# SLOVENSKI STANDARD
# SIST ETS 300 392-10-23 E2:2003

**01-december-2003**

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**Prizemni snopovni radio (TETRA) ï Govor in podatki (V+D) ï 10. del: Dopolnilne storitve stopnje 1 ï 23. poglavje: Dokonļanje klicanja, ko ni odziva**

Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 10: Supplementary services stage 1; Sub-part 23: Call completion on no reply

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## Foreword

This European Telecommunication Standard (ETS) has been produced by the Terrestrial Trunked Radio (TETRA) Project of the European Telecommunications Standards Institute (ETSI).

This ETS is a multi-part standard and will consist of the following parts:

Part 1: "General network design";

Part 2: "Air Interface (AI)";

Part 3: "Interworking at the Inter-System Interface (ISI)";

Part 4: "Gateways basic operation";

Part 5: "Peripheral Equipment Interface (PEI)";

Part 6: "Line connected Station (LS)";

Part 7: "Security";

Part 9: "General requirements for supplementary services";

**Part 10: "Supplementary services stage 1";**

Part 11: "Supplementary services stage 2";

Part 12: "Supplementary services stage 3";

Part 13: "SDL model of the Air Interface (AI)";

Part 14: "Protocol Implementation Conformance Statement (PICS) proforma specification".

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# 1 Scope

This ETS specifies the Call Completion on No Reply (SS-CCNR) supplementary service which is applicable to various basic services supported by TETRA Switching and Management Infrastructures (SwMIs). TETRA basic services are specified in ETS 300 392-2 [8].

SS-CCNR allows completion of a call to a subscriber that was unsuccessful because of a no reply condition. SS-CCNR enables a calling user A, encountering a destination user B, that, though alerted, does not answer, to have the call completed when user B is available, without having to make a new call attempt.

Supplementary service specifications are produced in three stages, according to the method described in ITU-T Recommendation I.210 [4]. This ETS contains the stage 1 specifications of SS-CCNR.
The stage 1 descriptions specify the supplementary services as seen by users of networks.

This ETS is applicable to circuit mode TETRA tele-services and bearer services only. This ETS does not describe the case where the MS is not reachable.

Man Machine Interfaces and charging principles are outside the scope of this ETS.

The first edition of this ETS was presented as a delta document to the first edition of ECMA-185 [2]. This version has been redrafted based on the latest published text of ECMA-185 [2] as a self contained document so as to be more readable. Additions to ECMA-185 [2] have been made to take into account particular TETRA specifics and to include user requirements and situations not addressed in ECMA-185 [2].

NOTE: Contrary to PISN SS-CCBS and SS-CCNR which are both specified in ECMA-185 [2], TETRA SS-CCBS and TETRA SS-CCNR are specified in two separate ETSs.

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# 2 References

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This ETS incorporates by dated and undated reference, provisions from other publications. These references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] Void.

[2] Standard ECMA-185 (1997): "Private Integrated Services Network (PISN); Specification, Functional Model and Information Flows; Call Completion Supplementary Services (CCSD)".

[3] ITU-T Recommendation I.112 (1993): "Vocabulary of terms for ISDNs".

[4] ITU-T Recommendation I.210 (1993): "Principles of telecommunication services supported by an ISDN and the means to describe them".

[5] ITU-T Recommendation I.221 (1993): "Common specific characteristics of services".

[6] ITU-T Recommendation Z.100 (1993): "CCITT specification and description language (SDL)".

[7] Void.

[8] ETS 300 392-2 (1995): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 2: Air Interface (AI)".

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[9] ETS 300 392-9 (1997): "Terrestrial Trunked Radio (TETRA); Voice plus Data (V+D); Part 9: General requirements for supplementary services".

[10] CCITT Recommendation Q.9 (1988): "Vocabulary of switching and signalling terms".

# 3 Definitions, symbols and abbreviations

## 3.1 Definitions

For the purposes of this ETS, the following definitions apply:

**activity:** Answering an incoming call or originating an outgoing call. Applies in particular to user B.

**Additional Network Feature (ANF):** Capability, over and above that of a basic service, provided by a SwMI, but not directly to a user.

