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**DIGITAL SUBSCRIBER
SIGNALLING SYSTEM No. 1**

**STAGE 3 DESCRIPTION FOR SUPPLEMENTARY
SERVICES USING DSS 1**

**STAGE 3 DESCRIPTION FOR ADDITIONAL
INFORMATION TRANSFER SUPPLEMENTARY
SERVICES USING DSS 1**

CLAUSE 1 – USER-TO-USER SIGNALLING (UUS)

ITU-T Recommendation Q.957

(Previously “CCITT Recommendation”)

FOREWORD

The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the International Telecommunication Union. 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, established the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

ITU-T Recommendation Q.957, clause 1, was prepared by the ITU-T Study Group XI (1988-1993) and was approved by the WTSC (Helsinki, March 1-12, 1993).

NOTES

1 As a consequence of a reform process within the International Telecommunication Union (ITU), the CCITT ceased to exist as of 28 February 1993. In its place, the ITU Telecommunication Standardization Sector (ITU-T) was created as of 1 March 1993. Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.

In order not to delay publication of this Recommendation, no change has been made in the text to references containing the acronyms “CCITT, CCIR or IFRB” or their associated entities such as Plenary Assembly, Secretariat, etc. Future editions of this Recommendation will contain the proper terminology related to the new ITU structure.

2 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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Recommendation Q.957

STAGE 3 DESCRIPTION FOR ADDITIONAL INFORMATION
TRANSFER SUPPLEMENTARY SERVICES USING DSS 1

(Helsinki, 1993)

1 User-to-User Signalling (UUS)

1.1 Definition

The **user-user signalling (UUS) supplementary service** allows an ISDN user to send/receive a limited amount of information to/from another ISDN user over the signalling channel in association with a call to the other ISDN user.

1.2 Description

1.2.1 General description

The UUS supplementary services provide a means of communication between two users by using as a basis the layer 3 protocol defined in 5/Q.931 [1]. User-user signalling is used to exchange information between two users to provide the services described in the Stage 1 Service Description. The exchange of user-user signalling is limited by flow control procedures provided by the network or the user. The exchange of user-to-user information is not a network acknowledged service. Any acknowledgement procedure shall be controlled at a higher layer between users.

Three UUS services associated with circuit-switched calls that may be provided by the network to users are:

- i) *service 1* – User-user information exchanged during the setup and clearing phases of a call, by transporting User-user information element within Q.931 [1] call control messages;
- ii) *service 2* – User-user information exchanged from the sender's point of view during call establishment, between the ALERTING and CONNECT messages, within USER INFORMATION messages; and
- iii) *service 3* – User-user information exchanged while a call is in the Active state, within USER INFORMATION messages.

All three services may be used separately or in any combination in association with a single call. As an option, at call set-up, users may be able to specify that the requested user-to-user signalling service(s) is (are) required for the call, i.e. the call should not be completed if user-to-user information cannot be passed.

1.2.2 Specific terminology

The **user** is the DSS 1 protocol entity at the user side of the user-network interface.

The **network** is the DSS 1 protocol entity at the network side of the user-network interface.

The **called user** is the user who is offered an incoming call at the terminating interface.

The **calling user** is the user who initiates an outgoing call at the originating interface.

The **served user** is the user requesting the User-to-User (UUS) supplementary service.

The **invoke component** is defined in Recommendation Q.932 [2].

1.2.3 Qualifications on the applicability to telecommunications services

See Recommendation I.257.1 [3].

1.2.4 State definitions

The states associated with basic call control according to Recommendation Q.931 [1] are applicable.

1.3 Operational requirements

1.3.1 Provision/withdrawal

UUS services 1 and 2 must be subscribed to by the calling user. UUS service 3 must be subscribed to by the served user. Whether these component services are offered to the user as separate supplementary or in any particular combination is a service provider option.

1.3.2 Requirements on the originating network side

The basic call control procedures according to 5.1/Q.931 [1] are applicable.

1.3.3 Requirements in the network

Not applicable to DSS 1.

1.3.4 Requirements on the terminating network side

The basic call control procedures according to 5.2/Q.931 [1] are applicable.

1.3.5 Assumptions made about the terminal

Terminal equipment using UUS service 1 is expected to be able to generate and accept the User-user information element (see 4.5.30/Q.931 [1]) as described in 1.5.2.1 below. In the case of explicit activation, it is also expected to support the codings and procedures in 1.5.2.1.

Terminal equipment using UUS service 2 is expected to be able to generate and/or accept USER INFORMATION messages containing the User-user information element (see 4.5.30/Q.931 [1]) as described in 1.5.2.2.3 below. It is also expected to support the codings and procedures in 1.5.2.2.

