



EUROPEAN
TELECOMMUNICATION
STANDARD

ETS 300 392-10-04

April 1996

Source: ETSI TC-RES

Reference: DE/RES-06001-10-04

ICS: 33.020, 33.060.50

Key words: TETRA, V+D

**Radio Equipment and Systems (RES);
Trans-European Trunked Radio (TETRA);
Voice plus Data (V+D);
Part 10: Supplementary services stage 1;
Part 10-04: Call diversion**

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE

Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE

X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 92 94 42 00 - Fax: +33 93 65 47 16

*

Copyright Notification: No part may be reproduced except as authorized by written permission. The copyright and the foregoing restriction extend to reproduction in all media.

© European Telecommunications Standards Institute 1996. All rights reserved.

Contents

| | |
|---|----|
| Foreword | 5 |
| 1 Scope | 7 |
| 2 Normative references | 7 |
| 3 Definitions and abbreviations | 7 |
| 3.1 Definitions | 7 |
| 3.2 Abbreviations | 7 |
| 3.2.1 General abbreviations | 7 |
| 3.2.2 Supplementary service abbreviations | 8 |
| 4 Delta stage 1 descriptions | 8 |
| 4.1 Document ECMA-CFSD (1992)..... | 8 |
| 4.2 Delta CFU supplementary service | 8 |
| 4.3 Delta CFB supplementary service | 11 |
| 4.4 Delta CFNRy supplementary service..... | 13 |
| 4.5 Delta CFNRc supplementary service..... | 15 |
| History..... | 19 |

Blank page

Foreword

This European Telecommunication Standard (ETS) has been produced by the Radio Equipment and Systems (RES) Technical Committee 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: "Inter-working", (DE/RES-06001-3).
- Part 4: "Gateways", (DE/RES-06001-4).
- Part 5: "Terminal equipment interface", (DE/RES-06001-5).
- Part 6: "Line connected stations", (DE/RES-06001-6).
- Part 7: "Security".
- Part 8: "Management services", (DE/RES-06001-8).
- Part 9: "Performance objectives", (DE/RES-06001-9).
- Part 10: "Supplementary services stage 1".**
- Part 11: "Supplementary services stage 2", (DE/RES-06001-11).
- Part 12: "Supplementary services stage 3", (DE/RES-06001-12).
- Part 13: "SDL Model of the Air Interface", (DE/RES-06001-13).
- Part 14: "PICS Proforma", (DE/RES-06001-14).
- Part 15: "Inter-working - Extended Operations", (DE/RES-06001-15).
- Part 16: "Gateways for Supplementary Services", (DE/RES-06001-16).

| Transposition dates | |
|---|-----------------|
| Date of adoption of this ETS: | 1 March 1996 |
| Date of latest announcement of this ETS (doa): | 31 July 1996 |
| Date of latest publication of new National Standard or endorsement of this ETS (dop/e): | 31 January 1997 |
| Date of withdrawal of any conflicting National Standard (dow): | 31 January 1997 |

Blank page

1 Scope

This European Telecommunication Standard (ETS) is a delta document detailing the deviations of the Trans-European Trunked Radio (TETRA) Call Forwarding Unconditional (CFU), Call Forwarding Busy (CFB) Call Forwarding No Reply (CFNRy) and Call Forwarding Not Reachable (CFNRc) supplementary services from the ECMA standard stage 1, ECMA-CFSD [1].

In the case of CFNRc, the deviations shall refer to the ECMA CFNR description. In addition this supplementary service is considered to be applicable only to mobile subscribers, as a line station is always considered as reachable.

This ETS applies to individual TETRA teleservices and bearer services only. Only SS-CFU is applicable to group calls.

2 Normative references

This ETS incorporates, by dated or undated reference, provisions from other publications. These normative 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] ECMA-CFSD (1992): "Specification, Functional Model and Information Flows for Diversion Supplementary Services" (ref. ECMA/TC32-TG6/92/34, Fifth (final Draft)).

