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Contents

Foreword	5
1 Scope	7
2 Normative references	7
3 Definitions and abbreviations	7
3.1 Definitions	7
3.2 Abbreviations	8
3.2.1 General abbreviations	8
3.2.2 Supplementary service abbreviations	8
4 SS-BOC stage 1 specification	8
4.1 Description	8
4.1.1 General description	8
4.1.2 Qualifications on applicability to telecommunication services	9
4.2 Procedures	9
4.2.1 Provision/Withdrawal	9
4.2.2 Normal procedures	9
4.2.2.1 Activation, deactivation, definition, registration, interrogation and cancellation	9
4.2.2.1.1 Activation/Deactivation	9
4.2.2.1.2 Definition	9
4.2.2.1.3 Registration	9
4.2.2.1.4 Interrogation	10
4.2.2.1.5 Cancellation	10
4.2.2.2 Invocation and operation	10
4.2.3 Exceptional procedures	10
4.2.3.1 Activation, deactivation, definition, registration, interrogation and cancellation	10
4.2.3.1.1 Activation/Deactivation	10
4.2.3.1.2 Definition	10
4.2.3.1.3 Registration	10
4.2.3.1.4 Interrogation	10
4.2.3.1.5 Cancellation	10
4.2.3.2 Invocation and operation	11
4.3 Interactions with other supplementary services	11
4.3.1 Calling Line Identification Presentation (CLIR)	11
4.3.2 Connected Line Identification Presentation (CLIP)	11
4.3.3 Calling/Connected Line Identification Restriction (COLP)	11
4.3.4 Call Report (CR)	11
4.3.5 Talking Party Identification (TPI)	11
4.3.6 Call Forwarding Unconditional (CFU)	11
4.3.7 Call Forwarding on Busy (CFB)	11
4.3.8 Call Forwarding on No Reply (CFNRy)	11
4.3.9 Call Forwarding On Not Reachable (CFNR)	11
4.3.10 List Search Call (LSC)	11
4.3.11 Call Authorized By Dispatcher (CAD)	11
4.3.12 Short Number Addressing (SNA)	12
4.3.13 Area Selection (AS)	12
4.3.14 Access Priority (AP)	12
4.3.15 Priority Call (PC)	12
4.3.16 Call Waiting (CW)	12
4.3.17 Call Hold (HOLD)	12
4.3.18 Call Completion to Busy Subscriber (CCBS)	12
4.3.19 Late Entry (LE)	12
4.3.20 Transfer of Control (TC)	12

4.3.21	Pre-emptive Priority Call (PPC)	12
4.3.22	Include Call (IC)	12
4.3.23	Advice of Charge (AC).....	12
4.3.24	Barring of Outgoing Calls (BOC)	12
4.3.25	Barring of Incoming Calls (BIC)	12
4.3.26	Discreet Listening (DL)	13
4.3.27	Ambience Listening (AL).....	13
4.3.28	Dynamic Group Number Assignment (DGNA)	13
4.3.29	Call completion on No Reply (CCNR).....	13
4.3.30	Call Retention (CRT) Priority	13
4.4	Inter-working considerations	13
4.5	Overall SDL	14
History		15

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
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1 Scope

This European Telecommunication Standard (ETS) defines the stage 1 specification of the Barring of Outgoing Call (BOC) supplementary service for the Trans-European Trunked Radio (TETRA) as provided by European operators. Stage 1 is an overall service description from the users point of view but does not deal with the details of the human interface itself.

This ETS specifies the service description of the supplementary service and the procedures to be expected with successful and unsuccessful outcomes. In addition this ETS specifies the interactions with other TETRA supplementary services and inter-working considerations.

Charging principles are outside the scope of this ETS.

The Barring of Outgoing Call (BOC) supplementary service enables barring restriction for outgoing calls to be set.

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] CCITT Recommendation I.130 (1988): "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".
- [2] ITU-T Recommendation Z.100 (1993): "Specification and Description Language (SDL)".

3 Definitions and abbreviations

3.1 Definitions

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

access control: The prevention of unauthorized use of resources, including the use of a resource in an unauthorized manner.

authorized user: The user who is permitted to bar outgoing calls of defined users.

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

served user: The user who has outgoing calls barred.

