speedtouch™

# SpeedTouch™ 605/608/608 WL/620

## (Wireless) Business DSL Routers

## User's Guide

Release R5.3.1


Wi Fi bg CERTIFIED

UPnP™

SpeedTouch™608WL and SpeedTouch™620 only

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THOMSON

# SpeedTouch™ 605/608 608 WL/620

## User's Guide

## R5.3.1

speedtouch™

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# Contents





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# About this User's Guide

## Used Symbols

A ***note*** provides additional information about a topic.

A ***tip*** provides an alternative method or shortcut to perform an action.

A ***caution*** warns you about potential problems or specific precautions that need to be taken.

## Terminology

Generally, the SpeedTouch™605(i), the SpeedTouch™608(i), the SpeedTouch™608(i) WL, and the SpeedTouch™620(i) will be referred to as SpeedTouch™ in this User's Guide.

## Typographical Conventions

In interactive input and output, typed input is displayed **`in a bold font`** and commands are displayed **`like this`**.

Comments are added *`in italics`*.

Example:

```
=>language list
CODE LANGUAGE VERSION FILENAME
en*  english  4.2.0.1 <system>     Only one language is available
```

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# 1 Your SpeedTouch™

## Introduction

With the SpeedTouch™605(i) and SpeedTouch™608(i) Business DSL Routers and the SpeedTouch™608 WL(i) and SpeedTouch™620(i) Wireless Business DSL Routers you can build a secure small (home-)office network, seamlessly connecting wired and wireless devices and surf the Internet at high speed, all combined in one device.

## Installation

For more information on how to set up your SpeedTouch™, installation and wiring and how to do a first Internet connection setup, refer to the provided Installation and Setup Guide.

## Contents

This User's Guide will assist you in configuring your SpeedTouch™.

## Safety instructions

Before connecting the SpeedTouch™, please read the SpeedTouch™ Quick Installation Guide and the Safety Instructions and Regularity Notices.



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# 1.1 SpeedTouch™ Features

Introduction

Your SpeedTouch™ offers you a wide range of outstanding features.

In this section you will find a comprehensive overview of the:

- Hardware Specifications
- Software Features



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## 1.1.1 Hardware Specifications

| | |
|---|---|
| Router | Integrated multi-mode ADSL modem, supporting:<br>▸ ADSL over POTS for a SpeedTouch™ ADSL/POTS variant)<br>▸ ADSL over ISDN for a SpeedTouch™ ADSL/ISDN variant)<br>▸ ADSL/RE-ADLS2/ADSL2/ADSL2+ for both ADSL over POTS and ADSL over ISDN |
| Physical interfaces | ▸ WAN:<br>  ▸ One RJ-11 port for ADSL/POTS or ADSL/ISDN connection<br>  ▸ Integrated ISDN Modem $S_0$ interface (in case of a SpeedTouch™608 WL/620)<br>▸ LAN:<br>  ▸ Four RJ-45 ports for managed 10/100Base-T Half-/Full-duplex auto-sensing MDI/MDI-X Ethernet switch<br>  ▸ Wireless LAN: IEEE 802.11b/g Wi-Fi compliant access point on the SpeedTouch™608 WL/620 |
| LEDs | LED indicators for all interfaces |
| Reset button | One programmable recessed reset button for restoring the factory default settings |
| Association button | One push button for wireless association and registration on the SpeedTouch™608 WL/620 |
| Wireless performance | On the SpeedTouch™608 WL/620:<br>▸ Typical indoor coverage: 60m<br>▸ Dynamic rate switching<br>▸ Manual / Automatic channel selection<br>▸ Manual / Automatic selection of pure 802.11g, pure 802.11b or mixed mode (802.11b/g) network<br>▸ Wireless Distribution System (WDS)<br>▸ WPA-PSK / WEP data encryption |
| Memory and CPU | ▸ 16 MB flash<br>▸ 32 MB SDRAM<br>▸ Memory and processor load counters |
| Cardbus | On SpeedTouch™608 WL/620:<br>▸ PCMCIA/CardBus plug-in slot for future extension: IPSec acceleration card, PSTN back-up card, GPRS back-up card, .. |
| Power requirement | Power supply: 18V AC, 1000mA with patent-pending power-cord lock to avoid accidental power plug-out |



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## 1.1.2 Software Features

**ADSL compliance**

- If POTS in overlay: G. handshake, Full Rate ADSL, G.dmt, G.lite (splitterless ADSL), ADSL2, RE-ADSL and ADSL2+
- If ISDN in overlay: G.handshake, G.dmt, ADSL2, RE-ADSL and ADSL2+

**ATM features**

- Up to 16 simultaneous PVCs, allowing multiple simultaneous destinations
- ATM QoS per PVC: CBR, VBR-rt, VBR-nrt, UBR
- Service monitoring through ITU-T I.620 F4/F5 loopback, alarms (AIS / RDI) and continuity checks
- ATM PING command (loopback cells) and continuity check generator mode
- RFC 1483 / 2684 multiprotocol encapsulation over AAL5 / ATM: both LLC / SNAP and VC-based multiplexing supported

**Bridging features**

- Multiport self-learning transparent bridge per IEEE 802.1D for LAN interconnect
- Remote bridge ports are isolated from each other
- Pre-defined bridge filters to WAN (no filter, no CPE-to-WAN broadcast, PPPoE only) and to LAN (no filter, multicast filter)

**Routing features**

- Multi-port (up to 16 PVCs) router
- Static routing, automatic routes (PPP, LAN)
- IP address multi-homing
- Packet classified routing:
  - Label classification of packet streams based on source and destination IP address, source and destination port, type of service / diffserv bits, protocol, source interface
  - Forwarding of packet streams based on the label classification
  - Type of service / DSCP marking based on the label classification
- IGMPv1/v2/v3 forwarding
- TCP (RFC793), UDP (RFC768), ICMP (RFC792), IPv4 router (RFC1812)
- Dynamic routing RIPv1 (RFC 1058) and RIPv2 (RFC 1723 / 2453), configurable per interface



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## Networking services

- UPnP with NAT traversal capability:
  - enables game technologies (Xbox live, Direct X, and many others)
  - enables conferencing functions of Microsoft Messenger
- Transparent bridging (IEEE802.1D)
- PPPoE routing/bridging with integrated PPP Relay
- PPPoA routing, PPPoA-to-PPTP relaying
- Hyper-NAT with virtual server mapping (for instance for Web, FTP, Mail servers) and ALGs (such as NetMeeting, MSN Messenger, VPN passthrough, and others)
- Quality of Service:
  - ATM QoS per PVC: CBR, VBR-rt, VBR-nrt, UBR
  - IP QoS
- Managed Ethernet Switch with VLAN, DMZ, mirroring
- Service Level Agreement services
- Integrated Dynamic DNS client

## Security

- PAP (RFC1334), CHAP (RFC1994) for PPP session
- Integrated Stateful Inspection Firewall, Intrusion Detection
- Website Filtering, URL Filtering
- Wireless security on SpeedTouch™608 WL/620:
  - 64/128bit WEP encryption, WPA-PSK
  - Wireless client registration/access control (with physical push button)
- Multi-level SpeedTouch™ access policies, Digest Authentication
- SSH, SSL
- Embedded IPSec Software Module (on SpeedTouch™608/608 WL/620)
- Dedicated support for provider-provisioned PE-based MPLS networks

