IMS Push-to-talk over Cellular (PoC) - Registration and Pre-establishment (Push to Talk Over Cellular - Registration and Pre-establishment)

Wireless Network	IMS Network		EventStudio System Designer 4.0
User Equipment	Home IMS		
PoC Client	IMS Core	PoC Server	29-Jun-08 11:49 (Page 1)

This sequence diagram describes the registration and session pre-establishment for a Push-to-talk over Cellular (PoC) terminal.

Perform GPRS Attach, PDP Context Activation and IMS Registration (Click here for details)

Poc terminal comes up and performs a GPRS Attach, PDP context activation and an IMS registration. Click on the action box to open the detailed IMS registration scenario.

Activating PoC service settings for PoC Client

PUBLISH

```
PUBLISH sip:hims.net SIP/2.0,
From: <sip:name @hims.net>; tag=abbb,
To: <sip:name @hims.net>,
Contact: <sip:[UE-IP]>; +g.poc.talkburst; expires=90000,
Event: poc-settings,
<incoming-session-barring-active=false>,
<answer-mode=automatic>,
<incoming-personal-alert-barring-active=false>,
<simultaneous-sessions-support-active=true
```

The PoC Client publishes the current PoC Service Settings of PoC Client by sending a SIP PUBLISH request. PoC specific attributes like "incoming session permission", "answer mode", "incoming alert permission" and "simultaneous session support" are included in the message.

PUBLISH

```
PUBLISH sip:hims.net SIP/2.0,
From: <sip:name @hims.net>; tag=abbb,
To: <sip:name @hims.net>,
Contact: <sip:[UE-IP]>; +g.poc.talkburst; expires=90000,
Event: poc-settings,
<incoming-session-barring-active=false>,
<answer-mode=automatic>,
<incoming-personal-alert-barring-active=false>,
<simultaneous-sessions-support-active=true
```

The IMS Core forwards the PUBLISH message to PoC Server.

200 (OK) 200 (OK)

The PoC Servercknowledges the PUBLISH message with 200 (OK) message towards IMS Core.

Store the PoC Service Settings for PoC Client

Pre-established Session

INVITE

```
Request-URIsip:PoCConferenceFactoryURI.networkA.net,
Contact:<sip:PoC-ClientA.networkA.net>; +g.poc.talkburst,
Supported codecs
```

The PoC Client sends a SIP INVITE request with the Conference-factory-URI for the PoC service as the Request-URI to the SIP/IP Core A. The SIP INVITE request contains an SDP offer including necessary media parameters and the Talk Burst Control Protocol.

100 Trying

The P-CSCF acknowledges with 100 Trying message.

INVITE

```
Request-URIsip:PoCConferenceFactoryURI.networkA.net,
Contact:<sip:PoC-ClientA.networkA.net>; +g.poc.talkburst,
Supported codecs
```

100 Trying

The PoC Server responds with 100 Trying message.

200 (OK) 200 (OK)

```
Contact<sip:Pre-establishedSessionIdentityA
@PoC-ServerA.networkA.net>; +g.poc.talkburst
```

```
Contact<sip:Pre-establishedSessionIdentityA
@PoC-ServerA.networkA.net>; +g.poc.talkburst
```

The PoC Server sends a SIP 200 (OK) as the final response to the SIP INVITE request via the IMS Core towards the PoC Client A, including the accepted media parameters e.g. supported codecs and the accepted Talk Burst Control Protocol. The content of the Contact header is set to the PoC Session Identity. The PoC Client A stores the PoC session identity.

ACK ACK

The PoC Client A acknowledges with ACK message towards PoC Server.