

Source: TSG CN WG3
Title: pre-Rel-99 Work Item TEI
Agenda item: 7.11
Document for: APPROVAL

Introduction:

This document contains 3 CRs on **pre-Rel-99 Work Item TEI [CS Data]**, including the corresponding mirror CRs (as required).

These CRs have been agreed by TSG CN WG3 and are forwarded to TSG CN Plenary for approval.

WG_tdoc	Title	Spec	CR	Rev	Cat	Rel	C_Ver
N3-030380	BC-IE alignment with 24.008	27.001	094	2	F	R99	3.b.0
N3-030381	BC-IE alignment with 24.008	27.001	095	1	A	Rel-4	4.9.0
N3-030382	BC-IE alignment with 24.008	27.001	096	1	A	Rel-5	5.5.0

CHANGE REQUEST

27.001 CR 094 # rev **2** # Current version: **3.11.0**

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

Title:	# BC-IE alignment with 24.008.		
Source:	# TSG_CN WG3 [Ericsson]		
Work item code:	# CS Data	Date:	# 23/05/2003
Category:	# F	Release:	# R99
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	# There are several cases of misalignment between 24.008 v3.15.0 and 27.001 v3.11.0. This is affected by recently agreed corrections to 24.008 (see CR in N1-030554). However, the misalignment still exists as outlined below: <ol style="list-style-type: none"> 1. 24.008 v3.15.0 section 10.5.4.5.1 mandates the MS to send octet 6e of the BC-IE whenever octet 6d is sent in the MS to network direction. This rule is missing in section 8.3.3.2. 2. 24.008, section 10.5.4.5 (according to N1-030554) says that: <ol style="list-style-type: none"> a) an MS not supporting GSM shall set the BC-IE octet 6e parameters (ACC and MaxNumTCH) to the value "0". The value "0" corresponds to a set of acceptable channel codings equal to "none" (for ACC), and 1 TCH (for MaxNumTCH). These "0" values are missing in several relevant tree diagrams in section B.1. The "none" value for ACC is also missing in Annex A. b) the parameters MaxNumTCH, WAIUR and UIMI are relevant in UMTS for NT calls to avoid RLP renegotiation in case of inter-system handover. Table B.5a is not aligned with this.
Summary of change:	# Changes to correct the misalignment with 24.008 (see "Reason for change") are proposed. Note that for tree diagrams created in Word, the usual "track changes" tool is used to highlight the changes. For tree diagrams in imported spreadsheets, updated cells are marked with a gray background.
Consequences if not approved:	# Inconsistent 3GPP specifications There is a risk of interoperability problems for MSs and the network equipment from different manufacturers due to unclear/missing parameter coding.

Clauses affected:	⌘	Section 8.3.3.2, Annex A , Table B.5a , tree diagrams in sections B.1.2.1, B.1.2.2, B.1.3.1.2, B1.3.1.3, B.1.3.1.5, B.1.3.1.6, B.1.3.2.1 , B.1.3.2.2 and B.1.3.2.3										
Other specs affected:	⌘	<table border="1"><tr><th>Y</th><th>N</th></tr><tr><td></td><td>X</td></tr><tr><td></td><td>X</td></tr><tr><td></td><td>X</td></tr></table>	Y	N		X		X		X	Other core specifications	⌘ See comment below
		Y	N									
			X									
	X											
	X											
	Test specifications											
	O&M Specifications											
Other comments:	⌘	This CR is linked to other CRs (N1-030554-557 to TS 24.008), which have been agreed already in the last CN1 meeting (CN1#29).										

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.

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.

***** First Modified Section *****

8.3.3.2 Indication in case of Mobile originating calls

In support of mobile originating calls the values of BC-IE parameters are requested in the set-up message from the MS. If the MS indicates the support of both transparent and non transparent connection elements the network shall return its choice in the call proceeding message. The MS is not allowed to indicate support of both transparent and non transparent, if the MS also requests out-band flow control, i.e. it does not indicate a layer 2 protocol.

Additionally the value of the parameter modem type has to be set depending on the value of the parameter connection element as described in annex B, table B.4a.

The set-up message contains a single or multiple BC-IE. In case of multiple BC-IEs one BC-IE must indicate the information transfer capability "speech".

In case of a multimedia call the setup message contains either a multimedia BC-IE indicating a multimedia only call request (i.e. no fallback to speech allowed) or both a speech BC-IE and a 3,1kHz multimedia BC-IE to indicate the support/request of a fallback to speech (ref. to 3GPP TS 29.007 and 3GPP TS 24.008).

If the set-up message requests a "single service", the network must not answer in the call proceeding message requesting a "dual service" and vice versa. Alternatively the network shall answer with a single BC-IE containing fax group 3 if a multiple BC-IE requesting speech alternate fax group 3 is received but the network does not allow the use of this alternate service. Annex B, table B.7, describes the negotiation rules. If the MS requests a "dual service" the network is not allowed to change the sequence of the service.

If the set-up message indicates that negotiation of intermediate rate is requested then the network shall behave as described in annex B, table B.4b.

Unless otherwise specified in annex B, if no BC-IE parameter needs negotiation it is up to the network if it sends a CALL PROC message (with or without a BC-IE) towards the MS or not.

[For MS to network direction, octet 6e shall be included whenever octet 6d is included \(see 3GPP TS 24.008\).](#)

For multislot, TCH/F14.4, and EDGE operations and in UMTS the MS shall include an appropriate set of the parameters 'fixed network user rate', 'other modem type', 'maximum number of TCH' and 'acceptable channel codings' in the BC-IE of the SETUP message. If EDGE channel coding(s) are included in ACC in case of transparent calls, the 'Wanted air interface user rate'-parameter shall be set to 'Air interface user rate not applicable' and the 'User initiated modification indication'-parameter to 'User initiated modification not requested'. In a non-transparent multislot operation, the MS shall also include the parameters 'wanted air interface user rate' and 'user initiated modification indication' in the BC-IE of the SETUP message. In a non-transparent TCH/F14.4 or EDGE operation or in UMTS the MS shall also include the parameter 'wanted air interface user rate'. In non-transparent EDGE operation the MS shall also include the parameter 'asymmetry preference indication'. It shall also set the other parameters of the BC-IE (i.e. 'user rate') to values identifying fall-back values. Depending on the network two situations can be distinguished:

- a) The network supports the requested operation:
 - in this case the network must include the parameter 'fixed network user rate', 'other modem type' and possibly 'user initiated modification' in the BC-IE(s) of the CALL PROCEEDING message, irrespective whether or not they contain modified values or just a copy of the received ones;
 - the 'acceptable channel codings' indicated by the MS in the SETUP message takes precedence over the 'negotiation of intermediate rate requested' parameter for non-transparent services. The intermediate rate per traffic channel and the user rate per traffic channel is dependent on the chosen channel coding only. The chosen channel coding is indicated to the mobile station by the network with an RR message.
- b) The network does not support the requested operation:
 - in this case, in GSM, the BC-IE of the CALL PROCEEDING message will not contain the parameters 'fixed network user rate' and 'other modem type' or no BC-IE will be included in the CALL PROCEEDING message at all. The mobile station shall then discard the parameters 'fixed network user rate', 'other modem type', 'maximum number of TCH', 'acceptable channel codings', 'wanted air interface user rate' and 'user initiated modification indication' sent with the SETUP message and apply the fall-back bearer service.

In case a), a single slot configuration shall be used by the MS, in case the 'maximum number of traffic channels' is set to "1 TCH" and the 'user initiated modification indication' is set either to "user initiated modification not requested" or to "user initiated modification up to 1TCH may be requested".

In case b), The MS shall use the fall-back bearer service indicated by the remaining parameters of the BC-IE on a single slot configuration (reference 3GPP TS 04.21).

If FNUR = 33.6 kbit/s is agreed on in the setup of a 3,1 kHz multimedia call, the modems may handshake to 31.2 or 28.8 kbit/s. In this case the MS receives a MODIFY message from the MSC to indicate the new data rate, and shall respond with a MODIFY COMPLETE message (ref. to 3GPP TS 24.008), if it supports the requested modification. If the MS does not support the requested modification, it shall respond with a MODIFY REJECT message. The MT shall indicate the new data rate to the TE (e.g. using the ITU-T V.80 inband signaling) in order to cause the TE to use stuffing to adapt the 31.2 or 28.8 kbit/s data rate to the 33.6 kbit/s traffic channel between the TE and IWF.

|

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

Annex A (informative): List of Bearer Capability Elements

This annex lists the PLMN Bearer Capability Elements which need to be provided to support Terminal adaptation function to Interworking control procedures. Some parameters are ignored in UMTS although present in the BC-IE. The validity of parameter values may also differ from GSM to UMTS. The ignored parameters and the difference of parameter value validity in GSM and UMTS are listed in table B.5a in annex B.

Elements and their Values:

Information Transfer Capability:

This element is relevant between the IWF and the fixed network.

Values:

- Speech
- Unrestricted Digital
- Group 3 Facsimile (note 1)
- 3,1 kHz Ex PLMN (note 2)
- Restricted Digital (note 3)

NOTE 1: Used for facsimile transmission, unrestricted digital between MT and IWF and 3,1 kHz audio from IWF towards the fixed network.

NOTE 2: Unrestricted digital between MT and IWF and 3,1 kHz audio from IWF towards the fixed network.

NOTE 3: Unrestricted digital between MT and IWF and restricted digital information from IWF towards the fixed network; this value is signalled in the "Other ITC" element, due to a lack of further code points in the "ITC" element.

Transfer Mode:

This element is relevant between MT and IWF

Values:

- Circuit
- Packet

Structure:

This element is relevant between MT and IWF.

Values:

- Service Data Unit Integrity (note 4)
- Unstructured (note 5)

NOTE 4: Applicable for connection element "non transparent".

NOTE 5: Applicable for connection element "transparent".

Configuration:

This element is relevant for a PLMN connection.

Values:

- Point to point

Establishment:

This element is relevant for a PLMN connection.

Values:

- Demand

Sync/Async:

This element is relevant between TE/TA and MT and between IWF and the fixed network.

Values: - Synchronous
 - Asynchronous

Negotiation:

This element is relevant between MT and IWF.

Values: - In band negotiation not possible

User Rate:

This element is relevant between TE/TA and MT and between IWF and the fixed network, except in case the parameter FNUR is present.

Values: - 0.3 kbit/s
 - 1.2 kbit/s
 - 2.4 kbit/s
 - 4.8 kbit/s
 - 9.6 kbit/s
 - 19.2 kbit/s (see note 6)

NOTE 6: This value cannot be signalled between MT and IWF, but it can be used according to the rules in 3GPP TS 29.007 (table 7A, 7B) for such connections.

Intermediate Rate:

This element is relevant between MT and BSS and BSS and IWF

Values: - 8 kbit/s
 - 16 kbit/s

Network Independent Clock on Tx:

This element is relevant between TE/TA and MT in the transmit direction.

Values: - Not required
 - Required

Network Independent Clock on Rx:

This element is relevant between TE/TA and MT in the receive direction.

Values: - Not accepted
 - accepted

Number of Stop Bits:

This element is relevant between the TE/TA and MT and between IWF and fixed network in case of asynchronous transmission.

Values: - 1 bit
 - 2 bit

Number of Data Bits Excluding Parity If Present:

This element is relevant between TE/TA and MT and between IWF and the fixed network in case of a character oriented mode of transmission.

Values: - 7 bit
 - 8 bit

Parity Information:

This element is relevant between TE/TA and MT and between IWF and the fixed network for a character oriented mode of transmission.

- Values:
- Odd
 - Even
 - None
 - Forced to 0
 - Forced to 1

Duplex Mode:

This element is relevant between MT and IWF.

- Values:
- Full Duplex

Modem Type:

This element is relevant between the IWF and the fixed network in case of 3,1 kHz audio ex-PLMN information transfer capability.

- Values:
- V.21
 - V.22
 - V.22 bis
 - V.26 ter
 - V.32
 - autobauding type 1
 - none

Radio Channel Requirement:

This element is relevant between MT and BSS

- Values:
- Full Rate support only Mobile Station
 - Dual Rate support Mobile Station/Half Rate preferred
 - Dual Rate support Mobile Station/Full Rate preferred

Connection Element:

This element is relevant between MT and IWF

- Values:
- Transparent
 - Non Transparent
 - both, Transparent preferred
 - both, Non transparent preferred

User Information Layer 2 Protocol:

This element is relevant between TE/TA and MT and between IWF and the fixed network.

- Values:
- ISO 6429
 - X.25
 - X.75 layer 2 modified (CAPI)
 - Character oriented Protocol with no Flow Control mechanism

Signalling Access Protocol:

This element is relevant between TE/TA and MT.

- Values:
- I.440/450
 - X.32

Rate Adaptation:

This element is relevant between IWF and the fixed network.

Values:

- V.110/X.30
- X.31 flagstuffing
- no rate adaptation
- V.120 (note 7)
- PIAFS (note 7)
- H.223 and H.245 (note 7)

NOTE 7: This value is signalled in the "Other Rate Adaption" element, due to a lack of further code points in the "Rate Adaption" element.

Coding Standard:

This element refers to the structure of the BC-IE defined in 3GPP TS 24.008.

Values: - GSM

User Information Layer 1 Protocol:

This element characterizes the layer 1 protocol to be used between MT and BSS (Um interface) according to 3GPP TS 05.01, or between the MT and the RNC (Uu interface).

Values: - default

Negotiation of Intermediate Rate requested:

This element is relevant between MT and BSS and BSS and IWF.

Values:

- no meaning associated
- 6 kbit/s radio interface is requested for a full rate channel with a user rate up to and including 4,8 kbit/s, non transparent service

Compression:

This element is relevant between MT and IWF.

Values:

- compression possible/allowed
- compression not possible/allowed

Rate adaption header / no header:

This element is relevant between IWF and the fixed network. It is only applicable for V.120 rate adaptation.

