol specification [ITU-T Recommendation Q.765, modified]";
- Part 2: "Protocol Implementation Conformance Statement (PICS) proforma specification";
- Part 3: "Test Suite Structure and Test Purposes (TSS&TP) specification";

National transposition dates	
Date of adoption of this EN:	9 February 2001
Date of latest announcement of this EN (doa):	31 May 2001
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Date of withdrawal of any conflicting National Standard (dow):	30 November 2001

Endorsement notice

The elements of ITU-T Recommendation Q.765 (2000) apply, with the following modifications:

Global modifications to ITU-T Recommendation Q.765

Replace the two clauses (Scope and References) with the following two clauses:

1 Scope

The present document describes the additions to the ISDN User Part (ISUP) for providing a transport mechanism used by applications requiring a bearer in conjunction with the support of the application's signalling information flow. It specifies the Application Transport Mechanism (APM) for the pan-European Integrated Services Digital Network (ISDN) as provided by the European public telecommunications operators. This transport mechanism shall provide the same capabilities as the Transaction Capabilities Application Part (TCAP) provides to its users. The definition of the applications that use this mechanism are documented in their own specification and are therefore outside the scope of the present document.

The Application Transport Mechanism (APM) is capable of creating signalling associations between APM-user application logic located at a Public Initiating Node (PIN) and its peer APM-user application logic located at the Public Addressed Node (PAN).

This transport mechanism provides the APM-user applications (APM'2000'-user applications) with both an implicit and an explicit APM addressing capability. The applications originally designed to use the APM '98' [3] (APM'98'-user applications) can be supported without alterations by the mechanism described in the present document. APM'98'-user and APM'2000'-user applications are differentiated by their application context identifiers.

The coexistence along a call path of nodes with the APM '98' capability and nodes supporting the APM '2 000' functionality may cause in two very specific configurations an inappropriate handling of application transport parameters sent by an APM '2000'-user application.

1) The first scenario is the following:

- an APM '2 000'-user application sends information at call set-up towards a remote application,
- an intermediate node supporting the previous APM version [3] is encountered in the call path before the node where the application information has to be delivered,
- this intermediate node is addressed by the called party number.

In this specific case, the intermediate APM '98' node will reject the application information associated to the APM '2000'-user application according to the procedures defined in specification [3].

- 2) The second scenario is the case where an error notification has to be generated by an APM '98' node on receipt of application information associated to an APM'2000'-user application. This notification may not be delivered to the initiating application if the explicit addressing mechanism was used by this application. An APM '98' node does indeed not support the E H ASE (Errors Handling Application Service Element) and cannot therefore use the explicit addressing mechanism for the sending of a notification. Apart from the case explained above (intermediate APM '98' node addressed by the called party number), such a problem can only possibly occur if application information generated by an application using the explicit addressing mechanism is received by an end node with APM '98' capability.

Because of the above reasons future standardized applications shall not be defined as APM'98'-user applications.

It should be noted that only one PIN/PAN relationship may exist over the same segment of the call path for a given application (Context identity value) which does not use the explicit addressing mechanism. However, it is possible to establish overlapping PIN/PAN relationships for a given application using the explicit addressing mechanism.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

- [1] ETSI EN 300 356-1 (V4.1.1): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 4 for the international interface; Part 1: Basic services [ITU-T Recommendations Q.761 to Q.764 (2000) modified]".
- [2] ITU-T Recommendation Q.1400 (1993): "Architecture framework for the development of signalling and OA&M protocols using OSI concepts".
- [3] ETSI EN 301 069-1 (V1.2.4): "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP); Application transport mechanism; Part 1: Protocol specification [ITU-T Recommendation Q.765, modified]".

Throughout the text of ITU-T Recommendation Q.765

Replace references as shown below.

Reference in ITU-T Recommendation Q.765	Modified reference
ITU-T Recommendation Q.761	EN 300 356-1 [1]
ITU-T Recommendation Q.762	EN 300 356-1 [1]
ITU-T Recommendation Q.763	EN 300 356-1 [1]
ITU-T Recommendation Q.764	EN 300 356-1 [1]
ITU-T Recommendation Q.765	EN 301 069-1 [3]

Appendix I, Example sequence diagrams of APM segmentation

Appendix I has the status of an informative annex.

Appendix II, Setting of parameter and message instruction indicators

Appendix II has the status of an informative annex.

History

Document history		
V1.2.2	July 1998	Publication
V1.2.3	August 1998	Publication
V1.2.4	October 1999	Publication
V1.3.1	October 2000	One-step Approval Procedure OAP 20010209: 2000-10-11 to 2001-02-09
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