Source: TSG CN WG4

Title: Corrections on OoBTC/TrFO

Agenda item: 7.7

Document for: APPROVAL

Doc-2nd-Level	Spec	CR	Rev	Phase	Subject	Cat	Ver_C
N4-050156	23.153	087		Rel-4	Removal of AMR-WB codec	F	4.11.0
N4-050402	29.232	140	1	Rel-4	TFO activation without TFO Codec List	F	4.10.0
N4-050403	29.232	141	1	Rel-5	TFO activation without TFO Codec List	A	5.9.0
N4-050404	29.232	142	1	Rel-6	TFO activation without TFO Codec List	A	6.0.0
N4-050416	29.232	166		Rel-4	TFO procedure clarification	F	4.10.0
N4-050417	29.232	167		Rel-5	TFO procedure clarification	A	5.9.0
N4-050418	29.232	139	1	Rel-6	TFO procedure clarification	A	6.0.0
N4-050405	23.205	57		Rel-4	Solving contradiction for Release Cause in Release Bearer Procedure between stage 2 and stage 3	F	4.7.0
N4-050205	23.205	55		Rel-5	Solving contradiction for Release Cause in Release Bearer Procedure between stage 2 and stage 3	A	5.7.0
N4-050206	23.205	56		Rel-6	Solving contradiction for Release Cause in Release Bearer Procedure between stage 2 and stage 3	A	6.0.0

CR-Form-v7.1

CHANGE REQUEST

⌘	**23.153** CR **087**	⌘**rev**	**-**	⌘	Current version:	**4.11.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐   ME ☐ Radio Access Network ☐ Core Network **X**

Title: ⌘	Removal of AMR-WB codec		
Source: ⌘	CN4		
Work item code: ⌘	OoBTC	***Date:*** ⌘	27/01/2005
Category: ⌘	**F**	***Release:*** ⌘	Rel-4

Use one of the following categories: **F** *(correction)* **A** *(corresponds to a correction in an earlier release)* **B** *(addition of feature),* **C** *(functional modification of feature)* **D** *(editorial modification)* Detailed explanations of the above categories can be found in 3GPP TR 21.900.	*Use one of the following releases:* *Ph2* *(GSM Phase 2)* *R96* *(Release 1996)* *R97* *(Release 1997)* *R98* *(Release 1998)* *R99* *(Release 1999)* *Rel-4* *(Release 4)* *Rel-5* *(Release 5)* *Rel-6* *(Release 6)* *Rel-7* *(Release 7)*

Reason for change: ⌘	**Essential correction** Apparently, instead of the Rel-4 version of CR 079 (N4-041701) the Rel-5 version CR 080 (N4-041702) was implemented. As a consequence, the specification now contains requirements related to the AMR-WB codec which is not part of Rel-4. Furthermore, it needs to be clarified that in a certain case it is a requirement for the MGW, not a recommendation, to coordinate the rate control requests.
Summary of change: ⌘	The paragraph related to the AMR-WB codec, which are only applicable to Rel-5, are removed. Minor editorial correction in subclause 3.1.
Consequences if not approved: ⌘	Inconsistent specification.

Clauses affected: ⌘	3.1, 5.3	

	Y	N		
Other specs affected: ⌘		X	Other core specifications	⌘
		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘	Corrections to later releases are not needed, since the error is only contained in the Rel-4 version.

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

3.1　Definitions

For the purposes of the present document, the following definitions apply:

Codec: device to encode information from its original representation into an encoded form and to decode encoded information into its original representation

****************** NEXT MODIFIED SECTION ******************

5.3　Media Gateway Control for Codec Handling

The general handling of MGW control procedures are detailed in [8]. Specific handling related to the control of the speech encoding is detailed in Figure. 5.3/1. The terms context, termination, streams and stream properties are described in the ITU-T H.248 "Media Gateway Control Protocol" [13].
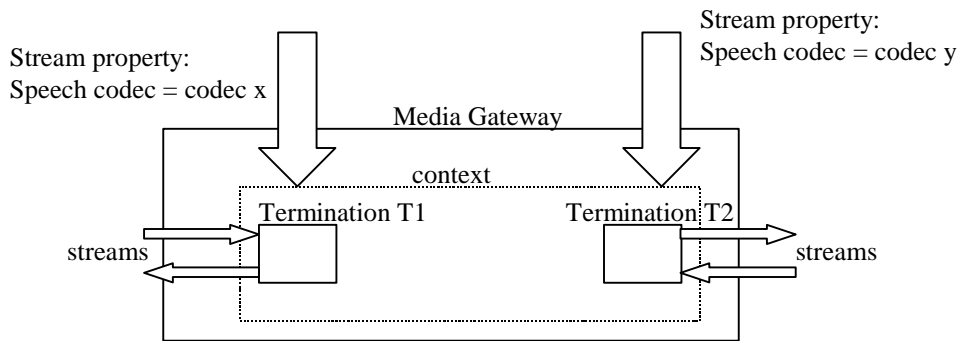
Figure 5.3/1. MGW control for speech codec

The handling of transcoding between one codec type (media stream property applied at one termination) and another codec type (media stream property at other termination) is a function of the MGW. The media stream property for Audio Codec Type is defined in Annex C of the ITU-T MGW control protocol, H.248.

If TFO-incompatible codec types are applied at different terminations of the same context, the MGW shall insert a transcoder. For the definition of TFO-compatibility between 3GPP codec types and codec configurations see [10], clauses 11 and 12.

Between codecs of the AMR codec family, the MGW need not insert a transcoder, if the codec types are TFO-compatible according to [10], table 11-1, and

- the codecs use the same ACS; or

- the ACSs are TFO-compatible and the use of codec modes is restricted to a common subset of the ACSs by means of maximum rate control. In this case the MGW shall~~ould~~ coordinate the rate control request.