Values:

- Rate adaption header not included
- Rate adaption header included

Multiple frame establishment support in data link:

This element is relevant between IWF and the fixed network. It is only applicable for V.120 rate adaptation.

Values:

- Multiple frame establishment not supported. Only UI frames allowed.
- Multiple frame establishment supported.

Mode of operation:

This element is relevant between IWF and the fixed network. It is only applicable for V.120 rate adaptation.

Values:

- Bit transparent mode of operation
- Protocol sensitive mode of operation

Logical link identifier negotiation:

This element is relevant between IWF and the fixed network. It is only applicable for V.120 rate adaptation.

Values: - Default, LLI=256 only
 - Full protocol negotiation (note 8)

NOTE 8: A connection over which protocol negotiation will be executed is indicated in the „In-band / out-band negotiation" parameter.

Assignor / assignee:

This element is relevant between IWF and the fixed network. It is only applicable for V.120 rate adaptation.

Values: - Message originator is „default assignee"
 - Message originator is „assignor only"

In-band / out-band negotiation:

This element is relevant between IWF and the fixed network. It is only applicable for V.120 rate adaptation.

Values: - Negotiation is done with USER INFORMATION messages on a temporary signalling connection
 - Negotiation is done in-band using logical link zero.

Fixed network user rate, FNUR (Note 12)

This element is relevant between the IWF and the fixed network.

Values - Fixed network user rate not applicable (note 9)
 - 9,6 kbit/s
 - 14,4 kbit/s
 - 19,2 kbit/s
 - 28,8 kbit/s
 - 32,0 kbit/s
 - 38,4 kbit/s
 - 48,0 kbit/s
 - 56,0 kbit/s
 - 64,0 kbit/s

NOTE 9: Not used by currently specified services.

Wanted air interface user rate, WAIUR (note 12)

This element is relevant between the MT and the IWF

Values - Air interface user rate not applicable
 - 9,6 kbit/s
 - 14,4 kbit/s
 - 19,2 kbit/s
 - 28,8 kbit/s
 - 38,4 kbit/s
 - 43,2 kbit/s
 - 57,6 kbit/s
 - interpreted by the network as 38,4 kbit/s (note 10)

NOTE 10: Certain code points, if used, will be interpreted by the network as 38.4 kbit/s in this version of the protocol, ref 3GPP TS 24.008.

Acceptable channel codings, ACC (note 12)

This element is relevant between the MT and the IWF.

- Value:
- TCH/F4.8 acceptable
 - TCH/F9.6 acceptable
 - TCH/F14.4 acceptable
 - TCH/F28.8 acceptable
 - TCH/F32.0 acceptable (Applicable to multimedia 32, 56 and 64 kbit/s and synchronous transparent 56 and 64 kbit/s services only)
 - TCH/F43.2 acceptable (Applicable to non-transparent services only.)
 - [none \(note 10a\)](#)

[NOTE 10a: No channel coding \(defined by selecting none of the above\).](#)

Maximum number of traffic channels, MaxNumTCH (Note 12)

This element is relevant between the MT and the IWF.

- Value:
- 1 TCH
 - 2 TCH
 - 3 TCH
 - 4 TCH
 - 5 TCH
 - 6 TCH
 - 7 TCH (note 11)
 - 8 TCH (note 11)

NOTE11: Not used by currently specified services.

Other modem type, OMT (Note 12)

This element is relevant between the IWF and the fixed network in case of 3,1 kHz audio ex-PLMN

- Values:
- no other modem type specified in this field
 - V.34

User initiated modification indication, UIMI (Note 12)

This element is relevant between the MT and the IWF.

- Values:
- user initiated modification not requested
 - user initiated modification upto 1 TCH requested
 - user initiated modification upto 2 TCH requested
 - user initiated modification upto 3 TCH requested
 - user initiated modification upto 4 TCH requested

Asymmetry preference indication (Note 12)

This element is relevant between the MT and the BSS.

- Value:
- no preference
 - up link biased asymmetry preference
 - down link biased asymmetry preference

NOTE 12: These GBS-related parameters are optional.

For a multislot configuration, the following applies to the parameters contained in the BC-IE:

- Half rate channels are not supported. The MS shall code the radio channel requirement as "Full rate support only MS" or "Dual rate support MS, full rate preferred". In the second case, the network shall assign full rate channel(s) only.
- The 'fixed network user rate' and 'other modem type' (ref. table B.4a) takes precedence over the 'user rate' and 'modem type'.

- The ACC indicates which channel coding is acceptable and supported by the MS. In case of CE:NT the TCH/F4.8 and TCH/F9.6 acceptable is equivalent to the support of NIRR. If TCH/F4.8 acceptable only or TCH/F9.6 acceptable only or TCH/F14.4 acceptable only is indicated, the assigned channel type which can be chosen by the network is TCH/F4.8 or TCH/F9.6 or TCH/F14.4, respectively.
- The 'intermediate rate' parameter is overridden. The intermediate rate used per each TCH/F is derived from the chosen channel type:

channel type	IR per TCH/F
TCH/F4.8	8 kbit/s
TCH/F9.6	16 kbit/s
TCH/F14.4	intermediate rate is to be defined

- The user rate per TCH is derived from the chosen channel type:

channel type	user rate per TCH
TCH/F4.8	4.8 kbit/s
TCH/F9.6	9.6 kbit/s

For CE:T, the padding procedure described in 3GPP TS 04.21 can be applied.

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

Table B.5a: Differences in parameter value validity in GSM and UMTS

Parameter / value	GSM	UMTS
Radio Channel Requirements / any	valid	ignored
User rate / any	valid	ignored
Intermediate Rate / any	valid	ignored
NIC on transmission / any	valid	ignored
NIC on reception / any	valid	ignored
Negotiation of IR requested / any	valid	ignored
Acceptable Channel Codings / any	valid	ignored (note 1)
Maximum number of traffic channels / any	valid	ignored (note 1)
User initiated modification indication / any	valid	Ignored (note1)
Asymmetry preference indication/ any	valid	ignored
Modem type /		
V.21, V.22, V.22bis, V.26ter	valid	invalid
V.32	valid	invalid for CE=T
Fixed Network User Rate /		
32 kbit/s	Invalid for CE = NT	valid
33.6 kbit/s	invalid	valid
9.6, 14.4, 19.2, 38.4, 48.0	valid	invalid for CE=T
28.8	valid	invalid for CE=T in the case of ITC=UDI
Other Rate adaptation /		
PIAFS	invalid	valid

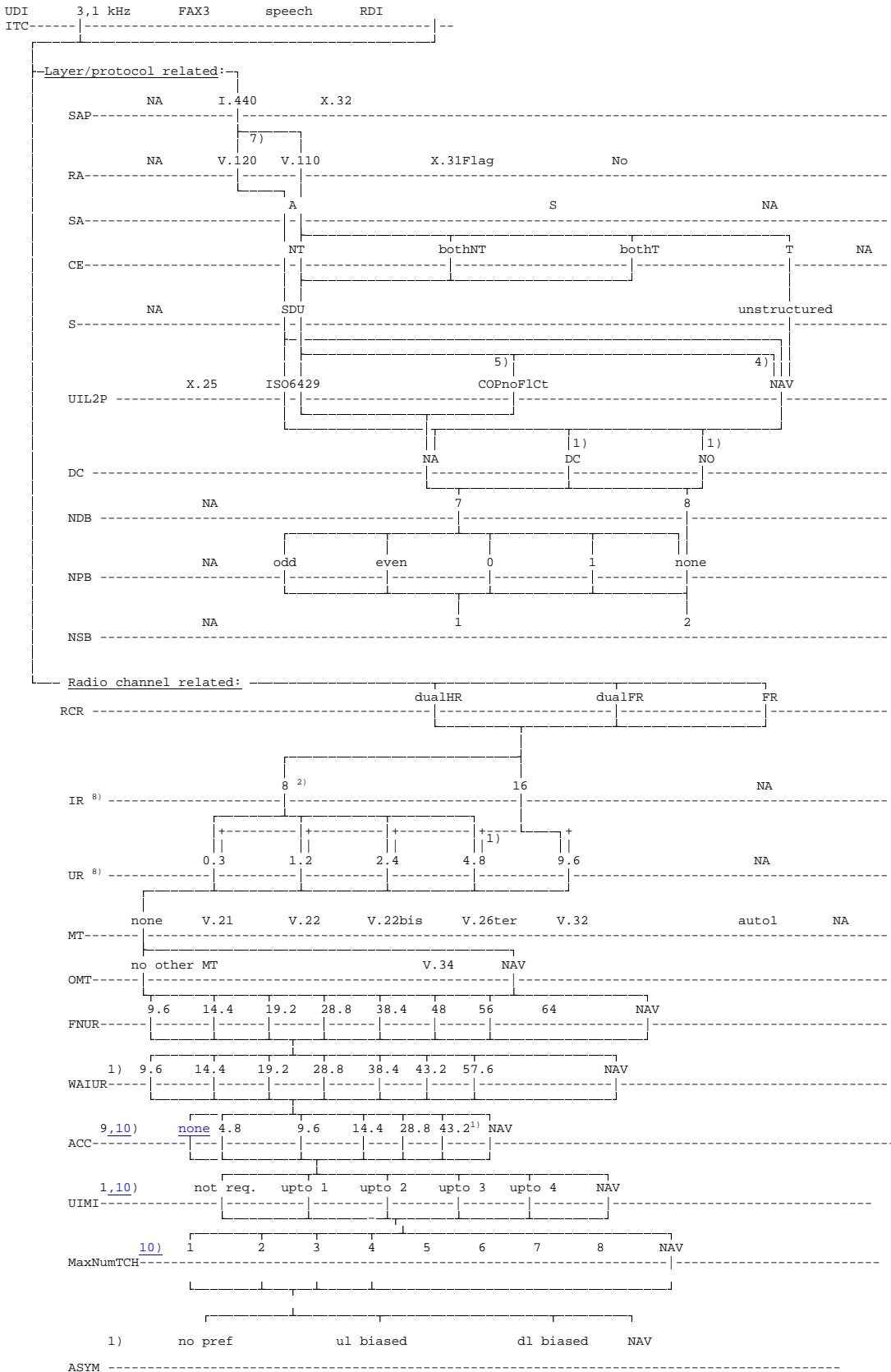
NOTE: Although a parameter value is marked as "valid", the validity may be restricted by rules given elsewhere in the present document.

NOTE 1: This parameter is relevant in UMTS for NT calls, [in conjunction with WAIUR](#), for deciding which RLP version to negotiate in order to avoid renegotiation of RLP version in case of handover, see 3GPP TS 24.022 [9]. It is otherwise irrelevant for specifying the UTRAN radio access bearer.

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

B.1.2 Bearer Service 20, Data Circuit Duplex Asynchronous

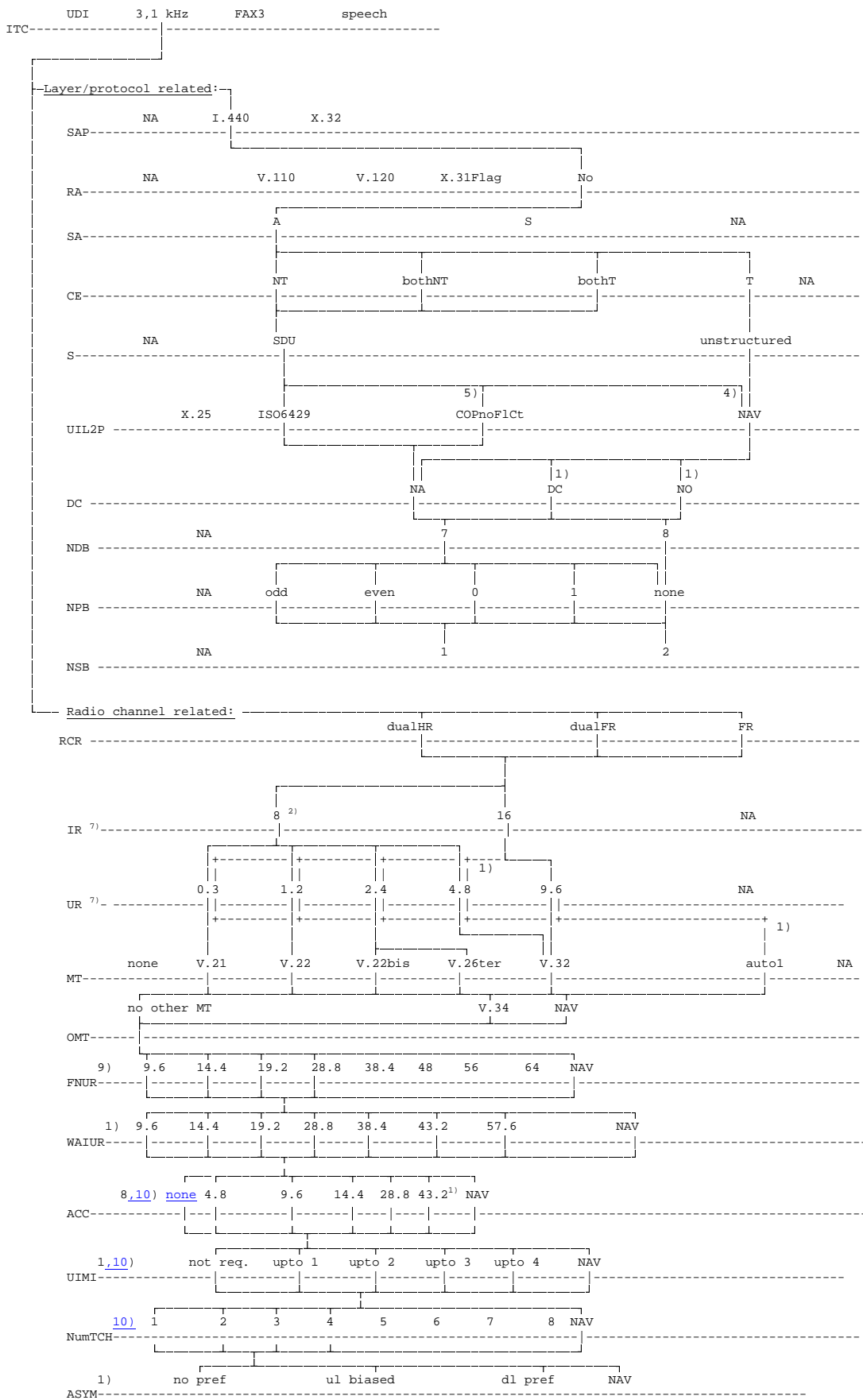
B.1.2.1 Unrestricted / restricted digital information transfer capability



- 1) for CE:NT or "both";
- 2) for CE:T only or CE:NT and NIRR:6kb/s (not for the SETUP message);
- 3) Void;
- 4) for MT CALLS in the SETUP message or MO/MT CALLS with "out-band" flow control requested;
- 5) for MO/MT CALLS with no flow control requested;
- 6) Void;
- 7) the V.120 relevant BC parameters (octet 5b) shall be set according to the LLC (see clause B.2);
- 8) IR and UR are overridden by FNUR, ACC and MaxNumTCH;
- 9) ~~9~~ ACC may have several values simultaneously (bit map coding).

