



"Offering **integrated**
Voice,
Web
& Mobile
Solutions **&**
Services
which
make
communication
more **effective**
& more
efficient"

Comsys SpeechFrame **Mobile Collect Call**

Services & Solutions for
COMSYS Voice
Web
Mobile

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1. General

Comsys SpeechFrame[®] can be used for Mobile Collect Call in several different scenario's. Roughly two methods can be implemented; calling MCC and triggering MCC. This document describes several possible scenarios for implementing MCC.

Comsys SpeechFrame[®] can be used for, but is not limited to these scenarios.

1.1. Calling MCC

By calling MCC the A-party, who is the initiator of the MCC, calls into the service and enters the B-party number by means of DTMF input. The A-party call is established by the incoming call. The B-party call will be initiated by the MCC service node.

1.2. Triggering MCC

Triggering MCC can be done by sending a USSD or (free) SMS message that will be received by the MCC service. The A-party and B-party numbers are received in the sent message. Both A-party and B-party calls will be initiated by the MCC service node.

1.3. Other concepts

Other concepts for triggering MCC, like sending e-mail or using an 'initiate MCC' button on a web site are not covered in this document. However, such methods can be implemented using SpeechFrame[®].

1.4. Protocols

For MCC Comsys SpeechFrame[®] can implement the following protocols:

- SS7 ISUP signaling over TDM
- SS7 ISUP signaling over SIGTRAN
- SS7 INAP signaling over TDM
- SS7 INAP signaling over SIGTRAN
- SS7 MAP signaling over TDM
- SS7 MAP signaling over SIGTRAN
- USSD/SMS interface based on SMPP over TCP
- ISDN signaling over TDM

Comsys SpeechFrame[®] can be used for, but is not limited to these protocols.

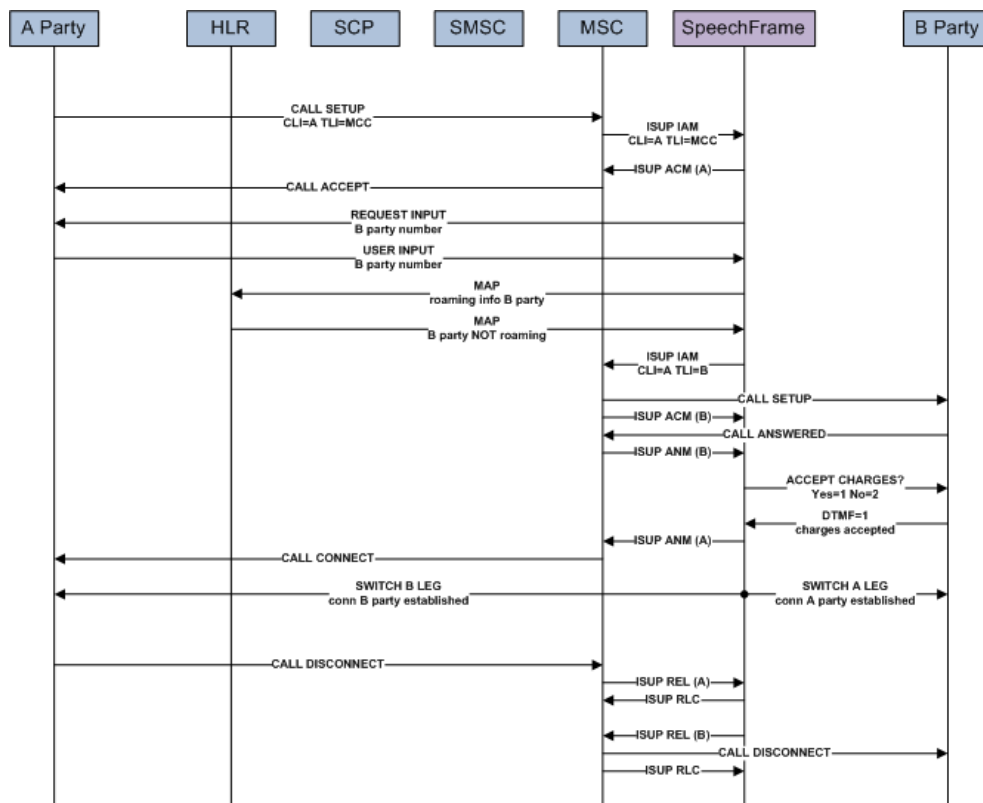
2. Call Mobile Collect Call

A Mobile Collect Call can be initiated by calling to the MCC service. The number called can be a toll-free number or any other number of choice. The operator can block incoming calls for roaming parties.