## Configuration

- Home Install Wizard, Easy Setup wizard
- Intuitive web-based GUI (HTTP/HTTPs)
- Advanced configuration via telnet/SSH, via the web-based GUI and serial console - Command Line Interface (CLI)
- Remote management access control



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### Management and monitoring

- Multi-level user protection, Event logging
- DHCP server, client and relay, DHCP-to-PPP spoofing
- DNS server, client and relay
- Time synchronization:
  - SNTPv1, SNTPv2, SNTPv3 and SNTPv4
  - integrated Real-Time Clock in case of SpeedTouch™608 WL/620 (for non-volatile time-of-day)
- Syslog
- SNMPv1 support for:MIB II (RFC1213/2011/2012/2013), traps MIB (RFC1215), bridge MIB (RFC1286/1493), ATM TC MIB (RFC2514), ATM MIB (RFC1695/2515), ADSL MIB (RFC2662)/SHDSL MIB (RFC3276), Ethernet MIB (RFC1398/1623/1643/1650/2358/2665), Medium Attachment Units MIB (RFC1515/2239/2668), interface MIB (RFC1229/1573/2233/2863), IPSec MIB, RMON MIB (RFC1757), PING & Traceroute MIB (RFC2925)
- Firmware upgradeable via web or via FTP, or via upgrade wizard on Setup CD
- Dual firmware storage (Active/Passive) for fail-proof roll-back

### VoIP

On the SpeedTouch™620 (under Software Module activation key):

- Embedded SIP PBX functionality including SIP Registrar and Proxy server.



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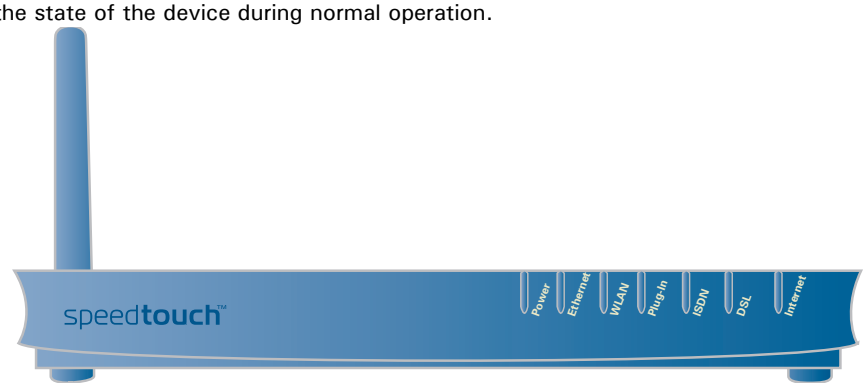
# 1.2 SpeedTouch™ LED Behaviour

## Front panel LEDs

The SpeedTouch™ is equipped with a number of LEDs on its front panel, indicating the state of the device during normal operation.




Following table shows the meaning of the different LEDs:

| Indicator | | | Description |
|---|---|---|---|
| Name | Colour | State | |
| Power | Green | On | Power on, normal operation |
| | Red | On | Power on, self-test failed, indicating device malfunction |
| | Orange | On | Bootloader active |
| | Off | | Power off |
| Ethernet | Green | Flashing | Ethernet activity |
| | | On | Ethernet connection, no activity |
| | Off | | No Ethernet connection |
| WLAN | Green | Flashing | Wireless activity, WPA encryption |
| | | On | No wireless activity, WPA encryption |
| | Amber | Flashing | Wireless activity, WEP encryption |
| | | On | No wireless activity, WEP encryption |
| | Red | Flashing | Wireless activity, no security |
| | | On | No wireless activity, no security |
| | Off | | WLAN disabled |
| Plug-in | Green | Flashing | Data passing through the cardbus |
| | | On | Cardbus is connected, no data passing through |
| | Off | | Cardbus is not connected |



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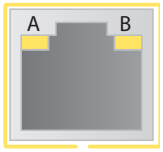
| Indicator | | | Description |
|---|---|---|---|
| Name | Colour | State | |
| ISDN | Green | Flashing | ISDN activity |
| | | On | ISDN line connected, no activity |
| | Off | | No ISDN line |
| DSL | Green | Flashing | Pending DSL line synchronisation |
| | | On | DSL line synchronised |
| | Off | | No DSL line |
| Internet | Green | Flashing | Internet activity |
| | | On | Internet connectivity, no activity |
| | Red | On | Internet connection setup failed |
| | Off | | No Internet connection |

## Ethernet LEDs

A LED may be provided per Ethernet port to indicate link integrity (or activity). Depending on the SpeedTouch™ product you are using, a second LED (A) may be provided to indicate the 10/100Base-T selection:




| Indicator | | | Description |
|---|---|---|---|
| Name | | LED Status | |
| A (Optional) | Integrity (Activity) | Off | No connection on this port |
| | | On | Ethernet link up |
| | | Flashing | Data is flowing from/to this port |
| B | 10/100Base-T | Off | 10Base-T Ethernet connection |
| | | On | 100Base-T Ethernet connection |



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# 1.3 How to Access your SpeedTouch™

## Access methods

Your SpeedTouch™ is accessible in one of following ways:

| Access Method | Can be used to: |
|---|---|
| Web | Configure your SpeedTouch™ via HTTP or HTTPS.<br>For more information, see "1.3.1 Access via the Web Interface" on page 12. |
| Command Line Interface (CLI) | Fine tune your SpeedTouch™ configuration.<br>For more information, see "1.3.2 Access via CLI" on page 13. |
| File Transfer Protocol (FTP) | Backup and restore data on your SpeedTouch™.<br>For more information, see "1.3.3 Access via FTP" on page 15. |
| Remote Assistance | Allow a remote user to help you configuring your SpeedTouch™.<br>For more information, see "1.3.4 Remote Assistance" on page 18. |



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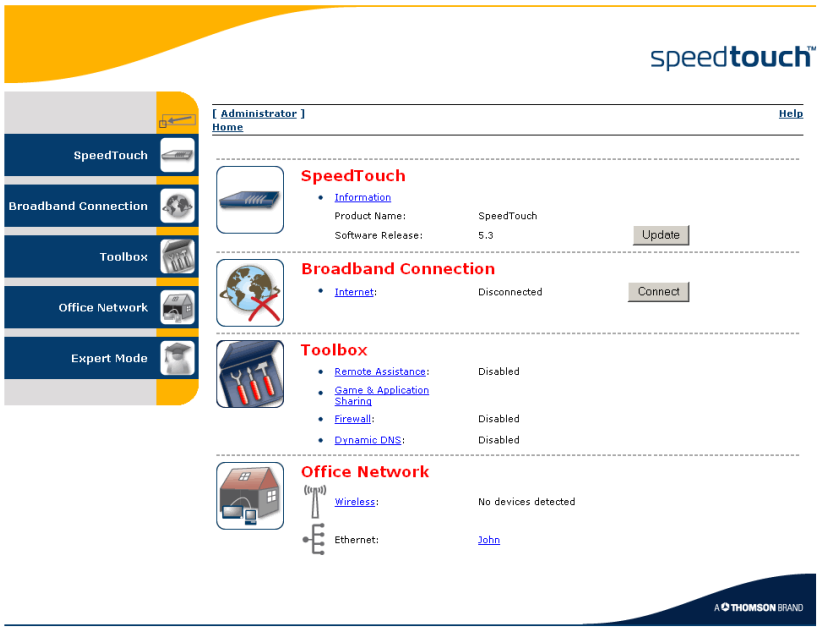
## 1.3.1 Access via the Web Interface

Procedure

To access the SpeedTouch™ via the web interface:

1. Open a web browser.
2. In the address bar type your SpeedTouch™'s IP address or DNS host name, by default that is 'http://speedtouch.lan' or '192.168.1.254'.