10) An MS not supporting GSM sets ACC to "none" and MaxNumTCH is set to "1 TCH". An MS not supporting GSM also sets ACCext (i.e. the extension bits of ACC parameter, see 3GPP TS 24.008 for its definition and values) and UIMI to zero if they are included in the PLMN BC-IE, i.e. UIMI is set to "NA" and the ACC parameter (including the ACCext bits) is set to the value "none" (all zeros).

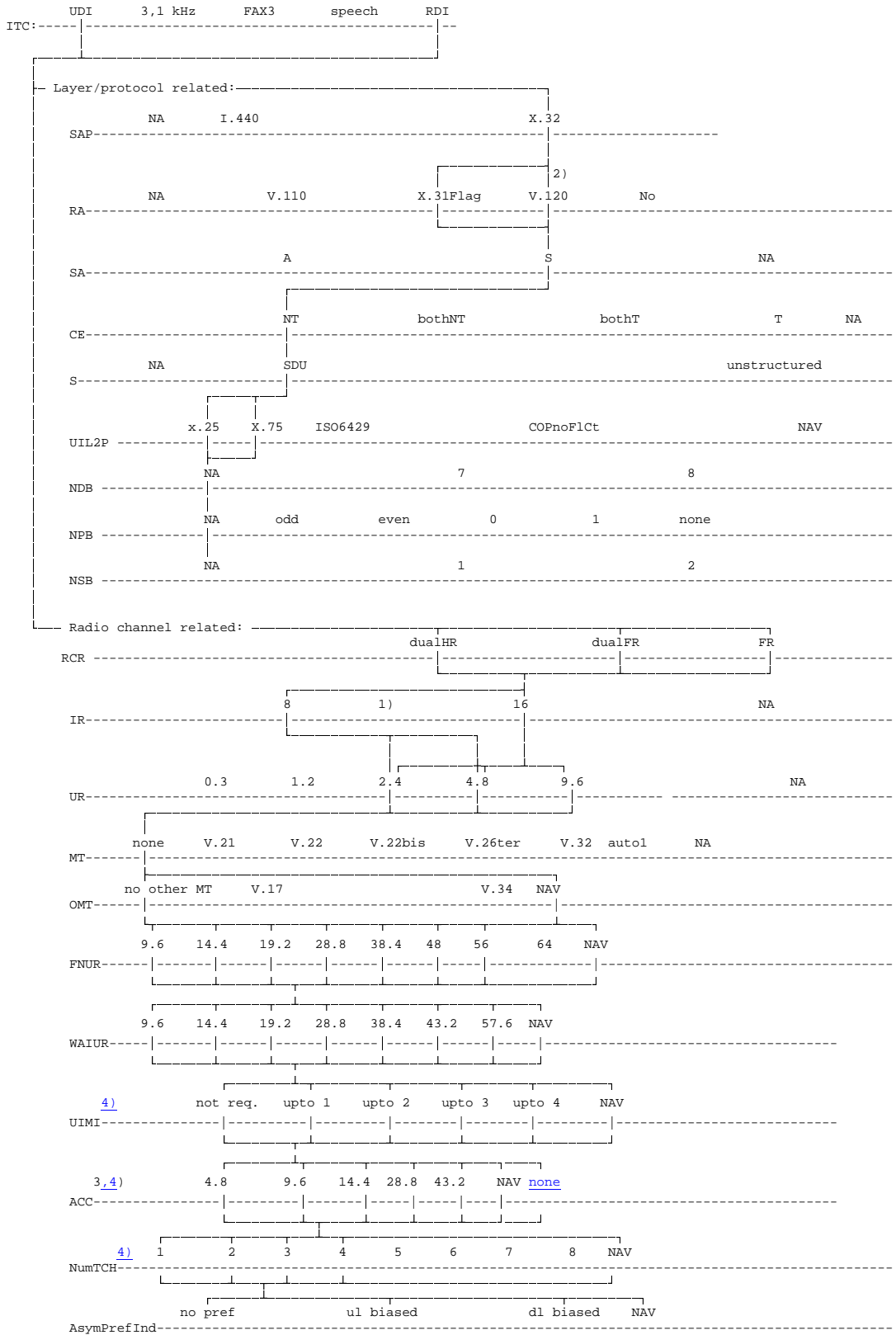
B.1.2.2 3,1 kHz audio ex-PLMN information transfer capability



- 1) for CE:NT or "both";
 - 2) for CE:T only or CE:NT and NIRR:6kb/s (not for the SETUP message);
 - 3) Void;
 - 4) for MT CALLS in the SETUP message or MO/MT CALLS with "out-band" flow control requested (not for V.21 modem type);
 - 5) for MO/MT CALLS with no flow control requested;
 - 6) Void;
 - 7) IR and UR are overridden by FNUR, ACC and MaxNumTCH.
 - 8) ACC may have several values simultaneously (bit map coding).
 - 9) ~~9~~ in case of MT = auto1 the value of FNUR has no meaning.
- 10) An MS not supporting GSM sets ACC to "none" and MaxNumTCH is set to "1 TCH". An MS not supporting GSM also sets ACCext (i.e. the extension bits of ACC parameter, see 3GPP TS 24.008 for its definition and values) and UIMI to zero if they are included in the PLMN BC-IE, i.e. UIMI is set to "NA" and the ACC parameter (including the ACCext bits) is set to the value "none" (all zeros).

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

B.1.3.1.2 X.32 Case



- 1) for NIRR:6kb/s (not for the SETUP message);
- 2) the V.120 relevant BC parameters (octet 5b) shall be set according to the LLC (see clause B.2);
- 3) ~~3)~~ ACC may have several values simultaneously (bit map coding).
- 4) An MS not supporting GSM sets ACC to “none” and MaxNumTCH is set to “1 TCH”. An MS not supporting GSM also sets ACCext (i.e. the extension bits of ACC parameter, see 3GPP TS 24.008 for its definition and values) and UIMI to zero if they are included in the PLMN BC-IE, i.e. UIMI is set to “NA” and the ACC parameter (including the ACCext bits) is set to the value “none” (all zeros).

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

B.1.3.1.3 Transparent FNUR=56 kbit/s, including 3G-H.324/M, (TCH/F9.6, TCH/F32.0, UTRAN)

ITC	Oct. 3/5a	UDI ³⁾	3.1 kHz	FAX3	Speech	RDI ³⁾				
Layer/protocol related										
SAP	5	NA		I.440	BothNT	X.32				
RA ³⁾	5	NA	PIAFS	V.110 ³⁾	V.120	H.223 & H.245 ³⁾	X.31 Flag	No		
SA	6	A		S						
CE	6c	NT	bothNT	bothT					NA	
S	4	NA		SDU	unstructured					
U1L2P	7	X.25		ISO6429	COPnoFlct	NAV				
DC	4	NA		DC	NO					
NDB	6a	NA		7	8					
NPB	6b	NA	odd	even	0	1	none			
NSB	6a	NA		1	2					
Radio channel related										
RCR	3	dualHR		dualFR	FR					
IR ¹⁾	6b	8		16					NA	
UR ¹⁾	6a	0.3	1.2	2.4	4.8	9.6				
MT	6c	none	V.21	V.22	V.22bis	V.26ter	V.32	V.23	auto1	NA
OMT ⁵⁾	6d	no other MT			V.34					
FNUR ^{1,5)}	6d	9.6	14.4	19.2	28.8	38.4	48	56	64	
WAIUR	6f	9.6	14.4	19.2	28.8	43.2	57.6	NAV	NAV	
ACC ^{1,2,4)}	6e/g	4.8	9.6	14.4	28.8	32.0	43.2	NAV	NAV	none
UIMI ⁴⁾	6f		upto 1	upto 2	upto 3	upto 4	NAV	NAV		
MaxNumTCH ^{1,4)}	6e	1	2	3	4	5	6	7	8	NAV
ASYM	6g	no. pref.	u1 biased			d1 pref.		NAV		

- 1) IR and UR are overridden by FNUR, ACC and MaxNumTCH. IR and UR are not applicable to UMTS.
- 2) ACC may have several values simultaneously (bit map coding). However, handover to/from UTRAN is not possible if the network assigns other traffic channels than TCH/F9.6 or TCH/F32.0.
- 3) In case ITC=UDI, RA shall be set to V.110. In case ITC=RDI, RA shall be set to H.223&H245 or No.

- 4) ~~In case ACC and MaxNumTCH are not available operation is restricted to UTRAN.~~ An MS not supporting GSM sets ACC to “none” and MaxNumTCH is set to “1 TCH”. An MS not supporting GSM also sets ACCext (i.e. the extension bits of ACC parameter, see 3GPP TS 24.008 for its definition and values) and UIMI to zero if they are included in the PLMN BC-IE, i.e. UIMI is set to “NA” and the ACC parameter (including the ACCext bits) is set to the value “none” (all zeros).
- 5) The parameters FNUR and OMT are mandatory for this service.

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

B.1.3.1.5 Transparent FNUR = 64kbit/s including 3G-H.324/M (TCH/F9.6, TCH/F14.4, TCH/F32.0, UTRAN)

ITC	Oct. 3/5a	UDI	3.1 kHz	FAX3	Speech	RDI				
		Layer/protocol related								
SAP	5	NA	I.440	BothNT	X.32					
RA	5	NA	PIAFS	V.110	V.120	H.223 & H.245	X.31 Flag	No		
SA	6	A		S						
CE	6c	NT	bothNT	bothT		T		NA		
S	4	NA	SDU		unstructured					
U1L2P	7	X.25	ISO6429		COPnoFlct			NAV		
DC	4	NA		DC		NO				
NDB	6a	NA	7		8					
NPB	6b	NA	odd	even	0	1		none		
NSB	6a	NA	1		2					
		Radio channel related								
RCR	3	dualHR		dualFR		FR				
IR ¹⁾	6b	8		16				NA		
UR ¹⁾	6a	0.3	1.2	2.4	4.8	9.6		NA		
MT	6c	none	V.21	V.22	V.22bis	V.26ter	V.32	V.23	auto1	NA
OMT ⁴⁾	6d	no other MT				V.34				
FNUR ^{1,4)}	6d	9.6	14.4	19.2	28.8	38.4	48	56	64	
WAIUR	6f	9.6	14.4	19.2	28.8	43.2	57.6	NAV	NAV	
ACC ^{1,2,3)}	6e/g	4.8	9.6	14.4	28.8	32.0	43.2	NAV	none	
UIMI ³⁾	6f		upto 1	upto 2	upto 3	upto 4		NAV	NAV	
axNumTCH ^{1,3)}	6e	1	2	3	4	5	6	7	8	NAV
ASYM	6g	no. pref.		u1 biased		d1 pref.		NAV		

- 1) IR and UR are overridden by FNUR, ACC and MaxNumTCH. IR and UR are not applicable to UMTS.
- 2) ACC may have several values simultaneously (bit map coding).

- ~~33) If ACC and MaxNumTCH are not available operation is restricted to UTRAN. An MS not supporting GSM sets ACC to “none” and MaxNumTCH is set to “1 TCH”. An MS not supporting GSM also sets ACCext (i.e. the extension bits of ACC parameter, see 3GPP TS 24.008 for its definition and values) and UIMI to zero if they are included in the PLMN BC-IE, i.e. UIMI is set to “NA” and the ACC parameter (including the ACCext bits) is set to the value “none” (all zeros).~~
- 4) The parameters FNUR and OMT are mandatory for this service.

B.1.3.1.6 3G-H.324/M, FNUR=32.0 kbit/s (TCH/F32.0, UTRAN)

ITC	Oct. 3/5a	UDI	3.1 kHz	FAX3	Speech	RDI				
		Layer/protocol related								
SAP	5	NA	I.440	BothNT	X.32					
RA	5	NA	PIAFS	V.110	V.120	H.223 & H.245	X.31 Flag	No		
SA	6	A		S						
CE	6c	NT	bothNT	bothT	T			NA		
S	4	NA	SDU	unstructured						
U1L2P	7	X.25	ISO6429	COPnoFlct	NAV					
DC	4	NA		DC	NO					
NDB	6a	NA	7		8					
NPB	6b	NA	odd	even	0	1		none		
NSB	6a	NA	1		2					
		Radio channel related								
RCR	3	dualHR		dualFR	FR					
IR ³⁾	6b	8		16				NA		
UR ³⁾	6a	0.3	1.2	2.4	4.8	9.6		NA		
MT	6c	none	V.21	V.22	V.22bis	V.26ter	V.32	auto1	NA	
OMT	6d	no other MT				V.34				
FNUR	6d	9.6	14.4	19.2	28.8	32.0	38.4	48	56	64
WAIUR	6f	9.6	14.4	19.2	28.8	43.2	57.6	NA	NAV	
ACC ^{1,2)}	6e/g	4.8	9.6	14.4	28.8	32.0	43.2	none	NAV	
UIMI ²⁾	6f		upto 1	upto 2	upto 3	upto 4		NA	NAV	
axNumTCH ²⁾	6e	1	2	3	4	5	6	7	8	NAV
ASYM	6g	no. pref.		u1 biased		d1 pref.		NAV ²⁾		

1) ACC may have several values simultaneously (bit map coding).

