

IPPBX API

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Chapter 1 Overview

Synway IPPBX provides API interfaces for you to integrate a third-party software or device. Through this interface, the third-party application can operate on the IPPBX, such as answering an incoming call and hanging up a call.

Compatibility

Synway IPPBX version 1.2.0_20181026 or above.

Communication Protocol

The default interaction protocol is HTTPS that is the same as the web protocol of the Synway IPPBX.

Response Results and API Reports

In JSON format

Communication Methods

Synway IPPBX communicates with the 3rd-party application server by two methods.

1. The 3rd-party application server sends request to the IPPBX.

The 3rd-party application server acts as a client; IPPBX acts as a server.

Scenario: The 3rd-party application server initiates a call or query request.

2. The IPPBX automatically sends API reports to the 3rd-party application server.

The 3rd-party application server acts as a server; IPPBX acts as a client.

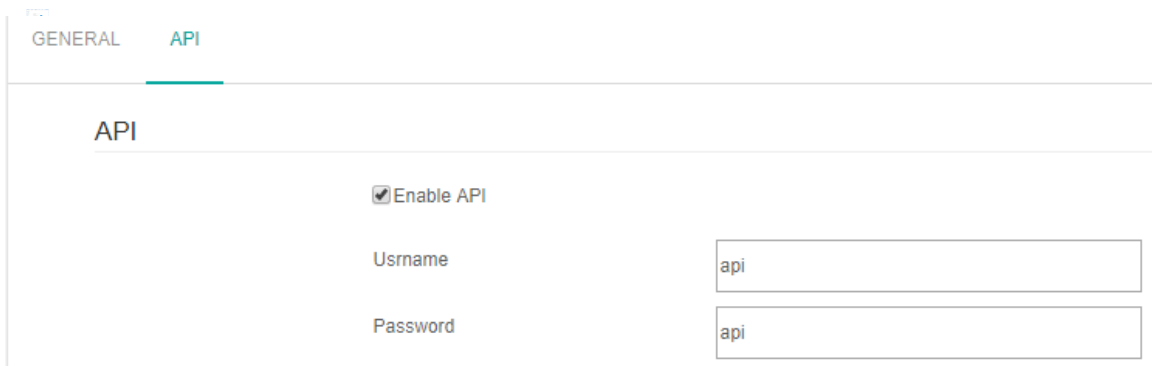
Prerequisite: The 3rd-party application server should be connected to the IPPBX via API interface.

Scenario: IPPBX sends extension status to the application server.

Chapter 2 Enable API Access on IPPBX

Before you start, you need to enable API access on the IPPBX.

1. Log in the IPPBX web interface; go to **IPPBX >Preference> API**.
2. Check the option **Enabled**.
3. Set the **Username** and **Password**, click **Save** and **Apply**.
 - **Note:** The 3rd-party software should use the user name and the password to connect to the IPPBX API.



GENERAL API

API

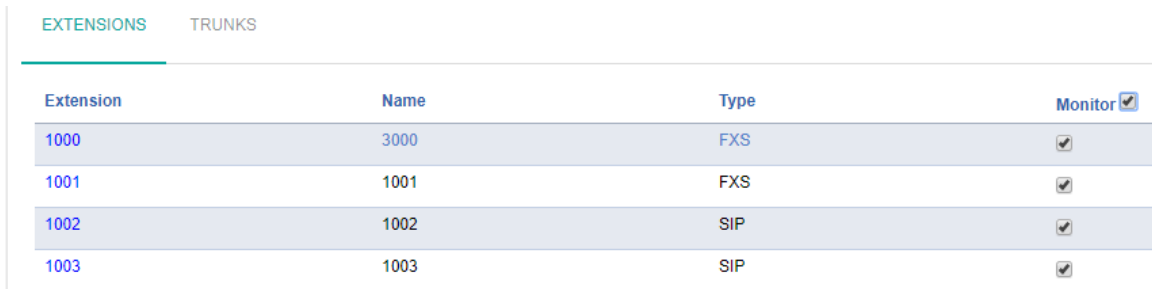
☒ Enable API

Username

Password

4. Set whether to monitor extension status.

If the extension status is changed (e.g. from Busy to Idle), the IPPBX will send report to the 3rd-party application server.



EXTENSIONS		TRUNKS	
Extension	Name	Type	Monitor ☒
1000	3000	FXS	☒
1001	1001	FXS	☒
1002	1002	SIP	☒
1003	1003	SIP	☒

5. Set whether to monitor trunks and control inbound calls on the 3rd-party application server.

EXTENSIONS		TRUNKS	
Trunk Name	Type	Hostname/IP/Port	Incoming Call Control ☐
30.21	SIP	172.16.30.21:5061	☒
30.25	SIP	172.16.30.25	☐
fx03	FXO	3	☐
fx04	FXO	4	☐
fx05	FXO	5	☐
fx06	FXO	6	☐

- ✓ **Control Inbound Call Answering:** If this option is enabled, users can answer or decline this trunk's inbound calls on the 3rd-party application within 10 seconds. If the user doesn't handle the call on the 3rd-party application, the call will be answered.
- Answer the call: The call will be routed to the pre-configured destination on the IPPBX.
 - Decline the call: The call will not reach the IPPBX and the IPPBX will not have this call log.

Chapter 3 API Interfaces

3.1 API Authentication

3.1.1 Login

Enable API access on the Synway IPPBX, then access the IPPBX by the API username and the encrypted MD5 API password.

- **Note:** You need to encrypt the API password with MD5 first, and use the MD5 password to log in. The MD5 password should be in the format of 32 lowercase letters.

Request Address

<https://{ippbx domain}/API/login>

Request Parameters

Name	Importance	Type	Description
username	Required	String	The IPPBX API's username.
password	Required	String	The IPPBX API's password. Encrypt the password with MD5, and then fill in the encrypted 32 lowercase letters.
url	Optional	String	URL of the application server. This URL is used to specify the sending path of event report to the application server. ■ Note: If the parameter is not specified, the event report will be sent to the IP address of the application server.
type	Optional	String	When the value is 'synway', you can use the getevent API interface to get events.
extid	Optional	String	Used with type, when it is empty, getevent gets all events, when it is an extension number, only gets the events of the extension number.

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: • success • failed
Request successful			
token	Optional	String	Token for interface invocation.
Request failed			
errno	Optional	String	Error code

■ Note:

- The API token is generated when the 3rd-party application server logs in the IPPBX API successfully. All API requests should contain an API token.
- The API token is valid in 30 minutes.

To ensure the normal interact with the IPPBX via API, the 3rd-party application server must refresh the API token every 30 minutes.

Examples

Request Example

The 3rd-party application server uses the user name 'api' and the password '8a5da52ed126447d359e70c05721a8aa' to log in.

```
{"username":"api","password":"8a5da52ed126447d359e70c05721a8aa","url":"172.16.30.21:442/report.php"}
```

Response Example

The 3rd-party application server log in successfully.

```
{"status":"success","token":"5bab741ec99d69160bb2816048b5533e"}
```

3.1.2 Heartbeat Packet

With heartbeat packet, IPPBX can update IP, Port, and URL of the connected 3rd party application server if there are any changes.

In addition, when there is no event interaction between the application server and IPPBX API, heartbeat packets can be sent to the IPPBX periodically to prolong the validity time of the token, so as to avoid failure of report if the token was erased after 30min.

- **Note:** Every time a heartbeat packet is sent, the validity time of the token will be

prolonged for 30min.

Request Address

POST https://{ippbx domain}/API/heartbeat?token={token}

Request Parameters

Name	Importance	Type	Description
url	Required	String	URL of the application server. This URL is used to specify the sending path of event report to the application server.

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: • success • failed
Request failed			
errno	Optional	String	Error code

Examples**Request Example**

The 3rd-party application server sends an API heartbeat packet to update the URL, and the URL is changed to 172.16.30.22/report.php.

```
{"url":"172.16.30.22/report.php"}
```

Response Example

```
{"status":"success"}
```

3.1.3 Logout

- **Note:** The token used in the Request sample is the token returned when API login authentication is passed.

Request Address

POST https://{ippbx domain}/API/logout?token={token}

Request Parameters

No request parameters. Only need to send the request address.

Response Parameters

Name	Importance	Type	Description
------	------------	------	-------------

status	Required	String	Request result: • success • failed
Request failed			
errno	Optional	String	Error code

Response Example

```
{"status": "success"}
```

Log out successfully.

3.2 Extension

3.2.1 Query Extension Settings

Get detailed information about an individual extension or multiple extensions. When there are multiple requests, separate them with commas.

Request Address

POST https://{ippbx domain}/API/ext_query?token={token}

Request Parameters

- Sending no parameter means query all information.
- With parameters in request, developers could query specific information. Separate them with ,, for example, {"extid": "1000,1001"}.

Name	Importance	Type	Description
extid	Optional	String	The extension number of the extension to be queried.

Response Parameters

Name	Importance	Type	Description
extension	Required	String	The extension number.
username	Required	String	The user name.
effective_caller_id_number	Required	String	The outbound caller's number.
call_permission	Required	String	Extension call permission: • ban • internal • local • long_distance • international

voicemail_enabled	Required	String	Enable or disable the voicemail: • true • false
extension	Required	String	Extension.
extension_type	Required	String	Extension type.
password	Required	String	Extension password.
enabled	Required	String	Enable.
max_registrations	Required	String	Maximum number of registrations.
forward_all_enabled	Required	String	Enable Always Call Forwarding.
forward_all_destination	Required	String	Destination for Always Call Transfer.
forward_all_tc_type	Required	String	Time condition for Always Call Transfer: • All • WorkTime • Holiday • Custom
forward_all_tc_uuid	Required	String	The uuid of custom time condition for Always Call Transfer.
forward_busy_enabled	Required	String	Enable Call Forwarding on Busy.
forward_busy_destination	Required	String	Destination for Call Forwarding on Busy.
forward_busy_tc_type	Required	String	Time condition for Call Forwarding on Busy: • All • WorkTime • Holiday • Custom
forward_busy_tc_uuid	Required	String	The uuid of custom time condition for Call Forwarding on Busy.
forward_no_answer_enabled	Required	String	Enable Call Forwarding on No Answer.
forward_no_answer_destination	Required	String	Destination for Call Forwarding on No Answer.
forward_no_answer_tc_ty	Required	String	Time condition for Call Forwarding on

pe			No Answer: • All • WorkTime • Holiday • Custom
forward_no_answer_tc_uuid	Required	String	The uuid of custom time condition for Call Forwarding on No Answer.
forward_user_not_registered_enabled	Required	String	Enable Call Forwarding on Unregistration.
forward_user_not_registered_destination	Required	String	Destination for Call Forwarding on Unregistration.
forward_user_not_registered_tc_type	Required	String	Time condition for Call Forwarding on Unregistration: • All • WorkTime • Holiday • Custom
forward_user_not_registered_tc_uuid	Required	String	The uuid of custom time condition for Call Forwarding on Unregistration.
follow_me_enabled	Required	String	Enable 'Follow Me'.
follow_me_destination	Required	String	Destination for 'Follow Me'.
follow_me_tc_type	Required	String	Time condition for 'Follow Me': • All • WorkTime • Holiday • Custom
follow_me_tc_uuid	Required	String	The uuid of custom time condition for 'Follow Me'.
absolute_codec_string	Required	String	RTP codecs (current support of PCMU, PCMA, GSM, G729, G723, G722, G726-16, speex@8000h@20i, speex@16000h@20i, AMR, PCMA@30i, PCMA@40i, PCMU@30i, PCMU@40i, VP8, VP9, H264, H263,