   You can access the pages via the http protocol. For remote assistance the secure version, https, in combination with certificates is used; provide your ISP with the https link, user name and password before he can log on to the pages. For more information, see "1.3.4 Remote Assistance" on page 18.
3. As a result the SpeedTouch™ Home page appears, from where you can navigate to all the configurable aspects of the SpeedTouch™.




For more information on the web pages, see "4 Basic Configuration" on page 45.



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## 1.3.2 Access via CLI

### Command Line Interface (CLI)

You can access the Command Line Interface (CLI) via:

- The embedded Expert pages. For more information, see "5 Expert Configuration" on page 101.
- A Telnet session

  This requires that TCP/IP connectivity exists between the host from which the Telnet session is opened and the SpeedTouch™. Your SpeedTouch™ and the connected PC must have an IP address in the same subnet.
- The serial 'Console' interface
- Quote site commands (over FTP)

  For more information, see " Quote site command" on page 17.

For information on CLI commands, see the SpeedTouch™ CLI Reference Guide.



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## Telnet session

Proceed as follows:

1. Open a telnet application.

   You can use the **Command Prompt** window.

   In Windows XP for instance:

   1. On the Windows task bar, click **Start.**
   2. Select (**All**) **Programs > Accessories > Command Prompt**.

2. Connect to your SpeedTouch™. .

   In the Command Prompt window:

   At the prompt, type **`telnet`** followed by the IP address of your SpeedTouch™ (default is 192.168.1.254).

3. Enter your SpeedTouch™ security user name and password.

   The default user is 'Administrator' and the default password is blank.

4. As soon as you've opened a session to the CLI, the SpeedTouch™ banner is displayed, followed by the CLI prompt, as shown in the example below:

```
Username : Administrator
------------------------------------------------------------------------
-
*                                _______  SpeedTouch
*                            ___/______/\
*                           /           /\\  Version 5.3
*                       _____/__        /  \\
*                    _/        /\_____/___ \  Copyright (c) 1999-2005,
*                  //         /   \        /\ \                THOMSON
*        ________//________/     \      / _\/______
*       /       / \         \     /     / /         /\
*    __/       /    \         \   /     / /         / _\__
*   / /       /      \________\/     / /         / /    /\
*  /_/_______/_____________________/ /_________/ /___/   \
*  \ \       \     ____________     \ \         \ \    \   /
*   \_\       \   /           /\     \ \         \ \___\/
*       \       \/           /  \     \ \         \   /
*        \_____/           /     \     \ \_________\/
*             /___________/       \     \   /
*             \    _____  \       /_____\/
*              \ /     /\  \     /___\/
*               /_____/  \  \   /
*               \     \   /___\/
*                \_____\/
------------------------------------------------------------------------
{Administrator}=>
```



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# 1.3.3 Access via FTP

## File Transfer Protocol (FTP)

You can access the file system of the SpeedTouch™ via the File Transfer Protocol (FTP), in order to:

- Restore or backup configuration files, templates or language packs.
- Upgrade your configuration or firmware.

## File system

The SpeedTouch™ file system is stored on nonvolatile memory, and contains the SpeedTouch™ software, service template files and (optionally) default setting files.

## FTP session

To open an FTP session:

1. Open a **Command Prompt** window.

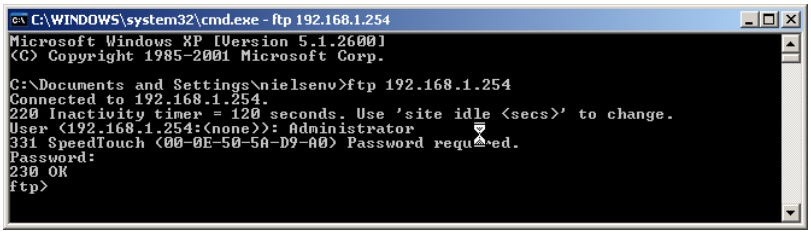
   In Windows XP for instance:

   1. On the Windows task bar, click **Start.**
   2. Select *(***All) Programs > Accessories > Command Prompt**.

2. At the prompt, type **`ftp`** followed by the IP address of your SpeedTouch™ (default is 192.168.1.254).
3. Enter your SpeedTouch™ security user name and password.

   The default user is 'Administrator' and the default password is blank.

4. The example below shows an FTP session to the SpeedTouch™ file system:




## File system structure

The structure of the file system is very simple: It consists of a single root directory called ***root*** and two subdirectories called ***active*** and ***dl***.

- The ***root*** directory contains:
  - all the necessary files for the SpeedTouch™ to boot correctly
  - the active and the dl directories
- The ***active*** directory contains the active software image.
- The ***dl*** (download) directory contains the passive software image.

  If you made changes to the SpeedTouch™ configuration and saved them, a user.ini configuration settings file is created in the ***dl*** subdirectory.



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## File system access rights

On the different directories you have following privileges:

| Directory | Access rights |
|---|---|
| ***root*** | NO read/write |
| ***active*** | read-only |
| ***dl*** | read/write |

## Common FTP commands

Depending on the access rights you have on a directory, you can use one of following commands:

| Command... | You can use to... |
|---|---|
| cd | access another directory than the one currently open.<br>Example: ftp>cd dl. |
| dir | list the directory files.<br>Example: ftp>dir. |
| bin | set the transfer mode to 'binary'. |
| hash | turn on the hashing option. |
| put | upload files.<br>Example: ftp>put C:/MyBackupFiles/user.ini.<br>A configuration file must be uploaded to the dl directory. |
| get | download files.<br>Example: ftp>get user.ini.<br>Downloading the configuration file must be done from the dl directory. |
| delete | delete files. |
| bye | quit FTP. |



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## FTP file transfer

To allow correct file transfers, set the transfer mode to “binary”: At the ftp prompt, type **bin** and press Enter.

Turn on the hashing option to see the progression of the file transfer: At the ftp prompt type **hash** and press Enter.