~~Between codecs of the AMR-WB codec family, the MGW need not insert a transcoder, if~~

- ~~the codecs use the same ACS; or~~

- ~~the use of codec modes is restricted to a common subset of the ACSs by means of maximum rate control. In this case should coordinate the rate control request.~~

CR-Form-v7.1

CHANGE REQUEST

| ⌘ | **23.205** CR **055** | ⌘rev | **-** | ⌘ | Current version: | **5.7.0** | ⌘ |

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title: ⌘	Solving contradiction for Release Cause in Release Bearer Procedure between stage 2 and stage 3	
Source: ⌘	CN4	
Work item code:⌘	TEI4	**Date:** ⌘ 31/01/2005
Category: ⌘	**A**	**Release:** ⌘ Rel-5

Use *one* of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use *one* of the following releases:
Ph2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*
Rel-7 *(Release 7)*

Reason for change: ⌘	Stage 2 specification (23.205) specifies that the Release Cause information element in the Release Bearer procedure is mandatory. Stage 3 specification (29.232 clause 14.2.8.1 Release Bearer) refers to the corresponding BICC procedure in Q.1950 (clause 7.1.7.1 Release). The Release Cause is defined in the Generic Bearer Connection package (Clause A.6.3.3) and consists of 3 different parameters (GeneralCause, FailureCause and Reset indication) . Clause A.6.5 Procedures define that these parameters are optional ("The MGC may optionally include a GeneralCause, FailureCause or Reset indication. "). Additional the detailed coding of the values of one of these parameters (FailureCause) is nowhere defined. To resolve this contradiction we propose to mark the support for the Release Cause information element in the 23.205 Release Bearer procedure also as optional. ESSENTIAL CORRECTION
Summary of change:⌘	Marking Release Cause information element in clause 16.2.9 Release Bearer as optional.
Consequences if ⌘ **not approved:**	Contradictional information in the specifications may lead to interworking problems.
Clauses affected: ⌘	16.2.9

	Y	**N**	
Other specs ⌘		**X**	Other core specifications ⌘
affected:		**X**	Test specifications

	X	O&M Specifications	

Other comments: ⌘

How to create CRs using this form:

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2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

16.2.9 Release Bearer

This procedure is used to release the bearer.

Table 16.10: Procedures between (G)MSC server and MGW: Release Bearer

Procedure	Initiated	Information element name	Information element required	Information element description
Release Bearer	(G)MSC-S	Context	M	This information element indicates the context for the bearer termination.
		Bearer Termination	M	This information element indicates the bearer termination for the bearer to be released.
		Bearer Release Request	M	This information element requests release of a bearer.
		Release Cause	~~M~~O	This information element indicates the cause of a bearer release.
Release Bearer Ack	MGW	Context	M	This information element indicates the context where the command was executed.
		Bearer Termination	M	This information element indicates the bearer termination where the command was executed.

CR-Form-v7.1

CHANGE REQUEST

⌘ **23.205** CR **056** ⌘**rev** **-** ⌘ Current version: **6.0.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title: ⌘	Solving contradiction for Release Cause in Release Bearer Procedure between stage 2 and stage 3	
Source: ⌘	CN4	
Work item code:⌘	TEI4	***Date:*** ⌘ 31/01/2005

Category: ⌘ **A**

Use <u>one</u> of the following categories:
  F (correction)
  A (corresponds to a correction in an earlier release)
  B (addition of feature),
  C (functional modification of feature)
  D (editorial modification)
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Release: ⌘ Rel-6

Use <u>one</u> of the following releases:
  Ph2 (GSM Phase 2)
  R96 (Release 1996)
  R97 (Release 1997)
  R98 (Release 1998)
  R99 (Release 1999)
  Rel-4 (Release 4)
  Rel-5 (Release 5)
  Rel-6 (Release 6)
  Rel-7 (Release 7)

Reason for change: ⌘	Stage 2 specification (23.205) specifies that the Release Cause information element in the Release Bearer procedure is mandatory. Stage 3 specification (29.232 clause 14.2.8.1 Release Bearer) refers to the corresponding BICC procedure in Q.1950 (clause 7.1.7.1 Release). The Release Cause is defined in the Generic Bearer Connection package (Clause A.6.3.3) and consists of 3 different parameters (GeneralCause, FailureCause and Reset indication) . Clause A.6.5 Procedures define that these parameters are optional ("The MGC may optionally include a GeneralCause, FailureCause or Reset indication. "). Additional the detailed coding of the values of one of these parameters (FailureCause) is nowhere defined. To resolve this contradiction we propose to mark the support for the Release Cause information element in the 23.205 Release Bearer procedure also as optional. ESSENTIAL CORRECTION
Summary of change:⌘	Marking Release Cause information element in clause 16.2.9 Release Bearer as optional.
Consequences if not approved: ⌘	Contradictional information in the specifications may lead to interworking problems.

Clauses affected: ⌘	16.2.9

		Y	N	
Other specs affected:	⌘		X	Other core specifications ⌘
			X	Test specifications

	X	O&M Specifications	

Other comments: ⌘

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

16.2.9   Release Bearer

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		Bearer Termination	M	This information element indicates the bearer termination for the bearer to be released.
		Bearer Release Request	M	This information element requests release of a bearer.
		Release Cause	~~M~~O	This information element indicates the cause of a bearer release.
Release Bearer Ack	MGW	Context	M	This information element indicates the context where the command was executed.
		Bearer Termination	M	This information element indicates the bearer termination where the command was executed.

CR-Form-v7.1

CHANGE REQUEST

| ⌘ | **29.232** CR **140** | ⌘ **rev** **1** | ⌘ | Current version: **4.10.0** | ⌘ |

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐   ME ☐   Radio Access Network ☐   Core Network **X**

Title: ⌘	TFO activation without TFO Codec List
Source: ⌘	CN4
Work item code: ⌘	OoBTC ***Date:*** ⌘ 24/01/2005
Category: ⌘ **F**	***Release:*** ⌘ Rel-4

Use *one* of the following categories:
 F *(correction)*
 A *(corresponds to a correction in an earlier release)*
 B *(addition of feature),*
 C *(functional modification of feature)*
 D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use *one* of the following releases:
 Ph2 *(GSM Phase 2)*
 R96 *(Release 1996)*
 R97 *(Release 1997)*
 R98 *(Release 1998)*
 R99 *(Release 1999)*
 Rel-4 *(Release 4)*
 Rel-5 *(Release 5)*
 Rel-6 *(Release 6)*
 Rel-7 *(Release 7)*

Reason for change: ⌘	TFO activation may be activated without a TFO codec list (section 14.2.31). However this scenario needs to be clarified in the TFO package, particularly after the TFO clarifications CRs approved at the last CN4 meeting which did not mention this option. **This is an essential correction.**
Summary of change: ⌘	It is precised in the TFO package that a TFO activation without a TFO codec list shall be considered as equivalent to a TFO activation with a TFO codec list containing a single codec configuration set to the same value as at the opposing MGW termination. The TFO Activation procedure is also corrected to reflect that the TFO Codec List may be optionally provided.
Consequences if not approved: ⌘	Possible interoperability issues between MSC Server and MGW of different vendors.