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:

ISDN	Integrated Services Digital 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

3.2.2 Supplementary service abbreviations

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

AL	Ambience Listening
AoC	Advice of Charge
AP	Access Priority
AS	Area Selection
BIC	Barring of Incoming Calls
BOC	Barring of Outgoing Calls
CAD	Call Authorized by Dispatcher
CCBS	Call Completion to Busy Subscriber
CCNR	Call Completion on No Reply
CFB	Call Forwarding on Busy
CFNRy	Call Forwarding on No Reply
CFNRc	Call Forwarding on Not Reachable
CFU	Call Forwarding Unconditional
CLIP	Calling Line Identification Presentation
CLIR	Calling/Connected Line Identification Restriction
COLP	COnnected Line identification Presentation
CR	Call Report
CRT	Call ReTention
CW	Call Waiting
DGNA	Dynamic Group Number Assignment
DL	Discreet Listening
HOLD	Call HOLD
IC	Include Call
LE	Late Entry
LSC	List Search Call
PC	Priority Call
PPC	Pre-emptive Priority Call
SNA	Short Number Addressing
TC	Transfer of Control
TPI	Talking Party Identification

4 SS-BOC stage 1 specification

4.1 Description

4.1.1 General description

Barring of Outgoing Call (BOC) is defined as the facility whereby certain categories of outgoing calls shall be barred and call set-up shall be rejected by the TETRA infrastructure. The categories for barring shall be set up and altered by the service provider. The authorized user may set the barring of selected categories of outgoing calls of selected users.

The following categories can be examples of barring of outgoing calls:

- all calls;
- international calls;
- calls through certain gateways going outside the TETRA system;
- calls through inter system interface (except calls to the home TETRA system);
- calls to the subscribers outside the closed user group (own fleet);
- calls outside the defined geographical area;
- selected types of calls (e.g. circuit mode data calls);
- calls to certain individuals or groups.

These categories can be applied independently to each basic service.

The service provider may define certain numbers such as "emergency numbers" to remain outside of barring although they are within barring categories.

4.1.2 Qualifications on applicability to telecommunication services

Barring of outgoing call shall be applicable independently to all TETRA teleservices, bearer services and short data services.

4.2 Procedures

4.2.1 Provision/Withdrawal

This service shall be provided by prior arrangement to served users by the service provider. Provision may include selection of barring categories. The authorized user(s) and served users shall be defined upon provision.

The service provider may withdraw this service at any time without a prior announcement.

4.2.2 Normal procedures

4.2.2.1 Activation, deactivation, definition, registration, interrogation and cancellation

4.2.2.1.1 Activation/Deactivation

The authorized user shall be able to activate or deactivate the supplementary service. This service may be permanently activated upon provision and deactivated upon withdrawal.

4.2.2.1.2 Definition

The authorized user shall be able to select barring categories for each served user.

4.2.2.1.3 Registration

The authorized users shall be registered upon provision.

4.2.2.1.4 Interrogation

The Switching and Management Infrastructure (SwMI) shall support interrogation on a per identity. The TETRA response to an interrogation request may provide the following information to the authorized user:

- barring is activated/deactivated per barred user identity;
- list of barring categories per each service.

4.2.2.1.5 Cancellation

Shall not be applicable.

4.2.2.2 Invocation and operation

This service shall be invoked by the TETRA system when the served user attempts to set up a call in a barred category. The served user shall receive an indication of barring and the call shall be rejected.

4.2.3 Exceptional procedures

4.2.3.1 Activation, deactivation, definition, registration, interrogation and cancellation

4.2.3.1.1 Activation/Deactivation

When activation or deactivation cannot be completed then an indication shall be given to the authorized user with a reason. Possible reasons can be:

- activation or deactivation is not provided;
- selected service or category is not allowed;
- not enough information.

4.2.3.1.2 Definition

If the infrastructure cannot accept a definition request then the cause shall be returned to the authorized user.

4.2.3.1.3 Registration

Shall not be applicable.

4.2.3.1.4 Interrogation

If the SwMI cannot accept an interrogation request, the interrogating user shall receive a notification that a BOC interrogation was unsuccessful. Possible causes for rejection are e.g.:

- service not subscribed to (general interrogation);
- insufficient information.

4.2.3.1.5 Cancellation

Shall not be applicable.

4.2.3.2 Invocation and operation

If the infrastructure cannot invoke the service, the cause shall be returned to the subscriber. Possible causes can be:

- service has been withdrawn.