Example:

```
/home/doejohn{1}$ftp 192.168.1.254
Connected to 192.168.1.254
220 Inactivity timer = 120 seconds. Use 'site idle <secs>' to change.
Name (192.168.1.254:doejohn):
331 SpeedTouch™  (00-90-D0-01-02-03) User 'doejohn' OK. Password requir
ed.
Password : ######
330 OK
ftp>
ftp>bin
200 TYPE is now 8-bit binary
ftp>
ftp>hash
200Hash mark printing on (8192 bytes/hash mark).
ftp>cd dl
250 Changed to /dl
ftp>put C:\user.ini
200 Connected to 192.168.1.10 port 1271
150 Opening data connection for user.ini

226 File written successfully
ftp: 256 bytes sent in 0,000Seconds 256000,000Kbytes/sec.
ftp>
```

## Quote site command

All the CLI commands can be executed from within an FTP session. Only complete CLI commands (in other words, the complete command syntax with all the parameters already specified) can be executed.

Example: To execute the CLI command **`:software cleanup`**: At the FTP prompt type ‘quote site software cleanup’ and press Enter.

```
ftp> quote site software cleanup
200-
200 CLI command "software cleanup" executed
ftp>
```

For more information on CLI commands, see the CLI Reference Guide.



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## 1.3.4 Remote Assistance

### Remote access

You can make your SpeedTouch accessible from the Internet with regard to remote support. This way, you can allow your helpdesk to access your SpeedTouch™ remotely.

### Enabling remote access

To enable remote assistance:

1. Go to the SpeedTouch™ pages, as described in "1.3.1 Access via the Web Interface" on page 12.
2. In the menu select **Toolbox > Remote Assistance**.
3. Click **Enable Remote Assistance**.
4. Provide the following parameters to your helpdesk:
   - URL (the HTTPS link)
   - User name
   - Password
5. Your ISP is now able to access your SpeedTouch™ via the secure HTTPs link in combination with the provided certificate (a secure authentication mechanism).

For security reasons, after 20 minutes of inactivity, or on reboot, Remote Assistance will be automatically disabled.

### Disabling remote access

To disable remote assistance:

1. Go to the SpeedTouch™ pages, as described in "1.3.1 Access via the Web Interface" on page 12.
2. In the menu select **Toolbox > Remote Assistance**.
3. Click **Disable Remote Assistance**.



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# 2 Local Network Setup

## Introduction

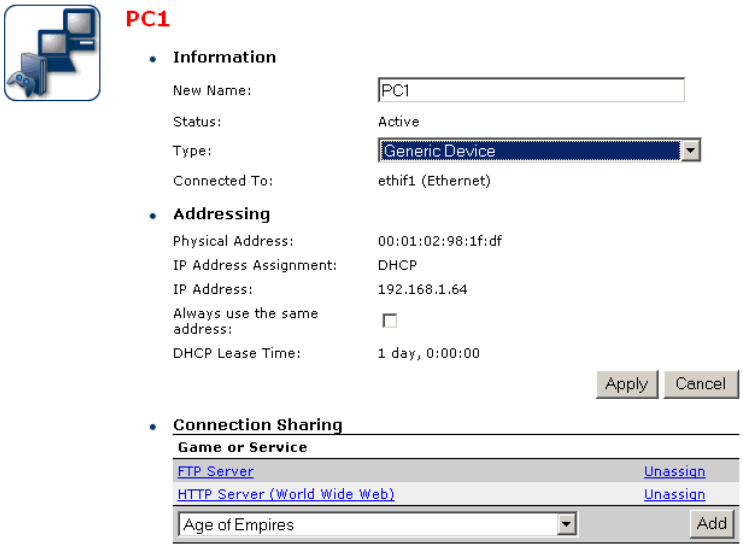
The SpeedTouch™ offers you following local networking solutions:

- Wired Ethernet
- Wireless Ethernet

## Device settings

Once you've connected a device, you are able to personalise its settings:

1. Go to the SpeedTouch™ web pages.
2. In the menu select **Home Network > Devices**.
3. Click the name of your device, or if the device's settings haven't been personalised yet, click the MAC address of the device.
4. On the top right, click **Configure**.
5. Now you can change the device's name, lock its IP address and assign applications and services to the device.



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# 2.1 Wired Ethernet

## Local network

The Ethernet ports on the backpanel allow you to connect the SpeedTouch™ to an existing 10 or 100 Base-T Ethernet network or one (or more) computer(s) with installed Ethernet card.

Using the SpeedTouch™ Ethernet switch, you can create a local Ethernet network of up to four devices, without needing extra networking devices.

In the SpeedTouch™ package, a yellow full-wired straight-through RJ-45/RJ-45 Ethernet cable is included.

## Standard wiring procedure

Use the yellow Ethernet cable provided to wire your computer's Ethernet port to one of the SpeedTouch™'s Ethernet ports.

The Ethernet cable can also be used to wire any Ethernet port of your SpeedTouch™ to an external hub or switch.

Please follow the installation instructions supplied with the external hub or switch for connections and Ethernet cabling.

## Ethernet link check

LED indicators allow you to check your Ethernet. See “1.2 SpeedTouch™ LED Behaviour” on page 9 for more information.

## Device settings

Once you’ve connected a device, you are able to personalise its settings.

For more information, see “ Device settings” on page 19.

## Managed Ethernet switch

Your SpeedTouch™ intelligently switches data between the devices on your LAN, using priority queuing to ensure that higher priority messages are delivered first and in real-time. This feature maximizes your network performance.

The managed Ethernet switch allows you to configure a Virtual Local Area Network (VLAN), group ports or isolate a port, configure secure channel connections, define Quality of Service (QoS), and you can configure port mirroring, allowing monitoring from one port to another.

You can configure the managed Ethernet switch manually using CLI (For more information, see the SpeedTouch™ CLI Reference Guide) or on the expert web pages (see“5.5.3 Managed Switch” on page 158).



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## 2.2 Wireless Ethernet

### Introduction

The SpeedTouch™ 608 WL/620Wi-Fi® certified IEEE 802.11g compliant wireless access point allows multiple computers to connect wirelessly to your local network over the SpeedTouch™ Wireless LAN environment. The SpeedTouch™ is backward compatible with IEEE 802.11b, which means 802.11b and 802.11g devices can coexist in the same wireless network.

The Wireless Distribution System (WDS) on your SpeedTouch™ allows you to extend the range of your wireless network. To be able to use WDS, you will need to introduce an additional WDS-enabled access point into your wireless network.

To be able to connect the computers, make sure that a wireless client adapter (WLAN client) is installed on each computer you want to connect via the WLAN.

### Wireless client requirements

All wireless client adapters compliant to 802.11g and/or 802.11b, will be able to communicate with the SpeedTouch™ and other members of the SpeedTouch™ (W)LAN environment. However, be aware that only 802.11g compliant wireless clients are able to gain full profit of the 54 Mb/s (Max) bandwidth delivered by the SpeedTouch™.

It is highly recommended to use only wireless client adapters that are Wi-Fi™ certified to ensure smooth interoperability with the SpeedTouch™'s WLAN.



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## 2.2.1 Wireless Basics

### Introduction

In this section some key wireless concepts are explained.

