Vodafone
Digital Subscriber Signalling System No. 1
DSS1 Layer 3: Basic Call

Interface Specification

Version: 2.1
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Contents

Conventions

The statement of compliance is abbreviated as follows:

I = Implemented, the function is implemented according to the relevant ITU-T Recommendation, unless the "comment" field specifies a variation,

NU = Not Used, the function is not implemented,

NA = Not Applicable-- = Descriptive text or title in the recommendation, no comment necessary.

The deviation of ETSI standard to the ITU-T Recommendation are in Italics style.

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1 Scope

The implementation of the DSS1 Layer 3 in EWSD is based on the specification produced by ETSI and ITU-T (previously CCITT) to support the services and Supplementary Services.

This interface specification may be changed at any time. The user of this interface specification has to check for the newest version available from Vodafone GmbH. This interface specification may be superseded in total or in part by the terms of a contract between the individual network user and Vodafone GmbH.

2 References

In the case of a conflict between specific requirements in this document with requirements in any of the directly or indirectly referenced documents, the specific requirements of this document are applicable.

2.1 Normative References

The publications listed hereafter form the basis for the DSS1 Layer 3 implementation in EWSD.

Q.930	ITU-T Rec. Q.930 (03/93) Digital Subscriber Signalling System No. 1 (DSS 1) ISDN User-Network Interface LAYER 3 General Aspects
Q.931	ITU-T Rec. Q.931 (03/93) Digital Subscriber Signalling System No. 1 (DSS 1) ISDN User-Network Interface Layer 3 Specification for Basic Call Control
Q.930	ITU-T Rec. Q.930 (03/93) Digital Subscriber Signalling System No. 1 (DSS 1) ISDN User-Network Interface LAYER 3 General Aspects
300 007	ETSI Rec. prETS 300 007 (11/1991) Integrated Services Digital Network (ISDN); Support of packet-mode terminal equipment by an ISDN
300 102-1	ETSI Rec. prETS 300 102-1 (12/1990) Integrated Services Digital Network (ISDN); User-network interface layer 3 Specifications for basic call control
300 102-2	ETSI Rec. prETS 300 102-2 (12/1990) Integrated Services Digital Network (ISDN); User-network interface layer 3 Specifications for basic call control Specification Description Language (SDL) diagrams

2.2 Reference Acquisition

- European Telecommunications Standards Institute: http://www.etsi.org
- ITU Recommendations: http://www.itu.int

3 Definitions and Abbreviations

3.1 Definitions

The definitions in the referenced standards apply.

3.2 Abbreviations

The definitions in the referenced standards apply.

4 Tables

In order to give information about the implemented messages, parameters and procedures, each relevant paragraph of the ITU-T Rec. are listed thereafter in tabular form.

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
Q.930.	DSS 1 - ISDN User-Network Interface Layer 3 – General Aspects	-	
Q.930.1	General	--	
Q.930.1.1	Introduction	--	
Q.930.1.2	Connection control by the user of an ISDN requires:	--	
Q.930.1.3	Services provided by the data link layer	--	
Q.930.1.4	Symmetry of the layer 3 protocol	--	
Q.930.2	Structure of layer 3 Recommendations	--	
Q.930.3	Interface between layer 3 and the adjacent layers	--	
Q.930.3.1	Interface between layer 3 and data link layer	--	
Q.930.3.2	Interface to call control	--	
Q.931	DSS 1 - ISDN User-Network Interface Layer 3 – Specification For Basic Call Control	-	
Q.931.1	General	I	
Q.931.1.1	Scope of the Recommendation	--	*In ETSI, this clause is replaced as follow:* *This standard specifies the generic layer three protocol for the control of circuit-switched on demand connections serving ISDN customers via the user-network interface for a variety of applications. These applications are, e.g., the connection of terminals or private ISDNs to the public network applying the point-to-point or the point-to-multipoint mode of operation.* *The purpose of this standard is to present the generic layer three signalling requirements for the user-network interfaces.* *This standard specifies the stage three of the pan-European Integrated Services Digital Network (ISDN) as provided by European telecommunication operators for the basic call control at the T reference point or coincident S and T reference points (as defined in ITU-T I.411) by means of the Digital Subscriber Signalling one (DSS1).* *This standard specifies the protocol requirements where the service is provided to the user within an ISDN; it does not specify the additional protocol requirements where the service is provided to the user via a telecommunication network that is not an ISDN.*

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
			The basic call control according to this standard is applicable to the telecommunication services as described in the appropriate stage one standards. *Further standards specify the method of testing and detailed application specific requirements to determine conformance based on this standard.*
Q.931.1.2	Application to interface structures	--	
Q.931.2	Overview of call control	I	In EWSD, H-Channels are not supported. The two last sentences of this clause are deleted.
Q.931.2.1	Circuit switched calls	I	
Q.931.2.1.1	Call states at the user side of the interface	I	
Q.931.2.1.1.1	Null state (U0)	I	
Q.931.2.1.1.2	Call initiated (U1)	I	
Q.931.2.1.1.3	Overlap sending (U2)	I	
Q.931.2.1.1.4	Outgoing call proceeding (U3)	I	
Q.931.2.1.1.5	Call delivered (U4)	I	
Q.931.2.1.1.6	Call present (U6)	I	
Q.931.2.1.1.7	Call received (U7)	I	
Q.931.2.1.1.8	Connect request (U8)	I	
Q.931.2.1.1.9	Incoming call proceeding (U9)	I	
Q.931.2.1.1.10	Active (U10)	I	
Q.931.2.1.1.11	Disconnect request (U11)	I	
Q.931.2.1.1.12	Disconnect indication (U12)	I	
Q.931.2.1.1.13	Suspend request (U15)	I	
Q.931.2.1.1.14	Resume request (U17)	I	
Q.931.2.1.1.15	Release request (U19)	I	
Q.931.2.1.1.16	Overlap receiving (U25)	I	
Q.931.2.1.2	Network call states	I	*In ETSI, this clause is modified as follows:* *This paragraph refers to the call states at the network side of the interface.*
Q.931.2.1.2.1	Null state (N0)	I	
Q.931.2.1.2.2	Call initiated (N1)	I	
Q.931.2.1.2.3	Overlap sending (N2)	I	
Q.931.2.1.2.4	Outgoing call proceeding (N3)	I	
Q.931.2.1.2.5	Call delivered (N4)	I	
Q.931.2.1.2.6	Call present (N6)	I	
Q.931.2.1.2.7	Call received (N7)	I	
Q.931.2.1.2.8	Connect request (N8)	I	
Q.931.2.1.2.9	Incoming call proceeding (N9)	I	

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
Q.931.2.1.2.10	Active (N10)	I	
Q.931.2.1.2.11	Disconnect request (N11)	I	
Q.931.2.1.2.12	Disconnect indication (N12)	I	
Q.931.2.1.2.13	Suspend request (N15)	I	
Q.931.2.1.2.14	Resume request (N17)	I	
Q.931.2.1.2.15	Release request (N19)	I	
Q.931.2.1.2.16	Call abort (N22)	I	
Q.931.2.1.2.17	Overlap receiving (N25)	I	
Q.931.2.2	Packet-mode access connections	--	*The basic packet-mode access connection control states for access to the ISDN virtual circuit bearer service are defined in ETSI ETS 300 007.*
Q.931.2.2.1	Access connection states at the user side of the interface	I	
Q.931.2.2.1.1	Null state (U0)	I	
Q.931.2.2.1.2	Call initiated (U1)	I	
Q.931.2.2.1.3	Outgoing call proceeding (U3)	I	
Q.931.2.2.1.4	Call present (U6)	I	
Q.931.2.2.1.5	Call received (U7)	I	
Q.931.2.2.1.6	Connect request (U8)	I	
Q.931.2.2.1.7	Incoming call proceeding (U9)	I	
Q.931.2.2.1.8	Active (U10)	I	
Q.931.2.2.1.9	Disconnect request (U11)	I	
Q.931.2.2.1.10	Disconnect indication (U12)	I	
Q.931.2.2.1.11	Release request (U19)	I	
Q.931.2.2.2	Access connection states at the network side of the interface	I	
Q.931.2.2.2.1	Null state (N0)	I	
Q.931.2.2.2.2	Call initiated (N1)	I	
Q.931.2.2.2.3	Outgoing call proceeding (N3)	I	
Q.931.2.2.2.4	Call present (N6)	I	
Q.931.2.2.2.5	Call received (N7)	I	
Q.931.2.2.2.6	Connect request (N8)	I	
Q.931.2.2.2.7	Incoming call proceeding (N9)	I	
Q.931.2.2.2.8	Active (N10)	I	
Q.931.2.2.2.9	Disconnect request (N11)	I	
Q.931.2.2.2.10	Disconnect indication (N12)	I	
Q.931.2.2.2.11	Release request (N19)	I	
Q.931.2.2.2.12	Call abort (N22)	I	
Q.931.2.3	Temporary signalling connections	NU	*In ETSI, this clause is modified as follows:*