3 Definitions and abbreviations

3.1 Definitions

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

bearer service: A type of telecommunication service that provides the capability for the transmission of signals between user-network interfaces.

Supplementary Service (SS): A supplementary service modifies or supplements a bearer service or a teleservice. A supplementary service cannot be offered to a customer as a stand alone service. It should be offered in combination with a bearer service or a teleservice.

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.

teleservice: A type of telecommunications service that provides the complete capability, including terminal equipment functions, for communication between users according to agreed protocols.

3.2 Abbreviations

3.2.1 General abbreviations

For the purposes of this ETS, the following general abbreviations apply:

| | |
|-----|---|
| PTN | Private Telephone Network |
| SDL | (Functional) Specification and Description Language |
| SS | Supplementary Service |

NOTE: The abbreviation SS is only used when referring to a specific supplementary service.

| | |
|-------|---|
| SwMI | Switching and Management Infrastructure |
| TETRA | Trans-European Trunked RAdio |
| V+D | Voice Plus Data |

3.2.2 Supplementary service abbreviations

For the purpose of this ETS, the following supplementary service abbreviations apply:

| | |
|-------|----------------------------------|
| CFB | Call Forwarding on Busy |
| CFNRy | Call Forwarding on No Reply |
| CFNRc | Call Forwarding on Not Reachable |
| CFU | Call Forwarding Unconditional |
| CR | Call Report |
| CT | Call Transfer |
| CW | Call Waiting |
| DL | Discreet Listening |
| PPC | Pre-emptive Priority Call |
| PR | Path Replacement |

4 Delta stage 1 descriptions

4.1 Document ECMA-CFSD (1992)

Clause 1 shall apply. The first paragraph shall contain reference to Call Forwarding on Not Reachable (CFNRc). All references to Private Telecommunications Networks (PTNs) shall be replaced by "SwMIs".

Clause 2 shall not apply.

Clause 3 shall apply.

Clause 4 shall apply with the following amendments:

Subclause 4.9 The parameter shall also contain "CFNRy and CFNRc";

Subclause 4.11 The supplementary service "call deflection" is not supported by TETRA.

All references to Private Telecommunications Networks (PTNs) shall be replaced by "SwMIs".

The supplementary service abbreviation CFNR shall be replaced with CFNRy.

4.2 Delta CFU supplementary service

Clause 5 shall apply with the following amendments:

The supplementary service abbreviation CFNR shall be replaced with CFNRy;

The clause shall contain "SS-CFNRc - Call Forwarding Not Reachable".

Clause 6 shall apply with the following amendments and additions:

Subclause 6.1.2 The sentence shall be replaced by the following: "This supplementary service shall be applicable to all individual telecommunication services";

Subclause 6.2.1 Table 1, the transmission of names shall not be supported by TETRA.

- Subclause 6.2.2.1.1 The following text shall be added:
- "TETRA shall not support sub-addressing:
- only one terminal can use a single TETRA number at any one time;
 - only one compatible terminal shall be applicable for the basic service."
- Subclause 6.3.4 The supplementary service calling name identification presentation shall not be supported by TETRA.
- Subclause 6.3.5 The supplementary service connected name identification presentation shall not be supported by TETRA.
- Subclause 6.3.6 The supplementary service calling/connected name identification restriction shall not be supported by TETRA.
- Subclause 6.3.9 The Call Transfer (CT) supplementary service shall not be supported by TETRA.
- Subclause 6.3.12 The supplementary service Path Replacement (PR) shall not be supported by TETRA.

The following clauses shall be added:

Subclause 6.3.13 **Call forwarding not reachable**

The invocation of CFU shall take precedence over CFNRc.

Subclause 6.3.14 **Call report**

If the call to user B is diverted to user C, then an SS-Call report (CR) invocation from user A shall be applied to the diverted-to user C.

Subclause 6.3.15 **Talking party identification**

Call diversion shall not have any interaction with talking party identification.

Subclause 6.3.16 **List search call**

Call diversion shall not have any interaction with list search call.