**basic (...) service:** Any stand alone bearer service or tele-service (derived from ITU-T Recommendation I.210 [4]).

**bearer service:** Type of telecommunication service that provides the capability for the transmission of signals between user-network interfaces (as defined in ITU-T Recommendation I.112 [3]).

**busy:** Property of a user for whom either a "network determined user busy" or "user determined user busy" condition (see clause 3.1 of ITU-T Recommendation I.221 [5]) exists.

**call, basic call:** Instance of the use of a basic service.

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**call completion:** Successful presentation of a previously unsuccessful Call to a destination user (user B) which occurs when the call has entered an alerting phase or has been answered.

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**CCNR busy:** Any one of the following conditions will cause user A to be considered as CCNR busy:

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- maximum number of calls queued at user A;
- CCNR recall pending on user A;
- no resource available at user A.

NOTE 1: It is assumed that SS-CCNR busy is independent from SS-CCBS busy; one could consider merging the two conditions in an SS-CC busy which would combine the total numbers of CCBS and CCNR requests.

**compatible MS/LS:** MS/LS presenting the same basic TETRA class of service as the TETRA class of service requested by the calling user MS/LS. By analogy to ISDN "compatible terminal".

**free:** Property of a user who can accept any attempt by the SwMI to present a call to that user (i.e. allow the call to reach the alerting or answered state).

**Line Station (LS):** Physical grouping that contains all the fixed equipment that is used to obtain TETRA services through a line.

**Mobile Station (MS):** Physical grouping that contains all of the mobile equipment that is used to obtain TETRA services. By definition, a mobile station contains at least one Mobile Radio Stack (MRS).

**no reply:** No reply condition is defined for this ETS as no answer from the called user; the no-answer time-out has expired. There is no formal definition found in ITU-T, ECMA or ETSI on the terms No Reply.

**not reachable:** Different case of no reply; the MS may be out of range or non fed.

**path reservation:** Reservation of resources just prior to SS-CCNR Recall in order that a connection path through the network is available when user A accepts the SS-CCNR Recall.

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NOTE 2: Path Reservation would not guarantee that user B will be free when user A accepts the SS-CCBS Recall.

NOTE 3: Path Reservation is not the preferred mode of operation in the TERA environment due to mobility considerations.

**recall timer:** Timer specifies the length of time the network shall wait for a response from user A to a CCNR Recall.

**retention timer:** Timer specifies the period of time the network retains the originating call information after a valid call attempt is released.

**SS-CCNR call:** Call generated by the network from user A to user B resulting from user A's acceptance of a SS-CCNR recall.

**SS-CCNR recall:** Indication informing user A that user B is now non busy (after a period of no reply, user B shows some activity and then becomes non-busy). Acceptance of this indication by user A will cause the call to be completed by the SwMI.

**SS-CCNR request:** Instance of an activation of SS-CCNR held in a queue pending the correct conditions for the SS-CCNR to be completed.

**SS-CCNR service duration timer:** Timer specifies the length of time that the service shall be active within the network.

**supplementary service:** Any service provided by a network in addition to its basic service or services (defined in CCITT Recommendation Q.9 [10]). A supplementary service modifies or supplements a basic telecommunication service. Consequently, it cannot be offered to a customer as a stand alone service. It must be offered together with or in association with a basic telecommunication service (except from ITU-T Recommendation I.210 [4]).

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**suspended CCNR request:** CCNR request that cannot be served even if destination B is not busy, because user A is busy or CCNR busy.

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**Switching and Management Infrastructure (SwMI):** All of the TETRA equipment for a Voice plus Data (V+D) network except for subscriber terminals. The SwMI enables subscriber terminals to communicate with each other via the SwMI.

**tele-service:** Type of telecommunications service that provides the complete capability, including terminal equipment functions, for communication between users according to agreed protocols.

**User A:** Specific user that originated the call and requested the supplementary service.

**User B:** User that was initially addressed in the original individual call set up.

**user B idle guard timer:** Time the SwMI will wait after user B has become not busy, after having initiated an activity before informing user A.

### 3.2 Symbols

For the purposes of this ETS, there are no special symbols besides the symbols used in SDL diagrams and defined in ITU-T Recommendation Z.100 [6].