Clauses affected: ⌘	14.2.31, 15.1.3

	Y	N		
Other specs ⌘		X	Other core specifications	⌘
affected:		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘	

How to create CRs using this form:

CR page 1

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

14.2.31   TFO Activation

When the procedure "TFO activation" is required the following procedure is initiated:

The MGC sends a MOD.req command with the following information.

1   MOD.req (TFO activation)   MGC to MGW

Address Information	Control information	Bearer information
	Transaction ID = z Context ID = c1 Termination ID = bearer1 Tfoenable = Off / value If TFO codec list: Property= codeclist	

When the processing of command (1) is complete, the MGW initiates the following procedure.

2   MOD.resp (TFO activation)   MGW to MGC

Address Information	Control information	Bearer information
	Transaction ID = z Context ID = c1 TerminationID=bearer1	

15.1.3   TFO package

The addition of text encoding for the TFO codec list is for further study.

PackageID: threegtfoc (0x0031)

Version: 1

Extends: None

This package defines events and properties for Tandem Free Operation (TFO) control. TFO uses inband signalling and procedures for Transcoders to enable compressed speech to be maintained between a tandem pair of transcoders. This package allows an MGW which has inserted a transcoder to support TFO.

15.1.3.1   Properties

TFO Activity Control

   PropertyID: tfoenable (0x0001)

   Description: Defines if TFO is enabled or not.

   Type: Enumeration

   Possible Values:

      "On" (0x0001): TFO is enabled, TFO protocol is supported

      "Off" (0x0002): TFO is not enabled, TFO protocol is not initiated or terminated

   Defined in: Local Control descriptor

   Characteristics: Read/Write

TFO Codec List

PropertyID: codeclist (0x0002)

Description: List of codecs for use in TFO protocol, the Local Used Codec (see 3GPP TS 28.062 [5]) is always the first entry in the list. The MSC Server may enable TFO without providing a TFO Codec List ; in this case, the MGW shall behave as if it had received a TFO Codec List composed of the selected codec of the opposing termination within the Context.

Type: Octet string

Possible Values:

List of codec types; each entry:

As defined in Q.765.5, for single codec information (Figure 14/Q.765.5), where the Codec Information is defined either in Q.765.5 or in another specification for the given Organisation Identifier.

Defined in: Local Control descriptor

Characteristics: Read/Write

15.1.3.2 Events

Optimal Codec Event

EventID: codec_modify (0x0010)

Description:
The event is used to notify the MGC that TFO negotiation has resulted in an optimal codec type being proposed.

EventsDescriptor Parameters: None

ObservedEventsDescriptor Parameters:

Optimal Codec Type

ParameterID: optimalcodec (0x0011)

Description: indicates which is the proposed codec type for TFO

Type: Octet string

Possible Values:

Codec Type:

As defined in Q.765.5, for single codec information (Figure 14/Q.765.5), where the Codec Information is defined either in Q.765.5 or in another specification for the given Organisation Identifier.

Codec List Event

EventID: distant codec_list (0x0012)

Description: The event is used to notify the MGC of the distant TFO partner's supported codec list..

EventsDescriptor Parameters: None

ObservedEventsDescriptor Parameters:

Distant Codec List

ParameterID: distlist(0x0013)

Description: indicates the codec list for TFO

Type: Octet string

Possible Values:

List of codecs of type Codec Type:

As defined in Q.765.5, for single codec information (Figure 14/Q.765.5), where the Codec Information is defined either in Q.765.5 or in another specification for the given Organisation Identifier.

The first Codec Type in the list is the Distant Used Codec, received from the distant TFO partner (see 3GPP TS 28.062 [5]).

15.1.3.3 Signals

None

15.1.3.4 Statistics

None

15.1.3.5 Procedures

For the procedures for TFO see 3GPP TS 28.062 [5].

The use of the properties in this package is applicable only when the MGW Termination to which the package properties are applied has the media stream property for Codec Type set to ITU-T G.711 (see Annex C of ITU-T Recommendation H.248). Furthermore, the package properties are applicable only if the Codec Type property of the media stream at the opposing ~~MGW~~ Termination within the Context is not set to ITU G.711.

CR-Form-v7.1

CHANGE REQUEST

⌘	**29.232** CR **141**	⌘**rev** **1** ⌘	Current version:	**5.9.0**	⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title: ⌘	TFO activation without TFO Codec List	
Source: ⌘	CN4	
Work item code: ⌘	OoBTC	***Date:*** ⌘ 24/01/2005

Category: ⌘	**A**	***Release:*** ⌘	Rel-5

Use one of the following categories:
F (correction)
A (corresponds to a correction in an earlier release)
B (addition of feature),
C (functional modification of feature)
D (editorial modification)
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
Ph2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)
Rel-7 (Release 7)

Reason for change: ⌘	TFO activation may be activated without a TFO codec list (section 14.2.31). However this scenario needs to be clarified in the TFO package, particularly after the TFO clarifications CRs approved at the last CN4 meeting which did not mention this option. **This is an essential correction.**
Summary of change: ⌘	It is precised in the TFO package that a TFO activation without a TFO codec list shall be considered as equivalent to a TFO activation with a TFO codec list containing a single codec configuration set to the same value as at the opposing MGW termination. The TFO Activation procedure is also corrected to reflect that the TFO Codec List may be optionally provided.
Consequences if not approved: ⌘	Possible interoperability issues between MSC Server and MGW of different vendors.

Clauses affected: ⌘	14.2.31, 15.1.3

	Y	N		
Other specs affected: ⌘		X	Other core specifications	⌘
		X	Test specifications	
		X	O&M Specifications	

Other comments: ⌘	

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2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

14.2.31 TFO Activation

When the procedure "TFO activation" is required the following procedure is initiated:

The MGC sends a ADD.req, MOD.req or MOV.req command with the following information.

1 ADD.req/MOD.req/MOV.req (TFO activation) MGC to MGW

Address Information	Control information	Bearer information
	Transaction ID = z Context ID = c1 Termination ID = bearer1 Tfoenable = Off / value If TFO codec list: Property= codeclist	

When the processing of command (1) is complete, the MGW initiates the following procedure.