			H263-1998, H263-2000)
force_ping	Required	String	Verify that the extension is online.
call_timeout	Required	String	The call times out.
max_call_duration	Required	String	Maximum call time.
outbound_restriction	Required	String	Outbound restrictions.
extension_trunk	Required	String	Extension trunk.
eavesdrop_enable	Optional	String	Allow to be monitored or not: • disable • enable_all • enable_extensions
eavesdrop_mode	Optional	String	Monitoring mode: • none • all • listen • whisper • barge-in
eavesdrop_extensions	Optional	String	Extension number. If there are two or more numbers, separate them by comma. When the configuration item eavesdrop_enable is set to enable_extensions, this configuration item is valid, which means it allows to be monitored by these extensions.
user_record	Optional	String	Extension recording: • true • false

Examples

Request Example

Query the settings of Extension 5001.

```
{"extid":"5001"}
```

Response Example

Request successful.

```
{"status":"success","extinfo":[{"extension":"5001","extension_type":"SIP","password":"123456","enabled":"true","username":"5001","effective_caller_id_number":null,"max_registrations"
```

```
:"3","forward_all_enabled":"false","forward_all_destination":null,"forward_all_tc_type":"All","forward_all_tc_uuid":null,"forward_busy_enabled":"false","forward_busy_destination":null,"forward_busy_tc_type":"All","forward_busy_tc_uuid":null,"forward_no_answer_enabled":"false","forward_no_answer_destination":null,"forward_no_answer_tc_type":"All","forward_no_answer_tc_uuid":null,"forward_user_not_registered_enabled":"false","forward_user_not_registered_destination":null,"forward_user_not_registered_tc_type":"All","forward_user_not_registered_tc_uuid":null,"follow_me_enabled":"false","follow_me_destination":null,"follow_me_tc_type":"All","follow_me_tc_uuid":null,"absolute_codec_string":null,"force_ping":"false","call_timeout":"30","max_call_duration":"6000","outbound_restriction":"false","call_permission":"international","extension_trunk":"false","eavesdrop_enable":"disable","eavesdrop_mode":"none","user_record":"false","voicemail_enabled":"true"]}]}
```

3.2.2 Modify an Extension

Configure the settings of an individual extension.

Request Address

POST https://{ippbx domain}/API/ext_mod?token={token}

Request Parameters

Name	Importance	Type	Description
extid	Optional	String	The extension number of the extension to be configured.
action	Required	String	Modify or add an extension: • update • add
username	Optional	String	The user name.
effective_caller_id_number	Optional	String	The outbound caller's number.
call_permission	Optional	String	Extension call permission: • ban • internal • local • long_distance • international
voicemail_enabled	Optional	String	Enable or disable the voicemail: • true • false

extension_type	Optional	String	Extension type.
password	Optional	String	Extension password.
enabled	Optional	String	Enable.
max_registrations	Optional	String	Maximum number of registrations.
forward_all_enabled	Optional	String	Enable Always Call Forwarding.
forward_all_destination	Optional	String	Destination for Always Call Transfer.
forward_all_tc_type	Optional	String	Time condition for Always Call Transfer: • All • WorkTime • Holiday • Custom
forward_all_tc_uuid	Optional	String	The uuid of custom time condition for Always Call Transfer.
forward_busy_enabled	Optional	String	Enable Call Forwarding on Busy.
forward_busy_destination	Optional	String	Destination for Call Forwarding on Busy.
forward_busy_tc_type	Optional	String	Time condition for Call Forwarding on Busy: • All • WorkTime • Holiday • Custom
forward_busy_tc_uuid	Optional	String	The uuid of custom time condition for Call Forwarding on Busy.
forward_no_answer_enabled	Optional	String	Enable Call Forwarding on No Answer.
forward_no_answer_destination	Optional	String	Destination for Call Forwarding on No Answer.
forward_no_answer_tc_type	Optional	String	Time condition for Call Forwarding on No Answer: • All • WorkTime • Holiday

			• Custom
forward_no_answer_tc_uuid	Optional	String	The uuid of custom time condition for Call Forwarding on No Answer.
forward_user_not_registered_enabled	Optional	String	Enable Call Forwarding on Unregistration.
forward_user_not_registered_destination	Optional	String	Destination for Call Forwarding on Unregistration.
forward_user_not_registered_tc_type	Optional	String	Time condition for Call Forwarding on Unregistration: • All • WorkTime • Holiday • Custom
forward_user_not_registered_tc_uuid	Optional	String	The uuid of custom time condition for Call Forwarding on Unregistration.
follow_me_enabled	Optional	String	Enable 'Follow Me'.
follow_me_destination	Optional	String	Destination for 'Follow Me'.
follow_me_tc_type	Optional	String	Time condition for 'Follow Me': • All • WorkTime • Holiday • Custom
follow_me_tc_uuid	Optional	String	The uuid of custom time condition for 'Follow Me'.
absolute_codec_string	Optional	String	RTP codecs (current support of PCMU, PCMA, GSM, G729, G723, G722, G726-16, speex@8000h@20i, speex@16000h@20i, AMR, PCMA@30i, PCMA@40i, PCMU@30i, PCMU@40i, VP8, VP9, H264, H263, H263-1998, H263-2000)
force_ping	Optional	String	Verify that the extension is online.
call_timeout	Optional	String	Maximum call time.
max_call_duration	Optional	String	Outbound restrictions.

outbound_restriction	Optional	String	Extension trunk.
extension_trunk	Optional	String	Allow to be monitored or not: • disable • enable_all • enable_extensions
eavesdrop_enable	Optional	String	Monitoring mode: • none • all • listen • whisper • barge-in
eavesdrop_mode	Optional	String	Extension number. If there are two or more numbers, separate them by comma. When the configuration item eavesdrop_enable is set to enable_extensions, this configuration item is valid, which means it allows to be monitored by these extensions.
eavesdrop_extensions	Optional	String	Extension recording: • true • false
user_record	Optional	String	Maximum call time.

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: • success • failed
Request failed			
errno	Optional	String	Error code

Examples
Request Example

Modify the username of extension 1002 to Andy.

```
{"extid":"1002","action":"update","username":"Andy"}
```

Response Example

Request successful.

```
{"status": "success"}
```

3.2.3 Query Extension Status

Query the status information of single or single page or all extensions.

Request Address

POST https://{ippbx domain}/API/ext_status?token={token}

Request Parameters

Name	Importance	Type	Description
extid	Optional	String	The extension number.
page	Optional	String	The page number.

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: • success • failed
total	Required	String	Total number found
max_page	Required	String	Total pages.
page	Required	String	Current page number.
count	Required	String	The number found.
data	Required	String	Extension status information.

Data Parameters

Name	Type	Description
extension	String	The extension number.
effective_caller_id_name	String	The extension name.
extension_type	String	The extension type: • FXS • SIP
extension_uuid	String	uuid of the extension.
port	String	The port number of the analog extension.
ip_port	String	The registered extension's IP address

		and port.
status	String	The extension status: • RingBack • Ringing • Talking • Registered • Unregistered • Busy • Idle • InUse

Examples

Request Example

Query the settings of extension 1000.

```
{"extid":"1000"}
```

Response Example

Request successful.

```
{"status":"success","total":1,"max_page":1,"page":1,"count":1,"data":[{"extension":"1000","effective_caller_id_name":"1000","extension_type":"FXS","extension_uuid":"6d76a3d5-2d60-4f88-9816-6886aa67e1a9","port":"1","ip":null,"status":"Idle"}]}
```

3.3 Trunk

3.3.1 Query Trunk List

Query basic information like trunk name, trunk status, trunk type, etc. of all trunks.

Request Address

POST https://{ippbx domain}/API/trunk_list?token={token}

Request Parameters

No request parameters.

Response Parameters

Name	Importance	Type	Description
trunklist	Required	Object	Object
trunkname	Required	String	The trunk name
type	Required	String	The trunk type:

			- FXO - SIP
status	Required	String	The trunk status: disabled
			SIP trunk status: - stopped - registered - fail to register - unmonitored - usable - unusable
			FXO trunk status: - idle - in use - unusable
did_number	Optional	String	DID number

Examples

Request Example

Query the trunk list.

Response Example

Request successful.

```
{
  "status": "success",
  "trunklist": [
    {
      "trunkname": "100",
      "type": "SIP",
      "status": "registered"
    },
    {
      "trunkname": "10.88",
      "type": "SIP",
      "status": "unmonitored"
    },
    {
      "trunkname": "fxo3",
      "type": "FXO",
      "status": "idle",
      "did_number": ""
    },
    {
      "trunkname": "fxo4",
      "type": "FXO",
      "status": "unusable",
      "did_number": ""
    },
    {
      "trunkname": "fxo5",
      "type": "FXO",
      "status": "unusable",
      "did_number": ""
    },
    {
      "trunkname": "fxo6",
      "type": "FXO",
      "status": "unusable",
      "did_number": ""
    }
  ]
}
```

3.3.2 Query Trunk Settings

Query the basic settings of a trunk.

Request Address

POST https://{ippbx domain}/API/trunk_query?token={token}

Request Parameters

- Carrying no parameter means query settings of all trunks.

- With parameters in request, developers could query settings of a single or multiple trunks. Separate them with ,, for example, {"trunkname": "fxo1,fxo2"}.

Name	Importance	Type	Description
trunkname	Required	String	The trunk name.

Response Parameters

Name	Importance	Type	Description
trunkname	Required	String	The trunk name.
sip_address	Optional	String	The address of the SIP trunk.
port	Optional	String	The FXO port number.

Examples

Request Example

Query the SIP3 settings of the SIP trunk.

```
{"trunkname":"sip3"}
```

Response Example

Request successful.

```
{"status":"success","trunks":[{"trunkname":"sip3","sip_address":"172.16.10.88"}]}
```

3.4 Queue

3.4.1 Query Queue List

Query basic information of all queues.

Request Address

POST https://{ippbx domain}/API/queue_list?token={token}

Request Parameters

No request parameters.

Response Parameters

Name	Importance	Type	Description
queuelist	Required	Object	Object.
queueid	Required	String	The queue number.
queuename	Required	String	The queue name.

Examples

Request Example

Query the queue list.

Response Example

Request successful

```
{"status": "success", "queuelist": [{"queueid": "6701", "queuename": "q6701"}, {"queueid": "6700", "queuename": "q6700"}]}
```

3.4.2 Query Queue Status

Query caller's information and user agents' status in a specific queue.

Request Address

POST https://{ippbx domain}/API/queue_members?token={token}

Request Parameters

Name	Importance	Type	Description
queueid	Required	String	The queue number.