2) [An MS not supporting GSM sets ACC to “none” and MaxNumTCH is set to “1 TCH”. An MS not supporting GSM also sets ACCext \(i.e. the extension bits of ACC parameter, see 3GPP TS 24.008 for its definition and values\) and UIMI to zero if they are included in the PLMN BC-IE, i.e. UIMI is set to “NA” and the ACC parameter \(including the ACCext bits\) is set to the value “none” \(all zeros\).](#)

3) IR and UR are overridden by FNUR, ACC and MaxNumTCH. IR and UR are not applicable to UMTS.

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

B.1.3.2.1 Non-X.32 Cases

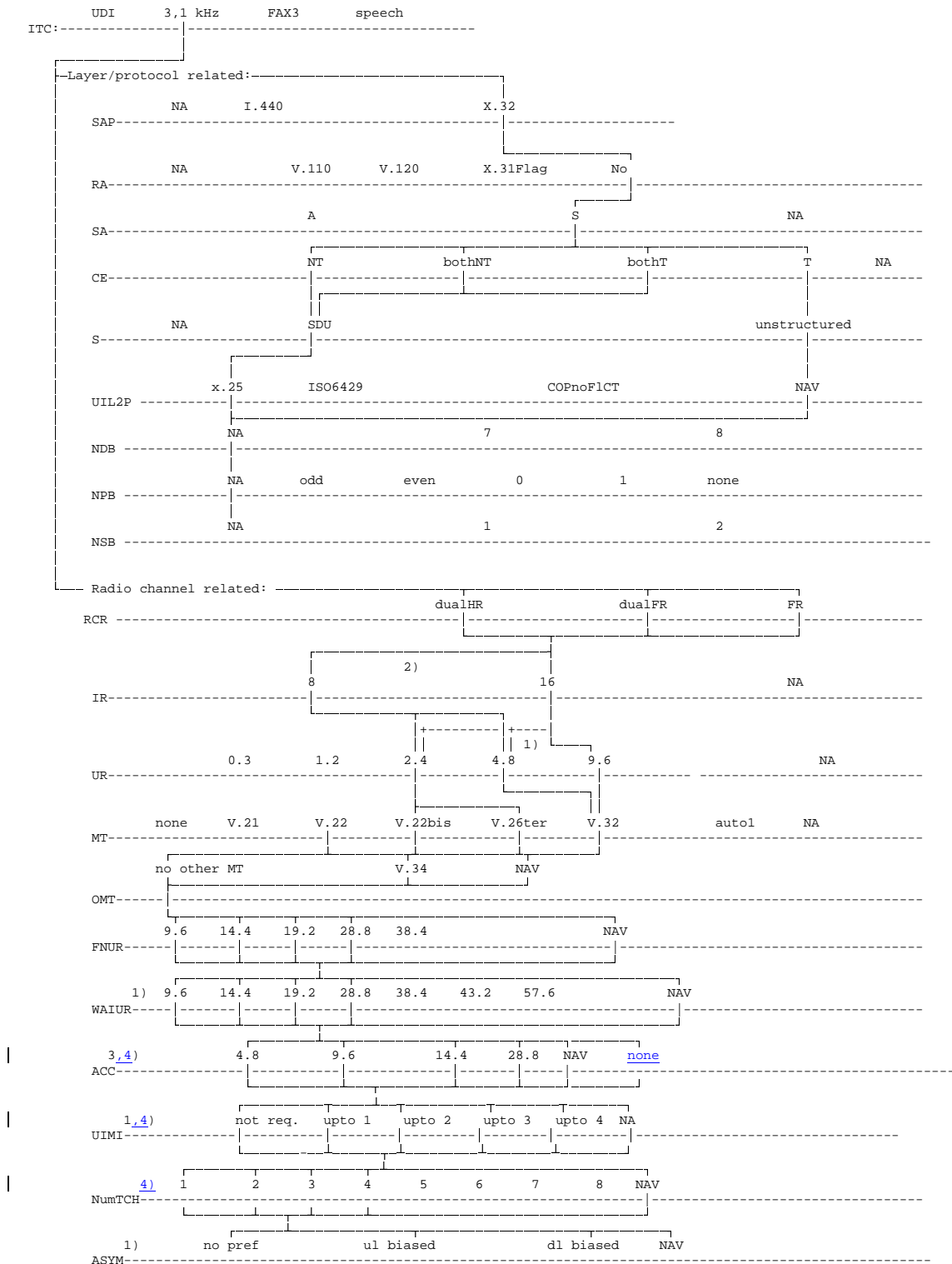


1) ~~1)~~ ACC may have several values simultaneously (bit map coding).

2) An MS not supporting GSM sets ACC to “none” and MaxNumTCH is set to “1 TCH”. An MS not supporting GSM also sets ACCext (i.e. the extension bits of ACC parameter, see 3GPP TS 24.008 for its

definition and values) and UIMI to zero if they are included in the PLMN BC-IE, i.e. UIMI is set to “NA” and the ACC parameter (including the ACCext bits) is set to the value “none” (all zeros).

B.1.3.2.2 X.32 Case



1) for CE:NT or "both".

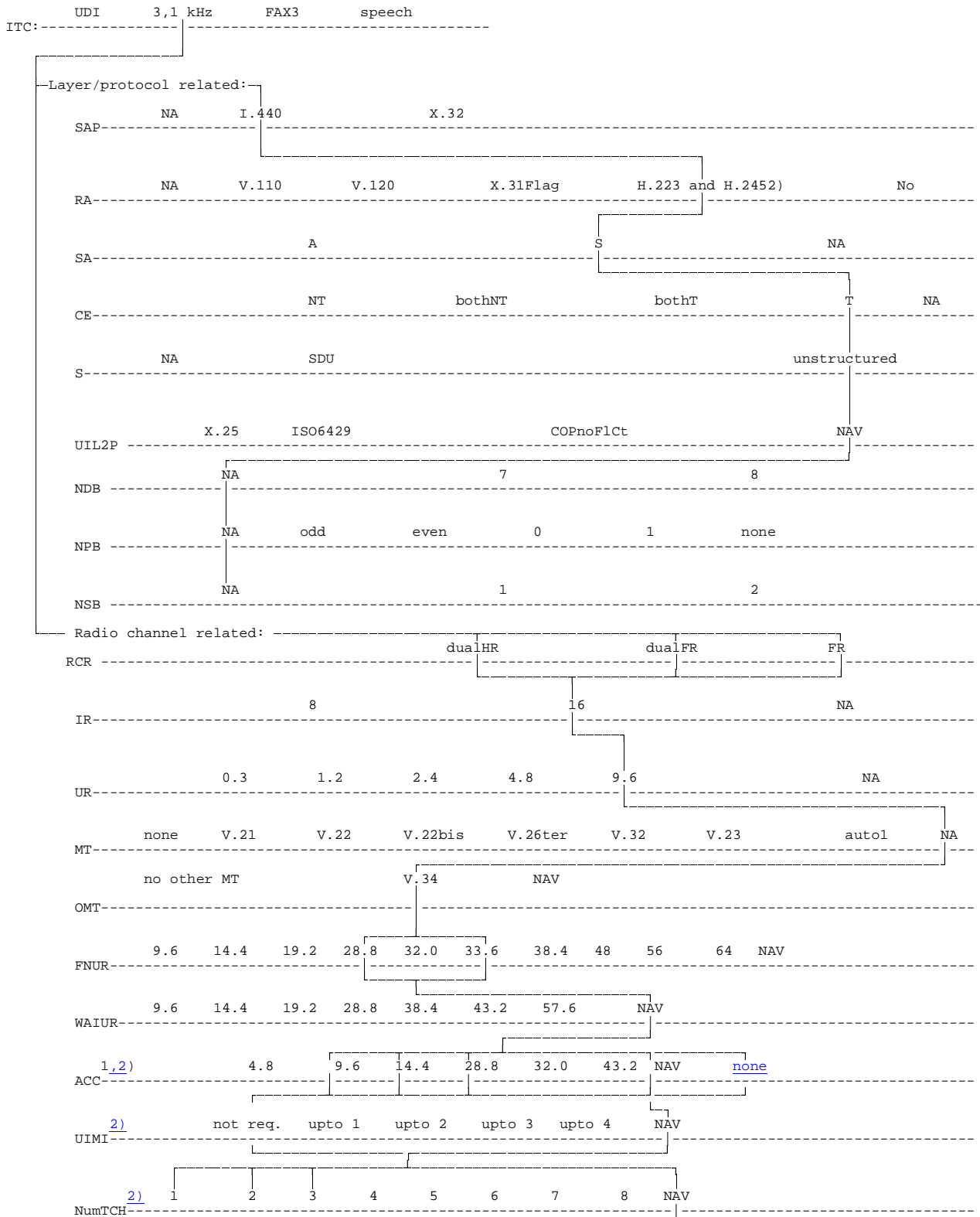
2) for CE:T or CE:NT and NIRR:6kb/s (not for the SETUP message).

3) ~~3~~ ACC may have several values simultaneously (bit map coding).

4) An MS not supporting GSM sets ACC to "none" and MaxNumTCH is set to "1 TCH". An MS not supporting GSM also sets ACCext (i.e. the extension bits of ACC parameter, see 3GPP TS 24.008 for its

definition and values) and UIMI to zero if they are included in the PLMN BC-IE, i.e. UIMI is set to “NA” and the ACC parameter (including the ACCext bits) is set to the value “none” (all zeros).

B.1.3.2.3 3G-H.324/M Case



1) ACC may have several values simultaneously (bit map coding).

2) An MS not supporting GSM sets ACC to “none” and MaxNumTCH is set to “1 TCH”. An MS not supporting GSM also sets ACCext (i.e. the extension bits of ACC parameter, see 3GPP TS 24.008 for its definition and values) and UIMI to zero if they are included in the PLMN BC-IE, i.e. UIMI is set to “NA” and the ACC parameter (including the ACCext bits) is set to the value “none” (all zeros).

CHANGE REQUEST

27.001 CR 095 # rev **1** # Current version: **4.9.0**

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

Title:	# BC-IE alignment with 24.008.		
Source:	# TSG_CN WG3 [Ericsson]		
Work item code:	# CS Data	Date:	# 23/05/2003
Category:	# A	Release:	# Rel-4
	Use <u>one</u> of the following categories:		Use <u>one</u> of the following releases:
	F (correction)		2 (GSM Phase 2)
	A (corresponds to a correction in an earlier release)		R96 (Release 1996)
	B (addition of feature),		R97 (Release 1997)
	C (functional modification of feature)		R98 (Release 1998)
	D (editorial modification)		R99 (Release 1999)
	Detailed explanations of the above categories can be found in 3GPP TR 21.900 .		Rel-4 (Release 4)
			Rel-5 (Release 5)
			Rel-6 (Release 6)

Reason for change:	# There are several cases of misalignment between 24.008 v4.10.0 and 27.001 v4.9.0. This is affected by recently agreed corrections to 24.008 (see CR in N1-030555). However, the misalignment still exists as outlined below: <ol style="list-style-type: none"> 1. 24.008 v4.10.0 section 10.5.4.5.1 mandates the MS to send octet 6e of the BC-IE whenever octet 6d is sent in the MS to network direction. This rule is missing in section 8.3.3.2. 2. 24.008, section 10.5.4.5 (according to N1-030555) says that: <ol style="list-style-type: none"> a) an MS not supporting GSM shall set the BC-IE octet 6e parameters (ACC and MaxNumTCH) to the value "0". The value "0" corresponds to a set of acceptable channel codings equal to "none" (for ACC), and 1 TCH (for MaxNumTCH). These "0" values are missing in several relevant tree diagrams in section B.1. The "none" value for ACC is also missing in Annex A. b) the parameters MaxNumTCH, WAIUR and UIMI are relevant in UMTS for NT calls to avoid RLP renegotiation in case of inter-system handover. Table B.5a is not aligned with this.
Summary of change:	# Changes to correct the misalignment with 24.008 (see "Reason for change") are proposed. Note that for tree diagrams in imported spreadsheets, updated cells are marked with a gray background.
Consequences if not approved:	# Inconsistent 3GPP specifications There is a risk of interoperability problems for MSs and the network equipment from different manufacturers due to unclear/missing parameter coding.

Clauses affected:	# Section 8.3.3.2, Annex A , Table B.5a , tree diagrams in sections B1.3.1.3 and
--------------------------	--

		B.1.3.1.5.										
Other specs affected:		<table border="1"><tr><td>Y</td><td>N</td></tr><tr><td></td><td>X</td></tr><tr><td></td><td>X</td></tr><tr><td></td><td>X</td></tr></table>	Y	N		X		X		X	Other core specifications	⌘ See comment below
	Y	N										
		X										
	X											
	X											
		Test specifications										
		O&M Specifications										
Other comments:	⌘	This CR is linked to other CRs (N1-030554-557 to TS 24.008), which have been agreed already in the last CN1 meeting (CN1#29).										

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.

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.

***** First Modified Section *****

8.3.3.2 Indication in case of Mobile originating calls

In support of mobile originating calls the values of BC-IE parameters are requested in the set-up message from the MS. If the MS indicates the support of both transparent and non transparent connection elements the network shall return its choice in the call proceeding message. The MS is not allowed to indicate support of both transparent and non transparent, if the MS also requests out-band flow control, i.e. it does not indicate a layer 2 protocol.