### 802.11b/g

802.11b is an IEEE standard, operating at 2,4 GHz at a speed of up to 11 Mb/s.

802.11g, a newer IEEE standard also operating at 2,4 GHz, gives you up to 54 Mb/s speed, more security and better performance.

### Wireless Fidelity

The Wi-Fi certification ensures that your SpeedTouch™ will interoperate with any Wi-Fi certified 802.11g and 802.11b compliant wireless device.

### Access Point

The SpeedTouch™ Wireless LAN Access Point (AP) behaves as a networking hub allowing to wirelessly interconnect several devices to the local (W)LAN and to provide access to the Internet.

### Network Name or SSID

The WLAN's 'radio' link is a shared medium. As no physical connection exists between the SpeedTouch™ and wireless clients, a name must be given to allow unique identification of your WLAN radio link. This is done by the Service Set ID (SSID), also referred to as Network Name. Wireless clients must be part of this SSID environment in order to be able to communicate with other clients on the (W)LAN - including the SpeedTouch™.

### Radio channels

The 802.11g standard allows several WLAN networks using different radio channels to be co-located. The SpeedTouch™ supports multiple radio channels and is able to select the best radio channel at each start-up.

You can choose to set the channels automatically or manually.

The different channels are overlapping. To avoid interference with another access point, make sure that the separation (in terms of frequency) is as high as possible. It's recommended to keep at least 3 channels between 2 different access points.

The SpeedTouch™ supports all channels allowed for wireless networking. However, depending on local regulations, the number of channels actually allowed to be used may be additionally restricted, as shown in the table below:

| Regulatory Domain | Allowed Radio Channels |
|---|---|
| China | 1 to 13 |
| Europe | 1 to 13 |
| Israel | 5 to 8 |
| Japan | 1 to 14 |
| Jordan | 10 to 13 |
| Thailand | 1 to 14 |
| USA | 1 to 11 |



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## Antennas

Direct the external antenna to allow optimization of the wireless link. If for example the antenna is erect, wireless links in the horizontal plane are favoured. Please note that the antenna characteristics are influenced by the environment, that is by reflections of the radio signal against walls or ceilings. It is advisable to use the received signal strength as indicated by the wireless client manager to optimize the antenna position for the link to a given client.

Concrete walls will die down the radio signal strength and thus affect the connection.



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# 2.2.2 Connecting First-time Wireless Clients

## Wireless default settings

After every Reset-to-Defaults, the SpeedTouch™ wireless access point configuration is returned to its initial default settings.

These default settings are:

- Security level is low (security disabled) for an easy first use, meaning the data will not be encrypted. Wireless security settings are described in "2.2.3 Wireless Security" on page 27.
- The SpeedTouch™ is broadcasting its network name (SSID).

  This default network name (SSID) is printed on the identification label located on the bottom of your SpeedTouch™ and is unique for each device. It consists of the concatenation of the word "SpeedTouch" and 6 hexadecimal characters, without any spaces, for example SpeedTouch123456.
- The radio channel number is set to 'automatically scan for the best radio channel'.
- Registration is not activated. New stations are allowed automatically. The Access Control List is open and empty. No wireless client will be denied access to the SpeedTouch™ based on its physical hardware address.

The default wireless settings may differ from the settings listed above depending on your Service Provider's requirements. If this is the case, refer to the installation/configuration instructions provided by your Service Provider.

## Preparing first-time wireless clients

Make sure that:

- The SpeedTouch™ is powered on and ready for service.
- The SpeedTouch™ is in its default configuration.

  If needed, reset the SpeedTouch™ to its default configuration (See "8.3 Reset to Factory Defaults" on page 199 for more information).
- A wireless client adapter is installed on your computer.
- The wireless client adapter's IP configuration is set to dynamically obtain its IP configuration (DHCP) - this is usually the default. For more information, see the documentation of your wireless client adapter.

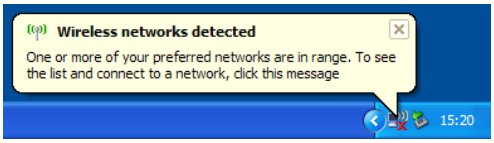
## Configuring first-time wireless clients

The wireless client must be correctly configured for the default network name. As the SpeedTouch™ broadcasts its network name to the wireless clients, you can select the SpeedTouch™ wireless network from a list of available networks. Depending on your wireless client a wireless icon may become green or a message similar to the following may pop up: "Successfully joined Wireless network SpeedTouch123456".

Some wireless clients do not automatically join a wireless network. If so, follow the instructions for the wireless client software to initiate association.

## First-time association example

In the example below is shown how the SpeedTouch™ wireless network is presented towards an MS Windows XP Service Pack 2 system:



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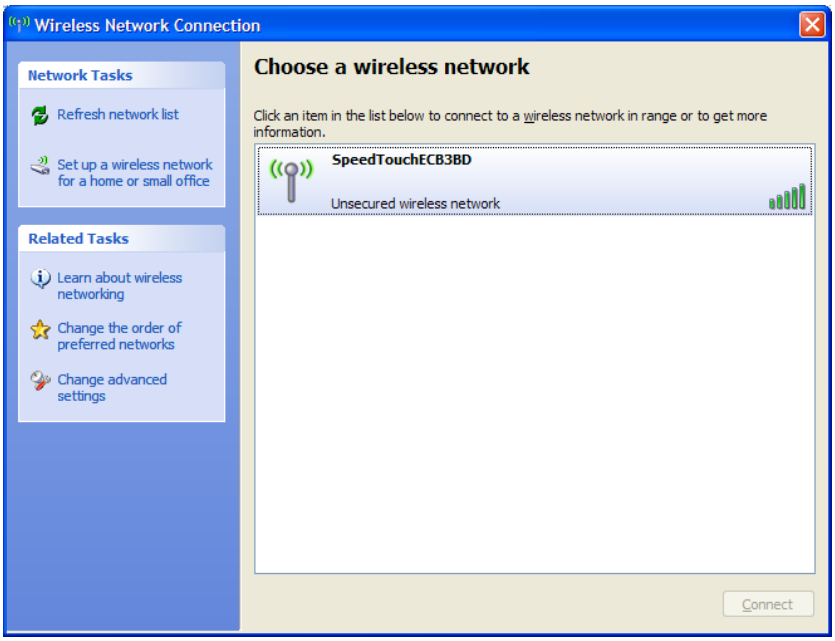
To associate your wireless client to the SpeedTouch™:

1 Click the network icon in the notification area: 

2 The **Wireless Network Connection** window appears:

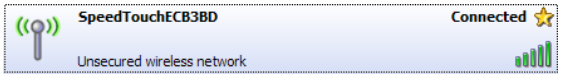



In the **Choose a wireless network** list, select the SpeedTouch™ wireless network and click **Connect**.

3 Following window appears:


Click **Connect Anyway**.

4 Your computer is now connected to the SpeedTouch™ wireless network.




For other Operating Systems the wireless client will in most cases be configured via dedicated client managers.