Response Parameters

Name	Importance	Type	Description
queueid	Required	String	The queue number.
callercount	Required	String	The number of callers who are waiting for answering.
callers	Required	String	The caller's information.
callerid	Optional	String	The caller's number.
callid	Optional	String	The call number.
position	Optional	String	The caller's position in the queue.
inqueue_time	Optional	String	The time when the caller enters the queue.
wait_time	Optional	String	The caller's waiting time in the queue.
members	Required	String	The agent's information.
extid	Optional	String	The agent's number.
type	Optional	String	The agent's type: - static - dynamic
state	Optional	String	The agent's status:

			- Waiting: waiting for inbound calls - Receiving: Inbound calls available in the queue for the agents. - In a queue call: talking to inbound calls in the queue.
--	--	--	--

Examples

Request Example

Query the agents in the queue 6700.

```
{"queueid":"6700"}
```

Response Example

Request successful

```
{"status":"success","queueid":"6700","callercount":"1","callers":[{"callerid":"1003","callid":"dd97bb5c-60b3-11e9-a65d-1be0b8b0b7b8","position":"1","inqueue_time":"2019-04-17 09:55:24","wait_time":"99"}],"members":[{"extid":"1000","type":"static","state":"In a queue call"}]}
```

3.4.3 QueryAgent Status

Query dynamic agents' status in a specific queue.

Request Address

POST https://{ippbx domain}/API/agent_query?token={token}

Request Parameters

Name	Importance	Type	Description
queueid	Required	String	The queue number.
extid	Required	String	The dynamic agent's number.
password	Optional	String	The queue password.

Response Parameters

Name	Importance	Type	Description
queueid	Required	String	The queue number.
extid	Required	String	The agent number.
agentstatus	Required	String	The agent's status: - logged in - logged out

			• on break
--	--	--	------------

Examples

Request Example

Query the status of the dynamic agent 1002.

```
{"queueid":"6700","extid":"1002","password":"123456"}
```

Response Example

Request successful

```
{"status":"success","queueid":"6700","extid":"1002","agentstatus": "logged in"}
```

3.4.4 Log in a Queue

Through this interface, a dynamic agent can log in a queue.

Request Address

POST https://{ippbx domain}/API/agent_login?token={token}

Request Parameters

Name	Importance	Type	Description
queueid	Required	String	The queue number.
extid	Required	String	The dynamic agent's number.
password	Optional	String	The password of the queue.
mode	Optional	String	When it is set to all, the agent can log in to all queues.

Examples

Request Example

Add the extension 1002 as a dynamic agent to the queue 6700. The password of the queue is 123456.

```
{"queueid":"6700","extid":"1002","password":"123456"}
```

Response Example

Request successful

```
{"status":"success"}
```

3.4.5 Log out a Queue

Through this interface, you can log out a dynamic agent from a queue.

Request Address

POST https://{ippbx domain}/API/agent_logout?token={token}

Request Parameters

Name	Importance	Type	Description
queueid	Required	String	The queue number.
extid	Required	String	The dynamic agent's number.
password	Optional	String	The password of the queue.
mode	Optional	String	When it is set to all, the agent can log in to all queues.

Examples**Request Example**

Request to log out the dynamic agent 1002 from the queue 6700. The password of the queue is 123456.

```
{"queueid":"6700","extid":"1002","password":"123456"}
```

Response Example

Request successful

```
{"status":"success","queueid":"6700","extid":"1002"}
```

3.4.6 Pause an Agent

Pause an agent's service. If an agent is paused, the agent would not receive calls from the queue.

Request Address

POST https://{ippbx domain}/API/agent_break?token={token}

Request Parameters

Name	Importance	Type	Description
queueid	Required	String	Queue number.
extid	Required	String	Extension number of the agent.

Examples**Request Example**

Request to pause the agent 1002 in the queue 6700.

```
{"queueid":"6700","extid":"1002"}
```

Response Example

Request successful

```
{"status": "success", "queueid": "6700", "extid": "1002"}
```

3.4.7 Resume an Agent

Resume an agent's service from a queue. After an agent is resumed, the agent can receive calls from the queue.

Request Address

POST https://{ippbx domain}/API/agent_resume?token={token}

Request Parameters

Name	Importance	Type	Description
queueid	Required	String	Queue number.
extid	Required	String	Extension number of the agent.

Examples

Request Example

Request to resume the agent 1002 from the queue 6700.

```
{"queueid": "6700", "extid": "1002"}
```

Response Example

Request successful

```
{"status": "success", "queueid": "6700", "extid": "1002"}
```

3.5 Outbound Routing

3.5.1 Query Outbound Route List

Query the list of all outbound routes.

Request Address

POST https://{ippbx domain}/API/outbound_query?token={token}

Request Parameters

Name	Importance	Type	Description
outboundname	Optional	String	The outbound route name. Query all outgoing route lists when empty

Response Parameters

Name	Importance	Type	Description
outbound_name	Required	String	The outbound route name.
outbound_pintype	Required	String	The type of the outbound routing

			password. • none: No password is required • pinlist: The pin list • singlepin: The single password
outbound_singlepin	Required	String	To be filled out when outbound_pintype is singlepin.
outbound_pinlist	Required	String	When outbound_pintype is pinlist, the uuid of the pin list should be filled in.
outbound_rrmemory_hunt	Required	String	Loop capture.
outbound_dialpatterns	Required	String	Dial mode. If there are multiple dialing patterns, separate them with the @ sign. Outbound dial mode&delete prefix digits&prefix&delay&suffix Match the next route.
outbound_next_route	Required	String	Match the next route.
outbound_failed_sip_code	Required	String	SIP reason code. For example 403 408 488 500 502 504 480
outbound_enabled	Required	String	Enabled.
outbound_order	Required	String	Order.
member_extension	Required	Object	Member extension.
member_gateway	Required	Object	Member trunk.
time_condition_destination	Required	Object	Time conditions.

Examples

Request Example

Query the outbound list.

```
{" outboundname ":"1122"}
```

Response Example

Request successful

```
[{"domain_uuid":"7ad965ea-1285-4511-b240-32b236a7a4d3","dialplan_uuid":"09ffea4-4202-4ddb-bd20-ff4727727512","outbound_name":"1122","outbound_pintype":"none","outbound_singlepin":n
```

```
ull,"outbound_pinlist":null,"outbound_rrmemory_hunt":"false","outbound_dialpatterns":"^\\d*
$&1&2&4&3@/^\\d*$&3&4&6&5","outbound_next_route":"true","outbound_failed_sip_code":"
403|408|488|500|502|504|480","outbound_enabled":"true","outbound_order":"1000","memb
er_extension":[{"extension":"1000","extension_uuid":"6d76a3d5-2d60-4f88-9816-
6886aa67e1a9"},{"extension":"1001","extension_uuid":"2626e433-c56d-4826-b5a1-
af6f747c505b"},{"extension":"1002","extension_uuid":"bbd89b5e-0565-4732-9137-
5c80aa27097c"},{"extension":"1003","extension_uuid":"1d48a2e2-6fe4-4e7e-832f-
86598ec3948a"},{"extension":"1004","extension_uuid":"fe2c5ce0-597e-460c-ba9f-
f921ed5e75e0"},{"extension":"1005","extension_uuid":"bdc2dfbc-ae6b-48ad-8fe5-
b852f3c9b1f1"},{"extension":"1006","extension_uuid":"75bc73c7-c2dc-4ed8-976c-
8086769ef6a9"},{"extension":"1007","extension_uuid":"f7f6ed1d-7c16-42e9-bf08-
12d059890796"},{"extension":"1008","extension_uuid":"04a14cdb-4202-46a0-9a0e-
5e210a5929c0"},{"extension":"1009","extension_uuid":"d432e623-f71a-43dc-b011-
6065134e4b59"},{"extension":"1010","extension_uuid":"0cc294a8-3d80-4f2a-88dc-
22c8ca545808"},{"extension":"1012","extension_uuid":"d7a9ed3f-a778-4261-950b-
46a458c4453e"}],"member_gateway":[{"gateway":"117","gateway_uuid":"027e1f94-372c-
4335-b209-
8b6e43584ab7"},"outbound_gateway_order":"101"},{"gateway":"ssss","gateway_uuid":"01bd
6550-ccfd-4c88-8241-
980cd0173328"},"outbound_gateway_order":"100"}],"time_condition_destination":[]}]
```

3.5.2 Modify Outbound Route List

Modify the list of all outbound routes.

Request Address

POST https://{ippbx domain}/API/outbound_mod?token={token}

Request Parameters

Name	Importance	Type	Description
outboundname	Required	String	The outbound route name.
action	Required	String	Modify or add an outbound route: • update • add
outbound_name	Optional	String	The name of the outbound route.
outbound_enabled	Optional	String	Enabled: true or false.
member_extension	Optional	Object	Member extension. Multiple members

			are separated by commas.
member_gateway	Optional	Object	Member trunk. Multiple members are separated by commas.

Examples

Request Example

Add an outbound route named 11322.

```
{"outboundname":"11322","action":"update","member_extension":"1003,1004","member_gateway":"fxo6","outbound_enabled":"true"}
```

Response Example

Request successful.

```
{"status":"success"}
```

3.6 IVR

3.6.1 Query IVR Settings

Query detailed information like IVR number, IVR name, keypress events, response timeout, etc. of all IVRs.

Request Address

POST https://{ippbx domain}/API/ivr_list?token={token}

Request Parameters

No request parameters.

Response Parameters

Name	Importance	Type	Description
ivrlist	Required	Object	Object parameter.
ivrid	Required	String	The IVR number.
ivrname	Required	String	The IVR name.

Examples

Request Example

Query IVR settings.

Response Example

Request successful.

```
{"status":"success","ivrlist":[{"ivrid":"6500","ivrname":"default6500"}, {"ivrid":"6501","ivrname":"ivr6501"}]}
```

3.7 Wakeup Service

3.7.1 Query an Alarm

Query an extension user's alarm information.

Request Address

POST https://{ippbx domain}/API/alarm_query?token={token}

Request Parameters

Name	Importance	Type	Description
extid	Optional	String	The extension number.

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: • success • failed
Request successful			
wakeups	Optional	String	The alarm list.
extid	Optional	String	The extension number.
wakeup	Optional	Object	Alarm parameter.
wakeup_uuid	Optional	String	Alarm number.
wakeup_enabled	Optional	String	Enable the alarm. • true • false
wakeup_prompt	Optional	String	Alarm prompt. If it is null, the default prompt will be used.
wakeup_custom_day	Optional	String	Date custom • true • false
wakeup_wday	Optional	String	Date (week). The options available when wakeup_custom_day is set to True. Options: 1,2,3,4,5,6,7. 1 indicates Sunday, while 2-7 respectively indicate weekdays from Monday to

			Saturday.
wakeup_mday	Optional	String	Date (year-month-day). The options available when wakeup_custom_day is set to False. Example: 2019-01-04.
wakeup_hour	Optional	String	Time (hour).
wakeup_min	Optional	String	Time (minute).
wakeup_snooze_time	Optional	String	Retry interval (second).
wakeup_retry_times	Optional	String	Retry times.
Request failed			
errno	Optional	String	Error code.