2 ADD.resp/MOD.resp/MOV.resp (TFO activation) MGW to MGC

Address Information	Control information	Bearer information
	Transaction ID = z Context ID = c1 TerminationID=bearer1	

15.1.3   TFO package

The addition of text encoding for the TFO codec list is for further study.

> PackageID: threegtfoc (0x0031)
>
> Version: 1
>
> Extends: None

This package defines events and properties for Tandem Free Operation (TFO) control. TFO uses inband signalling and procedures for Transcoders to enable compressed speech to be maintained between a tandem pair of transcoders. This package allows an MGW which has inserted a transcoder to support TFO.

15.1.3.1   Properties

> TFO Activity Control:
>
> > PropertyID: tfoenable (0x0001).
> >
> > Description: Defines if TFO is enabled or not.
> >
> > Type: Enumeration.
> >
> > Possible Values:
> >
> > - "On" (0x0001): TFO is enabled, TFO protocol is supported.
> >
> > - "Off" (0x0002): TFO is not enabled, TFO protocol is not initiated or terminated.
> >
> > Defined in: Local Control descriptor.
> >
> > Characteristics: Read/Write.
>
> TFO Codec List:
>
> > PropertyID: codeclist (0x0002).
> >
> > Description: List of codecs for use in TFO protocol, the Local Used Codec (see 3GPP TS 28.062 [5]) is always the first entry in the list. The MSC Server may enable TFO without providing a TFO Codec List ; in this case,

the MGW shall behave as if it had received a TFO Codec List composed of the selected codec of the opposing termination within the Context.

Type: Octet string.

Possible Values:

- List of codec types; each entry:

  - As defined in ITU-T Recommendation Q.765.5 [24], for single codec information (figure 14/Q.765.5), where the Codec Information is defined either in ITU-T Recommendation Q.765.5 [24] or in another specification for the given Organization Identifier. For 3GPP codecs these are defined in 3GPP TS 26.103 [16].

Defined in: Local Control descriptor.

Characteristics: Read/Write.

15.1.3.2 Events

Optimal Codec Event:

EventID: codec_modify (0x0010).

Description: The event is used to notify the MGC that TFO negotiation has resulted in an optimal codec type being proposed.

EventsDescriptor Parameters: None.

ObservedEventsDescriptor Parameters:

- Optimal Codec Type.

  - ParameterID: optimalcodec (0x0011).

  - Description: indicates which is the proposed codec type for TFO.

  - Type: Octet string.

  - Possible Values:

  o Codec Type: As defined in ITU-T Recommendation Q.765.5 [24], for single codec information (figure 14/Q.765.5), where the Codec Information is defined either in ITU-T Recommendation Q.765.5 [24] or in another specification for the given Organization Identifier. For 3GPP codecs these are defined in 3GPP TS 26.103 [16].

Codec List Event:

EventID: distant codec_list (0x0012).

Description: The event is used to notify the MGC of the distant TFO partner's supported codec list.

EventsDescriptor Parameters: None.

ObservedEventsDescriptor Parameters:

- Distant Codec List:

  - ParameterID: distlist(0x0013).

  - Description: indicates the codec list for TFO.

  - Type: Octet string.

  - Possible Values:

> o List of codecs of type Codec Type: As defined in ITU-T Recommendation Q.765.5 [24], for single codec information (figure 14/Q.765.5), where the Codec Information is defined either in ITU-T Recommendation Q.765.5 [24] or in another specification for the given Organization Identifier. For 3GPP codecs these are defined in 3GPP TS 26.103 [16].
>
> > • The first Codec Type in the list is the Distant Used Codec, received from the distant TFO partner (see 3GPP TS 28.062 [5]).

15.1.3.3   Signals

None.

15.1.3.4   Statistics

None.

15.1.3.5   Procedures

For the procedures for TFO see 3GPP TS 28.062 [5].

The use of the properties in this package is applicable only when the MGW Termination to which the package properties are applied has the media stream property for Codec Type set to ITU-T Recommendation G.711 [25] (see annex C of ITU-T Recommendation H.248 [10]). Furthermore, the package properties are applicable only if the Codec Type property of the media stream at the opposing ~~MGW~~ Termination <u>within the Context</u> is not set to ITU-T Recommendation G.711 [25].

3GPP TSG-CN WG4 Meeting #26
Sydney, AUSTRALIA. 14th to 18th February 2005.

N4-050404
Revision of N4-050105

CR-Form-v7.1

CHANGE REQUEST

⌘	**29.232** CR **142**	⌘**rev**	**1**	⌘	Current version:	**6.0.0**	⌘

For **HELP** *on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐   ME ☐   Radio Access Network ☐   Core Network **X**

Title: ⌘	TFO activation without TFO Codec List	
Source: ⌘	CN4	
Work item code:⌘	OoBTC	***Date:*** ⌘ 24/01/2005

Category: ⌘	**A**		***Release:*** ⌘ Rel-6

Use one of the following categories:
    F *(correction)*
    A *(corresponds to a correction in an earlier release)*
    B *(addition of feature),*
    C *(functional modification of feature)*
    D *(editorial modification)*
Detailed explanations of the above categories can
be found in 3GPP TR 21.900.

Use one of the following releases:
    Ph2   *(GSM Phase 2)*
    R96   *(Release 1996)*
    R97   *(Release 1997)*
    R98   *(Release 1998)*
    R99   *(Release 1999)*
    Rel-4   *(Release 4)*
    Rel-5   *(Release 5)*
    Rel-6   *(Release 6)*
    Rel-7   *(Release 7)*

Reason for change: ⌘	TFO activation may be activated without a TFO codec list (section 14.2.31). However this scenario needs to be clarified in the TFO package, particularly after the TFO clarifications CRs approved at the last CN4 meeting which did not mention this option. **This is an essential correction.**
Summary of change:⌘	It is precised in the TFO package that a TFO activation without a TFO codec list shall be considered as equivalent to a TFO activation with a TFO codec list containing a single codec configuration set to the same value as at the opposing MGW termination. The TFO Activation procedure is also corrected to reflect that the TFO Codec List may be optionally provided.
Consequences if not approved: ⌘	Possible interoperability issues between MSC Server and MGW of different vendors.