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
			The basic call control states for user-to-user signalling not associated with circuit switched calls is outside the scope of this issue of this specification.
Q.931.2.3.1	Call states at the user side of the interface	NU	
Q.931.2.3.1.1	Null state (U0)	NU	
Q.931.2.3.1.2	Call initiated (U1)	NU	
Q.931.2.3.1.3	Overlap sending (U2)	NU	
Q.931.2.3.1.4	Outgoing call proceeding (U3)	NU	
Q.931.2.3.1.5	Call delivered (U4)	NU	
Q.931.2.3.1.6	Call present (U6)	NU	
Q.931.2.3.1.7	Call received (U7)	NU	
Q.931.2.3.1.8	Connect request (U8)	NU	
Q.931.2.3.1.9	Incoming call proceeding (U9)	NU	
Q.931.2.3.1.10	Active (U10)	NU	
Q.931.2.3.1.11	Release request (U19)	NU	
Q.931.2.3.1.12	Overlap receiving (U25)	NU	
Q.931.2.3.2	Network call states	NU	
Q.931.2.3.2.1	Null state (N0)	NU	
Q.931.2.3.2.2	Call initiated (N1)	NU	
Q.931.2.3.2.3	Overlap sending (N2)	NU	
Q.931.2.3.2.4	Outgoing call proceeding (N3)	NU	
Q.931.2.3.2.5	Call delivered (N4)	NU	
Q.931.2.3.2.6	Call present (N6)	NU	
Q.931.2.3.2.7	Call received (N7)	NU	
Q.931.2.3.2.8	Connect request (N8)	NU	
Q.931.2.3.2.9	Incoming call proceeding (N9)	NU	
Q.931.2.3.2.10	Active (N10)	NU	
Q.931.2.3.2.11	Release request (N19)	NU	
Q.931.2.3.2.12	Call abort (N22)	NU	
Q.931.2.3.2.13	Overlap receiving (N25)	NU	
Q.931.2.4	States associated with the global call reference	I	
Q.931.2.4.1	Call states at the user side of the interface	I	
Q.931.2.4.1.1	Null (Rest 0)	I	
Q.931.2.4.1.2	Restart request (Rest 1)	I	
Q.931.2.4.1.3	Restart (Rest 2)	I	
Q.931.2.4.2	Call states at the network side of the	I	

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
	interface		
Q.931.2.4.2.1	Null (Rest 0)	I	
Q.931.2.4.2.2	Restart request (Rest 1)	I	
Q.931.2.4.2.3	Restart (Rest 2)	I	
Q.931.3	Message functional definitions and content	I	
Q.931.3.1	Messages for circuit mode connection control	I	*FACILITY must be added to the table 3-1/Q.931.* General remark: Any message marked as „not supported“ is handled according to the procedures for unrecognised message, please refer to procedure describe in §Q.931.5.8.4. Any information element marked as „not supported“ in a specific message will be handled as unrecognised information element, please refer to procedure describe in §Q.931.5.8.7.1. The length of Call Reference information element in EWSD is 2-3. The length of Display information element in EWSD is 2-34.
Q.931.3.1.1	ALERTING	I	*The Bearer Capability, Signal and High Layer Compatibility information elements are not part of the ALERTING message. This specification does not applied the procedure describe in §Q.931.5.11. The Note 1, Note 7 and Note 8 are deleted. FACILITY must be added to the table 3-6/Q.931. Note 9 is added to , „May be used for functional operation of supplementary services, such as the user-user service, (See §Q.931.7)“.* *USER-USER must be added to the table 3-6/Q.931. A new Note 7 is added to , „Included when the user initiates call clearing and wants to pass user information to the remote user at call clearing time. Conditions for this transfer are described in §Q.931.7.)“. A new Note 8 is added to , „The minimum length is 2 octets; the default standard maximum length is 131 octets.)“* The Channel Identification is only supported in the direction User->Network. The Note 2 is modified as follow: The Annex D is not supported. The Note 4 is modified as follow: The Annex K is not supported. The progress indicator value #8 is not supported in the direction User->Network. The information will be discarded without sending a STATUS message.
Q.931.3.1.2	CALL PROCEEDING	I	*In Table 3-3/Q.931 the Note 4, Note 5 and Note 6 are spared.* The Note 4 is modified as follow: The Annex K is not supported. The progress indicator value #8 is not supported in the direction User->Network. The information will be discarded without sending a STATUS message.
ETS 300 102-1.3.1.3	*CONGESTION CONTROL*	*i*	
Q.931.3.1.3	CONNECT	I	*The Bearer Capability, Signal and High Layer Compatibility information elements are*

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
			not part of the CONNECT message. This specification does not applied the procedure describe in §Q.931.5.11. In Table 3-4/Q.931 the Note 1, Note 6, Note 8 and Note 10 are spared. *For FACILITY and User-user messages, please refer to §Q.931.3.1.* *Note 12 is added to , „Included by the network e.g. dependent on the telecommunication service requested by the user, or as a subscription option, or as a network provider default option.)“.* Delete Note 2: Annex D is not supported Note 12: Date/Time is supported for all telecommunication services. Add: Progress indicator value #8 is not supported in the direction User->Network. The information will be discarded without sending a STATUS.
Q.931.3.1.4	CONNECT ACKNOWLEDGE	I	*In Table 3-5/Q.931 the Note 2 and Note 3 are deleted. The Channel Identification must be added to the table 3-1/Q.931. Note 1 is added to , „Available for use by supplementary services (e.g. call waiting)“.*
Q.931.3.1.5	DISCONNECT	I	*In Table 3-6/Q.931 the Note 2 and Note 3 are spared.* *For FACILITY and USER-USER messages, please refer to §Q.931.3.1.*
ETS 300 102-1.3.1.3	*FACILTY*	*i*	
Q.931.3.1.6	INFORMATION	I	*In Table 3-7/Q.931 the Note 2, Note 5 and Note 7 are spared.* *Note 6 is modified as follow: The Called party number information element is included by the user to convey called party number information to the network during overlap sending. The Keypad facility information element may also be in included to convey other call establishment information to the network or to convey supplementary service information, (see §Q.931.7).* *Note 8 is modified as follow: The Called party number information element is included by the user to convey called party number information to the network during overlap sending. The Called party number information element is included by the network to transfer called party number information to the user during overlap receiving.* *For KEYPAD FACILITY , a Note is added for the information element type, „As a network option, may be used for stimulus operation of supplementary services, (see §Q.931.7 and §Q.931.8)“.* *For KEYPAD FACILITY , a Note is added for the information element direction, „The use of the Keypad facility information element in the network-to-user direction to convey supplementary service information as part of the keypad facility procedures is a network option.)“.* The Cause information element is not supported
Q.931.3.1.7	NOTIFY	I	*In Table 3-8/Q.931 the Note 1 and Note 3 are spared.*
Q.931.3.1.8	PROGRESS	I	*In Table 3-9/Q.931 the Note 1, Note 4 and Note 5 are spared.* *For USER-USER messages, please refer to §Q.931.3.1.*

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
			Note 4: User-user Information Element is not supported. The Progress indicator #8 is not supported in the direction User->Network. The information will be discarded without sending a STATUS.
Q.931.3.1.9	RELEASE	I	*In Table 3-10/Q.931 the Note 4 and Note 5 are spared.* *For FACILITY and USER-USER messages, please refer to §Q.931.3.1.*
Q.931.3.1.10	RELEASE COMPLETE	I	*In Table 3-11/Q.931 the Note 4 and Note 5 are spared.* *For FACILITY and USER-USER messages, please refer to §Q.931.3.1.*
Q.931.3.1.11	RESUME	I	
Q.931.3.1.12	RESUME ACKNOWLEDGE	I	*In Table 3-13/Q.931 the Note 2 is spared.*
Q.931.3.1.13	RESUME REJECT	I	*In Table 3-14/Q.931 the Note 2 is spared.*
Q.931.3.1.14	SETUP	I	*In Table 3-15/Q.931 the Note 2, Note 3, Note 10 and Note 16 are spared.* *For FACILITY and USER-USER messages, please refer to §Q.931.3.1.* *For KEYPAD FACILITY messages, please refer to §Q.931.3.1.6* *Note 9 is modified as follow: The Called party number information element is included by the user to convey called party number information to the network. The Keypad facility information element may also be included by the user to convey other call establishment information to the network.* *Note 14 is modified as follow: The Called party number information element is included by the user to convey called party number information to the network. The Called party number information element is included by the network when called party number information is conveyed to the user.* Network specific facility is not supported Transit network selection is not supported The Progress indicator #8 is not supported in the direction User->Network. The information will be discarded without sending a STATUS
Q.931.3.1.15	SETUP ACKNOWLEDGE	I	*In Table 3-16/Q.931 the Note 4 and Note 5 are spared.* The Progress indicator #8 is not supported in the direction User->Network. The information will be discarded without sending a STATUS
Q.931.3.1.16	STATUS	I	*In Table 3-17/Q.931 the Note 2 is spared.*
Q.931.3.1.17	STATUS ENQUIRY	I	*In Table 3-18/Q.931 the Note 2 is spared.*
Q.931.3.1.18	SUSPEND	I	
Q.931.3.1.19	SUSPEND ACKNOWLEDGE	I	*In Table 3-20/Q.931 the Note 2 is spared.*
Q.931.3.1.20	SUSPEND REJECT	I	*In Table 3-21/Q.931 the Note 2 is spared.*
ETS 300 102-1.3.1.20	*USER INFORMATION*	I	
Q.931.3.2	Messages for packet mode connection control	--	*The basic packet-mode access connection control are defined in ETSI ETS 300 007.*
Q.931.3.2.1	ALERTING	I	
Q.931.3.2.2	CALL PROCEEDING	I	*In Table 3-24/Q.931 the Note 4 is spared.*