Additionally the value of the parameter modem type has to be set depending on the value of the parameter connection element as described in annex B, table B.4a.

The set-up message contains a single or multiple BC-IE. In case of multiple BC-IEs one BC-IE shall indicate the information transfer capability "speech".

In case of a multimedia call the setup message contains either a multimedia BC-IE indicating a multimedia only call request (i.e. no fallback to speech allowed) or both a speech BC-IE and a 3,1kHz multimedia BC-IE to indicate the support/request of a fallback to speech (see 3GPP TS 29.007 and 3GPP TS 24.008).

If the set-up message requests a "single service", the network shall not answer in the call proceeding message requesting a "dual service". Alternatively the network shall answer with a single BC-IE containing fax group 3 if a multiple BC-IE requesting speech alternate fax group 3 is received but the network does not allow the use of this alternate service. Annex B, table B.7, describes the negotiation rules. If the MS requests a "dual service" the network is not allowed to change the sequence of the service.

If the set-up message indicates that negotiation of intermediate rate is requested then the network shall behave as described in annex B, table B.4b.

Unless otherwise specified in annex B, if no BC-IE parameter needs negotiation it is up to the network if it sends a CALL PROC message (with or without a BC-IE) towards the MS or not.

[For MS to network direction, octet 6e shall be included whenever octet 6d is included \(see 3GPP TS 24.008\).](#)

For multislot, TCH/F14.4, and EDGE operations and in UMTS the MS shall include an appropriate set of the parameters 'fixed network user rate', 'other modem type', 'maximum number of TCH' and 'acceptable channel codings' in the BC-IE of the SETUP message. If EDGE channel coding(s) are included in ACC in case of transparent calls, the 'Wanted air interface user rate'-parameter shall be set to 'Air interface user rate not applicable' and the 'User initiated modification indication'-parameter to 'User initiated modification not requested'. In a non-transparent multislot operation, the MS shall also include the parameters 'wanted air interface user rate' and 'user initiated modification indication' in the BC-IE of the SETUP message. In a non-transparent TCH/F14.4 or EDGE operation or in UMTS the MS shall also include the parameter 'wanted air interface user rate'. In non-transparent EDGE operation the MS shall also include the parameter 'asymmetry preference indication'. It shall also set the other parameters of the BC-IE (i.e. 'user rate') to values identifying fall-back values. Depending on the network two situations can be distinguished:

a) The network supports the requested operation:

- in this case the network shall include the parameter 'fixed network user rate', 'other modem type' and possibly 'user initiated modification' in the BC-IE(s) of the CALL PROCEEDING message, irrespective whether or not they contain modified values or just a copy of the received ones;
- the 'acceptable channel codings' indicated by the MS in the SETUP message takes precedence over the 'negotiation of intermediate rate requested' parameter for non-transparent services. The intermediate rate per traffic channel and the user rate per traffic channel is dependent on the chosen channel coding only. The chosen channel coding is indicated to the mobile station by the network with an RR message.

b) The network does not support the requested operation:

- in this case, in GSM, the BC-IE of the CALL PROCEEDING message does not contain the parameters 'fixed network user rate' and 'other modem type' or no BC-IE is included in the CALL PROCEEDING message at all. The mobile station shall then discard the parameters 'fixed network user rate', 'other modem type', 'maximum number of TCH', 'acceptable channel codings' 'wanted air interface user rate' and 'user initiated modification indication' sent with the SETUP message and apply the fall-back bearer service.

In case a), a single slot configuration shall be used by the MS, in case the 'maximum number of traffic channels' is set to "1 TCH" and the 'user initiated modification indication' is set either to "user initiated modification not requested" or to "user initiated modification up to 1TCH may be requested".

In case b), The MS shall use the fall-back bearer service indicated by the remaining parameters of the BC-IE on a single slot configuration (reference 3GPP TS 44.021).

If FNUR = 33.6 kbit/s is agreed on in the setup of a 3.1 kHz multimedia call, the modems may handshake to 31.2 kbit/s or 28.8 kbit/s. In this case the MS receives a MODIFY message from the MSC to indicate the new data rate, and shall respond with a MODIFY COMPLETE message (see 3GPP TS 24.008), if it supports the requested modification. If the MS does not support the requested modification, it shall respond with a MODIFY REJECT message. The MT shall indicate the new data rate to the TE (e.g. using the ITU-T Recommendation V.80 inband signaling) in order to cause the TE to use stuffing to adapt the 31.2 kbit/s or 28.8 kbit/s data rate to the 33.6 kbit/s traffic channel between the TE and IWF.

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

Annex A (informative): List of Bearer Capability Elements

This annex lists the PLMN Bearer Capability Elements which need to be provided to support Terminal adaptation function to Interworking control procedures. Some parameters are ignored in UMTS although present in the BC-IE. The validity of parameter values may also differ from GSM to UMTS. The ignored parameters and the difference of parameter value validity in GSM and UMTS are listed in table B.5a in annex B.

Elements and their Values:

Information Transfer Capability:

This element is relevant between the IWF and the fixed network.

Values:

- Speech
- Unrestricted Digital
- Group 3 Facsimile (note 1)
- 3,1 kHz Ex PLMN (note 2)
- Restricted Digital (note 3)

NOTE 1: Used for facsimile transmission, unrestricted digital between MT and IWF and 3,1 kHz audio from IWF towards the fixed network.

NOTE 2: Unrestricted digital between MT and IWF and 3,1 kHz audio from IWF towards the fixed network.

NOTE 3: Unrestricted digital between MT and IWF and restricted digital information from IWF towards the fixed network; this value is signalled in the "Other ITC" element, due to a lack of further code points in the "ITC" element.

Transfer Mode:

This element is relevant between MT and IWF

Values:

- Circuit

Structure:

This element is relevant between MT and IWF.

Values:

- Service Data Unit Integrity (note 4)
- Unstructured (note 5)

NOTE 4: Applicable for connection element "non transparent".

NOTE 5: Applicable for connection element "transparent".

Configuration:

This element is relevant for a PLMN connection.

Values:

- Point to point

Establishment:

This element is relevant for a PLMN connection.

Values:

- Demand

Sync/Async:

This element is relevant between TE/TA and MT and between IWF and the fixed network.

Values: - Synchronous
 - Asynchronous

Negotiation:

This element is relevant between MT and IWF.

Values: - In band negotiation not possible

User Rate:

This element is relevant between TE/TA and MT and between IWF and the fixed network, except in case the parameter FNUR is present.

Values: - 0.3 kbit/s
 - 1.2 kbit/s
 - 2.4 kbit/s
 - 4.8 kbit/s
 - 9.6 kbit/s
 - 19.2 kbit/s (see note 6)

NOTE 6: This value cannot be signalled between MT and IWF, but it can be used according to the rules in 3GPP TS 29.007 (table 7A, 7B) for such connections.

Intermediate Rate:

This element is relevant between MT and BSS and BSS and IWF

Values: - 8 kbit/s
 - 16 kbit/s

Network Independent Clock on Tx:

This element is relevant between TE/TA and MT in the transmit direction.

Values: - Not required
 - Required

Network Independent Clock on Rx:

This element is relevant between TE/TA and MT in the receive direction.

Values: - Not accepted
 - accepted

Number of Stop Bits:

This element is relevant between the TE/TA and MT and between IWF and fixed network in case of asynchronous transmission.

Values: - 1 bit
 - 2 bit

Number of Data Bits Excluding Parity If Present:

This element is relevant between TE/TA and MT and between IWF and the fixed network in case of a character oriented mode of transmission.

Values: - 7 bit
 - 8 bit

Parity Information:

This element is relevant between TE/TA and MT and between IWF and the fixed network for a character oriented mode of transmission.

- Values:
- Odd
 - Even
 - None
 - Forced to 0
 - Forced to 1

Duplex Mode:

This element is relevant between MT and IWF.

- Values:
- Full Duplex

Modem Type:

This element is relevant between the IWF and the fixed network in case of 3,1 kHz audio ex-PLMN information transfer capability.

- Values:
- V.21
 - V.22
 - V.22 bis
 - V.26 ter
 - V.32
 - autobauding type 1
 - none

Radio Channel Requirement:

This element is relevant between MT and BSS

- Values:
- Full Rate support only Mobile Station
 - Dual Rate support Mobile Station/Half Rate preferred
 - Dual Rate support Mobile Station/Full Rate preferred

Connection Element:

This element is relevant between MT and IWF

- Values:
- Transparent
 - Non Transparent
 - both, Transparent preferred
 - both, Non transparent preferred

User Information Layer 2 Protocol:

This element is relevant between TE/TA and MT and between IWF and the fixed network.

- Values:
- ISO 6429
 - Character oriented Protocol with no Flow Control mechanism

Signalling Access Protocol:

This element is relevant between TE/TA and MT.

- Values:
- I.440/450

Rate Adaptation:

This element is relevant between IWF and the fixed network.

- Values:
- V.110/X.30
 - X.31 flagstuffing
 - no rate adaptation
 - V.120 (note 7)
 - PIAFS (note 7)
 - H.223 and H.245 (note 7)

NOTE 7: This value is signalled in the "Other Rate Adaption" element, due to a lack of further code points in the "Rate Adaption" element.

Coding Standard:

This element refers to the structure of the BC-IE defined in 3GPP TS 24.008.

- Values:
- GSM

User Information Layer 1 Protocol:

This element characterizes the layer 1 protocol to be used between MT and BSS (Um interface) according to 3GPP TS 45.001, or between the MT and the RNC (Uu interface).

- Values:
- default

Negotiation of Intermediate Rate requested:

This element is relevant between MT and BSS and BSS and IWF.

- Values:
- no meaning associated
 - 6 kbit/s radio interface is requested for a full rate channel with a user rate up to and including 4,8 kbit/s, non transparent service

Compression:

This element is relevant between MT and IWF.

- Values:
- compression possible/allowed
 - compression not possible/allowed

Rate adaption header / no header:

This element is relevant between IWF and the fixed network. It is only applicable for ITU-T V.120 rate adaptation.

- Values:
- Rate adaption header not included
 - Rate adaption header included

Multiple frame establishment support in data link:

This element is relevant between IWF and the fixed network. It is only applicable for ITU-T V.120 rate adaptation.

- Values:
- Multiple frame establishment not supported. Only UI frames allowed.
 - Multiple frame establishment supported.

Mode of operation:

This element is relevant between IWF and the fixed network. It is only applicable for ITU-T V.120 rate adaptation.

- Values:
- Bit transparent mode of operation
 - Protocol sensitive mode of operation

Logical link identifier negotiation:

This element is relevant between IWF and the fixed network. It is only applicable for ITU-T V.120 rate adaptation.

Values: - Default, LLI=256 only
 - Full protocol negotiation (note 8)

NOTE 8: A connection over which protocol negotiation is executed as indicated in the "In-band / out-band negotiation" parameter.

Assignor / assignee:

This element is relevant between IWF and the fixed network. It is only applicable for ITU-T V.120 rate adaptation.

Values: - Message originator is „default assignee"
 - Message originator is „assignor only"

In-band / out-band negotiation:

This element is relevant between IWF and the fixed network. It is only applicable for ITU-T V.120 rate adaptation.

Values: - Negotiation is done with USER INFORMATION messages on a temporary signalling connection
 - Negotiation is done in-band using logical link zero.

Fixed network user rate, FNUR (Note 12)

This element is relevant between the IWF and the fixed network.

Values - Fixed network user rate not applicable (note 9)
 - 9,6 kbit/s
 - 14,4 kbit/s
 - 19,2 kbit/s
 - 28,8 kbit/s
 - 32,0 kbit/s
 - 38,4 kbit/s
 - 48,0 kbit/s
 - 56,0 kbit/s
 - 64,0 kbit/s

NOTE 9: Not used by currently specified services.

Wanted air interface user rate, WAIUR (note 12)

This element is relevant between the MT and the IWF

Values - Air interface user rate not applicable
 - 9,6 kbit/s
 - 14,4 kbit/s
 - 19,2 kbit/s
 - 28,8 kbit/s
 - 38,4 kbit/s
 - 43,2 kbit/s
 - 57,6 kbit/s
 - interpreted by the network as 38,4 kbit/s (note 10)

NOTE 10: Certain code points, if used, are interpreted by the network as 38.4 kbit/s in this version of the protocol, ref 3GPP TS 24.008.

Acceptable channel codings, ACC (note 12)

This element is relevant between the MT and the IWF.

- Value:
- TCH/F4.8 acceptable
 - TCH/F9.6 acceptable
 - TCH/F14.4 acceptable
 - TCH/F28.8 acceptable
 - TCH/F32.0 acceptable (Applicable to multimedia 32, 56 and 64 kbit/s and
synchronous transparent 56 and 64 kbit/s services only)
 - TCH/F43.2 acceptable (Applicable to non-transparent services only.)
 - [none \(note 10a\)](#)

[NOTE10a: No channel coding \(defined by selecting none of the above\).](#)

Maximum number of traffic channels, MaxNumTCH (Note 12)

This element is relevant between the MT and the IWF.

- Value:
- 1 TCH
 - 2 TCH
 - 3 TCH
 - 4 TCH
 - 5 TCH
 - 6 TCH
 - 7 TCH (note 11)
 - 8 TCH (note 11)

NOTE11: Not used by currently specified services.

Other modem type, OMT (Note 12)

This element is relevant between the IWF and the fixed network in case of 3,1 kHz audio ex-PLMN

- Values:
- no other modem type specified in this field
 - V.34

User initiated modification indication, UIMI (Note 12)

This element is relevant between the MT and the IWF.

- Values:
- user initiated modification not requested
 - user initiated modification upto 1 TCH requested
 - user initiated modification upto 2 TCH requested
 - user initiated modification upto 3 TCH requested
 - user initiated modification upto 4 TCH requested

Asymmetry preference indication (Note 12)

This element is relevant between the MT and the BSS.