Clauses affected: ⌘	14.2.31, 15.1.3

		Y	N		
Other specs ⌘			X	Other core specifications	⌘
affected:			X	Test specifications	
			X	O&M Specifications	

Other comments: ⌘	

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

14.2.31   TFO Activation

When the procedure "TFO activation" is required the following procedure is initiated:

The MGC sends a ADD.req, MOD.req or MOV.req command with the following information.

1   ADD.req/MOD.req/MOV.req (TFO activation) MGC to MGW

Address Information	Control information	Bearer information
	Transaction ID = z Context ID = c1 Termination ID = bearer1 Tfoenable = Off / value If TFO codec list: Property= codeclist	

When the processing of command (1) is complete, the MGW initiates the following procedure.

2   ADD.resp/MOD.resp/MOV.resp (TFO activation) MGW to MGC

Address Information	Control information	Bearer information
	Transaction ID = z Context ID = c1 TerminationID=bearer1	

15.1.3   TFO package

The addition of text encoding for the TFO codec list is for further study.

PackageID: threegtfoc (0x0031)

Version: 1

Extends: None

This package defines events and properties for Tandem Free Operation (TFO) control. TFO uses inband signalling and procedures for Transcoders to enable compressed speech to be maintained between a tandem pair of transcoders. This package allows an MGW which has inserted a transcoder to support TFO.

15.1.3.1   Properties

TFO Activity Control:

PropertyID: tfoenable (0x0001).

Description: Defines if TFO is enabled or not.

Type: Enumeration.

Possible Values:

-    "On" (0x0001): TFO is enabled, TFO protocol is supported.

-    "Off" (0x0002): TFO is not enabled, TFO protocol is not initiated or terminated.

Defined in: Local Control descriptor.

Characteristics: Read/Write.

TFO Codec List:

PropertyID: codeclist (0x0002).

Description: List of codecs for use in TFO protocol, the Local Used Codec (see 3GPP TS 28.062 [5]) is always the first entry in the list. The MSC Server may enable TFO without providing a TFO Codec List ; in this case, the MGW shall behave as if it had received a TFO Codec List composed of the selected codec of the opposing termination within the Context.

Type: Octet string.

Possible Values:

- List of codec types; each entry:

    • As defined in ITU-T Recommendation Q.765.5 [24], for single codec information (figure 14/Q.765.5), where the Codec Information is defined either in ITU-T Recommendation Q.765.5 [24] or in another specification for the given Organization Identifier. For 3GPP codecs these are defined in 3GPP TS 26.103 [16].

Defined in: Local Control descriptor.

Characteristics: Read/Write.

15.1.3.2 Events

Optimal Codec Event:

EventID: codec_modify (0x0010).

Description: The event is used to notify the MGC that TFO negotiation has resulted in an optimal codec type being proposed.

EventsDescriptor Parameters: None.

ObservedEventsDescriptor Parameters:

- Optimal Codec Type.

    • ParameterID: optimalcodec (0x0011).

    • Description: indicates which is the proposed codec type for TFO.

    • Type: Octet string.

    • Possible Values:

o Codec Type: As defined in ITU-T Recommendation Q.765.5 [24], for single codec information (figure 14/Q.765.5), where the Codec Information is defined either in ITU-T Recommendation Q.765.5 [24] or in another specification for the given Organization Identifier. For 3GPP codecs these are defined in 3GPP TS 26.103 [16].

Codec List Event:

EventID: distant codec_list (0x0012).

Description: The event is used to notify the MGC of the distant TFO partner's supported codec list.

EventsDescriptor Parameters: None.

ObservedEventsDescriptor Parameters:

- Distant Codec List:

    • ParameterID: distlist(0x0013).

    • Description: indicates the codec list for TFO.

    • Type: Octet string.

- Possible Values:

o List of codecs of type Codec Type: As defined in ITU-T Recommendation Q.765.5 [24], for single codec information (figure 14/Q.765.5), where the Codec Information is defined either in ITU-T Recommendation Q.765.5 [24] or in another specification for the given Organization Identifier. For 3GPP codecs these are defined in 3GPP TS 26.103 [16].

- The first Codec Type in the list is the Distant Used Codec, received from the distant TFO partner (see 3GPP TS 28.062 [5]).

15.1.3.3 Signals

None.

15.1.3.4 Statistics

None.

15.1.3.5 Procedures

For the procedures for TFO see 3GPP TS 28.062 [5].

The use of the properties in this package is applicable only when the MGW Termination to which the package properties are applied has the media stream property for Codec Type set to ITU-T Recommendation G.711 [25] (see annex C of ITU-T Recommendation H.248 [10]). Furthermore, the package properties are applicable only if the Codec Type property of the media stream at the opposing ~~MGW~~ Termination within the Context is not set to ITU-T Recommendation G.711 [25].

CR-Form-v7.1

CHANGE REQUEST

| ⌘ | **23.205** CR **057** | ⌘rev | **-** | ⌘ | Current version: | **4.7.0** | ⌘ |

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☐ Core Network **X**

Title: ⌘	Solving contradiction for Release Cause in Release Bearer Procedure between stage 2 and stage 3	
Source: ⌘	CN4	
Work item code: ⌘	TEI4	***Date:*** ⌘ 16/02/2005

Category: ⌘ **F**	***Release:*** ⌘ Rel-4

Use *one* of the following categories:
F (correction)
A (corresponds to a correction in an earlier release)
B (addition of feature),
C (functional modification of feature)
D (editorial modification)
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use *one* of the following releases:
Ph2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)
Rel-7 (Release 7)

Reason for change: ⌘	Stage 2 specification (23.205) specifies that the Release Cause information element in the Release Bearer procedure is mandatory. Stage 3 specification (29.232 clause 14.2.8.1 Release Bearer) refers to the corresponding BICC procedure in Q.1950 (clause 7.1.7.1 Release). The Release Cause is defined in the Generic Bearer Connection package (Clause A.6.3.3) and consists of 3 different parameters (GeneralCause, FailureCause and Reset indication) . Clause A.6.5 Procedures define that these parameters are optional ("The MGC may optionally include a GeneralCause, FailureCause or Reset indication. "). Additional the detailed coding of the values of one of these parameters (FailureCause) is nowhere defined. To resolve this contradiction we propose to mark the support for the Release Cause information element in the 23.205 Release Bearer procedure also as optional. **ESSENTIAL CORRECTION**
Summary of change: ⌘	Marking Release Cause information element in clause 16.2.9 Release Bearer as optional.
Consequences if not approved: ⌘	Contradictional information in the specifications may lead to interworking problems.