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
Q.931.3.2.3	CONNECT	I	*In Table 3-25/Q.931 the Note 3 is spared.*
Q.931.3.2.4	CONNECT ACKNOWLEDGE	I	*In Table 3-26/Q.931 the Note 2 is spared.*
Q.931.3.2.5	DISCONNECT	I	*The User-user information element are not supported by ETSI network*
Q.931.3.2.6	PROGRESS	I	*The Progress Indicator is optional.*
Q.931.3.2.7	RELEASE	I	*In Table 3-29/Q.931 the Note 4 is spared.* *The User-user information element are not supported by ETSI network*
Q.931.3.2.8	RELEASE COMPLETE	I	*In Table 3-30/Q.931 the Note 4 is spared.* *The USER-USER is not supported by ETSI network*
Q.931.3.2.9	SETUP	I	*In Table 3-31/Q.931 the Note 1, Note 3 and Note 6 to Note 13 are spared.* *For BEARER CAPABILITY , a Note is added , „Used to identify the ISDN packet mode bearer capability".* *For PROGRESS INDICATOR , a Note is added , „May be included in the event of interworking with a private network. Public networks will ignore this information element.".* *The USER-USER is not supported by ETSI network*
Q.931.3.2.10	STATUS	I	*In Table 3-32/Q.931 the Note 2 is spared.*
Q.931.3.2.11	STATUS ENQUIRY	I	*In Table 3-33/Q.931 the Note 2 is spared.*
Q.931.3.3	Messages for user signalling bearer service control	NU	*The messages for control of non-call associated temporary signalling connections is outside the scope of this issue of this ETS.*
Q.931.3.3.1	ALERTING	NU	
Q.931.3.3.2	CALL PROCEEDING	NU	
Q.931.3.3.3	CONGESTION CONTROL	NU	
Q.931.3.3.4	CONNECT	NU	
Q.931.3.3.5	CONNECT ACKNOWLEDGE	NU	
Q.931.3.3.6	INFORMATION	NU	
Q.931.3.3.7	RELEASE	NU	
Q.931.3.3.8	RELEASE COMPLETE	NU	
Q.931.3.3.9	SETUP	NU	
Q.931.3.3.10	SETUP ACKNOWLEDGE	NU	
Q.931.3.3.11	STATUS	NU	
Q.931.3.3.12	STATUS ENQUIRY	NU	
Q.931.3.3.13	USER INFORMATION	NU	
Q.931.3.4	Messages with the global call reference	--	*SEGMENT must be added to the table 3-48/Q.931.* For the use of the Restart procedure, please refer to the clause §Q.931.5.5
Q.931.3.4.1	RESTART	I	*In Table 3-49/Q.931 the Note 4 is spared.*
Q.931.3.4.2	RESTART ACKNOWLEDGE	I	*In Table 3-50/Q.931 the Note 4 is spared.*

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
Q.931.3.4.3	STATUS	I	*In Table 3-51/Q.931 the Note 3 is spared.*
Q.931.4	General message format and information elements coding	--	
Q.931.4.1	Overview	I	
Q.931.4.2	Protocol discriminator	I	*In Table value 0 1 0 0 1 0 0 0 to 0 1 0 0 1 1 1 1 are reserved for ETSI use.* Table 4.1 Within octet 1 of the user-network call messages only the value 0000 1000, i.e. §Q.931 user-network call control message is supported. Upon receipt of any different Protocol Discriminator, the procedures according to §Q.931.5.8.1
Q.931.4.3	Call reference	I	*The second sentence in the second § is modified as follow, The maximum length of the Call reference information element is three octets long.* *The third § is modified as follow: All networks and users conforming to this ETS must be able to support a call reference value of one octet for a basic user-network interface, and a call reference value of two octets for a primary rate interface.* *Following § is added: ETSI requirement 1: In ISDNs conforming to this ETS the length of the call reference value for the basic access shall be one octet and for the primary rate access two octets.* *The first sentence in the second eighth § is modified as follow, Hence the call reference flag identifies who allocated the call reference value and the only purpose of the call reference flag is to resolve simultaneous attempts to allocate the same call reference value.* *The Note 1 is modified as follow, The Call reference information element containing a dummy call reference is one octet long and is coded "0000 0000".* *Following § is added: ETSI requirement 2: The dummy call reference shall not be used in association with the basic call.* *Following § is added: ETSI requirement 3: For the use of the global call reference value see the restart procedure described in §Q.931.5.5.* Add to the ETSI requirement 1: The network will accept a call reference value with length 1 from a primary rate interface. In the direction Network->User at a primary rate access the network will always use the call reference with a length of 2.
Q.931.4.4	Message type	I	*Following § is added: ETSI requirement 1: When allocating codes for national message types the following principle shall be applied for the first octet following the escape to nationally specific type.* *1 0 X X X X X X: National standard* *1 1 X X X X X X: ETSI standard* *ETSI requirement 2: The SEGMENT message is only required if the optional*

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
			segmentation procedure defined in Annex K is implemented. implemented ETSI requirement 1: national standard message types are not supported. Any not supported message is handled according to the procedures for unrecognised messages (see §Q.931.5.8.4)
Q.931.4.5	Other information elements	-	General Remark Any information element marked with "not supported" in a specific message will be handled as unrecognised information element (see §Q.931.5.8.7.1).
Q.931.4.5.1	Coding rules	I	*ETSI NOTE to figure 4-7/Q.931: One of the single octet formats is specified for shift operations described in §Q.931.4.5.2. This allows for the definition of eight codesets of 133 information element identifier values in each. Codeset 0 is used for these information elements that have been specified in ITU-T Recommendation §Q.931. Codeset 5 is used for information elements that are specified by ETSI. The following division into two subsections §Q.931.4.5.1.1 and §Q.931.4.5.1.2 is particular to the ETSI ETS in order to allow the introduction of §Q.931.4.5.1.2.*
ETS 300 102-1.4.5.1.1	*Codeset 0*	I	*In Table 4-3/Q.931, the Repeat Indicator information element is not supported.* The following Information element identifiers are not supported: • • Network specific facilities • Signal • Information rate • End-to-end transit delay • Transit delay selection and indication • Packet layer binary parameters • Packet layer window size • Packet size • • Transit network selection Any information element with the "escape for extension" coding will be handled according to the procedures for unrecognised information elements (Please refer to §Q.931.5.8.7.1). Note 2: number of repetition of information elements: • Shift: according to the shift of codesets

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			• cause: multiple cause information elements possible only the first cause information element is evaluated by the network • Facility: see ETS 300 196 • Progress indicator: max. 2 times Note 4: For the maximum length compare under the relevant information elements.
ETS 300 102-1.4.5.1.2	*Codeset 5*	NU	
Q.931.4.5.2	Extensions of codesets	I	*Codeset 5 is reserved for information elements reserved for national use defined by ETSI.* *Codeset 6 is reserved for information elements specific to the local a national network (either public or private).* *Codeset 5 is reserved for information elements reserved for national use defined by ETSI. As such they do not have significance across an international boundary. Therefore, codeset 5 information elements shall be handled according to the procedures for unrecognised information elements (see §Q.931.5.8.7.1) at the first exchange beyond the international boundary, unless there are bilateral agreements to the contrary. Therefore, codeset 5 information elements shall be handled according to the procedures defined for codeset 0.* *ETSI requirement: The information element identifier code points with bits 5 to 8 coded "0 0 0 0" in each of the codesets are reserved for information elements for which comprehension by the receiver is required (see §Q.931.5.8.7.1 for specific error handling procedures).* Any information element with a codeset other than 0 be will be handled according to the procedures for unrecognised information elements (see *§Q.931.*5.8.7.1). The following project specific handling is possible: 'comprehension required information elements' are handled according to the procedures of §Q.931.5.8.6.1, others are discarded.
Q.931.4.5.3	Locking shift procedure	I	Second paragraph: it is the user's responsibility to follow these rules. No checks will be done to verify this.
Q.931.4.5.4	Non-locking shift procedure	I	
Q.931.4.5.5	Bearer capability	I	*For Coding standard bits (octet 3),in ISDNs conforming to this ETS, codepoint "0 0" "CCITT standardised coding as described below" shall always be used.* *In Information transfer capability bits (octet 3), the restricted digital information is not applicable in ISDNs conforming to this ETS.* ***Structure (octet 4a)*** *Bits*