Examples

Request Example

Query Extension 1002's alarm information.

```
{"extid":"1002"}
```

Response Example

Request successful.

```
{"status":"success","wakeups":{"extid":"1002","wakeup":[{"wakeup_name":"test","wakeup_u
uid":"3d53af25-0623-4519-9d91-
d43efa0913e8","wakeup_enabled":"true","wakeup_prompt":"","wakeup_custom_day":"false"
,"wakeup_wday":"","wakeup_mday":"2019-01-
04","wakeup_hour":"0","wakeup_min":"0","wakeup_snooze_time":"600"}]}}
```

3.7.2 Add an Alarm

Add an alarm or multiple alarms for an extension user. When there are multiple alarms, separate them with commas.

Request Address

POST https://{ippbx domain}/API/alarm_add?token={token}

Request Parameters

Name	Importance	Type	Description
extid	Required	String	The extension number.
wakeup_name	Required	String	Alarm name.

wakeup_enabled	Required	String	Enable the alarm. • true • false
wakeup_prompt	Required	String	Alarm prompt. If it is null, the default prompt will be used.
wakeup_custom_day	Required	String	Date custom • true • false
wakeup_wday	Optional	String	Date (week). The options available when wakeup_custom_day is set to True. Options: 1,2,3,4,5,6,7. 1 indicates Sunday, while 2-7 respectively indicate weekdays from Monday to Saturday.
wakeup_mday	Optional	String	Date (year-month-day). The options available when wakeup_custom_day is set to False. Example: 2019-01-04.
wakeup_hour	Required	String	Time (hour).
wakeup_min	Required	String	Time (minute).
wakeup_snooze_time	Required	String	Retry interval (second).
wakeup_retry_times	Optional	String	Retry times.

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: • success • failed
Request failed			
errno	Optional	String	Error code

Examples
Request Example

Add an alarm for Extension 1002.

```
{"extid":"1002","wakeup_name":"test3","wakeup_enabled":"true","wakeup_prompt":"","wake
```

```
up_custom_day":"false","wakeup_wday":"","wakeup_mday":"2019-01-04","wakeup_hour":"0","wakeup_min":"0","wakeup_snooze_time":"600","wakeup_retry_times":"3"}
```

Response Example

Request successful.

```
{"status":"success"}
```

3.7.3 Modify an Alarm

Modify an extension user's alarm settings.

Request Address

POST https://{ippbx domain}/API/alarm_mod?token={token}

Request Parameters

Name	Importance	Type	Description
wakeup_uuid	Required	String	The extension number.
wakeup_name	Optional	String	Alarm name.
wakeup_enabled	Optional	String	Enable the alarm. - true - false
wakeup_prompt	Optional	String	Alarm prompt. If it is null, the default prompt will be used.
wakeup_custom_day	Optional	String	Date custom - true - false
wakeup_wday	Optional	String	Date (week). The options available when wakeup_custom_day is set to True. Options: 1,2,3,4,5,6,7. 1 indicates Sunday, while 2-7 respectively indicate weekdays from Monday to Saturday.
wakeup_mday	Optional	String	Date (year-month-day). The options available when wakeup_custom_day is set to False. Example: 2019-01-04.
wakeup_hour	Optional	String	Time (hour).

wakeup_min	Optional	String	Time (minute).
wakeup_snooze_time	Optional	String	Retry interval (second).
wakeup_retry_times	Optional	String	Retry times.

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: • success • failed
Request failed			
errno	Optional	String	Error code.

Examples
Request Example

Modify alarm settings of extension 1002.

```
{
  "wakeup_uuid": "3d53af25-0623-4519-9d91-d43efa0913e8",
  "wakeup_name": "test3",
  "wakeup_enabled": "true",
  "wakeup_prompt": "",
  "wakeup_custom_day": "false",
  "wakeup_wday": "",
  "wakeup_mday": "2019-01-04",
  "wakeup_hour": "0",
  "wakeup_min": "0",
  "wakeup_snooze_time": "600",
  "wakeup_retry_times": "3"
}
```

Response Example

Request successful.

```
{
  "status": "success"
}
```

3.7.4 Delete an Alarm

Delete an alarm of an extension.

Request Address

POST https://{ipbx domain}/API/alarm_del?token={token}

Request Parameters

Name	Importance	Type	Description
wakeup_uuid	Required	String	Alarm number
extid	Optional	String	The extension number. When there are multiple extensions, separate them with commas. Filling in nothing means to

			delete all extensions at a time.
--	--	--	----------------------------------

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: • success • failed
Request failed			
errno	Optional	String	Error code

Examples

Request Example

Delete a specific alarm of Extension 1002.

```
{"wakeup_uuid":"3d53af25-0623-4519-9d91-d43efa0913e8","extid":"1002"}
```

Response Example

Request successful

```
{"status":"success"}
```

3.8 Audio Calls

3.8.1 Monitor

Through this interface, an extension can monitor another extension's call

Operations

1. Extension A is idle, Extension B is in a call
2. Make Extension A monitor Extension B's call in Listen mode. That is, Extension A can monitor Extension B and the other party in Extension B's conversation.

Conditions

- The monitor extension's monitor mode should be set to All or the corresponding one.
- The monitored extension should allow being monitored. Optional means not to be monitored.

Request Address

POST https://{ippbx domain}/API/monitor?token={token}

Request Parameters

Name	Importance	Type	Description
extid	Required	String	The monitor extension.

monitorid	Required	String	The monitored extension.
mode	Required	String	Monitor mode: • listen • whisper • bargein

Examples

Request Example

Allow Extension 1002 to monitor Extension 1000 in Listen mode.

```
{"extid":"1002","monitorid":"1000","mode":"listen"}
```

Response Example

Request successful.

```
{"status":"success"}
```

3.8.2 Play Prompts

Through this interface, developers could play music to an extension user or a trunk number.

- **Note:** All custom music used must be uploaded to the IPPBX's Custom Prompt list beforehand.

Request Address

POST https://{ippbx domain}/API/play_sound_file?token={token}

Request Parameters

Name	Importance	Type	Description
uuid	Required	String	The extension number or the trunk number.
type	Optional	String	The type to play. By default it is not set, which means to play the user-defined prompt. • custom: play the user-defined prompt. • tts: play the tts prompt.
filename	Required	String	The filename of the custom prompt to be played. To play more than one prompts, separate them by ','.

tts_type	Required	String	tts type.
tts_url	Required	String	Address to access the tts server
tts_param	Required	String	tts parameter, json format.
mode	Required	String	Play mode • local: Play music to the extension or trunk. • other: Play music to the talking party of the extension or trunk. • both: Play music to both parties in the call.

Examples

Request Example

Play a user-defined prompt to an extension user during an active call.

```
{"uuid":"260e6a54-fcee-11e8-a281-d53a65fd1d07","filename":"1.wav","mode":"local"}
```

Play several custom tone instances to the extension in the call.

```
{"uuid":"6cbe69a8-60bd-11e9-9f8d-f51a3fc9af7f","type":"","filename":"Pretty_Boy.wav,hello.wav","mode":"local"}
```

Play a 'Hello' tts prompt to an extension user during an active call.

```
{"uuid":"24bf419a-7a9e-11e9-abd7-6d207c81f926","type":"tts","tts_type":"fchttps","tts_url":"http://10.10.8.134/api/v1/service/fchttps?access-token=dMG-xrVm3TnhwbXTLSPa7rMGllmc7BYf","tts_param":{"fchttps_param":{"speed":"50","volume":"50","text":"你好"}}, "mode":"local"}
```

Response Example

Request successful.

```
{"status":"success"}
```

3.8.3 Make an Outbound Call

Through this interface, an extension user could make an outbound call to an external number.

Conditions:

- The call will go through an outbound route, so the extension needs to have permission of dialing through that route.

- Send the request to make an extension dial an external number. The extension will ring first, pick up the call on the extension and the external number will be dialed.

Request Address

POST https://{ippbx domain}/API/ext_outbound?token={token}

Request Parameters

Name	Importance	Type	Description
extid	Required	Int	The extension number.
calledid	Required	String	The external number to be dialed.
user_id	Optional	String	The user-defined parameter.

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: • success • failed
Request failed			
errno	Optional	String	Error code

Examples

Request Example

Make an outbound call to 41000 from Extension 1002.

```
{"extid":"1002","calledid":"41000","user_id":"xxxxxxxxxx"}
```

Response Example

Request successful.

```
{"status":"success"}
```

3.8.4 Transfer Calls

Through this interface, any party of a call can be transferred to an extension, e.g. extension to extension.

Request Address

POST https://{ippbx domain}/API/transfer_ext?token={token}

Request Parameters

Name	Importance	Type	Description
uuid	Required	String	The caller or callee number.

extid	Required	String	Transfer to this number, extension or outside line.
-------	----------	--------	---

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: • success • failed
Request failed			
errno	Optional	String	Error code

Examples

Request Example

Transfer the outbound call 54537fbc-d048-11e8-9555-55df9da9116c to Extension 1002.

```
{"uuid":"54537fbc-d048-11e8-9555-55df9da9116c","extid":"1002"}
```

Response Example

Request successful, Extension 1002 rings.

```
{"status":"success"}
```

3.8.5 Disconnect an Extension's Call

Disconnect an ongoing call of a specific extension.

Request Address

POST https://{ippbx domain}/API/hangup?token={token}

Request Parameters

Name	Importance	Type	Description
uuid	Required	String	Hang up the ongoing call of the specified extension or trunk.

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: • success • failed
Request failed			
errno	Optional	String	Error code

Examples

Request Example

Request to disconnect the ongoing call 8eddb210-d048-11e8-9577-55df9da9116c of the extension.

```
{"uuid":"8eddb210-d048-11e8-9577-55df9da9116c"}
```

Response Example

Request successful

```
{"status":"success"}
```

3.8.6 Hold a Call

Put an active call on hold.

Request Address

POST https://{ippbx domain}/API/hold?token={token}

Request Parameters

Name	Importance	Type	Description
uuid	Required	String	Put the call of the extension or trunk on hold.

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: • success • failed
Request failed			
errno	Optional	String	Error code

Examples

Request Example

Request to hold the active call 8eddb210-d048-11e8-9577-55df9da9116c of the extension.

```
{"uuid":"8eddb210-d048-11e8-9577-55df9da9116c"}
```

Response Example

Request successful

```
{"status":"success"}
```

3.8.7 Resume a Held Call

Through this interface, developers can resume the held call.

Request Address

POST https://{ippbx domain}/API/unhold?token={token}

Request Parameters

Name	Importance	Type	Description
uuid	Required	String	Resume the held call of the extension or trunk.

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: • success • failed
Request failed			
errno	Optional	String	Error code

Examples

Request Example

Request to resume the held call 8eddb210-d048-11e8-9577-55df9da9116c of the extension.

```
{"uuid":"8eddb210-d048-11e8-9577-55df9da9116c"}
```

Response Example

Request successful

```
{"status":"success"}
```

3.8.8 Volume Adjustment and Prohibition on Speaking & Listening

Through this interface, developers can adjust the volume for any party of the call, as well as forbid any party to speak or listen to the call.