Subclause 6.3.17 **Call authorized by dispatcher**

Call diversion shall not have any interaction with call authorized by dispatcher.

Subclause 6.3.18 **Short number addressing**

Call diversion shall not have any interaction with short number addressing.

Subclause 6.3.19 **Area selection**

Call diversion shall not have any interaction with area selection.

Subclause 6.3.20 **Access priority**

Call diversion shall not have any interaction with access priority.

Subclause 6.3.21 **Priority call**

Call diversion shall not have any interaction with priority call.

Subclause 6.3.22 **Call waiting**

If the served user has activated both SS-CFU and SS-Call Waiting (CW), then SS-CFU shall take precedence over SS-CW and the served user shall not receive an indication that a call is waiting.

Subclause 6.3.23 **Call hold**

Call diversion shall not have any interaction with call hold.

Subclause 6.3.24 **Late entry**

Call diversion shall not have any interaction with late entry.

Subclause 6.3.25 **Transfer of control**

Call diversion shall not have any interaction with transfer of control.

Subclause 6.3.26 **Pre-emptive priority call**

If the calling user has invoked SS-Pre-emptive Priority Call (PPC) and the served user has activated SS-CFU, then the call shall be forwarded in accordance with SS-CFU.

Subclause 6.3.27 **Include call**

Call diversion shall not have any interaction with include call.

Subclause 6.3.28 **Advice of charge**

Call diversion shall not have any interaction with advice of charge.

Subclause 6.3.29 **Barring of outgoing calls**

Call diversion shall not have any interaction with barring of outgoing calls.

Subclause 6.3.30 **Barring of incoming calls**

Call diversion shall not have any interaction with barring of incoming calls.

Subclause 6.3.31 **Discreet listening**

If the served user has activated CFU and the calling user has invoked the SS-Discreet Listening (DL) then SS-DL shall take precedence over SS-CFU and the calling user shall be connected to the served user if an appropriate call is in progress.

If the served user has invoked the SS-DL and the called party has activated SS-CFU, then SS-DL shall take precedence over SS-CFU and the served user shall be connected to the called user if an appropriate call is in progress.

Subclause 6.3.32 **Ambience listening**

Call diversion shall not have any interaction with ambience listening.

Subclause 6.3.33 **Dynamic group number assignment**

Call diversion shall not have any interaction with dynamic group number assignment.

Subclause 6.4 shall apply.

Subclause 6.5, figure 1: SS-CF, Overall SDL parts 1 to 3 are applicable.

The following amendment shall be applied to part 1. The text in the second decision box shall contain the words "CFNRy/CFNRc?".

4.3 Delta CFB supplementary service

Clause 7 shall apply with the following amendments and additions:

All references to Private Telecommunications Networks (PTNs) shall be replaced by "SwMIs".

Subclause 7.1.2 The sentence shall be replaced by the following: "This supplementary service shall be applicable to all individual telecommunication services."

Subclause 7.2.1 With reference to 6.2.1, table 1, the transmission of names shall not be supported by TETRA.

Subclause 7.2.1 With reference to 6.2.2.1.1, the following text shall be added:

"TETRA shall not support sub-addressing:

- only one terminal can use a single TETRA number at any one time;
- only one compatible terminal shall be applicable for the basic service."

Subclause 7.3.4 The supplementary service calling name identification presentation shall not be supported by TETRA.

Subclause 7.3.5 The supplementary service connected name identification presentation shall not be supported by TETRA.

Subclause 7.3.6 The supplementary service calling/connected name identification restriction shall not be supported by TETRA.

Subclause 7.3.9 The Call Transfer (CT) supplementary service shall not be supported by TETRA.

Subclause 7.3.12 The supplementary service Path Replacement (PR) shall not be supported by TETRA.

The following clauses shall be added.

Subclause 7.3.13 **Call forwarding not reachable**

Call diversion shall not have any interaction with call forwarding not reachable.

Subclause 7.3.14 **Call report**

If the call to user B is diverted to user C, then a SS-CR invocation from user A shall be applied to the diverted-to user C.