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			7 6 5 *0 0 0 default (see NOTE 1)* *0 0 1 8 kHz integrity (see NOTE 2)* *1 0 0 service data unit integrity* *1 1 1 unstructured* *All other values are reserved.* *NOTE 1: If octet 4a is omitted, or the structure field is coded "000", then the value of the structure attribute is according to the following:* *Transfer mode Transfer capability Structure* *circuit speech 8 kHz integrity* *circuit unrestricted digital 8 kHz integrity* *circuit restricted digital 8 kHz integrity (ETSI NOTE)* *circuit audio 8 kHz integrity* *circuit video 8 kHz integrity* *packet unrestricted digital service data unit integrity* *NOTE 2: When the information transfer rate 2 x 64 kbit/s is used, 8 kHz integrity with Restricted Differential Time Delay (RDTD) is offered.* *ETSI NOTE: Not applicable in ISDNs conforming to this ETS.* ***Configuration (octet 4a)*** *Bits* *4 3* *0 0 point-to-point* *All other values are reserved.* *NOTE: If octet 4a is omitted, the configuration is assumed to be point-to-point.* ***Establishment (octet 4a)*** *Bits* *2 1* *0 0 demand* *All other values are reserved.* *NOTE: If octet 4a is omitted, the method of establishment is assumed to be "demand".* ***Symmetry (octet 4b)*** *Bits* *7 6* *0 0 bi-directional symmetric* *All other values are reserved.* *NOTE: If octet 4b is omitted, bi-directional symmetric is assumed.* *In User information layer 1 protocol bits (octet 5), the* Recommendation G.711 m-law *and CCITT standardised rate adaptation V.120. is not applicable in ISDNs*

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			conforming to this ETS. I*n Octet 5b for V.120 rate adaptation , this coding option for octet 5b is not applicable in ISDNs conforming to this ETS.* If codepoints of the bearer capability Information Element are received which are not in the range of codepoints allowed by §Q.931, the network will clear the call with cause #100 (see §Q.931.5.8.6.2) octet 3: • Coding standard: only ITU-T standardised coding is supported • information transfer capability: only speech, UDI, 3.1 kHz, audio and 7 kHz audio are supported. octet 4: • Transfer mode: only circuit mode and packet mode (for implementation of packet mode bearer service) are supported. • Information transfer rate: only packet mode (for implementation of packet mode bearer service) and circuit mode 64 kbit/s are supported. Octet 4a and 4b shall not be included. In case of receipt of octets 4a or 4b, the network will clear the call with cause #100 (see §Q.931.5.8.6.2) All other information fields not used for compatibility checking are not screened; however, project specific restrictions are possible. If any codepoint is received which is not supported for compatibility reasons, the network will clear the call according to the procedures defined in §Q.931.5.1.5.
Q.931.4.5.6	Call identity	I	
Q.931.4.5.7	Call state	I	*The first § is modified as follow, The purpose of the Call state information element is to describe the current status of a call, (see §2.1) or a global interface state (see §Q.931.2.4)*. Coding standard: only "CCITT standardised coding" is supported.
Q.931.4.5.8	Called party number	I	*The maximum length of this information element is 23 octets.* *The support of this code „abbreviated number“ is network dependent. The number provided in this information element presents a shorthand representation of the complete number in the specified numbering plan as supported by the network.* • Type of number: only the following values are supported: – unknown

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
			– international number – national number – subscriber number • Numbering plan: only the following values are supported: direction Network->User (for DDI and MSN): – ISDN/telephony numbering plan (ITU-T Rec. E.164/E.163) direction User->Network: – unknown – ISDN/telephony numbering plan (ITU-T Rec. E.164/E.163) Number digits: only 0,1,2...9 and # are supported. If the network receives any information it does not support, the call will be released with cause #28 (invalid number format), or as a network adaptation the network will send a STATUS with cause #100.
Q.931.4.5.9	Called party subaddress	I	*For Subaddress information (octet 4, etc), add:* • *NOTE 2: When the Initial Domain Identifier (IDI) format is "local", the AFI field is coded "50" in BCD. IA5/ISO646 character syntax DSP is then represented by converting each character to a number in the range 32-127 using the T.50/ISO646 encoding, with zero parity and the parity bit in the most significant position, yielding a binary octet in the range 0010 0000 - 0111 1111.* • *NOTE 3: It is recommended that users apply the local IDI format when the subaddress is used for terminal selection purposes. In this case the IA5 character syntax using only digits 0 to 9 shall be used for the DSP.*
Q.931.4.5.10	Calling party number	I	*The maximum length of this information element is 24 octets.* *For abbreviated number, this code point is not applicable to this ETS.* *The user-provided, verified and failled is not applicable in ISDNs conforming to this ETS.* • Type of number only – unknown – international number – national number – subscriber number : only in the direction User->Networkare supported. • Numbering plan: only – unknown – ISDN/telephony numbering plan (CCITT Recommendation E.164/E.163) are supported. Only digits 0,1,2...9 are supported.

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Q.931.4.5.11	Calling party subaddress	I	*For Subaddress information (octet 4, etc), please refer to §Q.931.4.5.9.*
Q.931.4.5.12	Cause	I	*ETSI Cause values:* *The coding of octet 3 and 5 is the same as defined for CCITT standardised cause values (see below)). Coding standard (octet 3) shall be coded "1 0" (National standard).* *For the cause value (octet 4) it is recommended that in allocating national cause values the classification used for the CCITT coding standard is used also for national standard. In coding the specific cause values the principle shown below should be followed.* *The ETSI cause values are defined below:* *1 0 1 1 0 0 0 88 Non-existent closed user group* *1 0 1 1 0 0 1 89 Called user not member of CUG* *1 0 1 1 0 1 0 90 Called user belongs to CUG* *Note: This cause value is used for the support of stimulus mode of the Closed User Group supplementary service.* *Class Value* *7 6 5 4 3 2 1* *X X X 0 X X X national standard* *X X X 1 X X X ETSI standard* • Coding standard: Only CCITT standardised coding is supported. If other coding standard values are received, the cause information element is handled as an information element received with invalid content. • Location: – Direction User->Network: only – user (0000) – private network serving the local user (0001) – private network serving the remote user (0101) are transferred transparently; however, project specific handling is possible. Direction Network->User: all codepoints are supported • Recommendation: – Direction User->Network: only §Q.931 is supported – Direction Network->User: octet 3a is not sent Diagnostics are supported for the following cause values: #43, #66, #82, #86, #96, #97, #98, #99, #100 and #101. Note: For the cause values #99 and #100 the diagnostic field contains: • complete codeset unknown:

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			– one octet with locking shift to this codeset in case that one or more information elements of this unknown codeset were received. • single information element unknown within a known codeset: – one octet with non-locking shift to this codeset – information element identifier of the unknown information element In the direction Network->User always only one cause information element will be sent. In the direction User->Network only the first cause information element within a message will be accepted, a subsequent cause information element within the same message will be discarded.
Q.931.4.5.13	Channel identification	I	*The interface explicitly identified in one or more octets beginning with octet 3.1 is Not applicable in ISDNs conforming to this ETS.* *In ISDNs conforming to this ETS, the codepoint „other interface:“ is only applied for the primary rate interface.* *The Interface identifier (octet 3.1) is not applicable in ISDNs conforming to this ETS.* *The „channel is indicated by the slot map (Map) in the following octet(s) is not applicable in ISDNs conforming to this ETS.* *In the „“, the NOTE is modified as follows: "Channel number" is used exclusively, in networks conforming to this ETS.* *The „Slot map (octet 3.3)“ is not applicable in ISDNs conforming to this ETS* Only the B-channel can be identified. nx64 kbit/s are not supported. Note 3: Bit 8 of channel number is not evaluated by the network. Interface type: If the interface type is valid, however, does not match with the subscribed interface, the call will be released with cause #82. D-channel indicator: only 0 = ...not the D-Channel is supported. Information channel selection: – Direction User->Network:"no channel" in the SETUP message is supported, the network will send a STATUS with cause #100, or as a network adaptation the call is released by sending RELEASE COMPLETE with a selectable cause. Coding standard: only "CCITT standardised coding" is supported. Channel type: only "B-channel units" is supported. The maximum length of the channel id. information element is: – basic access: 3 octets – primary rate access: 5 octets (34 octets in case of restart)
Q.931.4.5.14	Congestion level	I	