The scenarios assume this block is in effect and therefore do not check if the A-party is roaming. In cases where blocking of roaming A-party is not possible or not wanted, roaming information can be requested from the HLR.

2.1. Trombone to B-party

The A-party calls the MCC and enters the B-party number. SpeechFrame[®] establishes a trombone to the B-party. The B-party is charged for the call from SpeechFrame[®] to the A-party. Billing starts at the moment SpeechFrame[®] sends 'ISUP ANM' and ends at the moment MSC sends 'ISUP REL' for the A-party.



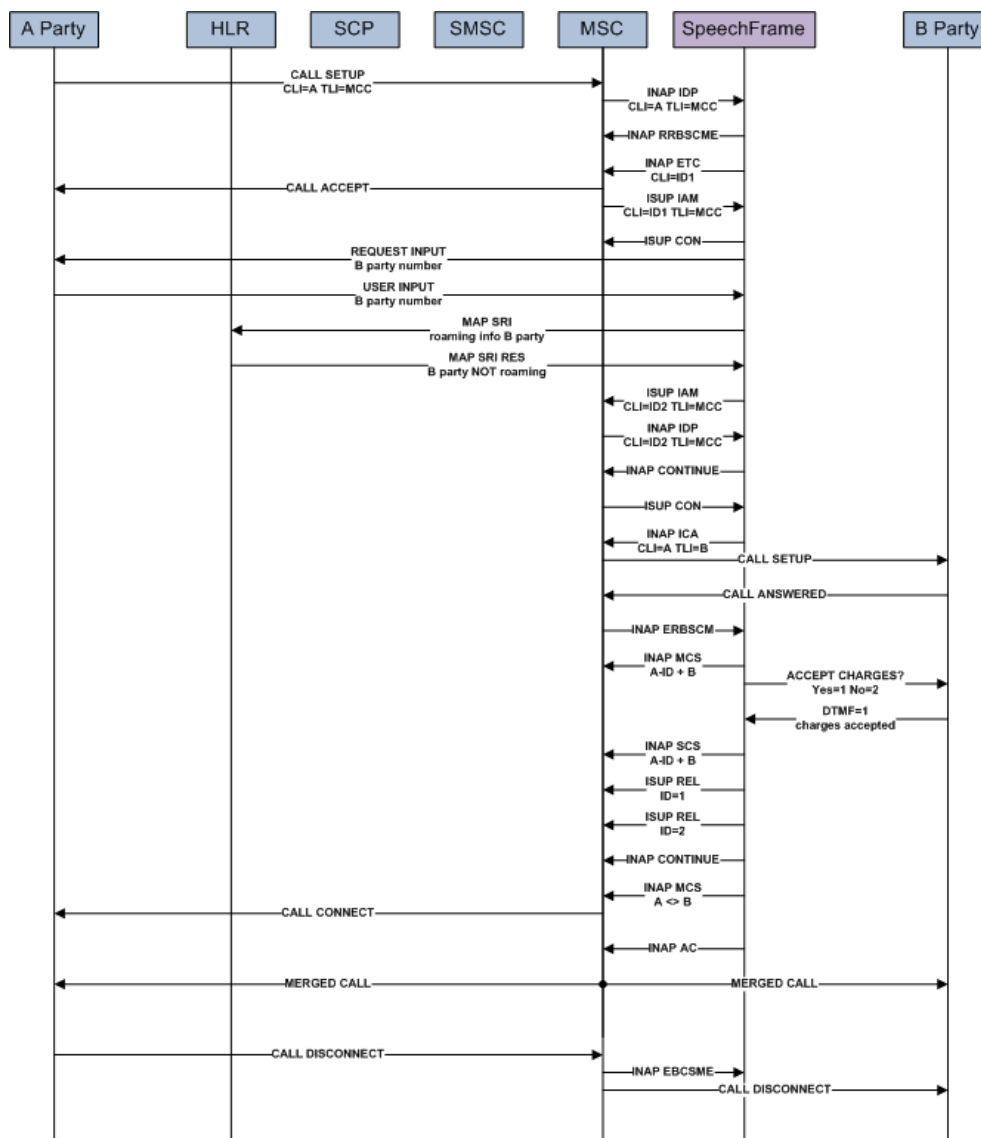
Protocols required for this scenario:

- MSC ISUP or ISDN
- HLR MAP

The same scenario can be implemented using ISDN-PRI connected between MSC and SpeechFrame[®]. In this case all ISUP messages need to be replaced by the equivalent ISDN messages.