- Value:
- no preference
 - up link biased asymmetry preference
 - down link biased asymmetry preference

NOTE 12: These GBS-related parameters are optional.

For a multislot configuration, the following applies to the parameters contained in the BC-IE:

- Half rate channels are not supported. The MS shall code the radio channel requirement as "Full rate support only MS" or "Dual rate support MS, full rate preferred". In the second case, the network shall assign full rate channel(s) only.
- The 'fixed network user rate' and 'other modem type' (see table B.4a) takes precedence over the 'user rate' and 'modem type'.

- The ACC indicates which channel coding is acceptable and supported by the MS. In case of CE:NT the TCH/F4.8 and TCH/F9.6 acceptable is equivalent to the support of NIRR. If TCH/F4.8 acceptable only or TCH/F9.6 acceptable only or TCH/F14.4 acceptable only is indicated, the assigned channel type which can be chosen by the network is TCH/F4.8 or TCH/F9.6 or TCH/F14.4, respectively.
- The 'intermediate rate' parameter is overridden. The intermediate rate used per each TCH/F is derived from the chosen channel type:

channel type	IR per TCH/F
TCH/F4.8	8 kbit/s
TCH/F9.6	16 kbit/s
TCH/F14.4	intermediate rate is to be defined

- The user rate per TCH is derived from the chosen channel type:

channel type	user rate per TCH
TCH/F4.8	4.8 kbit/s
TCH/F9.6	9.6 kbit/s

For CE:T, the padding procedure described in 3GPP TS 44.021 can be applied.

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

Table B.5a: Differences in parameter value validity in GSM and UMTS

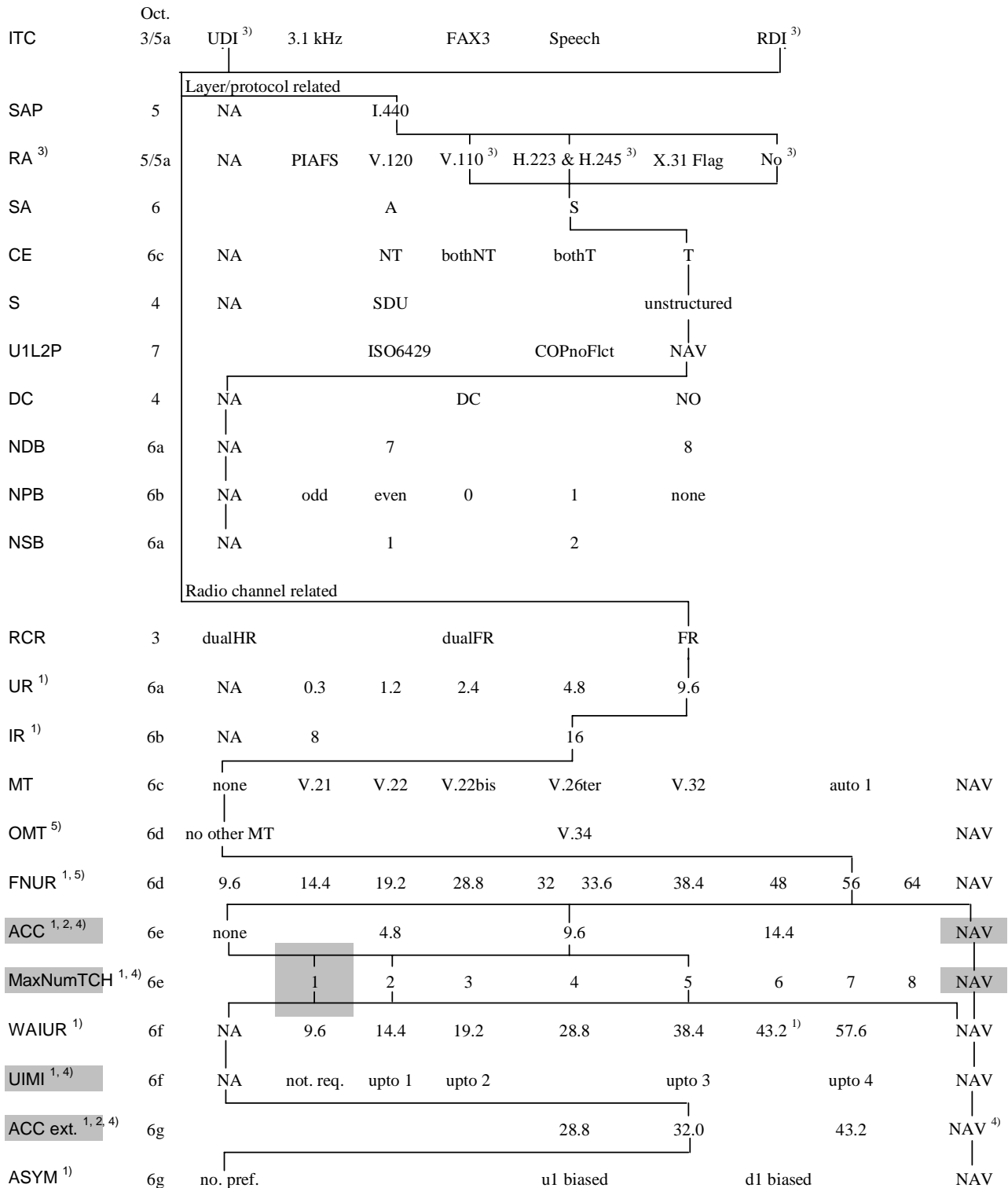
Parameter / value	GSM	UMTS
Radio Channel Requirements / any	valid	ignored
User rate / any	valid	ignored
Intermediate Rate / any	valid	ignored
NIC on transmission / any	valid	ignored
NIC on reception / any	valid	ignored
Negotiation of IR requested / any	valid	ignored
Acceptable Channel Codings / any	valid	ignored (Note 1)
Maximum number of traffic channels / any	valid	ignored (Note 1)
User initiated modification indication / any	valid	Ignored (Note 1)
Asymmetry preference indication/ any	valid	ignored
Modem type /		
V.21, V.22, V.22bis, V.26ter	valid	invalid
V.32	valid	invalid for CE=T
Fixed Network User Rate /		
32 kbit/s	Invalid for CE = NT	valid
33.6 kbit/s	invalid	valid
9.6, 14.4, 19.2, 38.4, 48.0	valid	invalid for CE=T
28.8	valid	invalid for CE=T in the case of ITC=UDI
Other Rate adaptation /		
PIAFS	invalid	valid

NOTE: Although a parameter value is marked as "valid", the validity may be restricted by rules given elsewhere in the present document.

NOTE 1: This parameter is relevant in UMTS for NT calls, [in conjunction with WAIUR](#), for deciding which RLP version to negotiate in order to avoid renegotiation of RLP version in case of handover, see 3GPP TS 24.022. It is otherwise irrelevant for specifying the UTRAN radio access bearer.

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

B.1.3.1.3 Transparent FNUR=56 kbit/s, including 3G-H.324/M, (TCH/F9.6, TCH/F32.0, UTRAN)

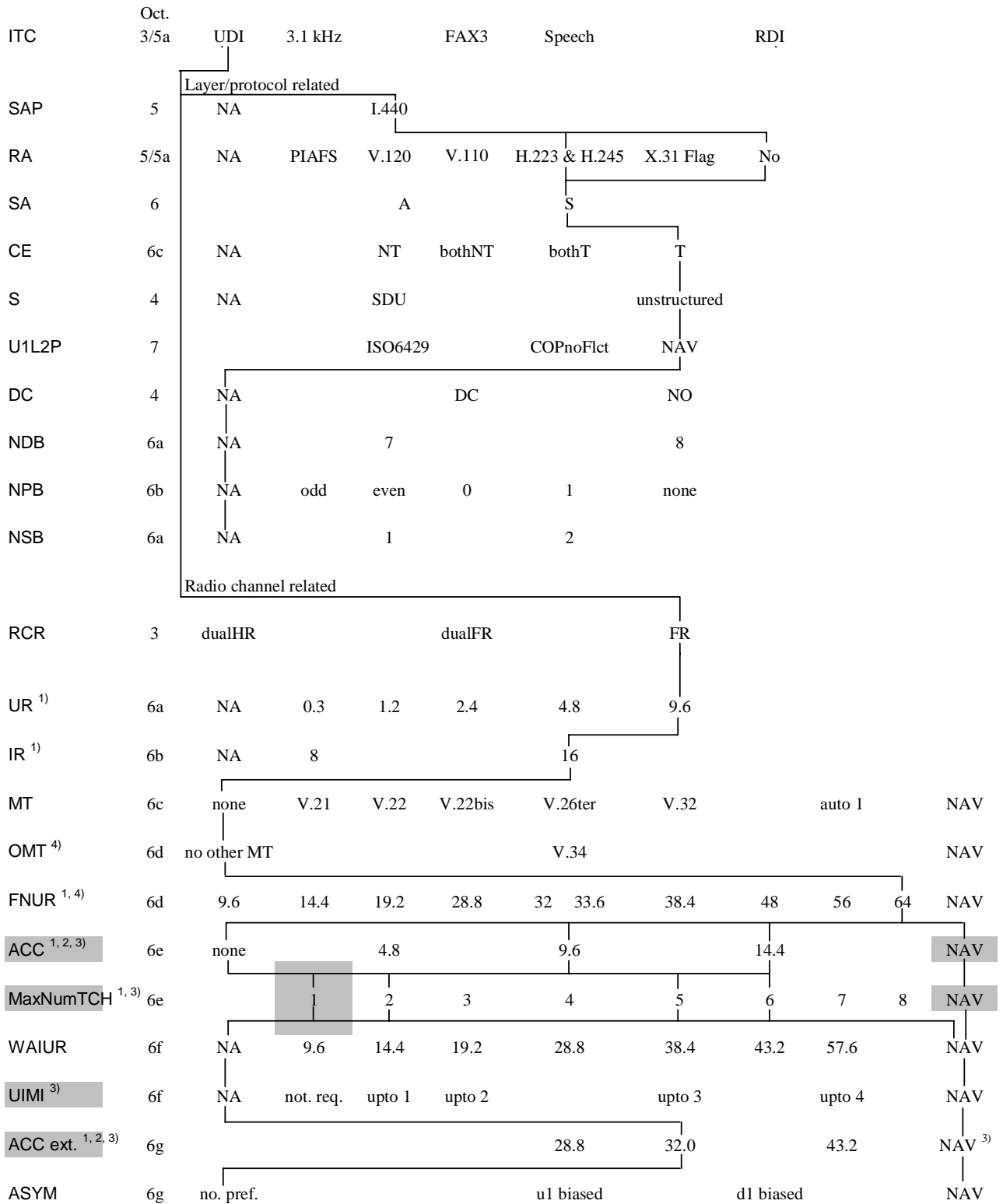


- 1) IR and UR are overridden by FNUR, ACC and MaxNumTCH. IR and UR are not applicable to UMTS.
- 2) ACC may have several values simultaneously (bit map coding). However, handover to/from UTRAN is not possible if the network assigns other traffic channels than TCH/F9.6 or TCH/F32.0.
- 3) In case ITC=UDI, RA shall be set to V.110. In case ITC=RDI, RA shall be set to H.223 & H.245 or No.

- 4) ~~In case ACC and MaxNumTCH are not available operation is restricted to UTRAN.~~ An MS not supporting GSM sets ACC to “none” and MaxNumTCH is set to “1 TCH”. An MS not supporting GSM also sets ACCext (i.e. the extension bits of ACC parameter, see 3GPP TS 24.008 for its definition and values) and UIMI to zero if they are included in the PLMN BC-IE, i.e. UIMI is set to “NA” and the ACC parameter (including the ACCext bits) is set to the value “none” (all zeros).
- 5) The parameters FNUR and OMT are mandatory for this service.

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

B.1.3.1.5 Transparent FNUR = 64kbit/s, including 3G-H.324/M (TCH/F9.6, TCH/F14.4, TCH/F32.0, UTRAN))



- 1) IR and UR are overridden by FNUR, ACC and MaxNumTCH. IR and UR are not applicable to UMTS.
- 2) ACC may have several values simultaneously (bit map coding).

- 3) ~~If ACC and MaxNumTCH are not available operation is restricted to UTRAN.~~ An MS not supporting GSM sets ACC to “none” and MaxNumTCH is set to “1 TCH”. An MS not supporting GSM also sets ACCext (i.e. the extension bits of ACC parameter, see 3GPP TS 24.008 for its definition and values) and UIMI to zero if they are included in the PLMN BC-IE, i.e. UIMI is set to “NA” and the ACC parameter (including the ACCext bits) is set to the value “none” (all zeros).
- 4) The parameters FNUR and OMT are mandatory for this service.

CHANGE REQUEST

27.001 CR 096 # rev **1** # Current version: **5.5.0**

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

Title:	# BC-IE alignment with 24.008.		
Source:	# TSG_CN WG3 [Ericsson]		
Work item code:	# TEI	Date:	# 23/05/2003
Category:	# A	Release:	# Rel-5
	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 .		Use <u>one</u> of the following releases: 2 (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)

Reason for change:	# There are several cases of misalignment between 24.008 v5.7.0 and 27.001 v5.5.0. This is affected by recently agreed corrections to 24.008 (see CR in N1-030556). However, the misalignment still exists as outlined below: <ol style="list-style-type: none"> 1. 24.008 v5.7.0 section 10.5.4.5.1 mandates the MS to send octet 6e of the BC-IE whenever octet 6d is sent in the MS to network direction. This rule is missing in section 8.3.3.2. 2. 24.008, section 10.5.4.5 (according to N1-030556) says that: <ol style="list-style-type: none"> a) an MS not supporting GSM shall set the BC-IE octet 6e parameters (ACC and MaxNumTCH) to the value "0". The value "0" corresponds to a set of acceptable channel codings equal to "none" (for ACC), and 1 TCH (for MaxNumTCH). These "0" values are missing in several relevant tree diagrams in section B.1. The "none" value for ACC is also missing in Annex A. b) the parameters MaxNumTCH, WAIUR and UIMI are relevant in UMTS for NT calls to avoid RLP renegotiation in case of inter-system handover. Table B.5a is not aligned with this.
Summary of change:	# Changes to correct the misalignment with 24.008 (see "Reason for change") are proposed. Note that for tree diagrams in imported spreadsheets, updated cells are marked with a gray background.
Consequences if not approved:	# Inconsistent 3GPP specifications There is a risk of interoperability problems for MSs and the network equipment from different manufacturers due to unclear/missing parameter coding.