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Q.931.4.5.15 *ETS 300 102-1.4.6.1*	Date/time	I	
Q.931.4.5.16	Display	I	*The Display information element has a maximum length of 34 octets.*
ETS 300 102-1.4.6.2	*Facility*	I	This message is implemented according to Q.932
ETS 300 102-1.4.6.3	*Feature activation*	NA	
ETS 300 102-1.4.6.4	*Feature indication*	NA	
ETS 300 102-1.4.6.5	*Switchhook*	NA	
Q.931.4.5.17	High layer compatibility	I	*High layer characteristics identification (octet 4) and Extended high layer characteristics identification (octet 4a) is modified as follows:* *Bits* *7 6 5 4 3 2 1* *0 0 0 0 0 0 1 Telephony* *0 0 0 0 1 0 0 Facsimile Group 2/3 (Recommendation T.62 F.182)* *0 1 0 0 0 0 1 Facsimile Group 4 Class 1 Facsimile (Recommendation F.184)* *0 1 0 0 1 0 0 Teletex service, basic and mixed mode of operation (RecommendationF.230) and facsimile service Group 4, Classes II and III (Recommendation F.184)* *0 1 0 1 0 0 0 Teletex service, basic and processable mode of operation (Recommendation F.220)* *0 1 1 0 0 0 1 Teletex service, basic mode of operation (Recommendations F.200)* *0 1 1 0 0 1 0 International interworking for Videotex services (Recommendations F.300 and T.101)* *0 1 1 0 1 0 1 Telex service (Recommendation F.60)* Only the length is checked (4 or 5 octets). Also in case of unknown contents of octet 3 and 4 the HLC information element is transferred transparently through the network. Project specific screening of HLC codepoints is possible.
Q.931.4.5.18	Keypad facility	I	
Q.931.4.5.19	Low layer compatibility	I	*This octet 3a shall be present if out-band negotiation is required.* *The following coding of field „Modem type (octet 5d) „is applicable for ISDNs conforming to this ETS.* *Bits* *6 5 4 3 2 1* *0 0 0 0 0 0 Reserved* *0 0 0 0 0 1 V.21*

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			0 0 0 0 1 0 V.22 *0 0 0 0 1 1 V.22 bis* *0 0 0 1 0 0 V.23* *0 0 0 1 0 1 V.26* *0 0 0 1 1 0 V.26 bis* *0 0 0 1 1 1 V.26 ter* *0 0 1 0 0 0 V.27* *0 0 1 0 0 1 V.27 bis* *0 0 1 0 1 0 V.27 ter* *0 0 1 0 1 1 V.29* *0 0 1 1 0 0 V.32* *0 0 1 1 0 1 V.35* *1 0 0 0 0 0 }* *through } Reserved for national use.* *1 1 1 1 1 1 }* *All other values are reserved.* *Optional layer 2 protocol information (octet 6a) is User specified* *Optional layer 3 protocol information (octet 7a) is User specified*
Q.931.4.5.20	More data	I	
Q.931.4.5.21	Network-specific facilities	NU	
Q.931.4.5.22	Notification indicator	I	*For the coding and use of this information element in relation to the provision of supplementary services see ETS T/S 46-32B.* *The bearer service change is Not applicable in ISDNs conforming to this ETS.*
Q.931.4.5.23	Progress indicator	I	• Location: Direction User->Network: only – user (0000) – private network serving the local user (0001) – private network serving the remote user (0101) are transferred transparently; however, project specific handling is possible. Direction Network->User: all codepoints are supported. • Coding standard: only the value "CCITT standardised coding" is supported. • Progress description: Codepoint #8 "in-band information or appropriate pattern now available" received from a user is not supported, the information will be discarded without sending a STATUS.
Q.931.4.5.24	Repeat indicator	NU	*This information element is not used in ISDNs conforming to this ETS.*
Q.931.4.5.25	Restart indicator	I	*The Note on „Single interface“ and „All interfaces“ is modified as follows:* *Since this ETS applies only to associated signalling, the Channel identification information element shall not be included to indicate the interface to be restarted. As*

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			a consequence, either code point can be used to perform the same function.
Q.931.4.5.26	Segmented message	I	
Q.931.4.5.27	Sending complete	I	
Q.931.4.5.28	Signal	NU	
Q.931.4.5.29	Transit network selection	NU	
Q.931.4.5.30	User-user	I	A maximum size of 131 octets is supported.
Q.931.4.6 *ETS 300 102-1.4.7*	Information element for packet communications	I	According to ETS 300 007, however in the direction n->u, calling party number and calling party subaddress are not supported.
Q.931.4.6.1	Closed user group	NU	
Q.931.4.6.2	End-to-end transit delay	NU	
Q.931.4.6.3	Information rate	NU	
Q.931.4.6.4	Packet layer binary parameters	NU	
Q.931.4.6.5	Packet layer window size	NU	
Q.931.4.6.6	Packet size	NU	
Q.931.4.6.7	Redirecting number	I	
Q.931.4.6.8	Reverse charging indication	NU	
Q.931.4.6.9	Transit delay selection and indication	NU	
Q.931.5	Circuit-switched call control procedures	I	*ETSI Requirement: ETSI T/S 49-30 also contains information for the ISPBX-to-ISPBX basic call control in the context of private network applications.* *ETSI Requirement: Keypad facility information elements can be conveyed only in order to provide information related to the provision of supplementary services.*
Q.931.5.1	Call establishment at the originating interface	I	
Q.931.5.1.1	Call request	I	*ETSI requirement: The dummy call reference value as defined in CCITT Recommendation §Q.931 is not supported in association with the basic call.* *The subclause b) and following note are deleted.* *ETSI requirement: If en-bloc sending is used, the SETUP message may contain the sending complete indication (i.e. either the Sending complete information element or the "#" character within the Called party number information element). It is mandatory for the network to recognise the Sending complete information element.* *For overlap sending, see §Q.931.5.1.3. ETSI requirement: Called party subaddress information, if present, shall be given in the Called party subaddress information element and, in the case of overlap sending, shall only be sent in the SETUP message.* Both sending complete indications are supported.

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Q.931.5.1.2	B-channel selection – Originating	I	*ETSI requirement: It is recommended that TEs connected to the ISDN basic access should use alternative c) for basic circuit-switched call control unless the TE is already using a given B-channel.*
Q.931.5.1.3	Overlap sending	I	*ETSI requirement: The tone option should be interpreted as the need to return dial tone in the case where the Bearer capability information element indicates an appropriate bearer capability, e.g. "3.1 kHz audio" or "speech". When the tone option is applied, the user equipment shall attach to the B-channel on receipt of the SETUP ACKNOWLEDGE message.* *The second subclause b) and following note 1 are deleted.* *ETSI requirement: On receiving the first INFORMATION message, the network shall remove dial tone if it had been applied as described above. Removal of dial tone shall not be accompanied by any Progress indicator information element.* *The Note 3 is modified as follows:* *Besides the possible Called party number information element, the INFORMATION messages may contain additional call information, (i.e. for supplementary services). The user shall transfer all the additional call information (contained within the Keypad facility information element) before the network determines that the called party number (contained within the Called party number information element) is complete, and terminates the overlap sending procedure using the CALL PROCEEDING message as recommended in §Q.931.5.1.5.2.* Tones will be provided systematically if appropriate for the service of the call, and additionally the progress indicator will be set accordingly. If neither called party number nor sending complete indication is included in the INFO message the network will not restart T302. Any sending complete indication received in the state overlap sending will be forwarded into the network. Any INFO with dialling information or sending complete indication, received in the outgoing call proceeding-/call delivered-/active state will be discarded, and no STATUS is sent to the user.
Q.931.5.1.4	Invalid call information	I	
Q.931.5.1.5	Call proceeding	I	
Q.931.5.1.5.1	Call proceeding, en-bloc sending	I	
Q.931.5.1.5.2	Call proceeding, overlap sending	I	
Q.931.5.1.6	Notification of interworking at the originating interface	I	*ETSI Requirement: If the Progress indicator information element is included in the PROGRESS message, ISDNs conforming to this ETS will stop any supervisory timer except network timer T302.*
Q.931.5.1.7	Call confirmation indication	I	*ETSI requirement: In addition to the sending of the ALERTING message, ISDNs conforming to this ETS will provide in-band ringing tone to the calling user in the case where the Bearer capability information element indicates "3.1 kHz audio" or*

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
			"speech". *ETSI requirement: When the user receives the ALERTING message, the user shall: a) attach to the B-channel (if it has not already done so), provided the requested bearer capability is "3.1 kHz audio" or "speech", and provided the equipment does not generate local tone; or, b) cause initiation of the user equipment generated alerting condition beginning an internally-generated alerting indication.*
Q.931.5.1.8	Call connected	I	*ETSI requirement: Upon receiving an indication that the call has been accepted, the network shall remove any applied ringing tone.*
Q.931.5.1.9	Call rejection	I	
Q.931.5.1.10	Transit network selection	I	
Q.931.5.2	Call establishment at the destination interface	I	Permanent data link connections are supported at a point-to-point configuration.
Q.931.5.2.1	Incoming call	I	*ETSI requirement: The knowledge that a single-point configuration exists may be based on information entered at the time of configuration of the access.* *ETSI requirement: For procedures to be followed on expiry of timer T312 see also §Q.931.5.2.5.3 (case 1).* First ETSI requirement: The network has knowledge about the configuration. 7th section: In case of en-bloc receiving the SETUP message will contain the Sending complete information element.
Q.931.5.2.2	Compatibility checking	I	
Q.931.5.2.3	B-channel selection – Destination	--	
Q.931.5.2.3.1	SETUP message delivered by point-to-point data link	I	*ETSI requirement: All ISDNs conforming to this ETS will support the "no B-channel available" condition.* *ETSI Requirement: See §Q.931.5.2.4 and §Q.931.5.2.5 for the appropriate first response to the SETUP message.* If after acceptance of a B-channel in the first response message a subsequent message from the called user contains an unacceptable channel the network will send a RELEASE with cause #6 to the called user and clear the call to the calling user.
Q.931.5.2.3.2	SETUP message delivered by broadcast data link	I	If any responding message from the called user contains a channel different from the channel sent by the network, the user will be cleared with cause #6.
Q.931.5.2.4	Overlap receiving	I	*ETSI requirement: If a "sending complete" indication is provided, the Sending complete information element shall be used.* In case of sufficient call information, the network will include the Sending complete information element in the INFO message. last section: The call offering completion in overlap receiving is limited to a single data link, but for a network adaptation up to eight overlap receiving procedures are possible.

