3GPP TSG CT Plenary Meeting #28 **CP-050101**
1st – 3rd June 2005 Quebec, Canada.

Source: TSG CT WG4

Title: Corrections on Work Item small Technical Enhancements and Improvements on MC-interface

Agenda item: 9.24

Document for: APPROVAL

Doc-2nd-Level	Spec	CR #	Rev	Rel	Tdoc Title	CAT	C_Version
C4-050833	23.205	065		Rel-6	Multi-Party Conference Call Implementation	F	6.1.0
C4-050893	29.232	188	2	Rel-6	Profile Registration Mandatory/Negotiation clarification	F	6.1.0

3GPP TSG-CT WG4 Meeting #27 **C4-050833**
Cancun, MEXICO. 25th to 29th April 2005.

CR-Form-v7.1

CHANGE REQUEST

⌘ **23.205** **CR** **065** ⌘ **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 ☒

Title:	⌘	Multi-Party Conference call Implementation
Source:	⌘	Nortel
Work item code:	⌘	TEI6
Date:	⌘	27/04/2005
Category:	⌘	**F**
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: ⌘ 23.205 allows for two different H.248 implementations for Multiparty (MPTY) calls:

1) A single context implementation is allowed, where the multiparty bridge and all parties participating in the multiparty conference are put into a single context.

2) A multiple context implementation is also allowed, where each party participating in the multiparty conference is handled in a separate context representing the call leg between the multiparty bridge and the multiparty participant. The multiparty bridge itself is handled in a separate context.

Both of these implementation options are illustrated in the Multiparty section of 23.205. As 23.205 states, the multiple context implementation simplifies interactions with other functionality such as handover. It also simplifies interactions with lawful intercept.

In general this allowance of different implementations should be avoided as it leaves the Mc interface open to interoperability problems.

Summary of change: ⌘ The section detailing the Single-context implementation for Multi-Party conference calls is removed.

Consequences if not approved: ⌘ Implementations not supported by requirements - Interoperability problems

Clauses affected: ⌘

		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.

*** First Modification ***

13.7 Multiparty (MPTY)

The procedures specified in 3GPP TS 23.084 [14] for the Multi Party supplementary service shall be followed. The following clauses describe the additional requirements for the bearer independent CS core network. If out-of-band transcoder control is applied for the call, it shall be performed in accordance with 3GPP TS 23.153 [3].

13.7.1 Beginning the Multi Party call

When the served mobile subscriber invokes a Multi Party service the MSC server selects an MGW that provides the Multi Party bridge capabilities. If the selected MGW is different from the MGW that is used for the active call, the MSC server requests the MGW(s) to connect the bearer terminations of the participants to the selected MGW. The bearer terminations are connected together.

13.7.2 Managing an active Multi Party call

When the served mobile subscriber puts the Multi Party call on hold the MSC server requests the MGW to interrupt the connection between the served mobile subscriber and the Multi Party bridge.

When the served mobile subscriber retrieves a held Multi Party call the MSC server requests the MGW to re-establish the connection between the served mobile subscriber and the Multi Party bridge.

When the served mobile subscriber requests private communication with one of the remote parties (e.g. B-party), the MSC server shall request the MGW to interrupt the connection between the served mobile subscriber and the Multi Party bridge, and connection between the remote B party and the Multi Party bridge. The MSC server requests the MGW to connect the bearer termination of the served mobile subscriber to the bearer termination of the remote party (or vice versa).

13.7.3 Disconnect

If a remote party is disconnected while other parties still remain the call towards the remote party is disconnected as described in the clause for call clearing.

13.7.4 Failure handling in MSC server

If resources for the Multi Party service cannot be allocated in any of the MGW resources assigned to the MSC server, then the MSC server shall reject the MPTY request.

13.7.5 Example 1

Figure 13.19 shows the network model for multi party call. The "squared" line represents the call control signalling. The "dotted" line represents the bearer control signalling and the bearer. Note that for a TDM access there is no separation between the call and bearer control signalling. In the following example it is assumed that each party participating in the Multi Party conference is handled in a separate context representing the call leg between the Multi Party bridge and the Multi Party participant. The Multi Party bridge itself is handled in a separate context. This separation to several contexts is done in order to simplify interactions with other functionality, such as handover, even though other implementation options are not excluded.