Terminal equipment using UUS service 3 is expected to be able to generate and/or accept USER INFORMATION messages containing the User-user information element (see 4.5.30/Q.931 [1]) as described in 1.5.2.3.4 below. It is also expected to support the codings and procedures in 1.5.2.3 below. In the case that congestion control is used, it is also expected to support the CONGESTION CONTROL message and the Congestion Level Information Element (see 4.5.14/Q.931 [1]), and to comply with the procedures of 1.5.2.3.5 below.

1.4 Coding requirements

1.4.1 Messages

The following messages are applicable to service activation for services 1, 2 and 3: SETUP, SETUP ACKNOWLEDGE, CALL PROCEEDING, PROGRESS, ALERTING, CONNECT, DISCONNECT, RELEASE, RELEASE COMPLETE. The FACILITY message is also applicable to the activation of service 3.

The following messages are applicable to the operation of service 1: SETUP, ALERTING, CONNECT, DISCONNECT, RELEASE, RELEASE COMPLETE.

The following message is applicable to the operation of services 2 and 3: USER INFORMATION. Where the congestion control procedures are used, the following message is applicable to service 3: CONGESTION CONTROL.

The following are message contents for UUS services.

Message Type: ALERTING

Information element	Reference	Direction	Type	Length
Protocol discriminator	4.2/Q.931	Both	M	1
Call reference	4.3/Q.931	Both	M	2-*
Message type = ALERTING	4.4/Q.931	Both	M	1
Facility	8.2.3/Q.932	Both	O (Note 1)	19
User-user	4.5.30/Q.931	Both	O (Note 2)	2-131
NOTES 1 Always included for activation of service 2. Always included in user-network direction for explicit activation of service 1. Not included otherwise for UUS service 1. 2 May be included for service 1 (explicit or implicit activation) where no contention is allowed. 3 Other mandatory and optional information elements per Recommendation Q.931.				

Message Type: CALL PROCEEDING

Information element	Reference	Direction	Type	Length
Protocol discriminator	4.2/Q.931	Both	M	1
Call reference	4.3/Q.931	Both	M	2-*
Message type = CALL PROCEEDING	4.4/Q.931	Both	M	1
Facility	8.2.3/Q.932	Both	O (Note 1)	19
NOTES 1 Included only for rejection of explicit service 1, service 2 or service 3 request. 2 Other mandatory and optional information elements per Recommendation Q.931.				

Message Type: CONGESTION CONTROL

Information element	Reference	Direction	Type	Length
Protocol discriminator	4.2/Q.931	N → U	M	1
Call reference	4.3/Q.931	N → U	M	2-*
Message type = CONGESTION CONTROL	4.4/Q.931	N → U	M	1
Congestion level	8.2.3/Q.931	N → U	M	1
Cause	4.5.24/Q.931	N → U	M	4-32
NOTE – Other optional information elements per Recommendation Q.931.				

Message Type: CONNECT

Information element	Reference	Direction	Type	Length
Protocol discriminator	4.2/Q.931	Both	M	1
Call reference	4.3/Q.931	Both	M	2-*
Message type = CONNECT	4.4/Q.931	Both	M	1
Facility	8.2.3/Q.932	Both	O (Note 1)	19
User-user	4.5.30/Q.931	Both	O (Note 2)	2-131
NOTES 1 Always included for explicit service 1 activation when contention is allowed for the call, and for service 3 activation during call establishment. May also be included for explicit service 1 activation when contention is not allowed for the call, if not present in the ALERTING message. Not otherwise included for UUS service. 2 May be included for service 1 (explicit or implicit activation). Not included otherwise. 3 Other mandatory and optional information elements per Recommendation Q.931.				

Message Type: DISCONNECT

Information element	Reference	Direction	Type	Length
Protocol discriminator	4.2/Q.931	Both	M	1
Call reference	4.3/Q.931	Both	M	2-*
Message type = DISCONNECT	4.4/Q.931	Both	M	1
Facility	8.2.3/Q.932	Both	O (Note 2)	19
User-user	4.5.30/Q.931	Both	O (Note 1)	2-131
NOTES 1 May be included for UUS service 1 where DISCONNECT is the first clearing message. Not included otherwise. 2 May be included to indicate explicit service/acceptance or service 1, 2 or 3 rejection. 3 Other mandatory and optional information elements per Recommendation Q.931.				

Message Type: FACILITY

Information element	Reference	Direction	Type	Length
Protocol discriminator	4.2/Q.931	Both	M	1
Call reference	4.3/Q.931	Both	M	2-*
Message type = FACILITY	8.1/Q.932	Both	M	1
Facility	8.2.30/Q.932	Both	O (Note 1)	19
NOTES 1 Included for UUS service 3 activation or deactivation during a call. 2 Other mandatory and optional information elements per Recommendation Q.932.				