Clauses affected: ⌘	16.2.9

	Y	N		
Other specs affected: ⌘		X	Other core specifications	⌘
		X	Test specifications	

	X	O&M Specifications	

Other comments: ⌘

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm.
Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

16.2.9 Release Bearer

This procedure is used to release the bearer.

Table 16.10: Procedures between (G)MSC server and MGW: Release Bearer

Procedure	Initiated	Information element name	Information element required	Information element description
Release Bearer	(G)MSC-S	Context	M	This information element indicates the context for the bearer termination.
		Bearer Termination	M	This information element indicates the bearer termination for the bearer to be released.
		Bearer Release Request	M	This information element requests release of a bearer.
		Release Cause	~~M~~O	This information element indicates the cause of a bearer release.
Release Bearer Ack	MGW	Context	M	This information element indicates the context where the command was executed.
		Bearer Termination	M	This information element indicates the bearer termination where the command was executed.

CR-Form-v7.1

CHANGE REQUEST

⌘   **29.232** CR **166**   ⌘**rev**   **-**   ⌘   Current version: **4.10.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐   ME ☐   Radio Access Network ☐   Core Network **X**

Title: ⌘	TFO procedure clarification	
Source: ⌘	Alcatel	
Work item code: ⌘	OoBTC	***Date:*** ⌘ 24/01/2005

Category: ⌘ **F**	***Release:*** ⌘ Rel-4

Use one of the following categories:
    F *(correction)*
    A *(corresponds to a correction in an earlier release)*
    B *(addition of feature),*
    C *(functional modification of feature)*
    D *(editorial modification)*
Detailed explanations of the above categories can
be found in 3GPP TR 21.900.

Use one of the following releases:
    Ph2   *(GSM Phase 2)*
    R96   *(Release 1996)*
    R97   *(Release 1997)*
    R98   *(Release 1998)*
    R99   *(Release 1999)*
    Rel-4   *(Release 4)*
    Rel-5   *(Release 5)*
    Rel-6   *(Release 6)*
    Rel-7   *(Release 7)*

Reason for change: ⌘	The current description of the TFO procedures in the TFO package let ambiguities on the respective responsibilities of the MSC Server and the MGW. E.g. assuming that TFO is activated by the MSC-S on one G.711 termination when the other termination in the context is let's say AMR, it is unclear whether there is a mandatory requirement for the MSC-S to deactivate the TFO package on the G711 termination during a handover that would lead to replace the AMR termination by a new G711 termination, or whether it shall be assumed that the MGW is smart enough to deactivate TFO by its own (two G.711 terminations in the context). **This is an essential correction.**
Summary of change: ⌘	It is clarified that the MSC-Server is required to configure the TFO properties consistently, e.g. it shall deactivate TFO in the aforementioned handover case, as specified in TS 28.062, Annex D 2.2 : "The Call Control Layer is responsible that TFO is properly terminated before handover, if the call configuration after handover is not longer TFO compatible."
Consequences if not approved: ⌘	Possible interoperability issues between MSC Server and MGW of different vendors.

Clauses affected: ⌘	15.1.3

		Y	**N**	
Other specs affected: ⌘			**X**	Other core specifications ⌘
			X	Test specifications
			X	O&M Specifications

Other comments: ⌘	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

15.1.3   TFO package

The addition of text encoding for the TFO codec list is for further study.

PackageID: threegtfoc (0x0031)

Version: 1

Extends: None

This package defines events and properties for Tandem Free Operation (TFO) control. TFO uses inband signalling and procedures for Transcoders to enable compressed speech to be maintained between a tandem pair of transcoders. This package allows an MGW which has inserted a transcoder to support TFO.

15.1.3.1   Properties

TFO Activity Control

PropertyID: tfoenable (0x0001)

Description: Defines if TFO is enabled or not.

Type: Enumeration

Possible Values:

"On" (0x0001): TFO is enabled, TFO protocol is supported

"Off" (0x0002): TFO is not enabled, TFO protocol is not initiated or terminated

Defined in: Local Control descriptor

Characteristics: Read/Write

TFO Codec List

PropertyID: codeclist (0x0002)

Description: List of codecs for use in TFO protocol, the Local Used Codec (see 3GPP TS 28.062 [5]) is always the first entry in the list.

Type: Octet string

Possible Values:

List of codec types; each entry:

As defined in Q.765.5, for single codec information (Figure 14/Q.765.5), where the Codec Information is defined either in Q.765.5 or in another specification for the given Organisation Identifier.

Defined in: Local Control descriptor

Characteristics: Read/Write

15.1.3.2   Events

Optimal Codec Event

EventID: codec_modify (0x0010)

Description:
The event is used to notify the MGC that TFO negotiation has resulted in an optimal codec type being proposed.

EventsDescriptor Parameters: None

ObservedEventsDescriptor Parameters:

Optimal Codec Type

ParameterID: optimalcodec (0x0011)

Description: indicates which is the proposed codec type for TFO

Type: Octet string

Possible Values:

Codec Type:

As defined in Q.765.5, for single codec information (Figure 14/Q.765.5), where the Codec Information is defined either in Q.765.5 or in another specification for the given Organisation Identifier.

Codec List Event

EventID: distant codec_list (0x0012)

Description: The event is used to notify the MGC of the distant TFO partner's supported codec list..

EventsDescriptor Parameters: None

ObservedEventsDescriptor Parameters:

Distant Codec List

ParameterID: distlist(0x0013)

Description: indicates the codec list for TFO

Type: Octet string

Possible Values:

List of codecs of type Codec Type:

As defined in Q.765.5, for single codec information (Figure 14/Q.765.5), where the Codec Information is defined either in Q.765.5 or in another specification for the given Organisation Identifier.

The first Codec Type in the list is the Distant Used Codec, received from the distant TFO partner (see 3GPP TS 28.062 [5]).

15.1.3.3   Signals

None

15.1.3.4   Statistics

None

15.1.3.5   Procedures

For the procedures for TFO see 3GPP TS 28.062 [5].

To enable TFO, the MSC Server shall configure the properties of this package on a The use of the properties in this package is applicable only when the MGW Termination to which the package properties are applied haswith the media stream property for Codec Type set to ITU-T Recommendation G.711 (see annex C of ITU-T Recommendation H.248); in this case, Furthermore, the package properties are applicable only if the Codec Type property of the media stream at the opposing MGW Termination in the Context is shall not be set to ITU-T Recommendation G.711. The MSC Server shall properly terminate TFO if the call configuration becomes no longer TFO compatible or if the Codec Type property of the media stream at the opposing termination in the Context is reconfigured to G.711.