Clauses affected:	# Section 8.3.3.2, Annex A , Table B.5a , tree diagrams in sections B1.3.1.3 and
--------------------------	--

		B.1.3.1.5.										
Other specs affected:	⌘	<table border="1"> <tr> <td style="text-align: center;">Y</td> <td style="text-align: center;">N</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> <tr> <td style="text-align: center;"> </td> <td style="text-align: center;">X</td> </tr> </table>	Y	N		X		X		X	Other core specifications	⌘ See comment below
	Y	N										
		X										
	X											
	X											
		Test specifications										
		O&M Specifications										
Other comments:	⌘	This CR is linked to other CRs (N1-030554-557 to TS 24.008), which have been agreed already in the last CN1 meeting (CN1#29).										

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.

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.

***** First Modified Section *****

8.3.3.2 Indication in case of Mobile originating calls

In support of mobile originating calls the values of BC-IE parameters are requested in the set-up message from the MS. If the MS indicates the support of both transparent and non transparent connection elements the network shall return its choice in the call proceeding message. The MS is not allowed to indicate support of both transparent and non transparent, if the MS also requests out-band flow control, i.e. it does not indicate a layer 2 protocol.

Additionally the value of the parameter modem type has to be set depending on the value of the parameter connection element as described in annex B, table B.4a.

The set-up message contains a single or multiple BC-IE. In case of multiple BC-IEs one BC-IE shall indicate the information transfer capability "speech".

In case of a 3,1 kHz multimedia call the setup message contains either a multimedia BC-IE indicating a multimedia only call request (i.e. no fallback to speech allowed) or both a 3,1 kHz multimedia BC-IE and a speech BC-IE to indicate the support of a fallback to speech (see 3GPP TS 29.007 and 3GPP TS 24.008).

In case of a UDI/RDI multimedia call, the setup message contains either a multimedia BC-IE indicating a multimedia only call request, or both a multimedia BC-IE and a speech BC-IE (in any order) to indicate the support of service change and fallback (see 3GPP TS 29.007 and 3GPP TS 24.008). The latter is not applicable to multimedia calls with FNUR=32.0 kbit/s.

If the set-up message requests a "single service", the network shall not answer in the call proceeding message requesting a "dual service". Alternatively the network shall answer with a single BC-IE containing fax group 3 if a multiple BC-IE requesting speech alternate fax group 3 is received but the network does not allow the use of this alternate service. Annex B, table B.7, describes the negotiation rules.

If the MS requests a "dual service" the network is not allowed to change the sequence of the service, a change may however occur due to the called user and this may then be relayed back to the originating MS by the network.

If the setup message requests a multimedia service with fallback, the network may return both BC-IEs in the same order or no BC-IE to accept the request, both BC-IEs in the reverse order (relayed from terminating User), or a single BC-IE if fallback, service change or one of the requested services are not allowed.

If the set-up message indicates that negotiation of intermediate rate is requested then the network shall behave as described in annex B, table B.4b.

Unless otherwise specified in annex B, if no BC-IE parameter needs negotiation it is up to the network if it sends a CALL PROC message (with or without a BC-IE) towards the MS or not.

[For MS to network direction, octet 6e shall be included whenever octet 6d is included \(see 3GPP TS 24.008\).](#)

For multislot, TCH/F14.4, and EDGE operations and in UTRAN Iu mode the MS shall include an appropriate set of the parameters 'fixed network user rate', 'other modem type', 'maximum number of TCH' and 'acceptable channel codings' in the BC-IE of the SETUP message. If EDGE channel coding(s) are included in ACC in case of transparent calls, the 'Wanted air interface user rate'-parameter shall be set to 'Air interface user rate not applicable' and the 'User initiated modification indication'-parameter to 'User initiated modification not requested'. In a non-transparent multislot operation, the MS shall also include the parameters 'wanted air interface user rate' and 'user initiated modification indication' in the BC-IE of the SETUP message. In a non-transparent TCH/F14.4 or EDGE operation or in UTRAN Iu mode the MS shall also include the parameter 'wanted air interface user rate'. In non-transparent EDGE operation the MS shall also include the parameter 'asymmetry preference indication'. It shall also set the other parameters of the BC-IE (i.e. 'user rate') to values identifying fall-back values. Depending on the network two situations can be distinguished:

a) The network supports the requested operation:

- in this case the network shall include the parameter 'fixed network user rate', 'other modem type' and possibly 'user initiated modification' in the BC-IE(s) of the CALL PROCEEDING message, irrespective whether or not they contain modified values or just a copy of the received ones;

- the 'acceptable channel codings' indicated by the MS in the SETUP message takes precedence over the 'negotiation of intermediate rate requested' parameter for non-transparent services. The intermediate rate per traffic channel and the user rate per traffic channel is dependent on the chosen channel coding only. The chosen channel coding is indicated to the mobile station by the network with an RR message.

b) The network does not support the requested operation:

- in this case, in A/Gb mode, the BC-IE of the CALL PROCEEDING message does not contain the parameters 'fixed network user rate' and 'other modem type' or no BC-IE is included in the CALL PROCEEDING message at all. The mobile station shall then discard the parameters 'fixed network user rate', 'other modem type', 'maximum number of TCH', 'acceptable channel codings', 'wanted air interface user rate' and 'user initiated modification indication' sent with the SETUP message and apply the fall-back bearer service.

In case a), a single slot configuration shall be used by the MS, in case the 'maximum number of traffic channels' is set to "1 TCH" and the 'user initiated modification indication' is set either to "user initiated modification not requested" or to "user initiated modification up to 1TCH may be requested".

In case b), The MS shall use the fall-back bearer service indicated by the remaining parameters of the BC-IE on a single slot configuration (reference 3GPP TS 44.021).

If FNUR = 33.6 kbit/s is agreed on in the setup of a 3.1 kHz multimedia call, the modems may handshake to 31.2 kbit/s or 28.8 kbit/s. In this case the MS receives a MODIFY message from the MSC to indicate the new data rate, and shall respond with a MODIFY COMPLETE message (see 3GPP TS 24.008), if it supports the requested modification. If the MS does not support the requested modification, it shall respond with a MODIFY REJECT message. The MT shall indicate the new data rate to the TE (e.g. using the ITU-T Recommendation V.80 inband signaling) in order to cause the TE to use stuffing to adapt the 31.2 kbit/s or 28.8 kbit/s data rate to the 33.6 kbit/s traffic channel between the TE and IWF.

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

Annex A (informative): List of Bearer Capability Elements

This annex lists the PLMN Bearer Capability Elements which need to be provided to support Terminal adaptation function to Interworking control procedures. Some parameters are ignored in GERAN or UTRAN Iu mode although present in the BC-IE. The validity of parameter values may also differ from A/Gb mode to GERAN Iu mode and to UTRAN Iu mode. The ignored parameters and the difference of parameter value validity in A/Gb mode, GERAN Iu mode and UTRAN Iu mode are listed in table B.5a in annex B.

Elements and their Values:

Information Transfer Capability:

This element is relevant between the IWF and the fixed network.

Values:

- Speech:
- Unrestricted Digital:
- Group 3 Facsimile (note 1):
- 3,1 kHz Ex PLMN (note 2):
- Restricted Digital (note 3):

NOTE 1: Used for facsimile transmission, unrestricted digital between MT and IWF and 3,1 kHz audio from IWF towards the fixed network.

NOTE 2: Unrestricted digital between MT and IWF and 3,1 kHz audio from IWF towards the fixed network.

NOTE 3: Unrestricted digital between MT and IWF and restricted digital information from IWF towards the fixed network; this value is signalled in the "Other ITC" element, due to a lack of further code points in the "ITC" element.

Transfer Mode:

This element is relevant between MT and IWF

Values: - Circuit

Structure:

This element is relevant between MT and IWF.

Values: - Service Data Unit Integrity (note 4)
- Unstructured (note 5)

NOTE 4: Applicable for connection element "non transparent".

NOTE 5: Applicable for connection element "transparent".

Configuration:

This element is relevant for a PLMN connection.

Values: - Point to point

Establishment:

This element is relevant for a PLMN connection.

Values: - Demand

Sync/Async:

This element is relevant between TE/TA and MT and between IWF and the fixed network.

Values: - Synchronous
- Asynchronous

Negotiation:

This element is relevant between MT and IWF.

Values: - In band negotiation not possible

User Rate:

This element is relevant between TE/TA and MT and between IWF and the fixed network, except in case the parameter FNUR is present.

Values: - 0.3 kbit/s
- 1.2 kbit/s
- 2.4 kbit/s
- 4.8 kbit/s
- 9.6 kbit/s
- 19.2 kbit/s (see note 6)

NOTE 6: This value cannot be signalled between MT and IWF, but it can be used according to the rules in 3GPP TS 29.007 (tables 7A and 7B) for such connections.

Intermediate Rate:

This element is relevant between MT and BSS and BSS and IWF

Values: - 8 kbit/s
- 16 kbit/s

Network Independent Clock on Tx:

This element is relevant between TE/TA and MT in the transmit direction.

Values: - Not required
- Required

Network Independent Clock on Rx:

This element is relevant between TE/TA and MT in the receive direction.

Values: - Not accepted
- accepted

Number of Stop Bits:

This element is relevant between the TE/TA and MT and between IWF and fixed network in case of asynchronous transmission.

Values: - 1 bit
- 2 bit

Number of Data Bits Excluding Parity If Present:

This element is relevant between TE/TA and MT and between IWF and the fixed network in case of a character oriented mode of transmission.

Values: - 7 bit
 - 8 bit

Parity Information:

This element is relevant between TE/TA and MT and between IWF and the fixed network for a character oriented mode of transmission.

Values: - Odd
 - Even
 - None
 - Forced to 0
 - Forced to 1

Duplex Mode:

This element is relevant between MT and IWF.

Values: - Full Duplex

Modem Type:

This element is relevant between the IWF and the fixed network in case of 3,1 kHz audio ex-PLMN information transfer capability.

Values: - V.21
 - V.22
 - V.22 bis
 - V.26 ter
 - V.32
 - autobaoding type 1
 - none

Radio Channel Requirement:

This element is relevant between MT and BSS

Values: - Full Rate support only Mobile Station
 - Dual Rate support Mobile Station/Half Rate preferred
 - Dual Rate support Mobile Station/Full Rate preferred

Connection Element:

This element is relevant between MT and IWF

Values: - Transparent
 - Non Transparent
 - both, Transparent preferred
 - both, Non transparent preferred

User Information Layer 2 Protocol:

This element is relevant between TE/TA and MT and between IWF and the fixed network.

Values: - ISO/IEC 6429
 - Character oriented Protocol with no Flow Control mechanism

Signalling Access Protocol:

This element is relevant between TE/TA and MT.

Values: - I.440/450

Rate Adaptation:

This element is relevant between IWF and the fixed network.

Values: - V.110/X.30
- X.31 flagstuffing
- no rate adaptation
- V.120 (note 7)
- PIAFS (note 7)
- H.223 and H.245 (note 7)

NOTE 7: This value is signalled in the "Other Rate Adaption" element, due to a lack of further code points in the "Rate Adaption" element.

Coding Standard:

This element refers to the structure of the BC-IE defined in 3GPP TS 24.008.

Values: - GSM

User Information Layer 1 Protocol:

This element characterizes the layer 1 protocol to be used between MT and BSS (Um interface) according to 3GPP TS 45.001, or between the MT and the RNC (Uu interface).

Values: - default

Negotiation of Intermediate Rate requested:

This element is relevant between MT and BSS and BSS and IWF.

Values: - no meaning associated
- 6 kbit/s radio interface is requested for a full rate channel with a user rate up to and including 4,8 kbit/s, non transparent service

Compression:

This element is relevant between MT and IWF.

Values: - compression possible/allowed
- compression not possible/allowed

Rate adaption header / no header:

This element is relevant between IWF and the fixed network. It is only applicable for ITU-T V.120 rate adaptation.

Values: - Rate adaption header not included
- Rate adaption header included

Multiple frame establishment support in data link:

This element is relevant between IWF and the fixed network. It is only applicable for ITU-T V.120 rate adaptation.

Values: - Multiple frame establishment not supported. Only UI frames allowed.
- Multiple frame establishment supported.

Mode of operation:

This element is relevant between IWF and the fixed network. It is only applicable for ITU-T V.120 rate adaptation.

Values: - Bit transparent mode of operation
- Protocol sensitive mode of operation

Logical link identifier negotiation:

This element is relevant between IWF and the fixed network. It is only applicable for ITU-T V.120 rate adaptation.

Values: - Default, LLI=256 only
 - Full protocol negotiation (note 8)

NOTE 8: A connection over which protocol negotiation is executed as indicated in the "In-band / out-band negotiation" parameter.

Assignor / assignee:

This element is relevant between IWF and the fixed network. It is only applicable for ITU-T V.120 rate adaptation.

Values: - Message originator is „default assignee"
 - Message originator is „assignor only"

In-band / out-band negotiation:

This element is relevant between IWF and the fixed network. It is only applicable for ITU-T Recommendation V.120 rate adaptation.

Values: - Negotiation is done with USER INFORMATION messages on a temporary signalling connection
 - Negotiation is done in-band using logical link zero.

Fixed network user rate, FNUR (note 12)

This element is relevant between the IWF and the fixed network.