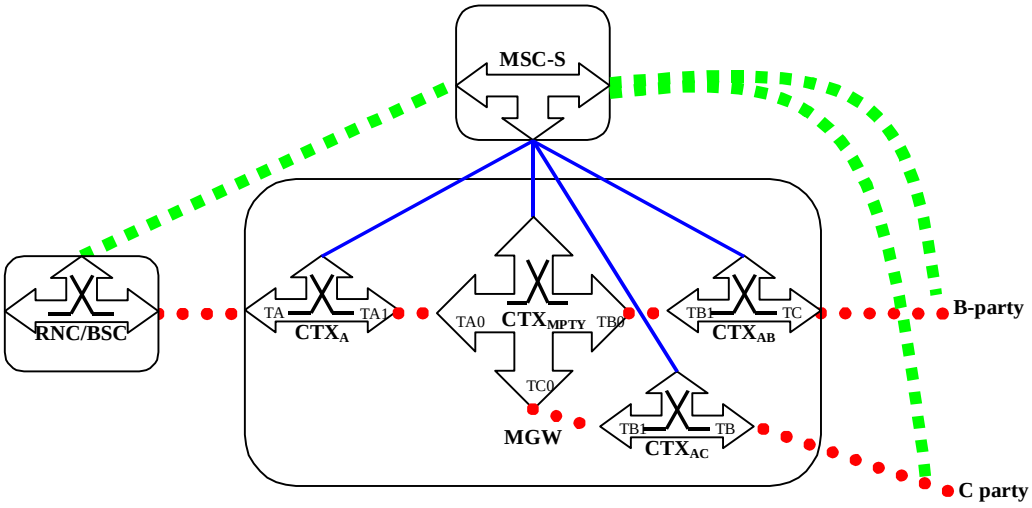


Figure 13.19: Multi Party call (Network model)

For the purposes of the information flow diagrams it is assumed that there are only two remote parties. Party A is the subscriber controlling the Multi Party service (served mobile subscriber). Party B is the held party and party C is the active party.

It is assumed that the Multi Party bridge is located in the MGW that has been selected for the served mobile subscriber.

Figure 13.20 shows the message sequence example for the beginning of multi party call. When the served mobile subscriber invokes a Multi Party service the MSC server requests the MGW to create a separate context for the Multi Party bridge. The MSC server seizes a bearer termination for each party in that context. In addition, each call leg is represented by a separate context. Therefore the parties in the active call will be split in separate contexts. The MSC server requests the MGW to create a new context and to move the bearer termination for the served mobile subscriber from the active call context to the new context. To connect the parties to the Multi Party bridge the MSC server requests the MGW to establish internal connections between the bearer terminations in the Multi Party bridge context and the call leg contexts. The held party is informed about the retrieval of the held call, and the both remote parties are informed about the multi party call establishment.