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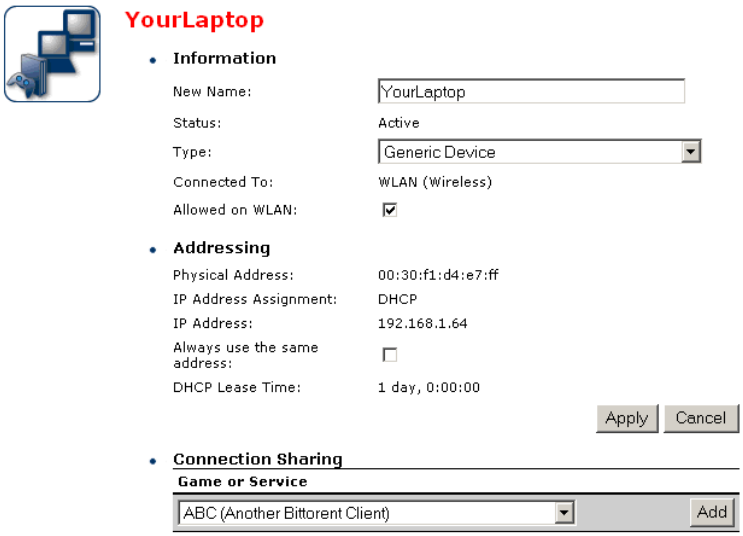
## Wireless device settings

Once you've connected a device, you are able to personalise its settings.

For more information, see " Device settings" on page 19.




To add a wireless device to the Access Control List (ACL), select **Allowed on WLAN**.



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# 2.2.3 Wireless Security

## Introduction

Since the SpeedTouch™ wireless environment is a radio environment, precautions must be taken to ensure that your wireless network is safe from malicious intruders.

To secure your wireless network, following wireless access point settings can be personalised:

- Your Network Name (SSID)
- ACL setting
- Data encryption

## Security settings

To personalise the wireless security settings on your SpeedTouch™:

1. Go to the SpeedTouch™ web pages.
2. In the menu select **Home Network**.
3. Click your WLAN.
4. On the top right, click **Configure**.
5. On the **Wireless Access Point** page, you can modify the **Security** settings.


## Network Name (SSID)

On the **Wireless Access Point** page, you can give a new name to your **Network Name (SSID)**.

Under **Security**, you can clear **Broadcast Network Name (SSID)**, to prohibit the Network Name from being broadcasted.

## Access Control List (ACL)

The SpeedTouch™ features a managed Access Control List (ACL) and a physical registration mechanism in the form of the Association / Registration button on the back panel of your SpeedTouch™.

On the **Wireless Access Point** page, you have following options for the ACL: **New stations are**

- **Allowed (automatically)**: All new stations can access the SpeedTouch™.
- **Allowed (via registration)**: Only allowed stations in the ACL have access.You can add new stations via the Association / Registration button. For more information, see " Registering clients via association button" on page 30.
- **Not allowed**: Only allowed stations in the ACL have access.



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## Data encryption

To setup wireless connectivity, you can choose different levels of security:

- **Low** (Security disabled, the default): No security; the data will not be encrypted, no authentication process will be used.
- **Medium**: Use WEP (Wired-Equivalent Privacy) to encrypt the traffic between the SpeedTouch™ and the clients by sharing a pre-defined 64-bit or a 128-bit Network key for secure communication with legacy 802.11b clients.

  The default 64 bits hexadecimal WEP key is printed on the identification label located at the bottom of the SpeedTouch™ and is unique for each device.
- **High**: Use WPA-PSK (Wi-Fi Protected Access Pre-Shared Key) encryption, the highest form of security available, but make sure that your wireless client and client manager are compatible with it.

  The default WPA-Personal passphrase is printed on the identification label located at the bottom of the SpeedTouch™ and is unique for each device.

  The WPA-Personal passphrase must consist of 8 to 63 ASCII characters or 8 to 64 HEX digits.




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# 2.2.4 Connecting Additional Wireless Clients

## Preconditions

Make sure that:

- The SpeedTouch™ is powered on and ready for service.
- The SpeedTouch™ has been configured as DHCP server (default).
- The wireless client adapters have been installed on all computers you want to connect to the WLAN.

## Security issues

Depending on the personalised wireless settings:

- Make sure to use the same encryption or security level on the client as on your SpeedTouch™. If for instance WPA-PSK is enabled on the SpeedTouch™, you must also configure the wireless client to use WPA-PSK and configure the same WPA-PSK passphrase.
- In case the Network Name (SSID) is not broadcasted, you must configure the wireless client for the SpeedTouch™ Network Name. Refer to the documentation of your wireless client for more information.
- Depending on the ACL settings:
  - In case **New stations are allowed (automatically),** your device will be able to access the SpeedTouch™ WLAN.
  - In case **New stations are allowed (via registration)**, you will need to register.Follow the procedure as described in " Registering clients via association button" on page 30.
  - In case **New stations are not allowed**, you will not be able to access the SpeedTouch™.

## Registering wireless clients

In case 'New stations are allowed (via registration), you can add a wireless client to the ACL via:

- Registering clients via web pages
- Registering clients via association button

## Registering clients via web pages

You can add a wireless client to the ACL as follows:

1. Go to the SpeedTouch™ web pages.
2. In the menu select **Home Network > Devices**.
3. Under **Pick a task...**, click **Search for wireless devices**.
4. The SpeedTouch™ searches for new wireless stations that use the encryption key of the SpeedTouch™ Access Point.
5. The SpeedTouch™ takes you to the Home Network. The new station will be shown next to the name of the SpeedTouch™ WLAN.
6. Click the name of the new station.
7. Click **Configure**.
8. Select **Allowed on WLAN** and click **Apply**.
9. Now the device is added to the ACL and will always be allowed to connect to the SpeedTouch™.



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## Registering clients via association button

You can easily register new wireless network clients as follows:

1. Push the Association button on the SpeedTouch™ back panel for at least two seconds. The WLAN LED will toggle between green and red.

   The ACL will be unlocked for a time frame of one minute. Any new wireless client successfully attempting to connect to the SpeedTouch™ (having the correct wireless settings, that is the network name and, if required, the network key) within the time frame of one minute, will be added to the table. The SpeedTouch™ automatically saves your current configuration at the end of the registration phase.

   Some WLAN clients do not automatically join a WLAN. If so, follow the instructions for the WLAN client software to initiate the association.

2. Successfully registered stations are associated to the SpeedTouch™ WLAN. Depending on your WLAN client adapter, a wireless icon may become green or a message similar to the following may appear: “Successfully joined Wireless network SpeedTouch123456”.
3. The wireless clients will be added to the SpeedTouch™ ACL.
4. After one minute the ACL is locked.

   The registration procedure can be repeated as often as needed.