CR-Form-v7.1

CHANGE REQUEST

⌘	**29.232** CR **167**	⌘**rev**		⌘	Current version:	**5.9.0**	⌘

For HELP on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps⌘ ☐   ME ☐ Radio Access Network ☐   Core Network **X**

Title: ⌘	TFO procedure clarification	
Source: ⌘	CN4	
Work item code:⌘	OoBTC	***Date:*** ⌘ 24/01/2005
Category: ⌘ **A**		***Release:*** ⌘ Rel-5

Use *one* of the following categories:
   F *(correction)*
   A *(corresponds to a correction in an earlier release)*
   B *(addition of feature),*
   C *(functional modification of feature)*
   D *(editorial modification)*
Detailed explanations of the above categories can
be found in 3GPP TR 21.900.

Use *one* of the following releases:
   Ph2   *(GSM Phase 2)*
   R96   *(Release 1996)*
   R97   *(Release 1997)*
   R98   *(Release 1998)*
   R99   *(Release 1999)*
   Rel-4   *(Release 4)*
   Rel-5   *(Release 5)*
   Rel-6   *(Release 6)*
   Rel-7   *(Release 7)*

Reason for change: ⌘	The current description of the TFO procedures in the TFO package let ambiguities on the respective responsibilities of the MSC Server and the MGW. E.g. assuming that TFO is activated by the MSC-S on one G.711 termination when the other termination in the context is let's say AMR, it is unclear whether there is a mandatory requirement for the MSC-S to deactivate the TFO package on the G711 termination during a handover that would lead to replace the AMR termination by a new G711 termination, or whether it shall be assumed that the MGW is smart enough to deactivate TFO by its own (two G.711 terminations in the context). **This is an essential correction.**
Summary of change:⌘	It is clarified that the MSC-Server is required to configure the TFO properties consistently, e.g. it shall deactivate TFO in the aforementioned handover case, as specified in TS 28.062, Annex D 2.2 : "The Call Control Layer is responsible that TFO is properly terminated before handover, if the call configuration after handover is not longer TFO compatible."
Consequences if not approved: ⌘	Possible interoperability issues between MSC Server and MGW of different vendors.

Clauses affected: ⌘	15.1.3

	Y	N		
Other specs affected: ⌘		X	Other core specifications	⌘
		X	Test specifications	
		X	O&M Specifications	

Other comments:	⌘	

How to create CRs using this form:

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Below is a brief summary:

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2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

15.1.3   TFO package

The addition of text encoding for the TFO codec list is for further study.

PackageID: threegtfoc (0x0031)

Version: 1

Extends: None

This package defines events and properties for Tandem Free Operation (TFO) control. TFO uses inband signalling and procedures for Transcoders to enable compressed speech to be maintained between a tandem pair of transcoders. This package allows an MGW which has inserted a transcoder to support TFO.

15.1.3.1   Properties

TFO Activity Control:

PropertyID: tfoenable (0x0001).

Description: Defines if TFO is enabled or not.

Type: Enumeration.

Possible Values:

- "On" (0x0001): TFO is enabled, TFO protocol is supported.

- "Off" (0x0002): TFO is not enabled, TFO protocol is not initiated or terminated.

Defined in: Local Control descriptor.

Characteristics: Read/Write.

TFO Codec List:

PropertyID: codeclist (0x0002).

Description: List of codecs for use in TFO protocol, the Local Used Codec (see 3GPP TS 28.062 [5]) is always the first entry in the list.

Type: Octet string.

Possible Values:

- List of codec types; each entry:

  - As defined in ITU-T Recommendation Q.765.5 [24], for single codec information (figure 14/Q.765.5), where the Codec Information is defined either in ITU-T Recommendation Q.765.5 [24] or in another specification for the given Organization Identifier. For 3GPP codecs these are defined in 3GPP TS 26.103 [16].

Defined in: Local Control descriptor.

Characteristics: Read/Write.

15.1.3.2   Events

Optimal Codec Event:

EventID: codec_modify (0x0010).

Description: The event is used to notify the MGC that TFO negotiation has resulted in an optimal codec type being proposed.

EventsDescriptor Parameters: None.

ObservedEventsDescriptor Parameters:

- Optimal Codec Type.

    - ParameterID: optimalcodec (0x0011).

    - Description: indicates which is the proposed codec type for TFO.

    - Type: Octet string.

    - Possible Values:

o Codec Type: As defined in ITU-T Recommendation Q.765.5 [24], for single codec information (figure 14/Q.765.5), where the Codec Information is defined either in ITU-T Recommendation Q.765.5 [24] or in another specification for the given Organization Identifier. For 3GPP codecs these are defined in 3GPP TS 26.103 [16].

Codec List Event:

EventID: distant codec_list (0x0012).

Description: The event is used to notify the MGC of the distant TFO partner's supported codec list.

EventsDescriptor Parameters: None.

ObservedEventsDescriptor Parameters:

- Distant Codec List:

    - ParameterID: distlist(0x0013).

    - Description: indicates the codec list for TFO.

    - Type: Octet string.

    - Possible Values:

o List of codecs of type Codec Type: As defined in ITU-T Recommendation Q.765.5 [24], for single codec information (figure 14/Q.765.5), where the Codec Information is defined either in ITU-T Recommendation Q.765.5 [24] or in another specification for the given Organization Identifier. For 3GPP codecs these are defined in 3GPP TS 26.103 [16].

    - The first Codec Type in the list is the Distant Used Codec, received from the distant TFO partner (see 3GPP TS 28.062 [5]).

15.1.3.3   Signals

None.

15.1.3.4   Statistics

None.

15.1.3.5   Procedures

For the procedures for TFO see 3GPP TS 28.062 [5].

To enable TFO, the MSC Server shall configure the properties of this package on a ~~The use of the properties in this package is applicable only when the~~ MGW Termination ~~to which the package properties are applied has~~with the media stream property for Codec Type set to ITU-T Recommendation G.711 [25] (see annex C of ITU-T Recommendation H.248 [10]) ; in this case, ~~Furthermore, the package properties are applicable only if~~ the Codec Type property of the media stream at the opposing ~~MGW~~ Termination in the Context ~~is~~ shall not be set to ITU-T Recommendation G.711 [25]. The MSC Server shall properly terminate TFO if the call configuration becomes no longer TFO compatible or if the Codec Type property of the media stream at the opposing termination in the Context is reconfigured to G.711.