Request Address

POST https://{ippbx domain}/API/audio?token={token}

Request Parameters

Name	Importance	Type	Description
uuid	Required	String	The call number for the extension or trunk in the call.
direction	Required	String	Direction to adjust:

			• speak • listen • both
type	Required	String	To adjust the volume or to forbid speaking & listening. • mute: forbid speaking and listening • level: set the volume
mode	Optional	String	When the parameter type is set to <i>mute</i> , this parameter must be filled in while the parameter level is unrequired. • mute: forbid speaking and listening • unmute: unforbid speaking and listening
level	Optional	String	Set the volume. The value range is -4~4. When the parameter type is set to <i>level</i> , this parameter must be filled in while the parameter mode is unrequired.

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: • success • failed
Request failed			
errno	Optional	String	Error code

Examples

Request Example

Request to forbid the call 8eddb210-d048-11e8-9577-55df9da9116c to speak.

```
{
  "uuid": "8eddb210-d048-11e8-9577-55df9da9116c",
  "direction": "speak",
  "type": "mute",
  "mode": "mute"
}
```

Request to unforbid the call 8eddb210-d048-11e8-9577-55df9da9116c to speak.

```
{
  "uuid": "8eddb210-d048-11e8-9577-55df9da9116c",
  "direction": "speak",
  "type": "mute",
  "mode": "unmute"
}
```

Request to forbid the call 8eddb210-d048-11e8-9577-55df9da9116c to listen.

```
{"uuid":"8eddb210-d048-11e8-9577-
```

```
55df9da9116c","direction":"listen","type":"mute","mode":"mute"}
```

Request to unforbid the call 8eddb210-d048-11e8-9577-55df9da9116c to listen.

```
{"uuid":"8eddb210-d048-11e8-9577-
```

```
55df9da9116c","direction":"listen","type":"mute","mode":"unmute"}
```

Request to adjust the speaking volume of the extension for the call 8eddb210-d048-11e8-9577-55df9da9116c, increasing the volume to Level 3.

```
{"uuid":"8eddb210-d048-11e8-9577-
```

```
55df9da9116c","direction":"speak","type":"level","level":"3"}
```

Request to adjust the listening volume of the extension for the call 8eddb210-d048-11e8-9577-55df9da9116c, increasing the volume to Level 3.

```
{"uuid":"8eddb210-d048-11e8-9577-
```

```
55df9da9116c","direction":"listen","type":"level","level":"3"}
```

Response Example

Request successful

```
{"status":"success"}
```

3.8.9 Control Inbound Calls

If the trunk's API has **Inbound Call Answering Control** enabled, then whenever there's a call to this trunk, the IPPBX will send the API report message of this event to the application server. The application server will have a set period of time (10 seconds by default and can be modified on the API setting interface) to control the inbound call.

Users on the 3rd-party application can accept or refuse the inbound calls.

- **Accept:** If the application server wants the IPPBX to continue handling the call, invoke the AcceptAPI and the call will be handled by the IPPBX accordingly.
- **Refuse:** If the application server wants the IPPBX to refuse the call (e.g. because the number is blacklisted), invoke RefuseAPI and the IPPBX will hang up the call directly.

When Times Out

If the application server does not invoke any of the above two APIs in the set period of time, by default, the call will be accepted by the IPPBX and go to the relevant destination.

3.8.9.1 Accept Inbound Calls

Accept inbound calls that reach the IPPBX and let them go to the relevant destination.

Request Address

POST https://{ippbx domain}/API/inbound_accept?token={token}

Request Parameters

Name	Importance	Type	Description
uuid	Required	String	Accept the call with the specific inbound ID.

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: • success • failed
Request failed			
errno	Optional	String	Error code

Examples

Request Example

Request the IPPBX to accept the inbound call 8eddb210-d048-11e8-9577-55df9da9116c.

```
{"uuid":"8eddb210-d048-11e8-9577-55df9da9116c"}
```

Response Example

Request successful

```
{"status":"success"}
```

3.8.9.2 Refuse Inbound Calls

Refuse inbound calls that reach the IPPBX.

Request Address

POST https://{ippbx domain}/API/inbound_refuse?token={token}

Request Parameters

Name	Importance	Type	Description
uuid	Required	String	Refuse the call with the specific inbound ID.

Response Parameters

Name	Importance	Type	Description
------	------------	------	-------------

status	Required	String	Request result: • success • failed
Request failed			
errno	Optional	String	Error code

Examples

Request Example

Request the IPPBX to refuse the inbound call 86359374-d072-11e8-95ab-55df9da9116c.

```
{"uuid":"8eddb210-d048-11e8-9577-55df9da9116c"}
```

```
  {"uuid":"86359374-d072-11e8-95ab-55df9da9116c"}
```

Response Example

Request successful and the IPPBX will hang up the call directly.

```
{"status":"success"}
```

3.8.10 FXO Off-hook

This interface implements the off-hook/on-hook function of the FXO port on the IPPBX device. After call pickup, the operator's Call Transfer on Busy service takes effect, and after hangup, the operator's Call Transfer on Busy service will be canceled.

Request Address

POST https://{ippbx domain}/API/hook?token={token}

Request Parameters

Name	Importance	Type	Description
port	Required	String	FXO port number.
mode	Required	String	Off-hook or on-hook: • on: off-hook • off: on-hook

Examples

Request Example

Request to pick up the call for FXO Port 3.

```
{"port":"3","mode":"on"}
```

Request to hang up the call for FXO Port 3.

```
{"port":"3","mode":"off"}
```

Response Example

Request successful.

```
{"status": "success"}
```

3.8.11 Record

Through this interface, an extension can start or stop recording another extension's call.

Request Address

POST https://{ippbx domain}/API/record?token={token}

Request Parameters

Name	Importance	Type	Description
uuid	Required	String	The call number of the extension or trunk in the call

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: • success • failed
Request failed			
errno	Optional	String	Error code

Examples

Request Example

Record the extension or trunk in the call numbered 8eddb210-d048-11e8-9577-55df9da9116.

```
{"uuid": "8eddb210-d048-11e8-9577-55df9da9116c"}
```

Response Example

Request successful.

```
{"status": "success"}
```

3.9 Conference

3.9.1 Start Conference

When the conference starts, IPPBX will push the event to the application server.

Report Parameters

Name	Importance	Type	Description
event	Required	String	The event of conference start.
uuid	Optional	String	The uuid of the conference.
conference_name	Optional	String	Conference Name.
conference_number	Optional	String	Conference number.

Examples

Report Example

The conference starts.

```
{"event": "CONFERENCECREATE", "uuid": "d28cc16e-6fca-11e9-b603-ff2c482675e9", "conference_name": "conf", "conference_number": "6400"}
```

3.9.2 End Conference

When the conference ends, IPPBX will push the event to the application server.

Report Parameters

Name	Importance	Type	Description
event	Required	String	The event of conference end.
uuid	Optional	String	The uuid of the conference.
conference_name	Optional	String	Conference Name.
conference_number	Optional	String	Conference number.

Examples

Report Example

The conference ends.

```
{"event": "CONFERENCEDESTROY", "uuid": "d28cc16e-6fca-11e9-b603-ff2c482675e9", "conference_name": "conf", "conference_number": "6400"}
```

3.10 Query Call Records

3.10.1 Query Call Records

Query CDR records.

Request Address

POST https://{ippbx domain}/API/cdrs?token={token}

Request Parameters

Name	Importance	Type	Description
extid	Optional	String	The extension number, the calling or called party's record on the extension.
page	Optional	String	The page number.
caller_id_number	Optional	String	The calling party number
destination_number	Optional	String	The called party number.
start_stamp_begin	Optional	String	The starting time range of the call (2019-05-27 12:00:00).
start_stamp_end	Optional	String	The range of the call start time.
end_stamp_begin	Optional	String	The ending time range of the call (2019-05-27 12:00:00)。
end_stamp_end	Optional	String	The range of the call end time.
outbound_callerid_number	Optional	String	The calling party number of the outbound call.
direction	Optional	String	Call direction: • inbound • outbound • local
call_status	Optional	String	Call status: • answered • cancelled • failed

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: • success • failed
total	Required	String	Total number found
max_page	Required	String	Total pages.
limit	Required	String	Number of records on each page.
count	Required	String	The number found.
data	Required	String	CDR information.

Data Parameters

Name	Type	Description
uuid	String	The uuid of CDR.
start_stamp	String	The start time.
answer_stamp	String	The answer time.
hangup_cause	String	Reason for hanging up.
duration	String	Duration.
direction	String	Call direction: • inbound • outbound • local
billsec	String	Call time.
caller_id_number	String	The calling party number.
caller_destination	String	The original destination.
destination_number	String	The final destination.
outbound_callerid_number	String	The calling party number of the outbound call.
call_status	String	Call status: • answered • missed • voicemail • cancelled • failed • ivr:IVR • callcenter • conference
did_number	String	The DID number.
last_destination	String	The last destination.
cc_queue_wait_time_in_queue	String	The time to wait in the queue.
cc_agent_ring_time	String	How long the agent rings.
cc_agent_talk_time	String	How long the agent answers.
rtp_audio_in_mos	String	MOS.
record_name	String	Extension recording file name.

trunk_record_name	String	Trunk recording file name.
one_touch_record_name	String	One-click recording file name.
gateway_name	String	The trunk name.
cost	String	The cost.

Examples

Request Example

Query the settings of an inbound call.

```
{ "direction": "inbound" }
```

Response Example

Request successful.

```
{ "status": "success", "total": 1, "max_page": 1, "page": 1, "count": 1, "data": [ { "start_stamp": "2019-06-26 15:19:05", "hangup_cause": "NORMAL_CLEARING", "duration": "15", "record_name": null, "trunk_record_name": null, "one_touch_record_name": null, "direction": "inbound", "billsec": "15", "caller_id_number": "3098", "caller_destination": "stvm1002", "source_number": null, "destination_number": "stvm1002", "answer_stamp": "2019-06-26 15:19:05", "sip_hangup_disposition": null, "call_status": "voicemail", "gateway_name": "fxo4", "outbound_callerid_number": null, "did_number": null, "last_destination": "stvm1002", "cc_queue_wait_time_in_queue": null, "cc_agent_ring_time": null, "cc_agent_talk_time": null, "rtp_audio_in_mos": null } ] }
```

3.10.2 Query Call Details

Query detailed call records according to CDR ID.

Request Address

POST https://{ippbx domain}/API/cdr_query?token={token}

Request Parameters

Name	Importance	Type	Description
cdrid	Required	String	The uuid of call records.