Values - Fixed network user rate not applicable (note 9)
 - 9,6 kbit/s
 - 14,4 kbit/s
 - 19,2 kbit/s
 - 28,8 kbit/s
 - 32,0 kbit/s
 - 38,4 kbit/s
 - 48,0 kbit/s
 - 56,0 kbit/s
 - 64,0 kbit/s

NOTE 9: Not used by currently specified services.

Wanted air interface user rate, WAIUR (note 12)

This element is relevant between the MT and the IWF

Values - Air interface user rate not applicable
 - 9,6 kbit/s
 - 14,4 kbit/s
 - 19,2 kbit/s
 - 28,8 kbit/s
 - 38,4 kbit/s
 - 43,2 kbit/s
 - 57,6 kbit/s
 - interpreted by the network as 38,4 kbit/s (note 10)

NOTE 10: Certain code points, if used, are interpreted by the network as 38.4 kbit/s in this version of the protocol, ref 3GPP TS 24.008.

Acceptable channel codings, ACC (note 12)

This element is relevant between the MT and the IWF.

- Value:
- TCH/F4.8 acceptable
 - TCH/F9.6 acceptable
 - TCH/F14.4 acceptable
 - TCH/F28.8 acceptable
 - TCH/F32.0 acceptable (Applicable to multimedia 32 kbit/s, 56 kbit/s and 64 kbit/s and synchronous transparent 56 kbit/s and 64 kbit/s services only)
 - TCH/F43.2 acceptable (Applicable to non-transparent services only.)
 - [none \(note 10a\)](#)

[NOTE10a: No channel coding \(defined by selecting none of the above\).](#)

Maximum number of traffic channels, MaxNumTCH (note 12)

This element is relevant between the MT and the IWF.

- Value:
- 1 TCH
 - 2 TCH
 - 3 TCH
 - 4 TCH
 - 5 TCH
 - 6 TCH
 - 7 TCH (note 11)
 - 8 TCH (note 11)

NOTE11: Not used by currently specified services.

Other modem type, OMT (Note 12)

This element is relevant between the IWF and the fixed network in case of 3,1 kHz audio ex-PLMN

- Values:
- no other modem type specified in this field
 - V.34

User initiated modification indication, UIMI (Note 12)

This element is relevant between the MT and the IWF.

- Values:
- user initiated modification not requested
 - user initiated modification upto 1 TCH requested
 - user initiated modification upto 2 TCH requested
 - user initiated modification upto 3 TCH requested
 - user initiated modification upto 4 TCH requested

Asymmetry preference indication (note 12)

This element is relevant between the MT and the BSS.

- Value:
- no preference
 - up link biased asymmetry preference
 - down link biased asymmetry preference

NOTE 12: These GBS-related parameters are optional.

For a configuration with data rates 9.6kbit/s or higher, the following applies to the parameters contained in the BC-IE:

- Half rate channels are not supported. The MS shall code the radio channel requirement as "Full rate support only MS" or "Dual rate support MS, full rate preferred". In the second case, the network shall assign full rate channel(s) only.
- The 'fixed network user rate' and 'other modem type' takes precedence over the 'user rate' and 'modem type', unless the 'modem type' indicates "autobauding".
- The ACC indicates which channel coding is acceptable and supported by the MS. In case of CE:NT the TCH/F4.8 and TCH/F9.6 acceptable is equivalent to the support of NIRR. If TCH/F4.8 acceptable only or

TCH/F9.6 acceptable only or TCH/F14.4 acceptable only is indicated, the assigned channel type which can be chosen by the network is TCH/F4.8 or TCH/F9.6 or TCH/F14.4, respectively.

- The 'intermediate rate' parameter is overridden. The intermediate rate used per each TCH/F is derived from the chosen channel type:

channel type	IR per TCH/F
TCH/F4.8	8 kbit/s
TCH/F9.6	16 kbit/s
TCH/F14.4	intermediate rate is to be defined

- The user rate per TCH is derived from the chosen channel type:

channel type	user rate per TCH
TCH/F4.8	4.8 kbit/s
TCH/F9.6	9.6 kbit/s

For CE:T, the padding procedure described in 3GPP TS 44.021 can be applied.

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

Table B.5a: Differences in parameter value validity in A/Gb mode and UTRAN Iu mode

Parameter / value	A/Gb mode	GERAN Iu mode	UTRAN Iu mode
Radio Channel Requirements / any	valid	valid	ignored
User rate / any	valid	ignored	ignored
Intermediate Rate / any	valid	valid	ignored
NIC on transmission / any	valid	ignored	ignored
NIC on reception / any	valid	ignored	ignored
Negotiation of IR requested / any	valid	ignored	ignored
Acceptable Channel Codings / any	valid	valid	ignored (Note 1)
Maximum number of traffic channels / any	valid	valid	ignored (Note 1)
User initiated modification indication / any	valid	valid	ignored (Note 1)
Asymmetry preference indication / any	valid	valid	ignored
Modem type /			
V.21, V.22, V.22bis, V.26ter	valid	invalid	invalid
V.32	valid	valid	invalid for CE=T
Fixed Network User Rate /			
32 kbit/s	Invalid for CE = NT	Invalid for CE = NT	valid
33.6 kbit/s	invalid	invalid	valid
9.6, 14.4, 19.2, 38.4, 48.0	valid	invalid for CE=T	invalid for CE=T
28.8	valid	invalid for CE=T in the case of ITC=UDI	invalid for CE=T in the case of ITC=UDI
Other Rate adaptation /			
PIAFS	invalid	invalid	valid

NOTE: Although a parameter value is marked as "valid", the validity may be restricted by rules given elsewhere in the present document.

NOTE 1: This parameter is relevant in UTRAN Iu mode for NT calls, [in conjunction with WAIUR](#), for deciding which RLP version to negotiate in order to avoid renegotiation of RLP version in case of handover, see 3GPP TS 24.022 [9]. It is otherwise irrelevant for specifying the UTRAN Iu mode radio access bearer.

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

B.1.3.1.3 Transparent FNUR=56 kbit/s, including 3G-H.324/M, (TCH/F9.6, TCH/F32.0, UTRAN Iu mode)

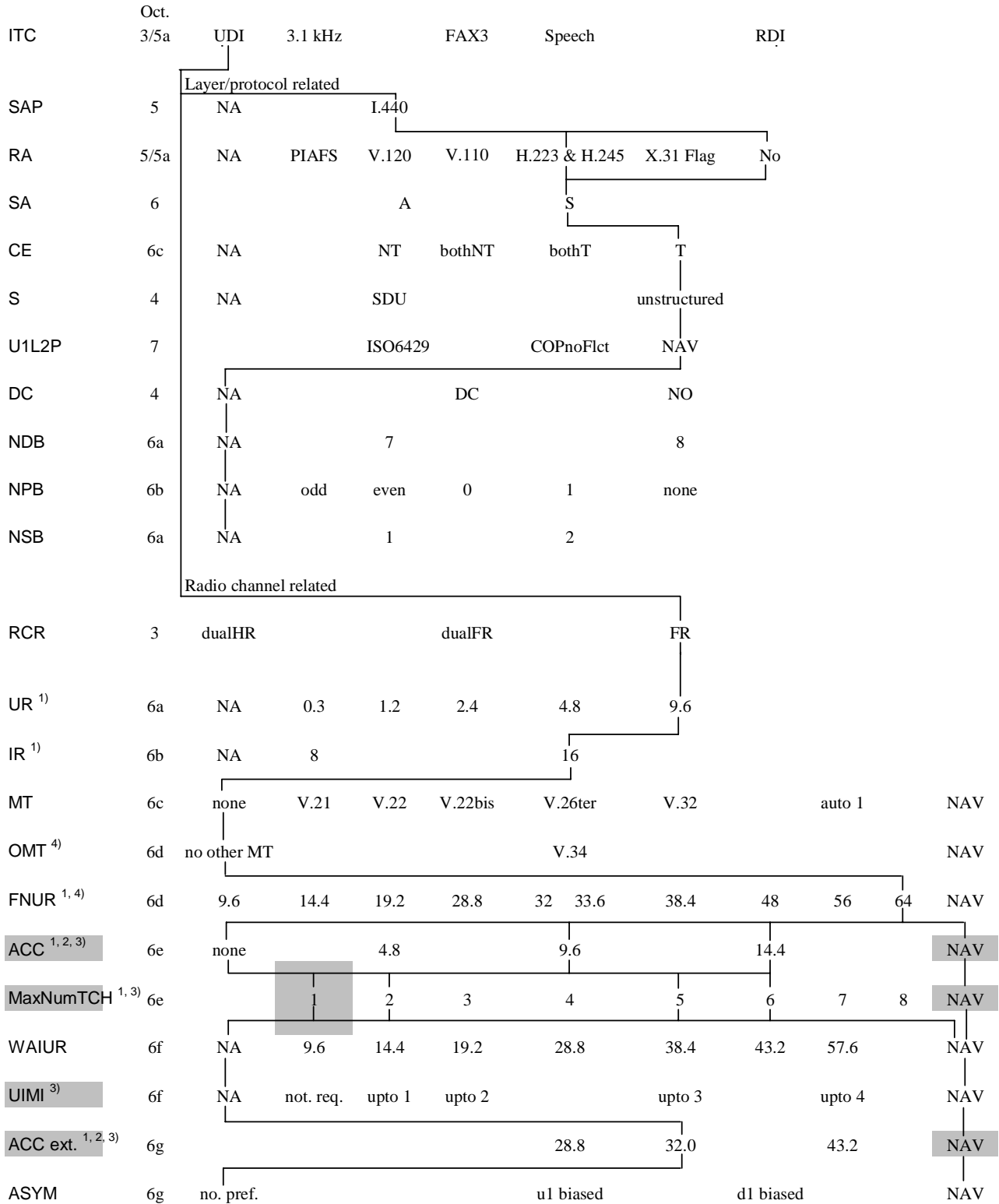
ITC	Oct.	3/5a	UDI ³⁾	3.1 kHz	FAX3	Speech	RDI ³⁾	
Layer/protocol related								
SAP	5	NA	I.440					
RA ³⁾	5/5a	NA	PIAFS	V.120	V.110 ³⁾	H.223 & H.245 ³⁾	X.31 Flag No ³⁾	
SA	6		A	S				
CE	6c	NA	NT	bothNT	bothT	T		
S	4	NA	SDU	unstructured				
U1L2P	7		ISO6429	COPnoFlct	NAV			
DC	4	NA	DC	NO				
NDB	6a	NA	7	8				
NPB	6b	NA	odd	even	0	1	none	
NSB	6a	NA	1	2				
Radio channel related								
RCR	3	dualHR	dualFR		FR			
UR ¹⁾	6a	NA	0.3	1.2	2.4	4.8	9.6	
IR ¹⁾	6b	NA	8	16				
MT	6c	none	V.21	V.22	V.22bis	V.26ter	V.32 auto 1 NAV	
OMT ⁵⁾	6d	no other MT	V.34				NAV	
FNUR ^{1,5)}	6d	9.6	14.4	19.2	28.8	32	33.6 38.4 48 56 64 NAV	
ACC ^{1,2,4)}	6e	none	4.8	9.6	14.4	NAV		
MaxNumTCH ^{1,4)}	6e	1	2	3	4	5	6 7 8 NAV	
WAIUR ¹⁾	6f	NA	9.6	14.4	19.2	28.8	38.4 43.2 ¹⁾ 57.6 NAV	
UIMI ^{1,4)}	6f	NA	not. req.	upto 1	upto 2	upto 3	upto 4 NAV	
ACC ext. ^{1,2,4)}	6g		28.8	32.0	43.2	NAV		
ASYM ¹⁾	6g	no. pref.	u1 biased		d1 biased		NAV	

- 1) IR and UR are overridden by FNUR, ACC and MaxNumTCH. IR and UR are not applicable to UTRAN Iu mode.
- 2) ACC may have several values simultaneously (bit map coding). However, handover to/from UTRAN is not possible if the network assigns other traffic channels than TCH/F9.6 or TCH/F32.0.
- 3) In case ITC=UDI, RA shall be set to V.110. In case ITC=RDI, RA shall be set to H.223 & H.245 or No.

- 4) ~~In case ACC and MaxNumTCH are not available operation is restricted to UTRAN.~~ An MS not supporting GERAN A/Gb and GERAN Iu mode sets ACC to “none” and MaxNumTCH is set to “1 TCH”. An MS not supporting GERAN A/Gb and GERAN Iu mode also sets ACCext (i.e. the extension bits of ACC parameter, see 3GPP TS 24.008 for its definition and values) and UIMI to zero if they are included in the PLMN BC-IE, i.e. UIMI is set to “NA” and the ACC parameter (including the ACCext bits) is set to the value “none” (all zeros).
- 5) The parameters FNUR and OMT are mandatory for this service.

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

B.1.3.1.5 Transparent FNUR = 64kbit/s, including 3G-H.324/M (TCH/F9.6, TCH/F14.4, TCH/F32.0, UTRAN Iu mode))



- 1) IR and UR are overridden by FNUR, ACC and MaxNumTCH. IR and UR are not applicable to UTRAN Iu mode.
- 2) ACC may have several values simultaneously (bit map coding).

- 3) ~~If ACC and MaxNumTCH are not available operation is restricted to UTRAN Iu mode.~~ An MS not supporting GERAN A/Gb and GERAN Iu mode sets ACC to “none” and MaxNumTCH is set to “1 TCH”. An MS not supporting GERAN A/Gb and GERAN Iu mode also sets ACCext (i.e. the extension bits of ACC parameter, see 3GPP TS 24.008 for its definition and values) and UIMI to zero if they are included in the PLMN BC-IE, i.e. UIMI is set to “NA” and the ACC parameter (including the ACCext bits) is set to the value “none” (all zeros).
- 4) The parameters FNUR and OMT are mandatory for this service.