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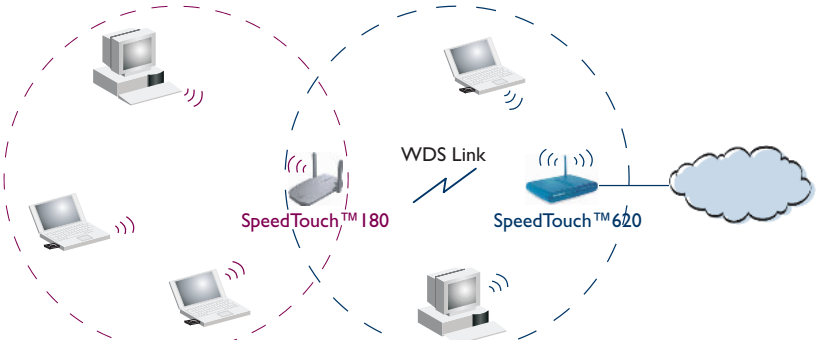
# 2.2.5 Extending the Range of Your Wireless Network

## WDS

The SpeedTouch™ features Wireless Distribution System (WDS) functionality. This feature allows you to extend the range of your wireless network by introducing one or more WDS-enabled devices into your wireless network.

The Wireless Distribution System (WDS) enables data packets to pass from one wireless access point to another, just as if the access points were ports on a wired Ethernet switch. WDS allows you to extend the range of your SpeedTouch™ by means of one or more wireless repeaters, like for instance a SpeedTouch™180. The following illustration depicts two WDS-enabled devices communicating via WDS:




The SpeedTouch™ allows you to add up to four wireless repeaters.

Repeaters extend the coverage area of your wireless LAN, however bear in mind that throughput is reduced for wireless clients that are connected through a repeater.

## Preconditions

Check on following:

- Your wireless repeater must be WDS enabled.
- Both your SpeedTouch™ and your wireless repeater must use:
  - The same WEP key if WEP is enabled.

    WPA encryption is not supported when using WDS.

  - The same ***fixed*** channel.

The SpeedTouch™ and your wireless repeater do not necessarily need to use the same SSID. Using different SSIDs allows you to force your wireless clients to use either the access point of the SpeedTouch™ or the one of your wireless repeater.



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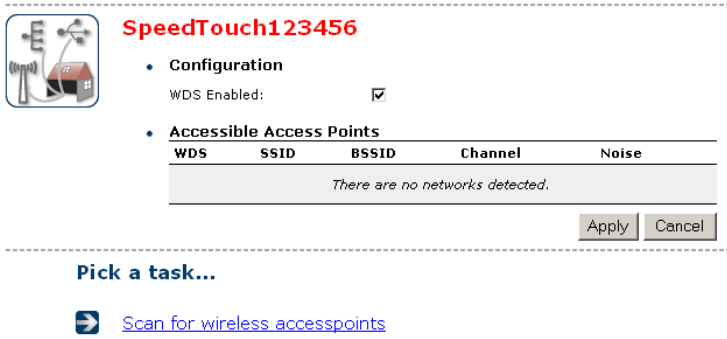
## Configuring WDS

To configure your WDS on the web pages:

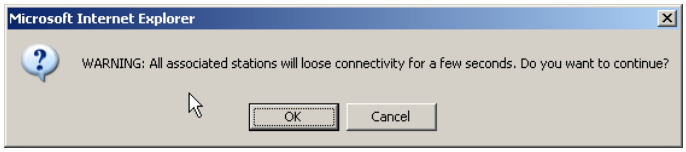
1. Go to the SpeedTouch™ web pages.
2. In the menu select **Home Network**.
3. Click your WLAN.
4. On the top right, click **Configure**.

   If not already done, set a ***fixed*** channel and check whether the security settings (WEP encryption or no encryption) on your SpeedTouch™ are the same as on the repeater.

5. On the **Wireless Access Point** page, in the **Pick a task...** list, click **Configure WDS**.

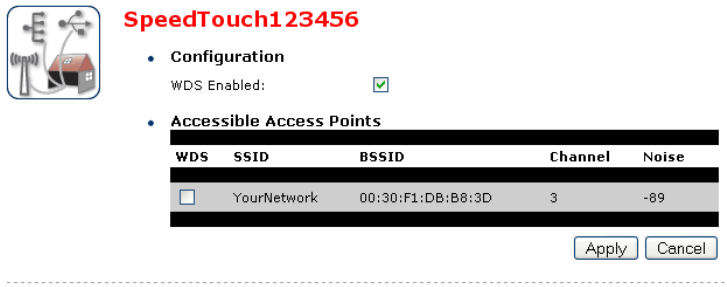



6. Select **WDS Enabled**.
7. In the **Pick a task...** list, click **Scan for wireless access points**.
8. A warning will be displayed:.




   Click **OK**.

9. The SpeedTouch™ will scan for access points on the same radio channel.
10. Select your repeater in the **List of Accessible Access Points** and click **Apply**.



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# 3 Internet Connectivity Dial-In Clients

## Introduction

For setting up initial Internet connectivity, using the Home Install Wizard on the Setup CD or the embedded Easy Setup, refer to the provided Installation and Setup Guide.

## Access methods

Depending on the configuration of the SpeedTouch™ you may have:

- Direct access:

  As soon as the initial configuration has been done, immediate and uninterrupted WAN access is provided.

  In case of direct access, the remote organisation might ask for a user name and password on an Internet welcome page.

- Dial-in access:

  Access must be explicitly established, that is by "dialling" into a Broadband Remote Access Server (BRAS).

  Depending on the SpeedTouch™ configuration, dial-in access is provided via the SpeedTouch™'s Routed PPPoA or Routed PPPoE packet services with embedded PPP client.

## Connection protocols

The applied connection protocol model depends on the service profile you selected to configure the SpeedTouch™ and should correspond with the Service Provider's requirements. If your ISP provides PPPoE for instance, you should configure PPPoE.

More information on connection protocols can be found in the Internet Connection Configuration Guide.

## Dial-in clients

There are different ways of dialling in, depending on the operating system on your PC and your preferences.

| Dial-in method: | can be used on following operating system: | For more information, see: |
|---|---|---|
| Embedded PPP dial-in client: | | |
| Dial-in client on embedded pages | MS Windows, Mac, unix, other | "3.1 SpeedTouch™ Web Pages" |
| MS Windows XP IGD Control Agent for UPnP | MS Windows XP | "3.2 IGD Control Agent" on page 37 |
| Host PPP dial-in client for a SpeedTouch™ configured in pure bridging mode: | | |
| MS Windows XP Broadband connection | MS Windows XP | "3.3 MS Windows XP BroadBand Connection" |
| Mac OS X PPPoE dial-in client | Mac OS X | "3.4 Mac OS X PPPoE Dial-in Client" |



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## Embedded PPP dial-in clients

The SpeedTouch™'s embedded PPP dial-in client allows you to establish an Internet connection for computers residing on your local network, using only one computer of the network to control the client.

If this computer runs:

- Any Operating System
  you can always use the SpeedTouch™ web pages.
  See "3.1 SpeedTouch™ Web Pages" on page 35 to proceed.
- MS Windows XP
  you can use MS Windows XP's Internet Gateway Device Control Client.
  See "3.2 IGD Control Agent" on page 37 to proceed.

## Broadband host PPPoE dial-in clients

You can also connect to the Internet using a Broadband PPPoE dial-in application. The PPP over Ethernet connection scenario provides PPP-like dial-in behaviour over the virtual Ethernet segment.

