DTMF support

Overview

DTMF - Dual-Tone Multi-Frequency signaling

This signaling method is used for telecommunication over analogue telephone lines in the voice-frequency band between telephone handsets and other communication devices and the switching center.

Methods of sending DTMF

There are 3 methods of sending DTMF in the SIP environment:

1. SIP INFO packets.
2. As specially marked events in the RTP stream - see: RFC 2833.
3. Inband as normal audio tones in the RTP stream with no special coding or markers.

Flashphoner supports DTMF with 1 and 2.

DTMF settings

Using SIP INFO packets

To send DTMF using SIP INFO packets, the following parameter in flashphoner.properties file should be set

```
dtmf=INFO
```

PBX configuration

To receive DTMF using SIP INFO packets, PBX should be configured as follows (Asterisk for example)

```
[general]
bindport=5060
bindaddr=0.0.0.0
context=default
dtmfmode=info
allow=all

[2000]
type=friend
secret=2000
host=dynamic
canreinvite=no
dtmfmode=info
```

Note that Asterisk uses `inband` method by default which does not supported by WCS.

DTMF over RFC2833

To send DTMF as specially marked events according to RFC 2833, the following parameter inflashphoner.properties file should be set

```
dtmf=RFC2833
```

Also, `telephone-event` codec should be enabled, for example

```
codecs                   =opus,alaw,ulaw,g729,speex16,g722,mpeg4-generic,telephone-event,h264,vp8,flv,mpv
codecs_exclude_sip       =mpeg4-generic,flv,mpv,alaw,ulaw,g729,speex16,g722,vp8
codecs_exclude_streaming =telephone-event
codecs_exclude_sip_rtmp  =opus,g729,g722,mpeg4-generic,vp8,mpv
```

In the case above, `H264` for video, `opus` for audio and `telephone-event` for DTMF are enabled.

PBX configuration

To receive DTMF according to RFC 2833, PBX should be configured as follows (Asterisk for example)

```
[general]
bindport=5060
bindaddr=0.0.0.0
context=default
dtmfmode=rfc2833
allow=all

[2000]
type=friend
secret=2000
host=dynamic
canreinvite=no
dtmfmode=rfc2833
```

Note that Asterisk uses`inband`method by default which does not supported by WCS.