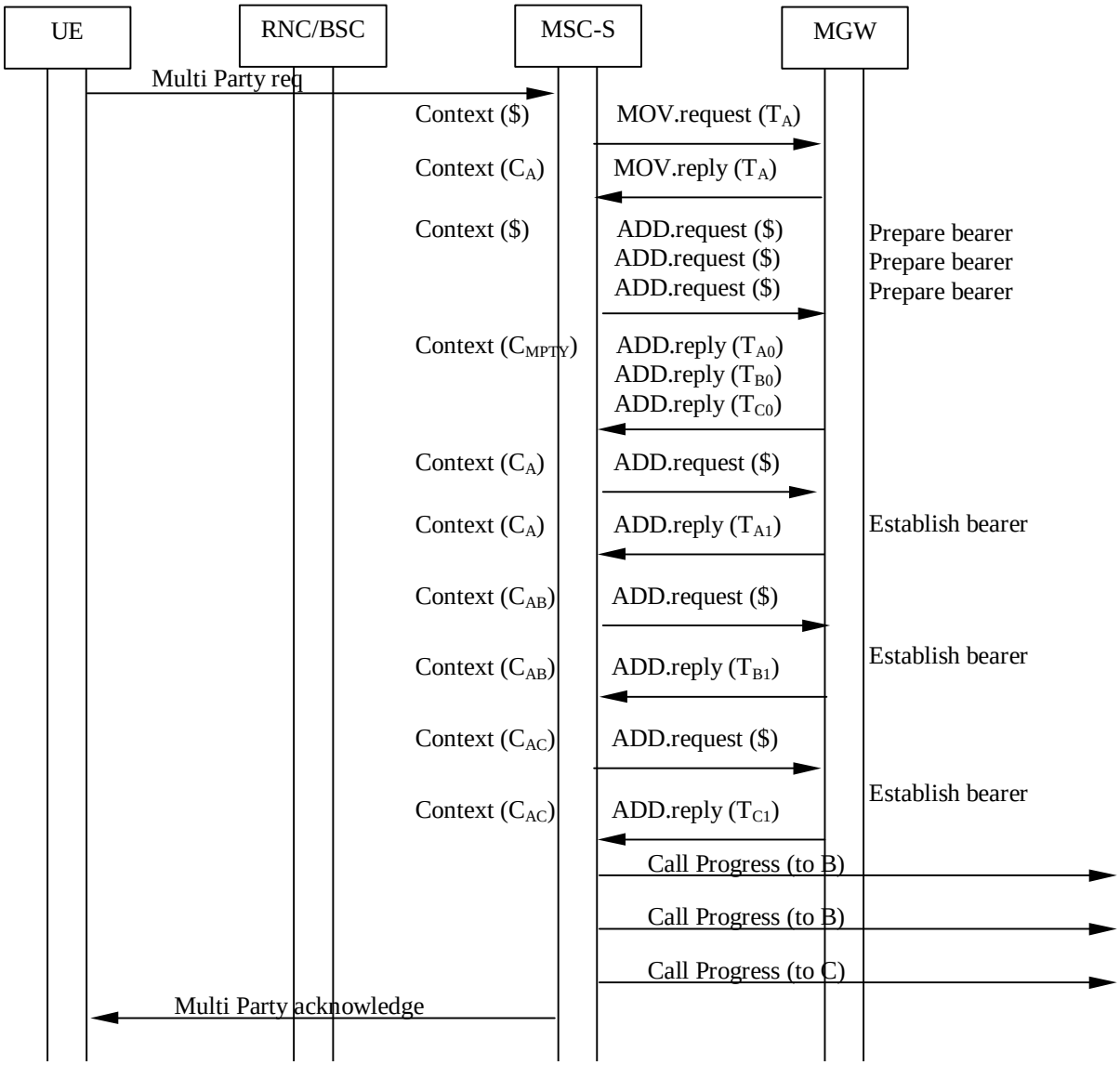
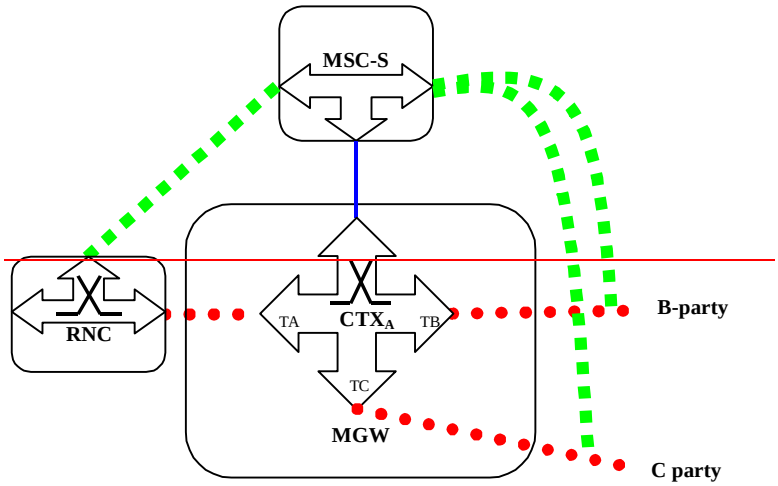