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Q.931.5.2.5	Call confirmation	--	
Q.931.5.2.5.1	Response to en-block SETUP or completion of overlap receiving	I	
Q.931.5.2.5.2	Receipt of CALL PROCEEDING and ALERTING	I	4th section: T301 is used, delete "(unless another internal alerting...call control)". Add at the end of paragraph: "Any dialling information or sending complete indication received from the network at the destination local exchange in one of the states "i/c call proceeding, call received" will be discarded by this exchange, and the call state will not be changed. No backward information will be passed into the network.
Q.931.5.2.5.3	Called user clearing during incoming call establishment	I	
Q.931.5.2.5.4	Call failure	I	
Q.931.5.2.6	Notification of interworking at the terminating interface	I	*ETSI Requirement: If the Progress indicator information element is included in the PROGRESS message, ETSI ISDNs will stop any supervisory timer except network timers T304 and T312.* The first progress information received from the called user's equipment prior to the CONN of the selected terminal, will be transferred backward. Further progress information will be discarded (without sending a STATUS). Any progress description #8 received from the user will be discarded without sending a STATUS.
Q.931.5.2.7	Call accept	NA	It is auser description.
Q.931.5.2.8	Active indication	I	Add at the end: "Any dialling information or sending complete indication received from the network side at the destination local exchange in one of the states "connect request, active" will be discarded. The call state will not be changed, and no corresponding backward information will be sent into the network."
Q.931.5.2.9	Non-selected user clearing	I	
Q.931.5.3	Call clearing	--	
Q.931.5.3.1	Terminology	I	
Q.931.5.3.2	Exception conditions	I	Delete item c): not applicable, temporary signalling connections are not supported
Q.931.5.3.3	Clearing initiated by the user	I	*ETSI Requirement: The actions to be taken with regard to the maintenance condition are network dependent*. Last but 3rd section: First expiry of T308: No second cause information element is included by the network. Second expiry of T308: If a private ISDN is connected to the access the Restart procedure according to clause 5.5 is used. In any other case the B-channel is released and not placed in a

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
			maintenance condition, no other action is taken.
Q.931.5.3.4	Clearing initiated by the network	I	
Q.931.5.3.4.1	Clearing when tones/announcements provided	I	Add at the end of this clause last but one section: "When recovering from a timer expiration, the network repeats the initial cause value in the clearing message sent, without including a second cause information element."
Q.931.5.3.4.2	Clearing when tones/announcements not provided	I	Add at the end of this clause last section: "When recovering from a timer expiration, the network repeats the initial cause value in the clearing message sent, without including a second cause information element.
Q.931.5.3.4.3	Completion of clearing	I	*ETSI requirement: The option of placing the B-channel in the maintenance condition is not applicable in the case of point-to-multipoint configurations.*
Q.931.5.3.5	Clear collision	I	
Q.931.5.4	In-band tones and announcements	I	Add: "The transfer of in-band information from the called user during call setup and clear down is not supported.
Q.931.5.5	Restart procedure	I	The restart procedure is supported only for a point-to-point configuration. If the network receives a RESTART message from a point-to-multipoint configuration this message will be handled according to clause Q.931.5.8.4.
Q.931.5.5.1	Sending RESTART message	I	*ETSI requirement: If a RESTART ACKNOWLEDGE message is received indicating only a subset of the specified channels, an indication shall be given to the maintenance entity to determine what actions shall be taken on the channel(s) which have not been returned to the idle condition.*
Q.931.5.5.2	Receipt of RESTART message	I	*ETSI requirement: If only a subset of the specified channels have been returned to the idle condition when timer T317 expires, a RESTART ACKNOWLEDGE message should be transmitted to the originator, containing a Channel identification information element indicating the channel(s) that have been returned to the idle condition.*
Q.931.5.6	Call rearrangements	I	*ETSI requirement: The use of the call rearrangement procedure is restricted to basic access, i.e. it will not be available for primary rate access. For call rearrangements controlled by an NT2, see §Q.931.5.6.7.*
Q.931.5.6.1	Call suspension	I	*ETSI requirement: Some networks may only support a maximum length of the call identity value of two octets.* 3rd section: delete 1st sentence. Insert instead: "The maximum length of the call identity value is 8 octets. Lower values are possible as a network adaptation.
Q.931.5.6.2	Call suspended	I	*ETSI requirement: Some networks may only support a maximum length of the call identity value of two octets.*
Q.931.5.6.3	Call suspend error	I	*ETSI requirement: If the network does not support the call rearrangement*

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
			procedures, it shall reject a SUSPEND message according to the error handling procedures of §Q.931.5.8.4. If the network supports the call rearrangement procedures on a subscription basis, but the user does not subscribe to the service, the network shall reject a SUSPEND message by sending a SUSPEND REJECT message with cause #50 "requested facility not subscribed"; the Cause information element shall not contain a diagnostic field under these circumstances.
Q.931.5.6.4	Call re-establishment	I	*ETSI requirement: Some networks may not support the use of the NOTIFY message. ETSI Requirement: No compatibility checking is performed during the call re-establishment phase.* The use of NOTIFY is supported.
Q.931.5.6.5	Call resume errors	I	Last but one section, last but one line: replace "may be preserved" by "is preserved". Add: "A RESUME REJECT message will be returned with the cause value #86.
Q.931.5.6.6	Double suspension	I	
Q.931.5.6.7	Call re-arrangement notification controlled by an NT2	I	
Q.931.5.7	Call collisions	I	
Q.931.5.8	Handling of error conditions	I	Second section, 1st sentence: delete the remainder of this sentence, starting with "and may vary from network.."
Q.931.5.8.1	Protocol discrimination error	I	
Q.931.5.8.2	Message too short	I	
Q.931.5.8.3	Call reference error	-	
Q.931.5.8.3.1	Invalid Call reference format	I	*ETSI requirement: When a message associated with the basic call is received specifying the dummy call reference, this message shall be ignored.*
Q.931.5.8.3.2	Call reference procedural errors	I	Insert: If at a primary rate interface a call reference value with a length of 1 octet is received by the network, the message will be accepted. §Q.931.5.8.3.2a: The network is reacting according to the first alternative, i.e. it sends RELEASE.
Q.931.5.8.4	Message type or message sequence errors	I	1st section, 1st sentence: No diagnostics sent: delete the last part beginning with "and optionally...". The network distinguishes between unimplemented message types and implemented message types which are incompatible with the call state. Thus cause #98 is not used. 2nd section: STATUS, not STATUS ENQIRY is sent: delete last but one sentence ("Alternatively a STATUS ENQIRY ...").
Q.931.5.8.5	General information element errors	I	*ETSI Requirement: The use of the locking or non-locking shift procedures in the*

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
			diagnostic field of the cause information element only applies to the interpretation of the information element identifiers of the information elements in codesets other than 0 without any impact on the interpretation of the information element itself. For the use of diagnostics see §Q.931.4.5.12 of this document.
Q.931.5.8.5.1	Information element out of sequence	I	2nd section, 1st sentence and note: The network will check the sequence and ignore an out of sequence information element. As a network adaptation no checking of the sequence is possible.
Q.931.5.8.5.2	Duplicated information elements	I	
Q.931.5.8.6	Mandatory information element errors	-	
Q.931.5.8.6.1	Mandatory information element missing	I	
Q.931.5.8.6.2	Mandatory information element content error	I	
Q.931.5.8.7	Non-mandatory information element errors	--	
Q.931.5.8.7.1	Unrecognised information element	I	An information element is defined as unrecognised if it is out of the range of the information elements possible for a specific message according to Q.931 Annex A. A STATUS is sent by the network if any unrecognised information element is received. In case of cause #99 and #100 diagnostic is provided.
Q.931.5.8.7.2	Non-mandatory information element content error	I	*ETSI requirement: In ISDNs conforming to this ETS, the Call identity information element will have a special treatment and will be truncated and processed in the case that it exceeds the maximum length implemented.* A STATUS is returned by the network, except upon receipt of a DISCONNECT, RELEASE or RELEASE COMPLETE message. Besides of the Call identity, access information will not be truncated: 2nd section, delete last sentence.
Q.931.5.8.7.3	Unexpected recognized information element	I	
Q.931.5.8.8	Data link reset	I	Item c): In the Active state the STATUS ENQUIRY procedure will be used. In all other states no action will be taken by the network due to the data data link reset.
Q.931.5.8.9	Data link failure	I	Item b2): The network will send a STATUS ENQUIRY message after layer 2 reestablishment
Q.931.5.8.10	Status enquiry procedure	I	*ETSI requirement: Cause #30 shall be used when the status enquiry procedure is*