Response Parameters

Name	Importance	Type	Description
status	Required	String	Request result: - success - failed

data	Required	String	Detailed CDR information.
------	----------	--------	---------------------------

Data Parameters

Name	Type	Description
uuid	String	The uuid of CDR.
start_stamp	String	The start time.
answer_stamp	String	The answer time.
hangup_cause	String	Reason for hanging up.
duration	String	Duration.
direction	String	Call direction: - inbound - outbound - local
billsec	String	Call time.
caller_id_number	String	The calling party number.
caller_destination	String	The original destination.
destination_number	String	The final destination.
outbound_callerid_number	String	The calling party number of the outbound call.
call_status	String	Call status: - answered - missed - voicemail - cancelled - failed - ivr:IVR - callcenter - conference
did_number	String	The DID number.
last_destination	String	The last destination.
cc_queue_wait_time_in_queue	String	The time to wait in the queue.
cc_agent_ring_time	String	How long the agent rings.
cc_agent_talk_time	String	How long the agent answers.
rtp_audio_in_mos	String	MOS.

record_name	String	Extension recording file name.
trunk_record_name	String	Trunk recording file name.
one_touch_record_name	String	One-click recording file name.
start_epoch	String	The start time.
answer_epoch	String	The answer time.
end_epoch	String	The end time.
cc_queue_joined_epoch	String	Time to join the queue.
cc_queue	String	The queue name.
cc_queue_answered_epoch	String	Time for the queue to answer.
cc_queue_terminated_epoch	String	The end time of the queue.
cc_cancel_reason	String	Reason for the queue calling party to hang up.
conference_name	String	The conference name.

Examples

Request Example

Query the detailed information of CDR.

```
{"cdrid":"ff35120e-ef61-11e9-bd1d-2b0e801ae986"}
```

Response Example

Request successful.

```
{
  "status": "success",
  "data": [
    {
      "uuid": "e7b947ea-f70d-11e9-a538-4916853a66fb",
      "domain_uuid": "7ad965ea-1285-4511-b240-32b236a7a4d3",
      "extension_uuid": "e6f56113-7d2f-45c6-a4fc-0a1b72035cd0",
      "domain_name": "IPPBX",
      "accountcode": null,
      "direction": "local",
      "default_language": null,
      "context": "IPPBX",
      "xml": null,
      "json": null,
      "caller_id_name": "1001",
      "caller_id_number": "1001",
      "caller_destination": "3005",
      "source_number": null,
      "destination_number": "3005",
      "start_epoch": "1571997470",
      "start_stamp": "2019-10-25 17:57:50",
      "answer_stamp": "2019-10-25 17:57:53",
      "answer_epoch": "1571997473",
      "end_epoch": "1571997482",
      "end_stamp": "2019-10-25 17:58:02",
      "duration": "12",
    }
  ]
}
```

```

    "mduration": "11852",
    "billsec": "9",
    "billmsec": "8511",
    "bridge_uuid": "e836ea1a-f70d-11e9-a5e0-4916853a66fb",
    "read_codec": "PCMA",
    "read_rate": "8000",
    "write_codec": "PCMA",
    "write_rate": "8000",
    "remote_media_ip": null,
    "network_addr": null,
    "record_path":
"/shdisk/synswitch/var/lib/synswitch/recordings/IPPBX/archive/2019/Oct/25",
    "record_name": "AutoExt-2019-10-25-17-57-53-1001-3005.wav",
    "trunk_record_path": null,
    "trunk_record_name": null,
    "one_touch_record_path": null,
    "one_touch_record_name": null,
    "leg": "a",
    "pdd_ms": "1660",
    "rtp_audio_in_mos": null,
    "last_app": "playback",
    "last_arg": "ivr/ivr-record_prompt.wav",
    "cc_side": null,
    "cc_member_uuid": null,
    "cc_queue_joined_epoch": null,
    "cc_queue": null,
    "cc_member_session_uuid": null,
    "cc_agent_uuid": null,
    "cc_agent": null,
    "cc_agent_type": null,
    "cc_agent_bridged": null,
    "cc_queue_answered_epoch": null,
    "cc_queue_terminated_epoch": null,
    "cc_queue_canceled_epoch": null,
    "cc_cancel_reason": null,
    "cc_cause": null,
    "cc_queue_wait_time_in_queue": null,
    "cc_agent_ring_time": null,
    "cc_agent_talk_time": null,
    "did_number": null,
    "last_destination": "3005",
    "waitsec": "4",
    "conference_name": null,
    "conference_uuid": null,
    "conference_member_id": null,
    "digits_dialed": null,
    "pin_number": null,
    "hangup_cause": "NORMAL_CLEARING",
    "hangup_cause_q850": "16",
    "sip_hangup_disposition": null,
    "call_status": null,
    "gateway_name": null,
    "outbound_callerid_number": null,
    "shaihao_record_file": null,
    "account": null,
    "cost": "0.00"
  }
}
}

```

3.11 Acquire Events

To get the events pushed by UC, you need to fill in the type and extid fields when

logging in.

Request Address

POST https://{ippbx domain}/API/getevent?token={token}

Examples

Response Example

Request successful.

```
{
  "event": "ANSWERED",
  "callid": "9086a7ca-914a-11e4-8792-f337386e807c",
  "callerext": {
    "extid": "3000",
    "callerid": "3000",
    "uuid": "9086a7ca-914a-11e4-8792-f337386e807c"
  },
  "calledtrunk": {
    "from": "3000",
    "to": "123456789",
    "callerid": "3000",
    "lastdest": "123456789",
    "trunk": "172.16.10.56:5066",
    "uuid": "915ef026-914a-11e4-8aa8-f337386e807c"
  }
}
```

Chapter 4 System Report

The IPPBX will send report to the application server automatically when there is a change of system configuration or extension status, etc.

Type of System Event

System Event	Description
SystemUp	System startup.
ExtensionStatus	Status change of the extension.

4.1 'System Startup' Report

When the IPPBX finishes startup, a report will be sent to the application server.

- **Note:** The application server should be connected to the IPPBX via API interface and pass the authentication already.

Report Parameters

Name	Importance	Type	Description
event	Required	String	System bootup.

Report Example

```
{"event": "Systemup"}
```

4.2 'Changed Extension Status' Report

The IPPBX will send a report to the application server when the extension status changes.

- **Note:** You should enable **Status Monitor** of the extension on the IPPBX web interface.

Extension Status

- **Ringing:** The IPPBX will send a report when the extension is ringing.
- **Ringback:** The IPPBX will send a report when the extension receives a ring back.
- **Talking:** The IPPBX will send a report when the extension is talking.
- **Hangup:** The IPPBX will send a report when the extension hangs up the call.
- **Registered:** The IPPBX will send a report when the extension status is changed from **Unregistered** to **Registered**.

- **Unregistered:** The IPPBX will send a report when the extension status is changed from **Registered** to **Unregistered**.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Status change of the extension.
extension	Required	Int	The number of the extension whose status changes.
ExtensionStatus	Required	String	Status of the extension after change.
user_id	Optional	String	The user-defined parameter.

Report Example

```
{"event": "ExtensionStatus", "extension": "1002", "status": "Registered"}
```

Chapter 5 Call Report

The IPPBX will send call report to the application server automatically. Call event like call transfer, call failure, call released, etc. will be reported.

Type of Call Event

Call Event	Description
RING	The extension rings.
RINGBACK	The extension receives a ring back.
ANSWER	The extension answers the call.
ANSWERED	The extension call is answered.
HANGUP	The extension call finishes.
CALLFAILED	The extension call fails.
CallinRequest	Request the extension to accept an inbound call.
DTMF	Press DTMF digits.
CDR	The extension is off-hook.

5.1 'Ringing' Report

The IPPBX will send a report to the application server when an extension is ringing.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Ringing.
callid	Required	String	A unique identifier of the call.
callerext calledext	Optional	String	Extension object.
extid	Optional	String	The extension number.
callerid	Optional	String	The outbound caller's number.
uuid	Optional	String	The extension call ID.
callertrunk calledtrunk	Optional	String	Object parameter.
uuid	Optional	String	The inbound/outbound call ID.

from	Optional	String	The caller number.
to	Optional	String	The callee number.
originaldest	Optional	String	The original destination.
lastdest	Optional	String	The latest destination.
trunk	Optional	String	The name of the trunk that has been used.
user_id	Optional	String	The user-defined parameter.

Report Example

Extension 1000 calls to Extension 1002.

```
{"event": "RING", "callid": "a0a6d172-d384-11e8-826f-55df9da9116c", "callerext": {"extid": "1000", "callerid": "1000", "uuid": "a0a6d172-d384-11e8-826f-55df9da9116c"}, "calledext": {"extid": "1002", "callerid": "1000", "uuid": "66030ee8-e0bb-11e8-8a30-a319da67b18c"}}
```

Extension 1002 calls to external number 1141.

```
{"event": "RING", "callid": "d7634108-d59d-11e8-88be-55df9da9116c", "callerext": {"extid": "1002", "callerid": "1002", "uuid": "d7634108-d59d-11e8-88be-55df9da9116c"}, "calledtrunk": {"from": "1002", "to": "1141", "callerid": "1002", "trunk": "trunkname", "uuid": "d7ab2a04-d59d-11e8-8914-55df9da9116c"}}
```

5.2 'Ring Back' Report

The IPPBX will send a report to the application server when the called party (extension/inbound call) rings back the calling party.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Ring back.
callid	Required	String	A unique identifier of the call.
callerext calledext	Optional	String	Extension object.
extid	Optional	String	The extension number (caller).
callerid	Optional	String	The outbound caller's number.
uuid	Optional	String	The extension call ID.

calledtrunk	Optional	String	Object parameter.
callertrunk			
from	Optional	String	The caller number.
to	Optional	String	The callee number.
originaldest	Optional	String	The original destination.
lastdest	Optional	String	The latest destination.
trunk	Optional	String	The trunk that is used to call out.
uuid	Optional	String	The inbound/outbound call ID.

Report Example

Extension 1000 calls to Extension 1002.

```
{"event": "RINGBACK", "callid": "87180740-d388-11e8-8421-55df9da9116c", "callerext": {"extid": "1000", "callerid": "1000", "uuid": "87180740-d388-11e8-8421-55df9da9116c"}, "callede": {"extid": "1002", "callerid": "1000", "uuid": "65a4db2a-e0bb-11e8-89a1-a319da67b18c"}}
```

Extension 1002 dials external number 1141.

```
{"event": "RINGBACK", "callid": "d7634108-d59d-11e8-88be-55df9da9116c", "callerext": {"extid": "1002", "callerid": "1002", "uuid": "d7634108-d59d-11e8-88be-55df9da9116c"}, "calledtrunk": {"from": "1002", "to": "1141", "callerid": "1002", "trunk": "trunkname", "uuid": "d7ab2a04-d59d-11e8-8914-55df9da9116c"}}
```

5.3 'Answer a Call' Report

The IPPBX will send a report to the application server when an extension answers a call.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Answer a call.
callid	Required	String	A unique identifier of the call.
callerext	Optional	String	Extension object.
callede			
extid	Optional	String	The extension number.
callerid	Optional	String	The outbound caller's number.

uuid	Optional	String	The extension call ID.
callertrunk	Optional	String	Object parameter.
calledtrunk			
from	Optional	String	The caller number.
to	Optional	String	The callee number.
originaldest	Optional	String	The original destination.
lastdest	Optional	String	The latest destination.
trunk	Optional	String	The trunk that is used to call out.
uuid	Optional	String	The inbound/outbound call ID.
user_id	Optional	String	The user-defined parameter.

