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## How to Configure an ISP with xDSL using PPTP

<https://campus.barracuda.com/doc/41116428/>

xDSL connections can also use the Point-to-Point Tunneling Protocol (PPTP). You can operate the xDSL connection in active or standby mode. In standby mode, the activation and subsequent monitoring of the link must be triggered externally.

### In this article:

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#### Before you Begin

- Connect the xDSL modem to a port on the Barracuda NG Firewall.
- Verify that you have all the necessary configuration information provided to you by your ISP.

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#### Step 1. Create a xDSL Connection

Enable xDSL and create a new xDSL connection.

1. Open the **Network** page (**Config > Full Config > Box**).
2. In the left menu, select **xDSL/DHCP/ISDN**.
3. In the **Configuration Mode** menu, select **Switch to Advanced**.
4. Click **Lock**.
5. **Enable xDSL**.
6. In the **xDSL Links** table, click **+** to add an entry.
7. Enter a name for the link (no special characters) and click **OK**. The **xDSL Links** window opens.
8. Enable **Synchronous PPP** if supported by your ISP and applicable to your network environment.
9. Select **PPTP** as the **Connection Type**.
10. Enter the **Static Local** and **Gateway IP** address if your ISP does not assign it automatically.

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#### Step 2. Configure Connection Details

Enter the PPTP configuration settings you received from your ISP.

1. Enter the **Modem IP** address or the IP address of the PPTP server in the **PPTP Connection Details** section.

2. Select the applicable option from the **Local IP Selection** list:
  - **Static** – The local address is used. Select, if your provider expects you to use a static IP address.
    - Enter the **Local IP** address that is used to establish a connection with the specified modem IP address. You must use a local IP address that is already configured. This address is used for local GRE protocol registration with the local firewall.
  - **DHCP** – Your provider first assigns a local net via DHCP through which the DSL modem is then reached. The path to the modem is selected according to current routing.
  - **Dynamic** – The device selects the address that is provided by routing to reach the PPTP server. This address is then reported to the firewall engine for GRE registration.
    - In the **Required DHCP Link** field, enter the name of the DHCP section that this xDSL link relies upon for providing a routing path to the specified modem IP address.
3. Add the IP address of the gateway in the **Gateway to Modem IP** field if the xDSL modem or PPTP server is not directly attached to the gateway. A gateway route will automatically be created for PPTP. This setting and the **Required DHCP Link** setting are mutually exclusive.

### Step 3. Configure Authentication

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1. In the **Authentication** section, select the **Authentication Method** for the connection.
2. In the **User Access ID** field, enter the principal account name (PPP username) assigned by your provider.
3. Enter the **User Access Sub-ID** if provided. The # and @ symbols are generated automatically. The complete user ID is formatted as follows:  
[user\_id]#[access\_sub\_id]@[provider\_name], E.g.,  
000xxxxxxxxx520069204717#0001@t-online.de
4. Enter the PPP **Access Password** assigned by your ISP.
5. If you want to use your ISPs DNS server, select **Use ProviderDNS**.
6. If you are using dynamic DNS, select **Use Dynamic DNS**.
  1. Click **Set**. The **Dynamic DNS Params** window opens.
  2. Select a dynamic DNS **Service Type**. For information about available DynDNS service types, see <http://www.dyndns.com/services/>.
  3. Enter the **Dyn DNS Name** that was registered at dyndns.org.
  4. Enter the **User Access ID** and **Password** for accessing the server as defined during registration at dyndns.org.
7. Click **OK**.

### Step 4. Configure Routing Settings

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Configure the routes and routing tables for the xDSL link. For PPP multilink bundles, the routing settings of the primary link are adopted for the bundled link.

1. In the **Routing** section, enable **Create Default Route**. This automatically introduces a default route for the xDSL link.
2. If you are using dynamic routing protocols, enable **Advertise Route**. For more information, see [OSPF/RIP/BGP](#).
3. Enter the **Route Metric**. If multiple routes to the same destination are available, the Barracuda NG Firewall selects the route with the lowest route metric. If this route becomes unavailable, the route with the second lowest route metric is automatically selected. Default: 50

## Step 5. Configure Connection Monitoring

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Configure log settings and define target IP addresses that will be regularly pinged to monitor the availability of the connection. Each target IP address is pinged every 20 seconds (2 ICMP packets each). If there is no response, the link is re-established.

1. In the **Connection Monitoring** section, select the **Monitoring** method:
  - **LCP** - If pings are not answered, the Barracuda NG Firewall uses LCP to probe the dial-in daemon directly.
  - **ICMP** - The Reachable IPs are periodically pinged - if there is no response, the gateways are probed.
  - **StrictLCP** - No ICMP probing occurs.
2. Add at least one target IP address to the **Reachable IPs** table. The target IP addresses must be accessible only via the xDSL connection.
3. Select the **Unreachable Action** to be taken if the connection cannot be established. The following options are available:
  - **Restart** - Restarts the xDSL connection.
  - **Increase-Metric** - Increases the metric for the xDSL connection, so that a backup connection (which now has the lowest metric) is chosen until the healthcheck targets are reachable again.
4. Click **OK**.
5. Click **Send Changes** and **Activate**.

## Step 6. Activate Network Changes

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You must activate the network changes to bring up the xDSL connection.

1. Open the **Box** page (**Control > Box**).
2. In the left menu, expand the **Network** section and click **Activate new network configuration**.
3. Select **Failsafe**. The 'Failsafe Activation Succeeded' message is displayed after your new network configurations have been successfully activated.

Your xDSL connection is now active and the IP address assigned by your ISP is visible on the **CONTROL > Network** page. All status icons next to the ppp1 interface are green, indicating an active connection. If the xDSL connection is your primary Internet connection, the default route pointing to the ppp1 interface is also created. If more than one default route is present, the connection with the lowest route metric is used.

## Operating a xDSL Link in Standby Mode


If required, e.g., for maintenance purposes, you can enable **Standby Mode** in the link configuration. In standby mode, the activation and subsequent monitoring of the link must be triggered externally. Standby mode also lets you combine [HA setups](#) for HA xDSL connections. In standby mode,

1. The involved routes are set to pending state, and it is not checked whether they are established.
2. The configuration is completely run through, but the connection is not yet established.

Connecting is handled from the [Command-Line Interface](#) via a server-side script that is used for starting and stopping the connection with corresponding command lines:

- Start all xDSL connections - `/etc/phion/dynconf/network/openxDSL start &`
- Stop all xDSL connections - `/etc/phion/dynconf/network/openxDSL stop &`
- Start an explicit xDSL connection - `/etc/phion/dynconf/network/openxDSL start &`
- Stop an explicit xDSL connections - `/etc/phion/dynconf/network/openxDSL stop &`

is the name of the configuration entry in the xDSL Links list:

xDSL Links 

Name	Link Active	Standby Mode
XDSL01	yes	yes

## Figures

1. xDSL\_01.png

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