4.3 Interactions with other supplementary services

4.3.1 Calling Line Identification Presentation (CLIR)

Barring of outgoing calls shall not have any interaction with SS-CLIR.

4.3.2 Connected Line Identification Presentation (CLIP)

Barring of outgoing calls shall not have any interaction with SS-CLIP.

4.3.3 Calling/Connected Line Identification Restriction (COLP)

Barring of outgoing calls shall not have any interaction with SS-COLP.

4.3.4 Call Report (CR)

Barring of outgoing calls shall not have any interaction with SS-CR. A user cannot invoke CR on a call which is barred.

4.3.5 Talking Party Identification (TPI)

Barring of outgoing calls shall not have any interaction with SS-TPI.

4.3.6 Call Forwarding Unconditional (CFU)

Barring of outgoing calls shall not have any interaction with SS-CFU. Call forwarding shall be applied independently of SS-BOC.

4.3.7 Call Forwarding on Busy (CFB)

Barring of outgoing calls shall not have any interaction with SS-CFB. Call forwarding shall be applied independently of SS-BOC.

4.3.8 Call Forwarding on No Reply (CFNRy)

Barring of outgoing calls shall not have any interaction with SS-CFNRy. Call forwarding shall be applied independently of SS-BOC.

4.3.9 Call Forwarding On Not Reachable (CFNR)

Barring of outgoing calls shall not have any interaction with SS-CFNR. Call forwarding shall be applied independently of SS-BOC.

4.3.10 List Search Call (LSC)

Barring of outgoing calls shall not have any interaction with SS-LSC. Barring of (attendants) of the search list shall not be checked. The list itself may be a barred address.

4.3.11 Call Authorized By Dispatcher (CAD)

Barring of outgoing calls shall not have any interaction with SS-CAD. If both CAD and BOC are activated on the required service then the CAD shall take precedence. The dispatcher number may be a barred number.

4.3.12 Short Number Addressing (SNA)

Barring of outgoing calls shall not have any interaction with SS-SNA. SS-SNA-2 may override SS-BOC.

4.3.13 Area Selection (AS)

BOC shall take precedence over SS-AS by filtering (reducing if necessary) the selected area before the call proceeds.

4.3.14 Access Priority (AP)

Barring of outgoing calls shall not have any interaction with SS-AP.

4.3.15 Priority Call (PC)

Barring of outgoing calls shall not have any interaction with SS-PC.

4.3.16 Call Waiting (CW)

Barring of outgoing calls shall not have any interaction with SS-CW.

4.3.17 Call Hold (HOLD)

Barring of outgoing calls shall not have any interaction with SS-HOLD.

4.3.18 Call Completion to Busy Subscriber (CCBS)

Barring of outgoing calls shall not have any interaction with SS-CCBS.

4.3.19 Late Entry (LE)

Not applicable.

4.3.20 Transfer of Control (TC)

Not applicable.

4.3.21 Pre-emptive Priority Call (PPC)

Barring of outgoing calls shall not have any interaction with SS-PPC. Pre-emptive priority calls may also be barred.

4.3.22 Include Call (IC)

Barring of outgoing calls shall not have any interaction with SS-IC. BOC shall be valid for include call destinations.

4.3.23 Advice of Charge (AC)

Barring of outgoing calls shall not have any interaction with SS-AC.

4.3.24 Barring of Outgoing Calls (BOC)

Not applicable.

4.3.25 Barring of Incoming Calls (BIC)

Barring of outgoing calls shall not have any interaction with barring of incoming calls.

4.3.26 Discreet Listening (DL)

Barring of outgoing calls shall not have any interaction with SS-DL. DL cannot proceed to a barred address.

4.3.27 Ambience Listening (AL)

Barring of outgoing calls shall not have any interaction with SS-AL. AL cannot proceed to a barred address.

4.3.28 Dynamic Group Number Assignment (DGNA)

Barring of outgoing calls shall not have any interaction with SS-DGNA.

4.3.29 Call completion on No Reply (CCNR)

Barring of outgoing calls shall not have any interaction with SS-CCNR.

4.3.30 Call Retention (CRT) Priority

Barring of outgoing calls shall not have any interaction with SS-CRT priority.

4.4 Inter-working considerations

The barring of outgoing calls may be available upon service provider agreement across the intersystem interface.