Report Example

Extension 1002 answers an extension call.

```
{
  "event": "ANSWER",
  "callid": "87180740-d388-11e8-8421-55df9da9116c",
  "callerext": {
    "extid": "1000",
    "callerid": "1000",
    "uuid": "87180740-d388-11e8-8421-55df9da9116c"
  },
  "calledext": {
    "extid": "1002",
    "callerid": "1000",
    "uuid": "65a4db2a-e0bb-11e8-89a1-a319da67b18c"
  }
}
```

Extension 1002 answers an external call.

```
{
  "event": "ANSWER",
  "callid": "071d9cde-d5be-11e8-8a38-55df9da9116c",
  "callertrunk": {
    "from": "88861158",
    "to": "1002",
    "callerid": "88861158",
    "trunk": "trunkname",
    "uuid": "071d9cde-d5be-11e8-8a38-55df9da9116c"
  },
  "calledext": {
    "extid": "1002",
    "callerid": "88861158",
    "uuid": "5bf4169a-e0bb-11e8-8922-a319da67b18c"
  }
}
```

5.4 'Call Answered' Report

The IPPBX will send a report to the application server when the calling party's call is answered.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Call is answered.
callid	Required	String	A unique identifier of the call.
callerext	Optional	String	Extension object.

calledext			
extid	Optional	String	The extension number.
callerid	Optional	String	The outbound caller's number.
uuid	Optional	String	The extension call ID.
callertrunk	Optional	String	Object parameter.
calledtrunk			
from	Optional	String	The caller number.
to	Optional	String	The callee number.
originaldest	Optional	String	The original destination.
lastdest	Optional	String	The latest destination.
trunk	Optional	String	The trunk that is used to call out.
uuid	Optional	String	The inbound/outbound call ID.
user_id	Optional	String	The user-defined parameter.

Report Example

Extension 1000 calls to Extension 1002; Extension 1002 answers the call.

```
{"event": "ANSWERED", "callid": "87180740-d388-11e8-8421-55df9da9116c", "callerext": {"extid": "1000", "callerid": "1000", "uuid": "87180740-d388-11e8-8421-55df9da9116c"}, "calledext": {"extid": "1002", "callerid": "1000", "uuid": "65a4db2a-e0bb-11e8-89a1-a319da67b18c"}}
```

Extension 1002 calls to external number 1141, and the external user answers the call.

```
{"event": "ANSWERED", "callid": "d7634108-d59d-11e8-88be-55df9da9116c", "callerext": {"extid": "1002", "callerid": "1002", "uuid": "d7634108-d59d-11e8-88be-55df9da9116c"}, "calledtrunk": {"from": "1002", "to": "1141", "callerid": "1002", "trunk": "trunkname", "uuid": "d7ab2a04-d59d-11e8-8914-55df9da9116c"}}
```

5.5 'Call Held' Report

The IPPBX will send a report to the application server when a call is put on hold.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Call is held on.

callid	Required	String	A unique identifier of the call.
callerext calledext	Optional	String	Extension object.
extid	Optional	String	The extension number.
uuid	Optional	String	The extension call ID.
callertrunk calledtrunk	Optional	String	Object parameter.
from	Optional	String	The caller number.
to	Optional	String	The callee number.
originaldest	Optional	String	The original destination.
trunk	Optional	String	The name of the trunk that has been used.
uuid	Optional	String	The inbound/outbound call ID.

Report Example

The call on Extension 1002 is held on.

```
{ "event": "HOLD", "callid": "961e64a2-22be-11e9-8bfd-4b686fed7af6", "callerext": { "extid": "1002", "uuid": "961e64a2-22be-11e9-8bfd-4b686fed7af6" } }
```

5.6 ‘Held Call Resumed’ Report

The IPPBX will send a report to the application server when the held call is resumed.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Held call is resumed.
callid	Required	String	A unique identifier of the call.
callerext calledext	Optional	String	Extension object.
extid	Optional	String	The extension number.
uuid	Optional	String	The extension call ID.
callertrunk calledtrunk	Optional	String	Object parameter.

from	Optional	String	The caller number.
to	Optional	String	The callee number.
originaldest	Optional	String	The original destination.
trunk	Optional	String	The name of the trunk that has been used.
uuid	Optional	String	The inbound/outbound call ID.

Report Example

The held call on Extension 1002 is resumed.

```
{
  "event": "UNHOLD",
  "callid": "961e64a2-22be-11e9-8bfd-4b686fed7af6",
  "callerext": {
    "extid": "1002",
    "uuid": "961e64a2-22be-11e9-8bfd-4b686fed7af6"
  }
}
```

5.7 'Call Released' Report

The IPPBX will send a report to the application server when a call is released.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Call is released.
callid	Required	String	A unique identifier of the call.
originator	Required	String	The caller or callee starts the call.
callerext calledext	Optional	String	Extension object.
extid	Optional	String	The extension number.
callerid	Optional	String	The outbound caller's number.
uuid	Optional	String	The extension call ID.
callertrunk calledtrunk	Optional	String	The extension number.
from	Optional	String	The caller number.
to	Optional	String	The callee number.
originaldest	Optional	String	The original destination.
lastdest	Optional	String	The latest destination.
trunk	Optional	String	The trunk that is used to call out.
uuid	Optional	String	The inbound/outbound call ID.

user_id	Optional	String	The user-defined parameter.
---------	----------	--------	-----------------------------

Report Example

In an internal call between Extension 1000 and Extension 1002, Extension 1000 hangs up the call.

```
{ "event": "HANGUP", "callid": "87180740-d388-11e8-8421-55df9da9116c", "originator": "caller", "callerext": { "extid": "1000", "callerid": "1000", "uuid": "87180740-d388-11e8-8421-55df9da9116c" }, "calledext": { "extid": "1002", "callerid": "1000", "uuid": "65a4db2a-e0bb-11e8-89a1-a319da67b18c" } }
```

In an outbound call between Extension 1002 and external number 114; the external user hangs up the call.

```
{ "event": "HANGUP", "callid": "d7634108-d59d-11e8-88be-55df9da9116c", "originator": "called", "callerext": { "extid": "1002", "callerid": "1002", "uuid": "d7634108-d59d-11e8-88be-55df9da9116c" }, "calledtrunk": { "from": "1002", "to": "114", "callerid": "1002", "trunk": "trunkname", "uuid": "d7ab2a04-d59d-11e8-8914-55df9da9116c" } }
```

5.8 'Call Transfer' Report

When there is a call transferred inside the IPPBX, the IPPBX will send a report to the application server.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Call is transferred.
callid	Required	String	A unique identifier of the call.
transfer_time	Required	String	The time to transfer.
transfer_from	Required	String	The callee number where the call is transferred from.
transfer_to	Required	String	The transfer destination.
callerext calledext	Optional	String	Extension object.
extid	Optional	String	The extension number.
uuid	Optional	String	The extension call ID.

callertrunk	Optional	String	Object parameter.
calledtrunk			
from	Optional	String	The caller number.
to	Optional	String	The callee number.
originaldest	Optional	String	The original destination.
lastdest	Optional	String	The latest destination.
trunk	Optional	String	The trunk that is used to call out.
uuid	Optional	String	The inbound/outbound call ID.

Report Example

The inbound call to IVR6500 is transferred to Queue 6700.

```
{
  "event": "TRANSFER",
  "callid": "a24fdecc-7557-11e9-a4ad-230079e8869c",
  "transfer_from": "6500",
  "transfer_to": "6700",
  "callertrunk": {
    "from": "8347",
    "to": "6700",
    "callerid": "8347",
    "originaldest": "6500",
    "trunk": "fxo3",
    "uuid": "a24fdecc-7557-11e9-a4ad-230079e8869c"
  }
}
```

5.9 'Call Failure' Report

The IPPBX will send a report to the application server when the call failure event appears in the response message of the API request.

- **Note:** Call failure is defined as calls that are failed to connect, excluding calls transferred to voicemail. Failure of calls initiated manually and by the API will both be reported.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Call failed.
callid	Required	String	A unique identifier of the call.
originator	Required	String	The caller or callee starts the call.
cause	Required	String	Call failure reason.
callerext	Optional	String	Extension object.
calledext			
extid	Optional	String	The extension number.
callerid	Optional	String	The outbound caller's number.

uuid	Optional	String	The extension call ID.
calledtrunk callertrunk	Optional	String	Object parameter.
from	Optional	String	The caller number.
to	Optional	String	The callee number.
originaldest	Optional	String	The original destination.
lastdest	Optional	String	The latest destination.
trunk	Optional	String	The trunk that is used to call out.
uuid	Optional	String	The inbound/outbound call ID.
user_id	Optional	String	The user-defined parameter.

Report Example

Extension A calls to Extension B; Extension B refuse the call.

```
{"event":"CALLFAILED","callid":"764b2d96-fd2e-11e8-a53f-93c1edf69491","originator":"called","cause":"NO_USER_RESPONSE","callerext":{"extid":"1000","callerid":"1000","uuid":"764b2d96-fd2e-11e8-a53f-93c1edf69491"},"calledext":{"extid":"1002","callerid":"1000","uuid":"76cd384a-fd2e-11e8-a5db-93c1edf69491"}}
```

5.10 'Inbound Call Request' Report

If the trunk's API has **Control Inbound Call Answering** enabled, then whenever there's a call to this trunk, the IPPBX will send a CallinRequest event to the application server.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Inbound call request.
callid	Required	String	A unique identifier of the call.
from	Required	String	The caller number.
to	Required	String	The callee number.
callertrunk	Optional	String	Object parameter.
uuid	Optional	String	The inbound/outbound call ID.

trunk	Required	String	The trunk name.
-------	----------	--------	-----------------

Report Example

```
{
  "event": "CallInRequest",
  "callid": "071d9cde-d5be-11e8-8a38-55df9da9116c",
  "callertrunk": {
    "from": "88861158",
    "to": "1002",
    "trunk": "trunkname",
    "uuid": "071d9cde-d5be-11e8-8a38-55df9da9116c"
  }
}
```

5.11 'Keypress' Report

This event is used to report key pressed (DTMF information) during a call.

For example, when a call reaches IVR, and the IVR's keypress event is triggered, the IPPBX will send the event to the application server.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Keypress event
callid	Required	String	A unique identifier of the call.
callerext calledext	Optional	Int	Extension Object.
extid	Optional	String	Extension number.
callerid	Optional	String	The outbound caller's number.
uuid	Optional	String	The extension call ID.
info	Required	String	Single keypress value.
user_id	Optional	String	The user-defined parameter.

