

# How to Provision a SIP Trunk

Learn how to configure a Session Initiation Protocol (SIP) trunk to receive a voice call on the CarrierX service.

# 1

Create New Endpoint

## Using the Swagger Interface

### POST /endpoints

```
{
  "name": "UniqueNameHere",
  "addresses": [
    {
      "ip": "your.ip.address.here",
      "port": 5060,
      "transport": "udp"
    }
  ],
  "type": "third_party"
}
```

Note: endpoint\_sid provided in Response will be needed in the next step.

## Making API Calls Directly

### POST

```
curl -X POST -d '{"name": "UniqueNameHere", "addresses": [ { "ip": "your.ip.address.here", "port": 5060, "transport": "udp" } ], "type": "third_party" }' -u <your_user_name>:<your_password> https://api.carrierx.com/core/v2/endpoints
```

### Response Value to Look For

Note: The JSON response includes a unique **endpoint\_sid** value that you will use in Step 2.

Example value:

```
"endpoint_sid": "6984a1d5-0b23-4e4b-b1d0-b3760b89102d"
```

# 2

Create Trunk Group & Assign Endpoint

### POST /trunk\_groups

```
{
  "name": "NewTrunkGroupNameHere",
  "trunks": [
    {
      "owner_endpoint_sid": "UseFromStep1"
    }
  ]
}
```

### POST

```
curl -X POST -d '{"name": "NewTrunkGroupNameHere", "trunks": [{"name": "NewTrunkNameHere", "owner_endpoint_sid": "6984a1d5-0b23-4e4b-b1d0-b3760b89102d"}]}' -u <your_user_name>:<your_password> https://api.carrierx.com/core/v2/trunk\_groups?with_trunks=true
```

### Response value to look for

Note: The JSON response includes a unique trunk\_group\_sid value that you will use in Step 4.

Sample value to remember:

```
"trunk_group_sid": "7eee72ce-6048-470e-8e4d-89b3b2e96b7f"
```

# 3

Browse DID Inventory

### GET /dids/inventory

Example: find USA Voice numbers using filter parameter.

country\_code eq "USA" and capabilities bit 4

(see reverse side for list of capabilities)

### GET

```
curl -X GET -u <your_user_name>:<your_password> https://api.carrierx.com/core/v2/dids/inventory?limit=10&filter=country\_code+eq+USA+and+capabilities+bit+4
```

Note: you may also set additional search filters to refine your results: see <https://www.carrierx.com/documentation#04>

### Response value to look for

Note: The JSON response will provide a list of DIDs matching the search criteria entered. Select the **phonenumber** desired as it will be needed in Step 4.

Sample value to remember:

```
"phonenumber": "15624371411"
```

# 4

Rent DID & Assign to Trunk Group

### POST /dids

```
{
  "trunk_group_sid": "UseFromStep2",
  "phonenumber": "15624371411"
}
```

### POST

```
curl -X POST -d '{"trunk_group_sid": "7eee72ce-6048-470e-8e4d-89b3b2e96b7f", "info": {"phonenumber": "15624371411"} }' -u <your_user_name>:<your_password> https://api.carrierx.com/core/v2/dids
```

### Response

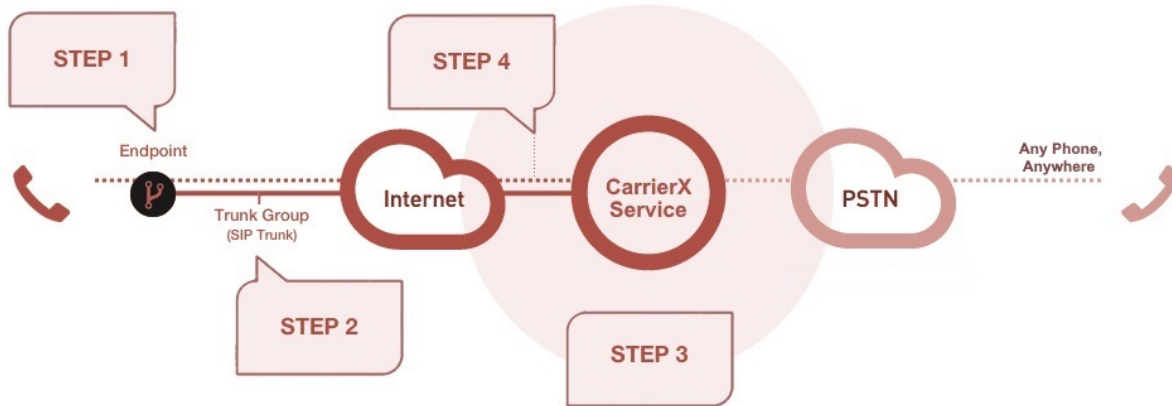
```
{
  "did_sid": "c0c387a4-be46-4dd4-9838-169036e6b31e",
  "phonenumber": "15624371411",
  "in_country_format": "(562) 437-1411",
  "international_format": "+1 562-437-1411",
  "capabilities": 4,
  "country_code": "USA",
  "state": "CA",
  "locality": null,
  "price": null,
  "partner_sid": "Your_Partner_SID",
  "trunk_group_sid": "7eee72ce-6048-470e-8e4d-89b3b2e96b7f",
  "callback_url": null,
  "attributes": {},
  "transformations": []
}
```

Congratulations!

You've just configured your first SIP trunk!

# Overview - Diagram, Terms and Definitions

Configuring a voice call requires specific building blocks be created and connected. The following diagram provides an overview of how those pieces fit together to make a call possible.



**Step 1 - Create New Endpoint:** An endpoint represents a SIP device such as Skype for Business, IP PBX, SBC or Asterisk server. It is where your call terminates. An endpoint is a required building block. In the diagram above, a third party endpoint configuration is used as an example. For other endpoint types, see the documentation at [www.carrierx.com/documentation](http://www.carrierx.com/documentation).

**Type - third party:** CarrierX offers a variety of endpoint types. In the diagram above, we have used the third party type endpoint which represents your configured SIP device. Note: You are required to provide a publicly accessible IP address that has sufficient bandwidth to support your desired call volume.

**Tag:** A unique alphanumeric string (30 characters maximum) used for trunk association.

**Step 2 - Create Trunk Group and Assign Endpoint:** A trunk group can be thought of as the connector between your endpoint and the CarrierX services. The trunk group serves as the routing backbone the voice signal travels on. By default, a single trunk is provisioned when you create a trunk group. Once the trunk within the trunk group is assigned or connected to the endpoint, the basic structure is in place to support a voice call. The only item remaining is to associate a phone number to the connector. For more information about configuring multiple trunks within a trunk group, see the documentation section at <https://www.carrierx.com/documentation>.

**Step 3 - Browse DID Inventory:** A DID is the actual phone number that routes calls to your designated endpoint in Step 1. Browsing for DIDs is done by setting a filter for specific attributes you want the DID to have. In this example, we have used the filter attribute “capabilities eq bit 4” signifying that the user only wants to see phone numbers with voice functionality. For a full list of DID capabilities, see the documentation section at <https://www.carrierx.com/documentation>.

**Step 4 - Rent DID and Assign to Trunk:** Once you have identified a DID matching your desired functionality, you are ready to assign the DID(s) to the trunk created in Step 2. Using the /dids POST statement to associate the trunk\_group\_sid obtained in Step 2 with the phone number you have selected in Step 3 will complete the configuration process. This means all calls made to your DID will now be directed to your configured endpoint from Step 1.

For more comprehensive information on configuring services, please see the API documentation at <https://www.carrierx.com/documentation>.