Subclause 7.3.15 **Talking party identification**

Call diversion shall not have any interaction with talking party identification.

Subclause 7.3.16 **List search call**

Call diversion shall not have any interaction with list search call.

Subclause 7.3.17 **Call authorized by dispatcher**

Call diversion shall not have any interaction with call authorized by dispatcher.

Subclause 7.3.18 **Short number addressing**

Call diversion shall not have any interaction with short number addressing.

Subclause 7.3.19 **Area selection**

Call diversion shall not have any interaction with area selection.

Subclause 7.3.20 **Access priority**

Call diversion shall not have any interaction with access priority.

Subclause 7.3.21 **Priority call**

Call diversion shall not have any interaction with priority call.

Subclause 7.3.22 **Call waiting**

If the served user has activated both SS-CFB and SS-CW, then SS-CFB shall take precedence over SS-CW and the served user shall not receive an indication that a call is waiting.

Subclause 7.3.23 **Call hold**

Call diversion shall not have any interaction with call hold.

Subclause 7.3.24 **Late entry**

Call diversion shall not have any interaction with late entry.

Subclause 7.3.25 **Transfer of control**

Call diversion shall not have any interaction with transfer of control.

Subclause 7.3.26 **Pre-emptive priority call**

If the calling user has invoked SS-Pre-emptive Priority Call (PPC) and the served user has activated SS-CFB, then SS-PPC shall take precedence over SS-CFB and the call shall be presented to the served user.

Subclause 7.3.27 **Include call**

Call diversion shall not have any interaction with include call.

Subclause 7.3.28 **Advice of charge**

Call diversion shall not have any interaction with advice of charge.

Subclause 7.3.29 **Barring of outgoing calls**

Call diversion shall not have any interaction with barring of outgoing calls.

Subclause 7.3.30 **Barring of incoming calls**

Call diversion shall not have any interaction with barring of incoming calls.

Subclause 7.3.31 **Discreet listening**

If the served user has activated CFB and the calling user has invoked the SS-DL then SS-DL shall take precedence over SS-CFB and the calling user shall be connected to the served user if an appropriate call is in progress.

If the served user has invoked the SS-DL and the called party has activated SS-CFB, then SS-DL shall take precedence over SS-CFB and the served user shall be connected to the called user if an appropriate call is in progress.

Subclause 7.3.32 **Ambience listening**

Call diversion shall not have any interaction with ambience listening.

Subclause 7.3.33 **Dynamic group number assignment**

Call diversion shall not have any interaction with dynamic group number assignment.

Subclause 7.4 shall apply.

Subclause 7.5, figure 1: SS-CF, Overall SDL parts 1 to 3 are applicable.

The following amendment shall be applied to part 1. The text in the second decision box shall contain the words "CFNRy/CFNRc".

4.4 Delta CFNRy supplementary service

Clause 8 shall apply with the following amendments and additions:

All references to Private Telecommunications Networks (PTNs) shall be replaced by "SwMIs".

Subclause 8.1.2 The sentence shall be replaced by the following: "This supplementary service is applicable to all individual telecommunication services."

Subclause 8.2.1 With reference to table 1, the transmission of names shall not be supported by TETRA.

Subclause 8.2.1 With reference to subclause 6.2.2.1.1, the following text shall be added:

"TETRA shall not support sub-addressing:

- only one terminal can use a single TETRA number at any one time;
- only one compatible terminal shall be applicable for the basic service."

Subclause 8.3.4 The supplementary service calling name identification presentation is not supported by TETRA.

Subclause 8.3.5 The supplementary service connected name identification presentation shall not be supported by TETRA.

Subclause 8.3.6 The supplementary service calling/connected name identification restriction shall not be supported by TETRA.

Subclause 8.3.9 The Call Transfer (CT) supplementary service shall not be supported by TETRA.

Subclause 8.3.12 The supplementary service Path Replacement (PR) is not supported by TETRA.