Report Example

Extension 1002 dials in an IVR, then dials digits 1234 to call Extension 1234.

```
{
  "event": "DTMF",
  "callid": "da8e5f18-d375-11e8-b77a-55df9da9116c",
  "callerext": {
    "extid": "1002",
    "callerid": "1002",
    "uuid": "66030ee8-e0bb-11e8-8a30-a319da67b18c"
  },
  "dtmf": "1",
  "index": "0"
}

{
  "event": "DTMF",
  "callid": "da8e5f18-d375-11e8-b77a-55df9da9116c",
  "callerext": {
    "extid": "1002",
    "callerid": "1002",
    "uuid": "66030ee8-e0bb-11e8-8a30-a319da67b18c"
  },
  "dtmf": "2",
  "index": "1"
}

{
  "event": "DTMF",
  "callid": "da8e5f18-d375-11e8-b77a-55df9da9116c",
  "callerext": {
    "extid": "1002",
    "callerid": "1002",
    "uuid": "66030ee8-e0bb-11e8-8a30-a319da67b18c"
  },
  "dtmf": "3",
  "index": "2"
}

{
  "event": "DTMF",
  "callid": "da8e5f18-d375-11e8-b77a-
```

```
55df9da9116c","callerext":{"extid":"1002","callerid":"1002","uuid":"66030ee8-e0bb-11e8-8a30-a319da67b18c"},"dtmf":"4","index":"3"}
```

5.12 'Prompt Play End' Report

The IPPBX will send a report to the application server when the prompt played to the extension or the external number ends.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Prompt play end.
callid	Required	String	A unique identifier of the call.
callerext calledest	Optional	String	Extension Object.
extid	Optional	String	Extension number.
callerid	Optional	String	The outbound caller's number.
uuid	Optional	String	The extension call ID.
calledtrunk callertrunk	Optional	String	Object parameter.
from	Optional	String	The caller number.
to	Optional	String	The callee number.
originaldest	Optional	String	The original destination.
trunk	Optional	String	The trunk that is used to call out.
uuid	Optional	String	The inbound/outbound call ID.
filename	Required	String	Name of the prompt file.

Report Example

Play prompt to an external user.

```
{"event":"PLAYEND","callid":"83471932-01da-11e9-badc-fbe3ef84abb2","calledtrunk":{"from":"9966","to":"8407","callerid":"9966","trunk":"30.25","uuid":"838ac81c-01da-11e9-bb45-fbe3ef84abb2"},"filename":"1.wav"}
```

5.13 'Record Start' Report

The IPPBX will send a report to the application server when the recording starts.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Recording starts.
callid	Required	String	A unique identifier of the call.
callerext calledext	Optional	String	Extension Object.
extid	Optional	String	Extension number.
uuid	Optional	String	The extension call ID.
calledtrunk callertrunk	Optional	String	Object parameter.
from	Optional	String	The caller number.
to	Optional	String	The callee number.
trunk	Optional	String	The trunk name.
uuid	Optional	String	The inbound/outbound call ID.
record_type	Required	String	Recording type: • ext: extension recording • trunk: trunk recording • key: one-key recording • msg: voice message • conf: conference recording
conference_name	Optional	String	The conference name.
conference_number	Optional	String	The conference number.

Report Example

Start recording of Extension 1000.

```
{
  "event": "RECORDSTART",
  "callid": "d28cc16e-6fca-11e9-b603-ff2c482675e9",
  "callerext": {
    "extid": "1000",
    "uuid": "d28cc16e-6fca-11e9-b603-ff2c482675e9"
  },
  "record_type": "ext"
}
```

5.14 'Record End' Report

The IPPBX will send a report to the application server when the recording ends.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Recording ends.
callid	Required	String	A unique identifier of the call.
callerext calledext	Optional	String	Extension Object.
extid	Optional	String	Extension number.
uuid	Optional	String	The extension call ID.
calledtrunk callertrunk	Optional	String	Object parameter.
from	Optional	String	The caller number.
to	Optional	String	The callee number.
trunk	Optional	String	The trunk name.
uuid	Optional	String	The inbound/outbound call ID.
record_type	Required	String	Recording type: • ext: extension recording • trunk: trunk recording • key: one-key recording • msg: voice message • conf: conference recording
record_start_time	Required	String	Start time of recording.
record_end_time	Required	String	End time of recording.
record_seconds	Required	String	Time length of recording in second.
download_path	Required	String	Address to download recording file.
user_id	Optional	String	The user-defined parameter.
conference_name	Optional	String	The conference name.
conference_number	Optional	String	The conference number.

Report Example

Recording of Extension 1000 ends.

```
{
  "event": "RECORDEND",
  "callid": "22f3af10-619c-11e9-8a23-b1369f569575",
  "callext": {
    "extid": "1000",
    "uuid": "23784b8a-619c-11e9-8aab-b1369f569575"
  },
  "record_type": "ext",
  "record_start_time": "2019-04-28 09:02:39",
  "record_end_time": "2019-04-28 09:05:10",
  "record_seconds": "151",
  "download_path": "https://172.16.10.90/app/xml_cdr/download.php?path=/mnt/network10.57/recordings/IPPBX/archive/2019/Apr/18/auto-2002-1000_2019-04-18-13-38-06.wav"
}
```

5.15 'Dynamic Agent Login Status' Report

The IPPBX will send a report to the application server when the dynamic agent logs in or out, pauses or resumes.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Dynamic agent logs in or out.
queueid	Required	String	Queue number.
extid	Required	String	Dynamic agent number.
status	Required	String	Dynamic agent status: - login - logout - onbreak - resume

Report Example

Extension 1000 logs into Queue 6700.

```
{
  "event": "AgentStatus",
  "queueid": "6700",
  "extid": "1002",
  "status": "login"
}
```

5.16 'Agent on Break' Report

The IPPBX will send a report to the application server when the agent gets on or off break.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Agent gets on or off break.
queueid	Required	String	Queue number.

extid	Required	String	Agent number.
status	Required	String	Agent break status: - on: on break - off: off break

Report Example

Extension 1000 gets on break.

```
{"event":"AgentWrapUp","queueid":"6700","extid":"1000","status":"on"}
```

5.17 'Number of Waiting Callers in Queue Change'

Report

The IPPBX will send a report to the application server when the number of callers waiting in the queue changes.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Number of callers waiting in the queue changes.
number	Required	String	Queue number.
callercount	Required	String	Number of callers waiting in the queue.
action	Required	String	Change to number of callers waiting in the queue: - Add - Remove
callfrom	Required	String	The caller number
callid	Required	String	ID of added or removed call.

Report Example

Number of callers waiting in the queue changes to 1.

```
{"event":"QueueStatus","number":"6700","callercount":"1","action":"Add","callfrom":"88861158","callid":"cb3a1004-4a0b-11e9-8663-d3bc908a587a"}
```

5.18 'Queue Overflow' Report

The IPPBX will send a report to the application server when the number of callers in the queue exceeds the set value.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Number of callers in the queue exceeds the set value.
number	Required	String	Queue number.
destination	Required	String	Destination.
callid	Required	String	Call ID.

Report Example

Callers in Queue 6700 overflows.

```
{"event":"QueueOverflow","number":"6700","destination":"6701","callid":"a1e213f2-787b-11e9-9798-c796b0163a55"}
```

5.19 CDR Report

When a call is released, the IPPBX will send a report to the application server in real time.

Report Parameters

Name	Importance	Type	Description
event	Required	String	Call event.
callid	Required	String	A unique identifier of the call.
callfrom	Required	String	The caller number.
callto	Required	String	The callee number.
callerid	Required	String	The outbound caller's number.
originaldest	Required	String	The original destination.
lastdest	Required	String	The last destination.
didnumber	Optional	String	DID number.
srctrunk desttrunk	Optional	String	Trunk name.
status	Required	String	Call status.
reason	Required	String	Call release reason.
type	Required	String	Call type.
calltime	Required	String	The call duration.
answertime	Required	String	The time to answer the call.

hanguptime	Required	String	The time to hang up the call.
talktime	Required	String	The talk duration.
waittimeinqueue	Optional	String	Time length for callers to wait in the queue.
agentringtime	Optional	String	Time length of agent ringing.
agenttalktime	Optional	String	Time length of agent answering.
user_id	Optional	String	The user-defined parameter.

Report Example

Extension 1000 calls to Extension 1002.

```
{"event":"CDR","callid":"87180740-d388-11e8-8421-55df9da9116c","callfrom":"1000","callto":"1002","callerid":"1000","originaldest":"1002","lastdest":"1002","status":"ANSWERED","reason":"NORMAL_CLEARING","type":"Internal","calltime":"2018-10-19 18:19:57","answertime":"2018-10-19 18:19:57","hanguptime":"2018-10-19 18:20:04","talktime":"6"}
```

Extension 1002 calls to external number 114.

```
{"event":"CDR","callid":"d7634108-d59d-11e8-88be-55df9da9116c","callfrom":"1002","callto":"114","callerid":"1002","originaldest":"114","lastdest":"114","desttrunk":"fxo3","status":"ANSWERED","reason":"NORMAL_CLEARING","type":"outbound","calltime":"2018-10-22 09:57:33","answertime":"2018-10-22 09:57:37","hanguptime":"2018-10-22 09:57:39","talktime":"1"}
```

External user 88861158 calls to Extension 1002.

```
{"event":"CDR","callid":"071d9cde-d5be-11e8-8a38-55df9da9116c","callfrom":"88861158","callto":"1002","callerid":"88861158","originaldest":"1002","lastdest":"1002","srctrunk":"fxo3","status":"ANSWERED","reason":"NORMAL_CLEARING","type":"inbound","calltime":"2018-10-22 13:47:57","answertime":"2018-10-22 13:48:00","hanguptime":"2018-10-22 13:48:03","talktime":"2"}
```

Chapter 6 Error Code

Error code	Description
-1	Unknown.
1	API interfaces disabled.
2	Wrong username or password.
3	No such Token.
4	Token times out.
5	User has logged out.
6	Wrong or invalid uuid.
7	The prompt file does not exist.
8	Wrong play mode.
9	Wrong monitor mode.
10	Wrong monitor authority.
11	The extension does not exist.
12	The queue does not exist.
13	Wrong password for agent dynamic login/logout.
14	Wrong call authority.
15	Wrong parameter to enable voicemail.
16	The alarm does not exist.
17	Wrong parameter to enable the alarm.
18	Wrong alarm name.
19	Wrong parameter to enable the alarm's date custom.
20	Wrong date (week) of the alarm.
21	Wrong date (year-month-day) of the alarm.
22	Wrong time (hour) of the alarm.
23	Wrong time (minute) of the alarm.
24	Wrong retry interval of the alarm.
25	Parameter error.
26	Agent not in 'login' state.
27	Agent not in 'paused' state.
28	Agent not in 'suspended' state.

29	Alarm retry times error.
30	The parameter is empty.
31	Connection error.
32	Wrong parameter file name.
33	Trunk unavailable.
34	Inbound route unavailable.
35	Outbound route invalid.
39	Maximum number of extensions exceeded.
40	Extension already exists.
41	Extension number exceeds extension range.
44	Outbound route already exists.
45	IVR already exists.
46	Conference room already exists
47	Queue already exists
48	Dynamic agent not found
49	Blacklist unavailable
50	Blacklist already exists
100	Unauthorized feature.
101	API clients reach the upper limit.

Appendix A Technical/sales Support

Thank you for choosing Synway. Please contact us should you have any inquiry regarding our products. We shall do our best to help you.

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