Figure 13.20: Information flow for multi party call (message sequence chart)

13.7.6 ~~Example 2~~Void

~~The figure 13.21 below shows the network model for multi party call. The "squared" line represents the call control signalling. The "dotted" line represents the bearer control signalling and the bearer. In the following example it is assumed that all parties are handled together within a Multi Party context during Multi Party operation.~~

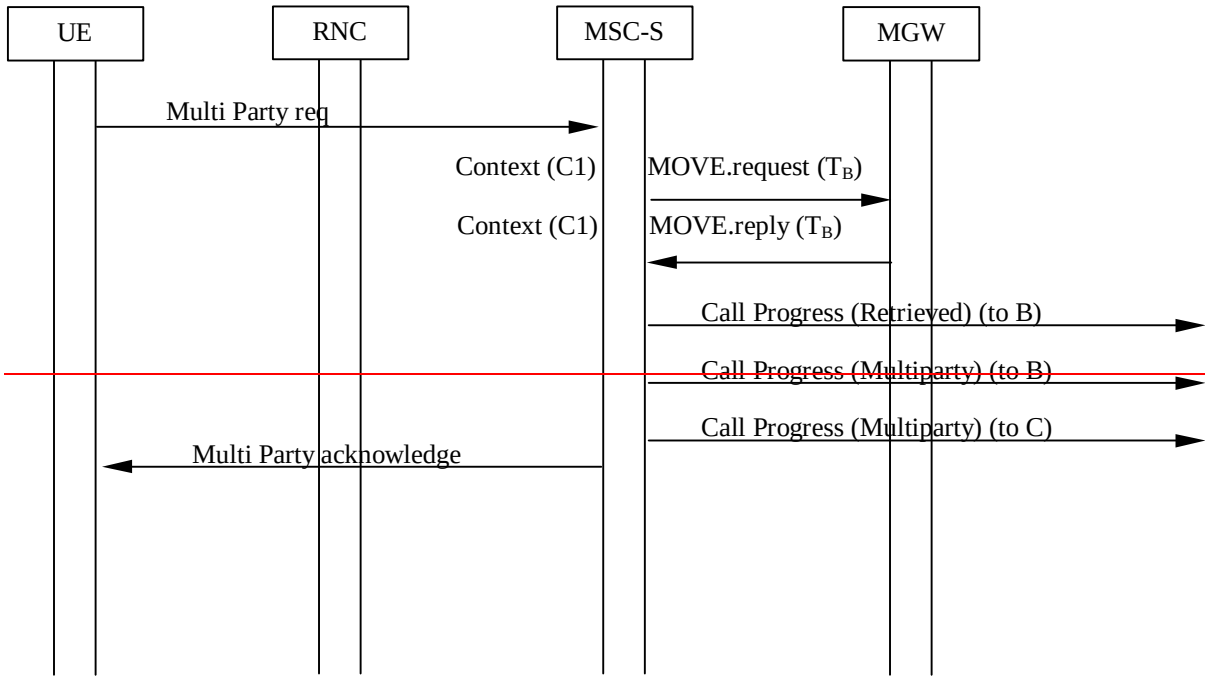


~~Figure 13.21: Multi Party call (Network model)~~

~~For the purposes of the information flow diagrams it is assumed that there are only two remote parties. Party A is the subscriber controlling the Multi Party service (served mobile subscriber). Party B is the held party and party C is the active party.~~

~~It is assumed that the Multi Party bridge is located in the MGW and an active context that has been selected for the served mobile subscriber.~~

~~The figure 13.22 below shows the message sequence example for the beginning of multi party call. When the served mobile subscriber invokes a Multi Party service the MSC server requests the MGW to move the bearer termination for the held party into the active context. The held party is informed about the retrieval of the held call, and both remote parties are informed about the multi party call establishment.~~



~~Figure 13.22: Information flow for multi party call (message sequence chart)~~

3GPP TSG-CT WG4 Meeting #27 **C4-050893**
Cancun, MEXICO. 25th to 29th April 2005.