The following clauses shall be added:

Subclause 8.3.13 **Call forwarding not reachable**

Call diversion shall not have any interaction with call forwarding not reachable.

Subclause 8.3.14 **Call report**

If the call to user B is diverted to user C, then a SS-CR invocation from user A shall be applied to the diverted-to user C.

Subclause 8.3.15 **Talking party identification**

Call diversion shall not have any interaction with talking party identification.

Subclause 8.3.16 **List search call**

Call diversion shall not have any interaction with list search call.

Subclause 8.3.17 **Call authorized by dispatcher**

Call diversion shall not have any interaction with call authorized by dispatcher.

Subclause 8.3.18 **Short number addressing**

Call diversion shall not have any interaction with short number addressing.

Subclause 8.3.19 **Area selection**

Call diversion shall not have any interaction with area selection.

Subclause 8.3.20 **Access priority**

Call diversion shall not have any interaction with access priority.

Subclause 8.3.21 **Priority call**

Call diversion shall not have any interaction with priority call.

Subclause 8.3.22 **Call waiting**

Call diversion shall not have any interaction with call waiting.

Subclause 8.3.23 **Call hold**

Call diversion shall not have any interaction with call hold.

Subclause 8.3.24 **Late entry**

Call diversion shall not have any interaction with late entry.

Subclause 8.3.25 **Transfer of control**

Call diversion shall not have any interaction with transfer of control.

Subclause 8.3.26 **Pre-emptive priority call**

The pre-emptive priority call shall be presented to the called user and SS-CFNRY shall be invoked after the defined period of time according to the normal procedures of SS-CFNRY. The pre-emptive priority call shall be presented to the forwarded-to user.

Subclause 8.3.27 **Include call**

Call diversion shall not have any interaction with include call.

Subclause 8.3.28 **Advice of charge**

Call diversion shall not have any interaction with advice of charge.

Subclause 8.3.29 **Barring of outgoing calls**

Call diversion shall not have any interaction with barring of outgoing calls.

Subclause 8.3.30 **Barring of incoming calls**

Call diversion shall not have any interaction with barring of incoming calls.

Subclause 8.3.31 **Discreet listening**

Call diversion shall not have any interaction with discreet listening.

Subclause 8.3.32 **Ambience listening**

Call diversion shall not have any interaction with ambience listening.

Subclause 8.3.33 **Dynamic group number assignment**

Call diversion shall not have any interaction with dynamic group number assignment.

Subclause 8.4 shall apply.

Subclause 8.5, figure 1: SS-CF, Overall SDL parts 1 to 3 are applicable.

The following amendment shall be applied to part 1. The text in the second decision box shall contain the words "CFNRy/CFNRc".

4.5 Delta CFNRc supplementary service

Clause 8 shall apply with the following amendments and additions:

All references to Private Telecommunications Networks (PTNs) shall be replaced by "SwMIs".

Subclause 8.1.1 The contents of the first paragraph shall be deleted and shall be replaced with the following 2 paragraphs:

"Call Forwarding Not Reachable (CFNRc) permits a served user to have the SwMI send all incoming calls, or just those associated with a basic service, addressed to the called mobiles directory number, but which is not reachable, to another number. The ability of the served mobile subscriber to originate calls is principally unaffected, but practically it is affected if the mobile subscriber is de-registered if there is radio congestion or if the mobile subscriber is for example, out of radio coverage. If this service is activated, a call is forwarded only if the mobile subscriber is not reachable".

NOTE: This supplementary service shall be considered to be applicable only to mobile subscribers, as a line station shall always be considered as reachable."

Subclause 8.1.2 The sentence shall be replaced by the following: "This supplementary service shall be applicable to all individual telecommunication services."

Subclause 8.2.1 Shall apply with "CFNR" replaced by CFNRc".

With reference to table 1, the transmission of names shall not be supported by TETRA.

Subclause 8.2.1 With reference to subclause 6.2.2.1.1, the following text shall be added:

"TETRA shall not support sub-addressing:

- only one terminal can use a single TETRA number at any one time;
- only one compatible terminal shall be applicable for the basic service."

