This call flow describes the call setup from one IMS subscriber to ISUP PSTN termination. The call is routed via the BGCF (Border Gateway Control Function) to the MGCF (Media Gateway Control Function). The MGCF uses one context with two terminations in IM-MGW (Media Gateway). The termination RTP1 is used towards IMS Core network subsystem entity and the bearer termination TDM1 is used for bearer towards PSTN CS network element.
### Caller Interfaces (IMS-PSTN(ISUP) Call; Megaco/H.248 Signaling; IMS Caller Initiated Call Release)

<table>
<thead>
<tr>
<th>Event</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
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</tr>
<tr>
<td><strong>Calling UE</strong></td>
<td>IMS Core Network</td>
</tr>
<tr>
<td>Caller User Equipment</td>
<td>Visited IMS</td>
</tr>
<tr>
<td>Caller</td>
<td>Orig P-CSCF</td>
</tr>
</tbody>
</table>

#### Caller PDP Context Activation

- **200 OK (PRACK)**
- The codec selected is acknowledged to the UE.

#### Ringing

- **180 Ringing**
- The MGCF forwards called party alerting indication in 180 ringing message towards the Caller.

#### Ring Back Tone

- **RTP: Ring Back Tone**
- The ring back tone is fed to the calling subscriber. The IM-MGW converts the tone into RTP. The UE converts it back to the ring back tone and feeds it to the calling subscriber.

#### Conversation Mode

- **200 OK (INVITE)**
- The final response, 200 OK, is sent by the MGCF over the signaling path when the subscriber has accepted the incoming session attempt.

- **ACK**
- The Caller sends the final acknowledgement in ACK message towards MGCF.

#### Conversation Path

- **200 OK (PRACK)**
- The Caller acknowledges the 180 ringing with PRACK message towards MGCF.

- **200 OK (UPDATE)**
- The called end replies back with 200 OK.

- **PRACK**
- The Called User Equipment acknowledges the PRACK message with 200 OK message.

- **BYE**
- The Caller sends BYE towards MGCF when the calling party hangs up.

- **Conversation Mode**
- Bidirectional voice path is now through. The IM-MGW converts RTP to voice and vice versa. UE also maps audio to RTP and back.

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The MGCF acknowledges with 200 OK message towards Caller.

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**IMS to PSTN(ISUP) call setup**

Bidirectional voice path is now through. The IM-MGW converts RTP to voice and vice versa. UE also maps audio to RTP and back.

The MGCF responds with call release by sending BYE message towards the Caller.

The Caller acknowledges the BYE by sending 200 OK towards MGCF.

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**IMS to PSTN (ISUP) call setup**

Bidirectional voice path is now through. The IM-MGW converts RTP to voice and vice versa. UE also maps audio to RTP and back.

The Orig S-CSCF initiates call release by sending BYE towards MGCF and the Caller.

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This call flow describes the call setup from one IMS subscriber to ISUP PSTN termination. The call is routed via the BGCF (Border Gateway Control Function) to the MGCF (Media Gateway Control Function). The MGCF uses one context with two terminations in IM-MGW (Media Gateway). The termination RTP1 is used towards IMS Core network subsystem entity and the bearer termination TDM1 is used for bearer towards PSTN CS network element.

IMS to PSTN (ISUP) call setup

Bidirectional voice path is now through. The IM-MGW converts RTP to voice and vice versa. UE also maps audio to RTP and back.

The MGCF initiates the call release by sending BYE towards the Caller.

The Caller acknowledges the BYE message with 200 CK towards MGCF.

This sequence diagram was generated with EventStudio System Designer (http://www.EventHelix.com/EventStudio).