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
			implemented. In addition to the use of cause #97 also cause #98 is a valid response to STATUS ENQUIRY. Last section: The number of times the STATUS ENQUIRY message is retransmitted is one.
Q.931.5.8.11	Receiving a STATUS message	I	1st section: The network will send a REL message with cause #101. 2nd section: item a): The network will send a REL message with cause #101. last but fourth section ("In this case, the actions.."): As far as the network is concerned, this section is replaced by: “The STATUS messages will be ignored and discarded. Project specific handling of compatible call states is possible.
Q.931.5.9	User notification procedure	I	*The clause is modified as follows:* *This procedure allows the network to notify a user of the suspension or resumption of the call at the remote user. It also allows a user to notify the remote user of such an event by sending a NOTIFY message containing a notify indicator to the network; upon receipt of this message, the network shall send a NOTIFY message containing the same notify indicator to the other user involved in the call. No state change occurs at any of the interface sides following the sending or the receipt of this message. It shall be possible for networks and users to receive NOTIFY messages pertaining to supplementary services in other than the Active state.* Add: The NOTIFY message is only supported in call states N4 and N10. The value of the notification indicator must be one of the values defined for this network (see exceptions on §Q.932.9.3.1). If any undefined value is received, the NOTIFY message will be discarded, no STATUS message will be sent.
Q.931.5.10	Basic telecommunication service identification and selection	NU	
Q.931.5.11	Signalling procedures for bearer capability selection	NU	
Q.931.5.11.1	Procedures for the originating user to indicate bearer capability selection is allowed	NU	
Q.931.5.11.1.1	Normal operation	NU	
Q.931.5.11.1.2	Exceptional procedures	NU	
Q.931.5.11.2	Procedures for bearer capability	NU	

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
	selection at the destination side		
Q.931.5.11.2.1	Normal operation	NU	
Q.931.5.11.2.2	Exceptional procedures	NU	
Q.931.5.11.3	Procedures for interworking with private ISDNs	NU	
Q.931.5.11.3.1	Procedures for the originating user to indicate bearer capability selection is allowed	NU	
Q.931.5.11.3.2	Procedures for bearer capability selection at the destination side of a public ISDN	NU	
Q.931.5.11.3.2.1	Normal operation	NU	
Q.931.5.11.3.2.2	Exceptional procedures	NU	
Q.931.5.12	Signalling procedures for high layer compatibility selection	NU	
Q.931.5.12.1	Procedures for the originating user to indicate high layer compatibility selection is allowed	NU	
Q.931.5.12.1.1	Normal operation	NU	
Q.931.5.12.1.2	Exceptional procedures	NU	
Q.931.5.12.2	Procedures for high layer compatibility selection at the destination side	NU	
Q.931.5.12.2.1	Normal operation	NU	
Q.931.5.12.2.2	Exceptional procedures	NU	
Q.931.5.12.3	Procedures for interworking with private ISDNs	NU	
Q.931.5.12.3.1	Procedures for the originating user to indicate high layer compatibility selection is allowed	NU	
Q.931.5.12.3.2	Procedures for high layer compatibility selection at the destination side of a public ISDN	NU	
Q.931.5.12.3.2.1	Normal operation	NU	
Q.931.5.12.3.2.2	Exceptional procedures	NU	
Q.931.6	Packet communication procedures	I	*The basic packet-mode access procedure is based ETSI ETS 300 007§7.*
Q.931.6.1	Outgoing access	--	
Q.931.6.1.1	Circuit-switched access to PSPDN services (Case A)	I	*Following note is added to the TABLE 6-1/Q.931: In the case of primary rate access (PRA) this field shall be "channel number".*

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
Q.931.6.1.2	Access to the ISDN virtual circuit service (Case B)	I	*The restricted digital information for information transfer capability is not supported Add Octets 4a, 4b to the Note.* The mapping of the calling party number and calling party subaddress is not supported.
Q.931.6.1.2.1	B-channel	I	
Q.931.6.1.2.2	D-channel	I	
Q.931.6.2	Incoming access	--	
Q.931.6.2.1	Access from PSPDN services (Case A)	I	
Q.931.6.2.1.1	General	--	
Q.931.6.2.1.2	Channel selection	I	*The restricted digital information for information transfer capability is not supported Bearer capability information element octets 4a and 4b shall not be included.* *The AU may also specify the layer 1 (e.g. rate adaptation), layer 2 (i.e. LAPB) and layer 3 (i.e. ITU-T Recommendation X.25 [14]) information transfer protocols in the Low layer compatibility information element or in the Bearer capability information element in the SETUP message (see Annex I entitled "Low layer information coding principles")* *Table 6-2/Q.931 is modified as follows:*

Statement of Compliance	*Channel indicated in the SETUP message network to user direction*			*Allowable user response user-network*
	Information Channel selection (NOTE 4)	*Preferred Exclusive (NOTE 5)*	*D-channel indicator*	
	Bi	*Exclusive*	*No*	*Bi*
Note 1	*Bi*	*Preferred*	*No*	*Bi, Bi´*
Note 2	*Any*	*Ignore*	*No*	*Bi´*
Note 3	*No channel*	*Ignore*	*No*	*Bi´, no channel*

Key:
Bi - indicated (idle) B-channel
Bi' - any other idle B-channel (not permitted for broadcast call offering).

NOTE 1: This encoding is not used for broadcast call offering.
NOTE 2: All other encoding are invalid.
NOTE 3: See Q.953.1 (Call waiting) for allowable user response.
NOTE 4: In the case of primary rate access (PRA) this field shall be "channel number".
NOTE 5: D-channel indicator shall be coded:
0 to indicate NO;
1 to indicate YES.

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
Q.931.6.2.2	Access from the ISDN virtual circuit service (Case B)	I	
Q.931.6.2.2.1	B-channel	I	*Following subclause is added: The procedures for channel selection are specified in table 4;*
Q.931.6.2.2.2	D-channel	I	
Q.931.6.2.2.3	Call offering	--	
Q.931.6.2.2.3.1	Channel selection through call offering	I	*ETSI requirement: On the D-channel of a user access, for a given communication the same connection endpoint suffix (CES) value as the one used by the selected terminal during the signalling phase (SAPI s) shall be used for data transfer over the D-channel (using SAPI p).* *The Note 2 is deleted.* *In all other cases, the bearer capability information element should be encoded as follows:* *- Information transfer capability set to: Unrestricted digital information;* *The option by which, in CCITT Recommendation §Q.931 [8] paragraph 6.2.2.3.1, the network may offer SAPI=16 broadcast call offering procedures for providing and supporting §Q.931 signalling procedures is not recommended within this ETS.* *NOTE 2 is added for „Channel indicated“: Public networks conforming this ETS don't offer the negotiation between B- and D-channel. Network which do not support B-channel negotiation shall offer the incoming call by indicating either Bi Exclusive, No D-channel, or No channel Exclusive, D-channel, in the SETUP message.* *NOTE 3 is added for „Information channel selection“: In the case of Primary Rate Access (PRA) this field shall be "channel number".*
Q.931.6.2.2.3.2	Information element mapping	I	*In Table 6-4/Q.931, the Note 1-5 and Note 6 are deleted. Only the „Calling DTE address“,„Called DTE address“, „Calling address extension“, „Called address extension“, parameter are supported.*
Q.931.6.2.2.3.3	Channel selection without call offering	I	
Q.931.6.3	X.25 virtual call establishment and release	--	
Q.931.6.3.1	Link layer establishment and release	I	
Q.931.6.3.2	Packet layer virtual call setup and release	I	
Q.931.6.4	Call clearing	--	
Q.931.6.4.1	B-channel access	I	
Q.931.6.4.2	D-channel access	I	
Q.931.6.4.3	Additional error handling information	I	
Q.931.6.4.4	Cause mappings	--	

