



synthesis

CALL ROUTING API DOCUMENTATION

Synthesis Call Routing API



This document outlines the Synthesis Inbound Call Routing API, a simple way of routing inbound calls via your own web application.

When you choose the REST connector as the destination for a number or number range, the REST connector will deliver details about a call leg to your web service.

The format will be an HTTP POST with a JSON payload similar to the following:

```
{
  "dnis":      441273448000,
  "account":   571,
  "clid_name": "Main Number",
  "clid_num":  447700900472,
  "state":     "new",
  "direction": "inbound",
  "channel_id": "97f6b941a8047417af583f661",
  "call_index": 1
}
```

The meaning of the specified parameters is as follows:

dnis	Dialled Number (i.e. 441273448000)
account	Customer account number on the platform (i.e. 12345)
clid_num	Caller ID for the calling party (i.e. 441273448000)
state	Channel state, one of new, ringing, up, or down (see state info below)
direction	Channel direction: inbound, outbound or originated (see below)
channel_id	A unique handle for the channel, used for arbitrary transfers etc
call_index	An incrementing counter for the number of event packets in this flow
client_reference	An optional, arbitrary reference provided by your webservice

You can then reply using various Actions which are detailed below. When the action is has been completed, your endpoint will be called again for further instructions and in some cases with new data. In the case of calls in the “down” state, no further actions can be provided, and the call is simply to inform you that the channel is now complete and is being “torn down” or destroyed.

Replies to any action may contain a “reference” property, this will effectively label the call for future events.

CONFIGURING RESTFUL CALL ROUTING

You can configure Inbound Call Routing either by routing numbers to the REST Connector (you may need to contact your account manager to activate this) or by configuring all inbound and/or outbound calls on your account to use a specific endpoint URL.

In order to configure a new REST connector for inbound numbers and ranges you will need to set up the following parameters:

URL: The URL of your webservice.

Timeout: The time we should wait before giving up on your webservice

Connector on timeout: The connector that we should route the call to if your service does not respond.

CHANNEL STATE

The lifecycle of a channel always begins with **new** and ends with **down**. A channel which is indicating ringing to the far-end party is in state **ringing** and a channel which has already been connected and is live is **up**. While a **down** channel can not be controlled, it will often provide useful information such as the call end time and the details of any uncollected recordings which ended when the channel enter the **down** state.

CHANNEL DIRECTIONALITY

The usual origin of a channel is an inbound call to a number which is then routed via a webservice, this direction is described as **inbound**. However, you may have also configured outbound calls on your account to be routed/amended by your webservice. In this case, the direction is **outbound**. Calls originated by the Call Origination API are neither inbound nor outbound, and both channels will have a direction of **originated**.

CALL ROUTING API ACTIONS



These are the possible actions which may be provided to the Call Routing API. On any action you may specify “reference” which will be handed back to you on future calls as “your_reference”.

You **must** reply with an action, along with parameters as specified below.

answer

Answers a channel.

ringing

Starts ringing indication on a channel that has not already been answered.

dial

Dials a number on the PSTN

Parameters

number	Full phone number to dial
callerid	Caller ID to be presented

Responses

dial_setup	Time at which the dial was initiated
dial_answer	Time at which the remote party answered (where available)
dial_clear	Time at which the call cleared down

connector

Connects the channel to a Connector (a general purpose static destination) already configured.

Parameters

connector_id	The ID of the connector you wish to connect the channel to
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speak

Speak textual words on the channel. Only UK English Male is available unless you have purchased alternative text-to-speech voices.

Parameters

text	Text to speak on the channel
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playback

Plays audio on the channel once the audio has been collected from a URL.

Parameters

audio_url The full URL to the audio you wish to play

hangup

Clears down the channel.

Parameters

cause_code Q.931 cause code to send to the network

bridge

Place channel in a conference bridge.

Parameters

name Unique ID or name of your bridge. You will need this in order to add further participants.

max_length Maximum conference length in seconds. Defaults to 28800s.

getdtmf

Read DTMF from a channel.

Parameters

digittimeout Number of seconds to allow between digits (optional)

timeout Total timeout for reading the DTMF string (optional)

Responses

dtmf DTMF digits read from the channel

start_recording

Starts recording on the channel.

Parameters

name Name of the recording (alpha numeric characters only)

Responses

recording_url URL of recording file

stop_recording

Ends recording on the channel.

Parameters

name Name of the recording (alpha numeric characters only)

Responses

recording_url URL of recording file