CR-Form-v7.1

CHANGE REQUEST

⌘ **29.232** **CR** **188** ⌘ **rev** **2** ⌘ Current version: **6.1.0** ⌘

*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:	⌘	Profile Registration Mandatory/Negotiation Clarification
Source:	⌘	LM Ericsson, Vodafone
Work item code:	⌘	TEI6
Date:	⌘	01/04/2005
Category:	⌘	**F**
Release:	⌘	Rel6

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:	⌘	In release 5 the registration of Mc interface profile was made optional. This change was translated into the release 6 spec also but in release 6 the registration of this profile should be enforced in order to ensure interoperability. Further, the profile negotiation with earlier releases of this specification where the registration is not mandatory needs to be clarified.
Summary of change:	⌘	Mc Profile is mandatory from Rel 6. Additionally the negotiation of the profile in relation to earlier releases of this specification where the profile registration was not mandatory is described.
Consequences if not approved:	⌘	Implementations that comply to the specifications may still not register the profile name which means that MSCs do not know if they comply to the Mc interface or not.

Clauses affected:	⌘	4, 14.1.2, 14.1.3, 14.1.4, 14.1.5

Other specs affected: ⌘	Y	N		⌘
		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.

4 UMTS capability set

The support of the Mc interface capability set shall~~may~~ be identified by the Mc profile and support of this profile shall~~may~~ then be indicated in ServiceChange procedure via the ServiceChangeProfile parameter as defined in H.248.1 [10] and clarified in section 4.2~~.~~.The mandatory parts of this profile shall be used in their entirety.~~.~~ Failure to do so will result in a non-standard implementation.

ITU-T Recommendation H.248.1 [10] shall be the basis for thisprofile. The compatibility rules for packages, signals, events, properties and statistics and the H.248 protocol are defined in ITU-T Recommendation H.248.1 [10] Their use or exclusion for this interface is clarified in clause 12.

4.1 Profile Identification

Table 4.1.1: Profile Identification

Profile name:	threegbicsn
Version:	1

H,248 Protocol version handling shall be implemented. Support of this release of the specification requires support of H.248.1 Version 2. Negotiation of the protocol version shall be in accordance to clause 11.3 of H.248.1 version 2 [10].

4.2 Profile Registration

The reply to the ServiceChange Request containing the SCP parameter indicates if the MSC Server supports the requested profile or if it does not support it and wants to propose an alternative profile. The profile (name and version) is only returned in the reply if the MGC cannot support the specified profile in the ServiceChangeRequest. The returned reply shall indicate the profile and version supported or "NoProfile" if no profile is supported. Upon reception of a profile in the reply the MG may continue the relationship with the current MGC if it supports the indicated profile. In the instance that the MGW did not indicate a profile in the original ServiceChangeRequest and the MGC returned a profile in the reply, the MGW shall issue a new ServiceChangeRequest with the appropriate profile or "NoProfile" if no profile is supported. If the profile is not returned the MGC shall use the capabilities specified by the Profile indicated in the service change request.

********** NEXT CHANGE **********

.

14.1.4 MGW Register

This procedure is the same as that described in the subclause "BIWF Registration" in ITU-T Recommendation Q.1950 [23] (see 3GPP TS 29.205 [7]) with the following clarification.

14.1.4: MGW Register

Address Information	Control information	Bearer information
	~~If mcprofilename supported:~~ ServiceChangeProfile = mcprofilename / version	

14.1.5 MGW Re-register

This procedure is the same as that described in the subclause "BIWF Re-Registration" in ITU-T Recommendation Q.1950 [23] (see 3GPP TS 29.205 [7]) with the following clarification.

Table 14.1.5.1: MGW Re-register

Address Information	Control information	Bearer information
	~~If mcprofilename supported:~~ ServiceChangeProfile = mcprofilename / version	

Service Change Address shall not be used.