TELENOR

SPECIFICATION

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DSS1 Generic functional protocol

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CONTENT

FOREWORD

The following sections give the requirements to the generic functional protocol for the support of supplementary services to be implemented for ISDN services in Telenor's network. The requirements stated here are the requirements to the network side of the user-network interface.

This specification is an application document to ETSI ETS 300 196-1 (4) and selects which options in ETS 300 196-1 (4) are applicable in Telenor's network.

The clauses not mentioned here shall be interpreted as "Applicable".

The requirements stated in this document are generic in nature and do not provide the details related to the supplementary services that are provided by Telenor. These details are specified in Telenor Nett Specification A44-3 (3).

1 Scope

Applicable.

In no event shall Telenor be liable to other parties for any direct, indirect, special, incidental, or consequential damages resulting from errors or defects in these specifications.

2 References

(1): Telenor Nett Specification A41-3, "Specification of the network side of the user-network interface for ISDN Basic Access (BA); Network Layer (layer 3) - Basic Call Control".

(2): Telenor Nett Specification A42-3, "Specification of the network side of the user-network interface for ISDN Primary Rate Access (PRA); Network Layer (layer 3) - Basic Call Control".

(3): Telenor Nett Specification A44-3, "ETSI standardised supplementary services supported in the public ISDN of Telenor; Basic Access (BA) and Primary Rate Access (PRA)".

(4): ETS 300 196-1 (1993-08, and Amendment A1 to Edition 1, May 1995), "Integrated Services Digital Network (ISDN); Generic functional protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

3 Definitions

Applicable.

4 Abbreviations

Applicable.

5 Co-existence of generic protocols for the control of supplementary services

5.1 Support of various generic protocols

ETSI is standardising supplementary services based on the functional protocol. For some of these supplementary services both the keypad protocol and the functional protocol may be used in co-existence on the same user-network interfaces. The individual supplementary service specifications indicate whether the keypad protocol or the functional protocol or both protocols are applicable to that particular supplementary service. For a number of supplementary services that are not standardised by ETSI but are to be made available for ISDN users, only the keypad protocol will be used. This is specified in relation to the relevant supplementary services for which it applies.

5.2 Co-existence of generic protocols

Generally, the functional protocol shall be used at the remote user's interface even though the keypad protocol was used at the requesting user's interface. However, the keypad protocol (i.e. the Display information element) may be used at the remote user's interface for some

supplementary services also in coexistence with the functional protocol. This is specified in relation to the relevant supplementary services for which it applies.

5.3 Arrangements by which co-existence of protocols may be supported by a network

If the network supports the keypad protocol, then the network shall support both the functional and the keypad protocol independent of the type of access (i.e. Basic or Primary Rate access).

At the remote user's interface, the functional protocol shall in general be used in the network-to-user direction. However, the keypad protocol (i.e. the Display information element) may be used at the remote user's interface for some supplementary services also in co-existence with the functional protocol. This is specified in relation to the relevant supplementary services for which it applies.

6 General principles applied for the functional control of supplementary services

Applicable.

7 Control of supplementary services using the separate message approach

Applicable.

8 Control of supplementary services using the common information element approach

8.1.1.1 Point-to-point transport mechanism (connection-oriented)

If the network receives a RESTART message with the Restart indicator information element indicating "single interface" or "all interfaces", all protocol entities containing connection-oriented signalling connections shall release the used call reference; enter the Null (N0) state; and continue according to the procedures in subclause 5.5 of Telenor Nett Specification A41-3 (1) and A42-3 (2).

8.3.2.1.2.3 Exceptional procedures

If a STATUS message indicating user state "Bearer Independent Transport" (U31) is received in the network state "Bearer Independent Transport" (N31), the network shall check the received cause value as follows:

- Cause #96 "mandatory information element missing":
  The network shall send a RELEASE COMPLETE message with cause #101 "message not compatible with call state" to the local user; clear the call to the remote user with cause #111 "protocol error, unspecified"; release all resources; release the call reference; and enter the Null state.
- Any other cause value: No action shall be taken.

If a STATUS message indicating user state Null (U0) is received in the network state "Bearer Independent Transport" (N31), the network shall clear the call to the remote user with cause

#111 "protocol error, unspecified"; release all resources; release the call reference; and enter the Null state.

If a STATUS message indicating any other user state is received in the network state "Bearer Independent Transport" (N31), the network shall send a RELEASE COMPLETE message with cause #101 "message not compatible with call state" to the local user; clear the call to the remote user with cause #111 "protocol error, unspecified"; release all resources; release the call reference; and enter the Null state.

If a STATUS message indicating user state "Bearer Independent Transport" (U31) is received in the network Null state (N0), the network shall send a RELEASE COMPLETE message with cause #101 "message not compatible with call state" to the local user; and remain in the Null state.

If a STATUS message indicating user state U31 is received in any other network state, the network shall send a RELEASE COMPLETE message with cause #101 "message not compatible with call state" to the local user; clear the call to the remote user with cause #111 "protocol error, unspecified"; release all resources; release the call reference; and enter the Null state.

8.3.2.1.3.2 Exceptional procedures

The NOTE is not applicable, i.e. the restart procedure shall not be initiated by the network.

9 Generic notification procedures

Applicable.

10 Other generic procedures

The explicit reservation procedure specified in subclause 10.1.2 is not applicable.

11 Coding requirements

Extended facility information element specified in subclause 11.2.2.4 is not applicable.

Annex A (normative): Dynamic descriptions

Applicable.

Annex B (informative): Guidelines for the application of the generic procedures for the design of individual supplementary services

Applicable.

Annex C (informative): ASN.1 subtypes and proposed mechanism for enhancements of the future protocol

Applicable.

Annex D (normative): Formal definition of data types

D.5 Formal definition of basic services

NOTE 1: If the bearer capability "multirate" is indicated, i.e. octet 4 of the Bearer capability information element is coded "circuit mode" and "multirate", then the coding shall be interpreted by the network as the basic service "unrestricted digital information" irrespective of the content of the High layer compatibility information element.

NOTE 7: If the bearer capability "unrestricted digital information with tones and announcements" is indicated in combination with an inappropriate high layer compatibility, the basic service "unrestricted digital information with tones and announcements" shall be considered by the network.

D.6 Operations and errors for explicit channel reservation control

Not applicable.

Annex E (informative): Formal definition of remote operations notation

Applicable.

Annex F (informative): Coding examples

Applicable.

Annex G (informative): Assignment of object identifier values

Applicable.

12 HISTORY

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1.0	21.04.1999	First stable version
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