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**TalkSwitch VoIP**

## Internet Telephony Service Provider Troubleshooting

If your TalkSwitch phone system has been configured for VoIP service from an Internet Telephony Service Provider (ITSP) and there are issues with connection or sound quality, the following troubleshooting steps may correct or improve the problem.

### Unable to make or receive calls

Start the TalkSwitch software and use the **Configuration** menu to select the **VoIP Configuration** page. Select the Profile ID for the ITSP service you are troubleshooting (ITSP profiles are numbered 1-4).

Ensure that the *Activate Profile* box is checked. In the *Registration Details* field, select the **View Registration Status** button. Examine the list of connected (VoIP) numbers.

If any of your VoIP numbers are listed as **Not Registered**, then:

1. Check the documentation from your Service Provider and:
  - a) ensure all required *Registration Details* fields (e.g. Proxy Server, Registrar Server, Outbound Proxy, Realm/Domain) are entered and correct;
  - b) Select the **Reserve VoIP Lines** button. In the resulting window, ensure that there is at least 1 line reserved for the VoIP service provider profile that you are troubleshooting.
2. From the **Configuration** menu, select the **VoIP Numbers** page. Ensure that:
  - a) each Activated VoIP number has the correct *Service Provider Profile* in the pull-down list. Ensure that the *Phone Number*, *Username* and *Password* are correct.
  - b) the phone number includes the Area Code assigned by your Service Provider (if applicable);
  - c) the *Country Code* is blank, unless otherwise specified by your Service Provider.  
Currently all of our Service Provider partners (Cbeyond and Primus, for example) require this field to be blank. If in doubt, check with your Service Provider.
3. Confirm that your firewall has Port 5060 using UDP correctly opened and mapped to the IP address of your TalkSwitch unit.
  - a) Select the **IP Configuration** page. Ensure the **Automatic (uPNP Enabled)** link appears.
  - b) Click **Check Firewall** and then click **Test Ports** to verify that your firewall is set up correctly. If the **Manual port mapping required** link appears, then set up your firewall manually. For information on how to manually set up your firewall, please visit [www.portforward.com](http://www.portforward.com).
4. Confirm with the ITSP that your account is active and the account information is correct.

### 1-way audio: callers hear you, but you cannot hear them

This symptom may be the result of a firewall blocking ports needed for VoIP traffic or incorrect information stored in the TalkSwitch configuration. To correct the problem:

1. From the **Configuration** menu, select the **IP Configuration** page. Ensure that the Current Public IP Address is correct. If you are using a Fully Qualified Domain Name (FQDN), remove this information from the configuration page, Save the configuration to TalkSwitch and try another call.

2. Confirm that your firewall has Ports 6000 to 6006 and 6100 to 6114 using UDP correctly opened and mapped to the IP address of your TalkSwitch unit. If you have multiple TalkSwitch units, additional ports may be required (typically 6000 to 6036 and 6100 to 6414 for a 4-unit TalkSwitch system) and must be forwarded to the TalkSwitch unit serving as the system's local proxy. Refer to the TalkSwitch VoIP Configuration Guide for a full list of ports. For information on how to setup your firewall, please visit [www.portforward.com](http://www.portforward.com).

### Audio quality is inconsistent or discontinuous

This symptom may be the result of restrictions in bandwidth available at your location or in the network. To correct the problem, check the following:

1. From the **Configuration** menu, select the **VoIP Configuration** page. Select the Profile ID for the ITSP service you are troubleshooting (ITSP profiles are numbered 1-4).  
Select the **Codec Options** button and ensure that the *Preferred Codec* is set to G.729.
2. If your firewall supports Quality of Service (QoS), enable it on the ports that are mapped to your TalkSwitch units (e.g. 6000-6036, 6100-6414).

### Audio quality is heavily distorted

This symptom may be the result of a VoIP Codec mismatch. To correct the problem:

1. Confirm which codecs are supported by your Service Provider.
2. From the **Configuration** menu, select the **VoIP Configuration** page. Select the Profile ID for the ITSP service you are troubleshooting (ITSP profiles are numbered 1-4).  
Select the **Codec Options** button, then use the menu to select a *Preferred Codec* to match a codec type used by your Service Provider.

Note: The codec type affects the number of simultaneous VoIP calls that can be made through the network. Refer to the TalkSwitch User Guide for further information.

### Unable to make or receive fax over ip calls

This symptom may be the result of using a codec for Fax that your VoIP service provider or Fax equipment does not support. Using the G.711 codec for Fax calls will work in most situations. To correct this type of problem:

1. Go to the **Troubleshooting** menu, select **Fax Detection** and ensure that the *Automatically detect and switch to G.711 for Fax Over IP* box is enabled.
2. From the **Configuration** menu, select the **VoIP Configuration** page. Select the Profile ID for the ITSP service you are troubleshooting (ITSP profiles are numbered 1-4).  
Select the **Codec Options** button, then ensure that the *G.711  $\mu$ -law* and *G.711 A-law* boxes are enabled. Do not change the *Preferred Codec* setting.
3. If the problem persists, check with your VoIP service provider to determine which codec(s) are supported for voice and Fax calls. Use the **Codec Options** page to set the TalkSwitch to match the codec(s) supported by your service provider.

If problems still persist, please contact your TalkSwitch dealer.

If you purchased your products directly from TalkSwitch, e-mail [support@talkswitch.com](mailto:support@talkswitch.com) or phone **1-866-393-9960**.

#### About TalkSwitch

TalkSwitch® designs and develops award-winning phone systems for small, multi-location and franchise businesses. Since its establishment in 1990, TalkSwitch has dedicated itself to developing PBXs and IP PBXs that tens of thousands of small businesses across North America rely on. With a growing global network of resellers, distributors and partners, TalkSwitch phones and phone systems are changing the way small businesses communicate. For more information, please visit our website at [www.talkswitch.com](http://www.talkswitch.com), or call us toll-free in the United States and Canada at 1.888.332.9322. In all other markets call +1.613.725.2980.

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