2.2. Merge call segments

The A-party calls the MCC and enters the B-party number. SpeechFrame[®] controls the MSC to create a connection to the B-party. The B-party is charged for the call from SpeechFrame[®] to the A-party. Billing starts at the moment SpeechFrame[®] sends 'ISUP ANM' and ends at the moment the A-party is disconnected from MSC. SpeechFrame will receive 'INAP EBCSMR' from either A-party or B-party. The latter is mandatory if a CDR of the call should be kept in the SpeechFrame[®] node.



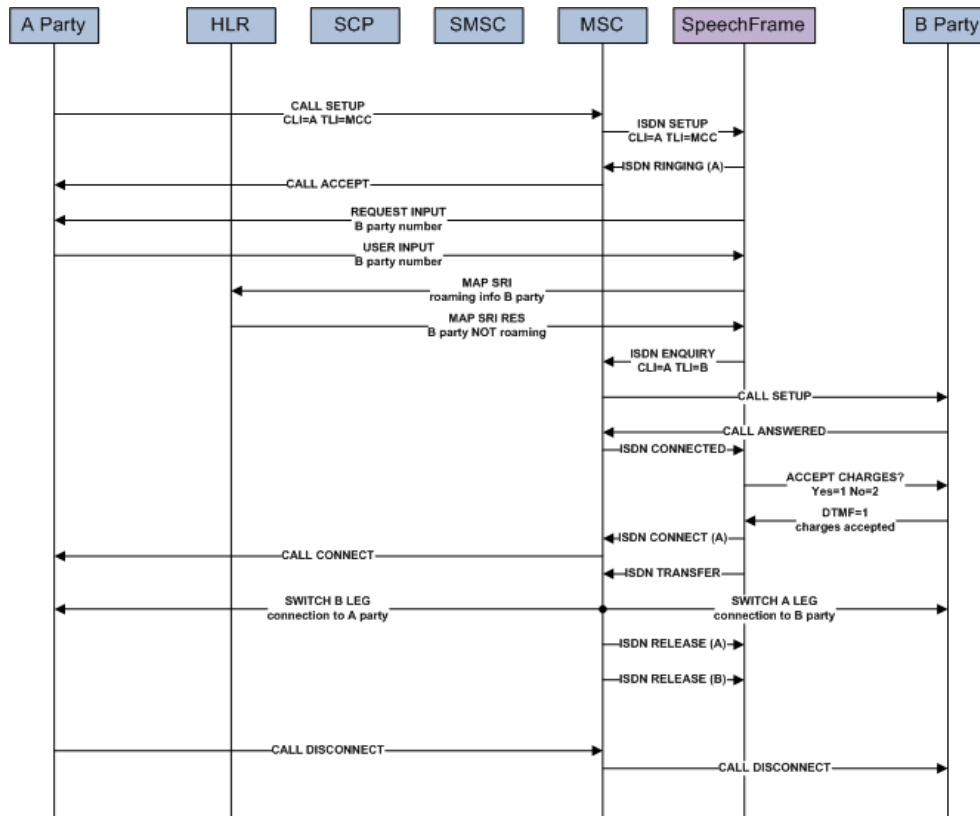
Protocols required for this scenario:

- MSC ISUP or ISDN
INAP
- HLR MAP

The same scenario can be implemented using ISDN-PRI connected between MSC and SpeechFrame[®]. In this case all ISUP messages need to be replaced by the equivalent ISDN messages.

2.3. ECT optimize route

The A-party calls the MCC and enters the B-party number. SpeechFrame[®] uses a temporary channel on the same E1 as the incoming call. The ENQUIRY and TRANSFER are ISDN FACILITY messages to the switch. The B-party is charged for the call from SpeechFrame[®] to the A-party. Billing starts at the moment SpeechFrame[®] sends 'ISDN TRANSFER' and ends at the moment the call is disconnected between the MSC and the A-party. The scenario is only valid if the MSC supports ISDN ECT route optimization.