4.5 Overall SDL

Figure 1 contains the dynamic description of SS-BOC using the specification and description Language (SDL) defined in ITU-T Recommendation Z.100 [2]. The SDL process represents the behaviour of the network in providing SS-BOC.

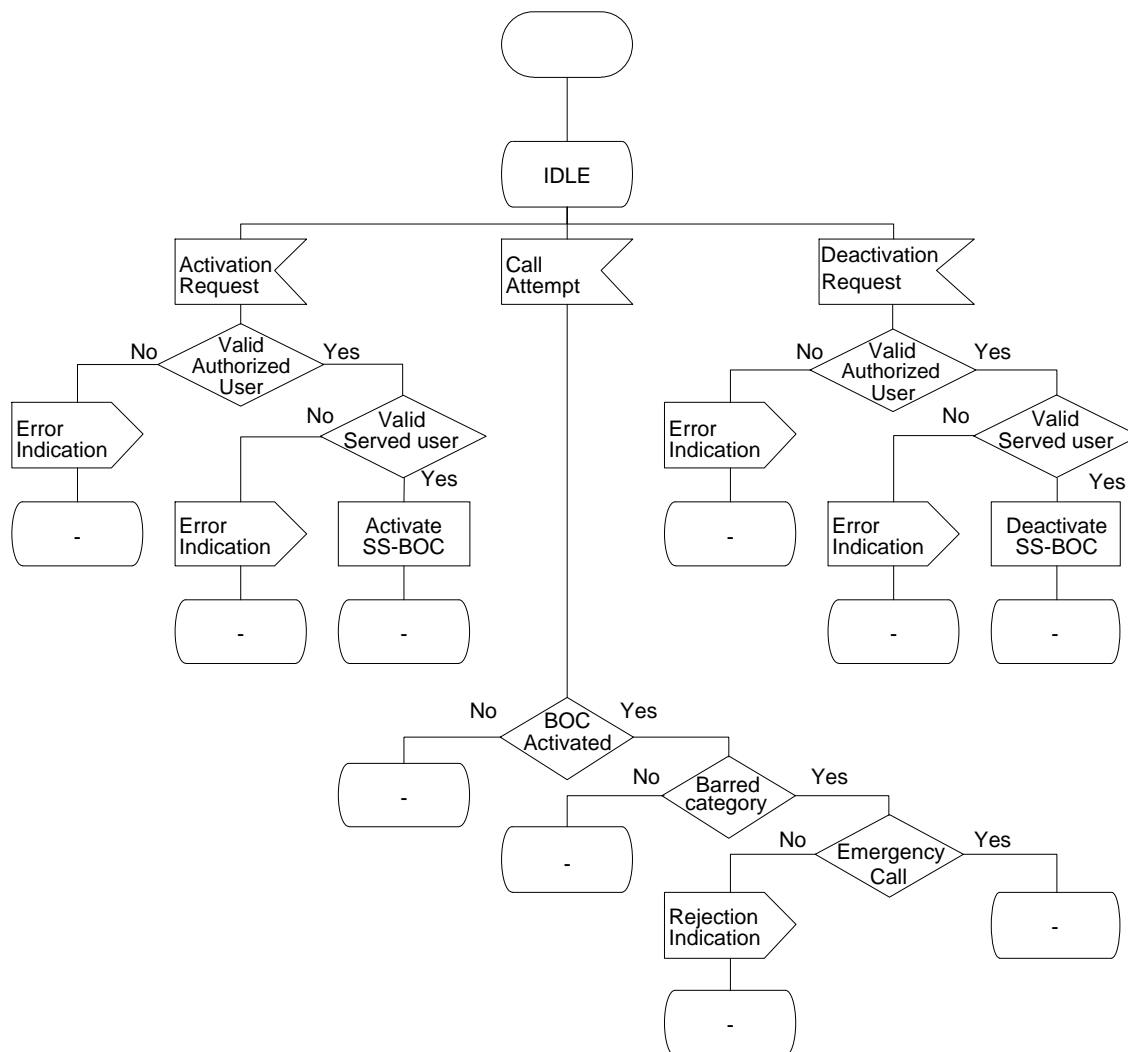


Figure 1: BB-BOC overview SDL

History

Document history			
November 1994	Public Enquiry	PE 73:	1994-11-07 to 1995-03-03
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