3GPP TSG-CN WG4 Meeting #26
Sydney, AUSTRALIA. 14th to 18th February 2005.

N4-050418
Revision of N4-050101

CR-Form-v7.1

CHANGE REQUEST

⌘	**29.232** CR **139**	⌘**rev** **1**	⌘	Current version:	**6.0.0**	⌘

For HELP on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: UICC apps⌘ ☐   ME ☐   Radio Access Network ☐   Core Network **X**

Title:	⌘	TFO procedure clarification

Source:	⌘	CN4

Work item code:⌘	TEI6	*Date:* ⌘	24/01/2005

Category:	⌘	**A**	*Release:* ⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
Ph2 (GSM Phase 2)
R96 (Release 1996)
R97 (Release 1997)
R98 (Release 1998)
R99 (Release 1999)
Rel-4 (Release 4)
Rel-5 (Release 5)
Rel-6 (Release 6)
Rel-7 (Release 7)

Reason for change:	⌘	The current description of the TFO procedures in the TFO package let ambiguities on the respective responsibilities of the MSC Server and the MGW. E.g. assuming that TFO is activated by the MSC-S on one G.711 termination when the other termination in the context is let's say AMR, it is unclear whether there is a mandatory requirement for the MSC-S to deactivate the TFO package on the G711 termination during a handover that would lead to replace the AMR termination by a new G711 termination, or whether it shall be assumed that the MGW is smart enough to deactivate TFO by its own (two G.711 terminations in the context). **This is an essential correction.**

Summary of change:	⌘	It is clarified that the MSC-Server is required to configure the TFO properties consistently, e.g. it shall deactivate TFO in the aforementioned handover case, as specified in TS 28.062, Annex D 2.2 : "The Call Control Layer is responsible that TFO is properly terminated before handover, if the call configuration after handover is not longer TFO compatible."

Consequences if not approved:	⌘	Possible interoperability issues between MSC Server and MGW of different vendors.

Clauses affected:	⌘	15.1.3

		Y	N		
Other specs affected:	⌘		X	Other core specifications	⌘
			X	Test specifications	
			X	O&M Specifications	

Other comments: ⌘	

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm.
Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

15.1.3   TFO package

The addition of text encoding for the TFO codec list is for further study.

PackageID: threegtfoc (0x0031)

Version: 1

Extends: None

This package defines events and properties for Tandem Free Operation (TFO) control. TFO uses inband signalling and procedures for Transcoders to enable compressed speech to be maintained between a tandem pair of transcoders. This package allows an MGW which has inserted a transcoder to support TFO.

15.1.3.1   Properties

TFO Activity Control:

PropertyID: tfoenable (0x0001).

Description: Defines if TFO is enabled or not.

Type: Enumeration.

Possible Values:

- "On" (0x0001): TFO is enabled, TFO protocol is supported.

- "Off" (0x0002): TFO is not enabled, TFO protocol is not initiated or terminated.

Defined in: Local Control descriptor.

Characteristics: Read/Write.

TFO Codec List:

PropertyID: codeclist (0x0002).

Description: List of codecs for use in TFO protocol, the Local Used Codec (see 3GPP TS 28.062 [5]) is always the first entry in the list.

Type: Octet string.

Possible Values:

- List of codec types; each entry:

  • As defined in ITU-T Recommendation Q.765.5 [24], for single codec information (figure 14/Q.765.5), where the Codec Information is defined either in ITU-T Recommendation Q.765.5 [24] or in another specification for the given Organization Identifier. For 3GPP codecs these are defined in 3GPP TS 26.103 [16].

Defined in: Local Control descriptor.

Characteristics: Read/Write.

15.1.3.2   Events

Optimal Codec Event:

EventID: codec_modify (0x0010).

Description: The event is used to notify the MGC that TFO negotiation has resulted in an optimal codec type being proposed.

EventsDescriptor Parameters: None.

ObservedEventsDescriptor Parameters:

- Optimal Codec Type.

  - ParameterID: optimalcodec (0x0011).

  - Description: indicates which is the proposed codec type for TFO.

  - Type: Octet string.

  - Possible Values:

o Codec Type: As defined in ITU-T Recommendation Q.765.5 [24], for single codec information (figure 14/Q.765.5), where the Codec Information is defined either in ITU-T Recommendation Q.765.5 [24] or in another specification for the given Organization Identifier. For 3GPP codecs these are defined in 3GPP TS 26.103 [16].

Codec List Event:

EventID: distant codec_list (0x0012).

Description: The event is used to notify the MGC of the distant TFO partner's supported codec list.

EventsDescriptor Parameters: None.

ObservedEventsDescriptor Parameters:

- Distant Codec List:

  - ParameterID: distlist(0x0013).

  - Description: indicates the codec list for TFO.

  - Type: Octet string.

  - Possible Values:

o List of codecs of type Codec Type: As defined in ITU-T Recommendation Q.765.5 [24], for single codec information (figure 14/Q.765.5), where the Codec Information is defined either in ITU-T Recommendation Q.765.5 [24] or in another specification for the given Organization Identifier. For 3GPP codecs these are defined in 3GPP TS 26.103 [16].

  - The first Codec Type in the list is the Distant Used Codec, received from the distant TFO partner (see 3GPP TS 28.062 [5]).

15.1.3.3   Signals

None.

15.1.3.4   Statistics

None.

15.1.3.5   Procedures

For the procedures for TFO see 3GPP TS 28.062 [5].

To enable TFO, the MSC Server shall configure the properties of this package on a ~~The use of the properties in this package is applicable only when the~~ MGW Termination ~~to which the package properties are applied has~~with the media stream property for Codec Type set to ITU-T Recommendation G.711 [25] (see annex C of ITU-T Recommendation H.248 [10]) ; in this case, ~~Furthermore, the package properties are applicable only if~~ the Codec Type property of the media stream at the opposing ~~MGW~~ Termination in the Context ~~is~~ shall not be set to ITU-T Recommendation G.711 [25]. The MSC Server shall properly terminate TFO if the call configuration becomes no longer TFO compatible or if the Codec Type property of the media stream at the opposing termination in the Context is reconfigured to G.711.