Troubleshooting busy tone when trying to call

Applies to VoipNow 3 and higher!

Probably most of you have already dealt with a busy tone while making a call. This article describes what you should very in case a busy tone occurs either when placing a call or receiving one from/to an extension. This applies to both external and internal calls.

Step-by-step guide

To explain exactly how this works, we have used the following scenario:

`0003*001` (DID `4444`) is called **Extension A**, `0003*002` (DID `5555`) is called **Extension B**, `0005*002` (DID `6666`) is called **Extension C** and `9999` is called **D**.

Extensions A and **Extension B** belong to the same Organization whereas **Extension C** belongs to a different Organization, **D** is a public number that does not belong to the VoipNow system. Note that you can make calls between extensions on the same client by using the long format (e.g. `0003*001`) or by using the DID (e.g. `4444`).

How to debug internal outgoing calls

Most of the time, the problem is caused by a misconfiguration of the Phone terminal extension. Therefore, the first place to look at is the web interface.

- If you call from **Extensions A** to **Extension B** using the short number (`001, 002`) and you get a busy tone, verify that on the User that owns the **Extensions B** you have selected the **User is multi user aware** permission from the **Roles and Phone Numbers** page.
- If **Extensions A** and **Extension B** are in a call and you call **Extensions A** from **Extension C** and you get a busy tone, check that **Extension A** has enabled the **Call waiting active** option from the **Phone Terminal Setup** page. If the corresponding check box is not selected, then either the call goes to Voicemail (in case you have configured it) or you get a busy tone.
- If you get a busy tone while calling between **Extensions A** and **Extension B**, make sure you did not reach the **Maximum internal concurrent calls** in the **Roles and Phone Numbers** page for the involved User accounts. For example, if the Organization or the Service Provider that owns extensions **Extensions A** and **Extension B** has the **Maximum internal concurrent calls** set to `1`, the call will not be permitted and the caller will get a busy tone.
- A busy tone can also be triggered by a charging plan misconfiguration, so you need to check the **Charging Plans** section on each level: Service Provider, Organization and User. There are many configuration cases that can generate this situation - for example, when the charging plans of the Service Provider, Organization or User do not allow local calls (the assigned charging plan has the **Allow local calls to extensions** option disabled).
- Busy tones can also appear in case you have added **Incoming call rules** for the extension you are calling. Check the **Incoming Call Rules** page and make sure the call you are making is not matching any unwanted rules.

  Example:

  Extensions A is calling **Extension B**, but **Extension B** has set an incoming call rule to play busy when the Caller's ID is matching `4.` (assuming **Extensions A** is sending public Caller ID in internal calls). In this case, **Extensions A** will get a busy tone. In order to make the call work, you need to disable or delete this rule.

How to debug external outgoing calls

- Most of the time, if **Extensions A** places a call towards **D** and gets a busy tone, this means that the channel configured to route the call outside is set as a `Paid` channel and therefore a cost for the prefix is needed. In such a case, you need to go to the **Channel** that owns DID `4444` and make sure you have a cost set in the **Manage Channel Costs** page for an area code that matches the called number `9999` (example of useful area codes: 9, 99, 999 or 9999).
- Another common situation in which you get a busy tone is related to the outgoing routing rules that do not match the prefix you are calling. In such a situation, you need to go to the **Channels {your_channel} Outgoing Routing Groups** page and make sure you have proper rules matching that prefix.
- Concurrent limits that are set either on channel or on **Role and Phone Numbers** of all the accounts may be another reason why you're getting a busy tone. In this case, check **Channels {your_channel}** and make sure you have set the concurrent calls correctly; it goes the same for Service provider, Organization and User **Role and Phone Numbers section**

How to debug external incoming calls

- If you happen to get a busy tone while calling from **D** to **Extensions A**, the first thing you need to check is whether you have a registered extension on **Extension A** or not. If no one is registered on **Extensions A** and the Voicemail is not activated, then it is perfectly understandable why you get a busy tone.
- Another common reason concerns your provider, who may be sending the request from a different IP than the one you have defined for the **Channels {your_channel} Edit channel Accept calls from IPs/network** option. You need to check this with your provider and ask for a correct list of IPs sending the requests.
- Just like we have mentioned earlier, concurrent limits can trigger a busy tone. Therefore, you need to check the channel preferences and the called extension.
- If you call from **D** to any destination and you get a busy tone, you need to verify that you have the correct DID assigned on those extensions. In order to manage the assignment of the DIDs, simply go to the **Channels Public Phone Numbers** page.
- Another reason for getting a busy tone may be related to charging, in case you have set to charge incoming calls. Check your charging plans from each level. For example, the User account that owns the **Extension A** may have a prepaid charging plan and the incoming calls credit is 0

(Solution: Check the **Charging Credits** page for the User that owns the **Extension A** and add more credit) or it has reached the limit for incoming calls (Solution: Check the **Charging Limits** page of the User account and increase the limit for incoming calls).

Related articles

- How to debug 504 gateway timeout
- Understanding the Call Reports in VoipNow
- Understanding the differences between a free and a paid channel
- Troubleshooting calls and debug steps
- How to use phone number collections in VoipNow