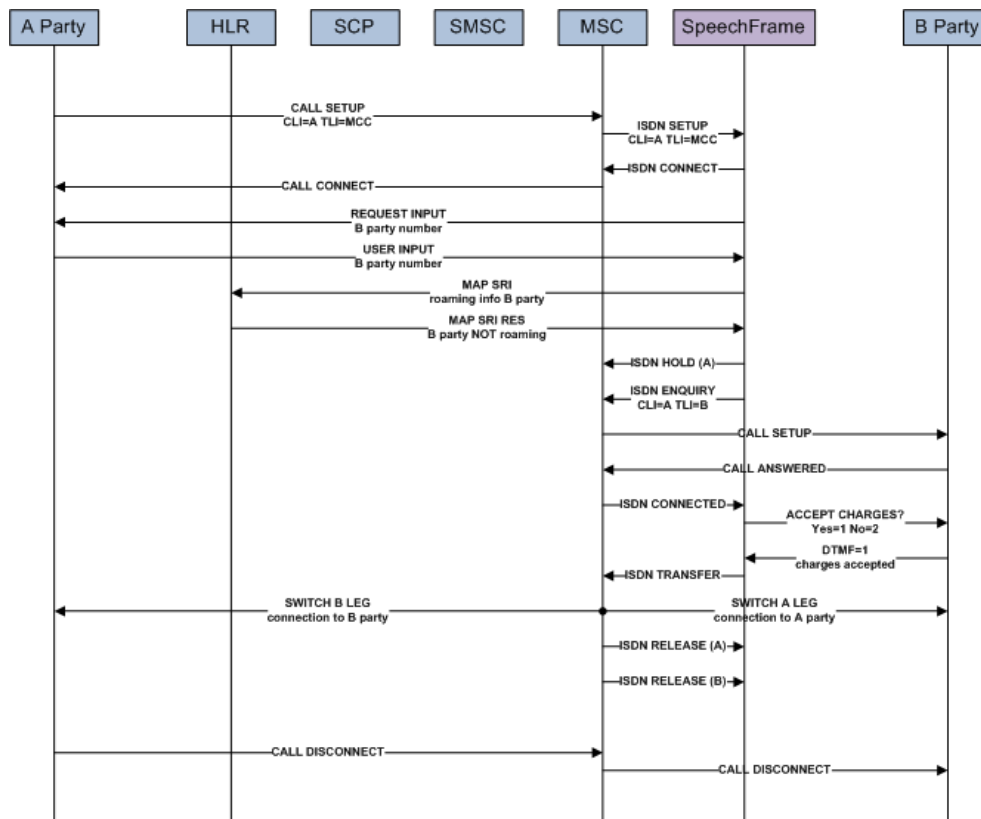
Protocols required for this scenario:

- MSC ISDN (ENQUIRY and TRANSFER ISDN FACILITY messages mandatory)
- HLR MAP

The scenario cannot be implemented using ISUP.

2.4. ECT on-hold sequence

The A-party calls the MCC and enters the B-party number. SpeechFrame[®] puts the A-party on-hold and establishes a consultation call to the B-party. The B-party is charged for the call from SpeechFrame[®] to the A-party. Billing starts at the moment the MSC sends 'ISDN CONNECT' and ends at the moment MSC receives 'CALL DISCONNECT' from the A-party. The scenario is only possible if the MSC supports ISDN ECT on-hold sequence.



Protocols required for this scenario:

- MSC ISDN (HOLD, ENQUIRY and TRANSFER ISDN FACILITY messages mandatory)
- HLR MAP

The scenario cannot be implemented using ISUP.

3. Trigger Mobile Collect Call

The MCC service can be triggered using USSD. Other possible scenario is using SMS, however the disadvantage here is that delivery may be delayed. Other than by calling the service, sending USSD is always possible when the A-party subscriber is roaming. Therefore a roaming check for the A-party should always be done.

When the MCC service is triggered, all calls are setup by the MCC service node. All scenarios described in chapter 2 apply, however roaming check for A-party should be added and A-party calls are outbound from the MCC instead of inbound. There will be no pre-call announcements because all calls will be connected immediately.