Subclause 8.2.2.1 The following shall be added: "When a remote activation/deactivation procedure is performed, the served user shall also be notified upon the acceptance of the request and, if appropriate, upon the mobile becoming reachable.

Subclause 8.2.2.2.1 The two sentences shall be deleted and shall be replaced with the following:

"The served user as a subscription option, may receive a notification that calls have been diverted whilst the served user has been in the not reachable state. This shall be a single notification regardless of the number of calls diverted. The served user may be given the option to contact the service provider in order to ascertain precisely which calls have been diverted.

Subclause 8.3.4 The supplementary service calling name identification presentation shall not be supported by TETRA.

Subclause 8.3.5 The supplementary service connected name identification presentation shall not be supported by TETRA.

Subclause 8.3.6 The supplementary service calling/connected name identification restriction shall not be supported by TETRA.

Subclause 8.3.9 The Call Transfer (CT) supplementary service shall not be supported by TETRA.

Subclause 8.3.12 The supplementary service Path Replacement (PR) is not supported by TETRA.

The following clauses shall be added:

Subclause 8.3.13 **Call forwarding not reachable**

Call diversion shall not have any interaction with call forwarding not reachable.

Subclause 8.3.14 **Call report**

If the call to user B is diverted to user C, then a SS-CR invocation from user A shall be applied to the diverted-to user C.

Subclause 8.3.15 **Talking party identification**

Call diversion shall not have any interaction with talking party identification.

Subclause 8.3.16 **List search call**

Call diversion shall not have any interaction with list search call.

Subclause 8.3.17 **Call authorized by dispatcher**

Call diversion shall not have any interaction with call authorized by dispatcher.

Subclause 8.3.18 **Short number addressing**

Call diversion shall not have any interaction with short number addressing.

Subclause 8.3.19 **Area selection**

Call diversion shall not have any interaction with area selection.

Subclause 8.3.20 **Access priority**

Call diversion shall not have any interaction with access priority.

Subclause 8.3.21 **Priority call**

Call diversion shall not have any interaction with priority call.

Subclause 8.3.22 **Call waiting**

Call diversion shall not have any interaction with call waiting.

Subclause 8.3.23 **Call hold**

Call diversion shall not have any interaction with call hold.

Subclause 8.3.24 **Late entry**

Call diversion shall not have any interaction with late entry.

Subclause 8.3.25 **Transfer of control**

Call diversion shall not have any interaction with transfer of control.

Subclause 8.3.26 **Pre-emptive priority call**

SS-CFNRc shall be invoked and the pre-emptive priority call shall be presented to the forwarded-to user.

Subclause 8.3.27 **Include call**

Call diversion shall not have any interaction with include call.

Subclause 8.3.28 **Advice of charge**

Call diversion shall not have any interaction with advice of charge.

Subclause 8.3.29 **Barring of outgoing calls**

Call diversion shall not have any interaction with barring of outgoing calls.

Subclause 8.3.30 **Barring of incoming calls**

Call diversion shall not have any interaction with barring of incoming calls.

Subclause 8.3.31 **Discreet listening**

Call diversion shall not have any interaction with discreet listening.

Subclause 8.3.32 **Ambience listening**

Call diversion shall not have any interaction with ambience listening.

Subclause 8.3.33 **Dynamic group number assignment**

Call diversion shall not have any interaction with dynamic group number assignment.

Subclause 8.4 shall apply.

Subclause 8.5, figure 1: SS-CF, Overall SDL parts 1 to 3 shall be applicable.

The following amendment shall be applied to part 1. The text in the second decision box shall contain the words "CFNRy/CFNRc".

History

| Document history | | | |
|------------------|----------------|--------|--------------------------|
| November 1994 | Public Enquiry | PE 73: | 1994-11-07 to 1995-03-03 |
| December 1995 | Vote | V 94: | 1995-12-27 to 1996-02-16 |
| April 1996 | First Edition | | |
| | | | |
| | | | |