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
Q.931.6.4.4.1	Access to/from PSPDN services (Case A)	I	
Q.931.6.4.4.2	Access to/from the ISDN virtual circuit service (Case B)	I	
Q.931.6.5	Access collision	I	
Q.931.7	User signalling bearer service call control procedures	--	Service 1 with implicit request and service 3 are supported. For the implementation, the relevant part of Q.957 are used instead of the specification of this section.
Q.931.7.1	General characteristics	--	
Q.931.7.2	Call establishment	I	
Q.931.7.3	Transfer of USER INFORMATION messages	I	
Q.931.7.4	Congestion control of USER INFORMATION messages	I	
Q.931.7.5	Call clearing	I	
Q.931.8	Circuit-mode multirate (64 kbit/s base rate) procedures	--	Nx 64Kbits is not supported.
Q.931.8.1	Call establishment at the originating interface	--	
Q.931.8.1.1	Compatibility information	NU	
Q.931.8.1.2	Channel selection	NU	
Q.931.8.1.3	Interworking	NU	
Q.931.8.2	Call establishment at the destination interface	--	
Q.931.8.2.1	Compatibility information	NU	
Q.931.8.2.2	Channel selection	NU	
Q.931.8.2.2.1	Point-to-point configuration	NU	
Q.931.8.2.2.2	Point-to-multipoint configuration	NU	
Q.931.8.2.3	Interworking	NU	
Q.931.8.3	Call clearing	NU	
Q.931.8.4	Restart procedures	NU	
Q.931.8.5	Call rearrangements	NU	
Q.931.9	List of system parameters	--	*„Time-out value“ instead of „default time-out value“ for the second column.* *Timer at the network side is modified as follows:* – *T310: the time-out value is 30-40 sec.* *Timer at the user side is modified as follows:* – *T304: the time-out value is 30 sec. The cause for start are „SETUP ACK received“ , Sending of INFO received or „restarts T304“*

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
			– *T310: the time-out value is greater than 40 sec.* Timers which are not used within the network: T321 Clarification on NT 302: T 302 is restarted if during dialling a correct INFO message is received which contains digits in a Called party number information element, a keypad information element, or 'sending complete'. The timer value for this restart can be set network specifically.
Q.931.9.1	Timers in the network side	I	
Q.931.9.2	Timers in the user side	I	
Q.931.A	User side and network side SDL diagrams	I	*The SDL are based on ETSI ETS 300 012-2.*
ETS 300 012-2.1	*Scope*	--	
ETS 300 012-2.2	*Normative references*	--	
ETS 300 012-2.3	*Explanation of symbols*	--	
ETS 300 012-2.4	*User side and network side call states*	I	
ETS 300 012-2.5	*Network side SDLs - Overview*	--	
ETS 300 012-2.5.1	*Network side call states*	I	
ETS 300 012-2.5.2	*Network side SDLs - Block diagram*	I	
ETS 300 012-2.5.3	*Network side SDLs - List of primitives*	I	
ETS 300 012-2.5.4	*Network side SDL diagrams - Representation method*	I	
ETS 300 012-2.6	*User side SDLs - Overview*	--	
ETS 300 012-2.6.1	*User side call states*	I	
ETS 300 012-2.6.2	*User side SDLs - Block diagram*	I	
ETS 300 012-2.6.3	*User side SDLs - List of primitives*	I	
ETS 300 012-2.7	*Graphical SDL diagrams*	--	
ETS 300 012-2.7.1	*Network side SDL diagrams*	I	
ETS 300 012-2.7.2	*User side SDL diagrams*	I	
Q.931.B	Compatibility and address checking	-	*The Compatibility and address checking are based ETSI ETS 300 012-1 Annex C.*
Q.931.B.1	Introduction	I	
Q.931.B.2	Calling side compatibility checking	I	
Q.931.B.3	Called side compatibility and	I	

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
	address checking		
Q.931.B.3.1	Checking of addressing information	I	*Delete the reference to DDI.*
Q.931.B.3.2	Network-to-user compatibility checking	I	
Q.931.B.3.3	User-to-user compatibility checking	I	*Some terminal equipment, upon bilateral agreement with other users or in accordance with other standards (e.g. Recommendation X.213), may employ the user-user information element for additional compatibility checking. Such terminal equipment shall check the User-user information element in a manner identical to that described here for the High layer compatibility information element "compatibility assured" case.* *With regard to the presence or absence of the High layer compatibility and Low layer compatibility information elements, two cases arise:* *a) Compatibility assured with the available description of the call: This is when all terminal equipment implement (i.e. understand the contents of) the High layer compatibility and Low layer compatibility information elements. Thus, based on the High layer compatibility and Low layer compatibility information element encoding, they are capable of accepting a call for which they have the requested functionality.* *b) Compatibility not assured with the available description of the call: This is when all or some of the terminal equipment do not recognise (i.e. ignore) either the High layer compatibility or Low layer compatibility information elements. Without careful configuration or administration at the user's installation, there is danger that a terminal equipment which has incorrect functionality will accept the call.*
Q.931.B.3.4	User action tables	I	
Q.931.B.4	Interworking with existing networks	--	
Q.931.C	Transit network selection	NU	*The Transit network selection are based ETSI ETS 300 012-1 Annex C.*
Q.931.C.1	Selection not supported	NU	
Q.931.C.2	Selection supported	NU	
Q.931.D	Extensions for symmetric call operation	--	*The Extensions for symmetric call operation are based ETSI ETS 300 012-1 Annex D This annex is for information. ECMA standard QSIG-BC specifies the ISPBX-to-ISPBX basic call control in the context of private network application.*
Q.931.D.1	Additional message handling	--	
Q.931.D.1.1	B-channel selection – Symmetric interface	--	
Q.931.D.1.2	Call confirmation	--	
Q.931.D.1.3	Clearing by the called user employing user-provided tones/announcements	--	

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
Q.931.D.1.4	Active indication	--	
Q.931.D.2	Timers for call establishment	--	
Q.931.D.3	Call collisions	--	
Q.931.E	Network specific facility selection	--	*The Network specific facility selection are based ETSI ETS 300 012-1 Annex E*
Q.931.E.1	Default provider	NU	
Q.931.E.2	Routing not supported	NU	
Q.931.E.3	Routing supported	NU	
Q.931.F	D-channel backup procedures	NA	*The D-channel backup procedures are based ETSI ETS 300 012-1 Annex F* *ETSI NOTE: This Annex is not applicable in ISDNs conforming to this ETS.*
Q.931.F.0	Foreword	NA	
Q.931.F.1	General	NA	
Q.931.F.2	D-channel backup procedure	NA	
Q.931.F.2.1	Role of each D-channel	NA	
Q.931.F.2.2	Switchover of D-channels	NA	
Q.931.G	Use of progress indicators	--	*The Use of progress indicator are based ETSI ETS 300 012-Annex I.*
Q.931.H	Message segmentation procedures	-	*The Low Layer compatibility negotiation are based ETSI ETS 300 012-1 Annex K.*
Q.931.H.1	Introduction	I	
Q.931.H.2	Message segmentation	I	
Q.931.H.3	Reassembly of segmented messages	I	
Q.931.I	Low layer information coding principles	-	*The Low Layer information coding principles are based ETSI ETS 300 012-1 Annex L.*
Q.931.I.1	Purpose	-	
Q.931.I.2	Principles	-	
Q.931.I.2.1	Definitions of types of information	-	
Q.931.I.2.2	Examination by network	-	
Q.931.I.2.3	Location of type I information	-	
Q.931.I.2.4	Location of type II and III information	-	
Q.931.I.2.5	Relationship between Bearer capability and Low layer capability information elements	-	
Q.931.I.3	Information classification	-	
Q.931.I.3.1	Examples for speech and 3.1 kHz audio bearer services	-	
Q.931.I.3.2	Examples for 64 kbit/s UDI circuit mode bearer service	-	
Q.931.I.3.3	Examples for ISDN virtual-circuit	-	

ITU-T Rec. Paragraph	Title	Statement of Compliance	Comment
	bearer service		
Q.931.I.4	Scenarios outside the scope of ISDN standardization	-	
Q.931.I.4.1	Examples for speech and 3.1 kHz audio bearer services	-	
Q.931.I.4.2	Examples for 64 kbit/s UDI circuit mode bearer services	-	
Q.931.J	Low layer compatibility negotiation	-	*The Low Layer compatibility negotiation are based ETSI ETS 300 012-1 Annex M.*
Q.931.J.1	General	I	
Q.931.J.2	Low layer capability notification to the called user	I	
Q.931.J.3	Low layer compatibility negotiation between users	I	
Q.931.J.4	Low layer compatibility negotiation options	I	
Q.931.J.5	Alternate requested values	I	
Q.931.K	Procedures for establishment of bearer connection prior to call acceptance	-	*The Low Layer compatibility negotiation are based ETSI ETS 300 012-1 Annex N.*
Q.931.K.1	General	NU	
Q.931.K.2	Procedures	NU	
Q.931.L	Optional procedures for bearer service change	--	*The Optional procedures for bearer service change are based ETSI ETS 300 012-1 Annex O.*
Q.931.I	Definition of causes values	--	*The Cause definition are based ETSI ETS 300 012-1 Annex G.*

History

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