To be able to use a broadband dial-in application on your computer for connecting to the Internet, the SpeedTouch™ needs to be configured for Bridged Ethernet or Routed PPPoE (with PPPoE relay) via the SpeedTouch™ Home Install Wizard on the Setup CD or the embedded Easy Setup.

If this computer runs:

- MS Windows XP

  you can use the MS Windows XP broadband dial-in client. See "3.3 MS Windows XP BroadBand Connection" on page 39 for more information.
- Mac OS X

  you can use a Mac OS X broadband dial-in client. See "3.4 Mac OS X PPPoE Dial-in Client" on page 43 for more information.

- or -

- A broadband PPPoE dial-in client provided by your Service Provider to connect to the Internet

  Upon availability of OS-specific PPPoE dial-in client applications, the latter method is Operating System independent.

  For PPPoE session connectivity from a Mac OS 8.6/9.x, an MS Windows 95/98(SE)/ME/2000 or a Linux system, a host PPPoE dial-in application is mandatory.



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# 3.1 SpeedTouch™ Web Pages

## Introduction

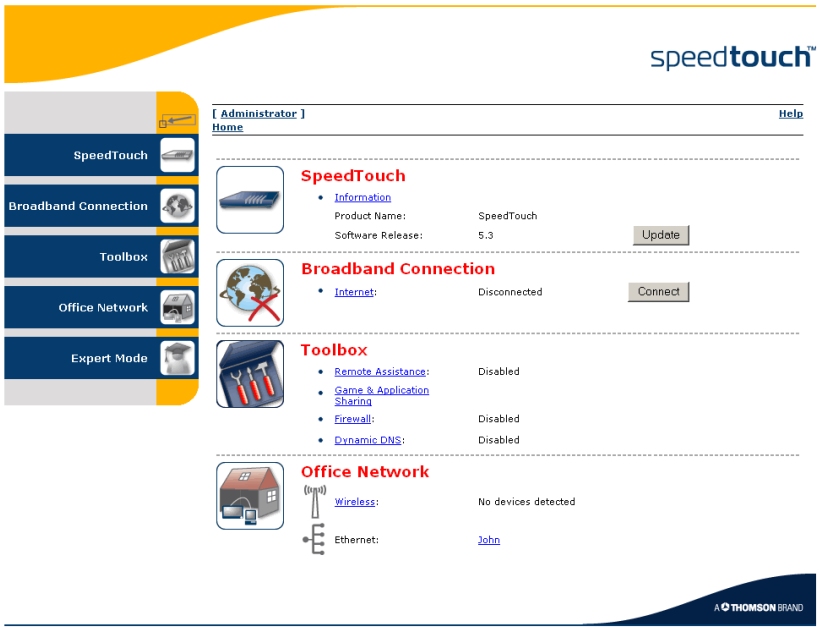
As the SpeedTouch™ web pages are controllable from any Operating System with an installed web browser, the method to establish PPP sessions described below you can use on any computer system.

For more information on Internet connection setup, see the provided Installation and Setup Guide.

## Starting an Internet session

Proceed as follows:

1. Open a web browser on your computer and browse to the SpeedTouch™ web pages (see "1.3.1 Access via the Web Interface" on page 12 for more information):




   By default the SpeedTouch™ shows you the **Home** page.

2. Click **Connect** at the appropriate broadband connection.

   You might be requested to enter your user name and password.

   As a result SpeedTouch™'s embedded PPP dial-in client establishes the Internet connection.

3. Now you can surf the Internet.

## Monitoring your Internet connection

You are able to overview and monitor your Internet connectivity as long as the session is running via:

- The SpeedTouch™ System Information page: see "4.3.1 Information" on page 54.
- The SpeedTouch™ Diagnostics task: see "4.4.1 Connectivity Check" on page 63.



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## Terminating an Internet session

To close an active PPP connection:

1. Go to the SpeedTouch™ Home page.
2. Click **Disconnect** at the appropriate broadband connection.

As a result the SpeedTouch™'s embedded PPP dial-in client will close the Internet connection. The Internet Link status will change to **Disconnected** and your PC is off-line.



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# 3.2 IGD Control Agent

## Introduction

MS Windows XP users can easily establish PPP sessions, thanks to MS Windows XP's Internet Gateway Device (IGD) Discovery and Control Client that allows you to control the SpeedTouch™ directly from you PC.

The IGD control client only allows to connect or to disconnect a fully configured connection.

## Preconditions

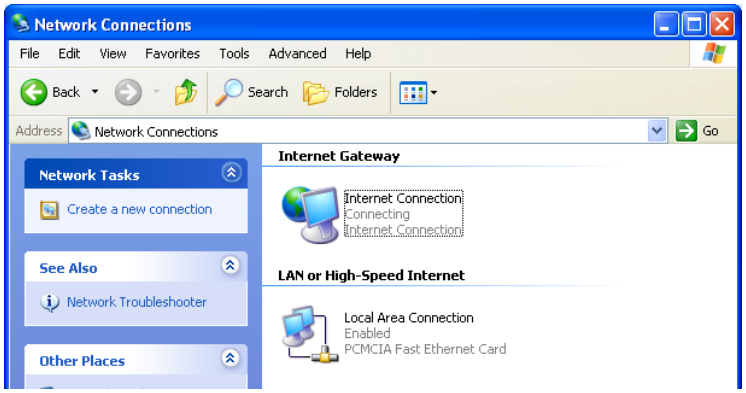
Following conditions must be met:

- Following subcomponents of Windows XP's Networking Services must be added to your Windows XP system:
  - UPnP™ (see " SpeedTouch™ not detected by UPnP™ or IGD Control Client" on page 197).
  - IGD Discovery and Control Client (see " Adding IGD Discovery and Control" on page 198).
- UPnP™ must be enabled on your SpeedTouch™. To enable UPnP, see "4.5.2 Game & Application Sharing" on page 69.

## Starting an Internet session

Proceed as follows:

1. In the Windows task bar, click **Start**.
2. Select **(Settings >) Control Panel**.
3. The **Control Panel** window appears. Go to **(Network and Internet Connections >) Network Connections**.
4. The **Network Connections** window appears:




   You will find an **Internet Gateway** icon, representing the SpeedTouch™ IGD Internet connection ability.

5. Double-click the **Internet Connection** icon.

   As a result the SpeedTouch™'s embedded PPP dial-in client establishes the Internet connection. The **Internet Gateway** icon displays **connected** and your PC is online.

6. You can open a web browser and surf the Internet.



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## Internet connection status

As long as the SpeedTouch™'s embedded PPP dial-in client is connected, you are able to overview the connection status and some counters by double-clicking the **Internet Connection** icon in your PC's **Network Connections** window:


## Terminating an Internet session

Proceed as follows:

1. In the Windows task bar, click **Start**.
2. Select **(Settings >) Control Panel > (Network and Internet Connections >) Network Connections**.
3. In the **Network Connections** window, right-click the **Internet Connection** icon and select **Disconnect to close the session**.

   You can also double-click the icon. Then the **Internet Connection Status** window will appear on which a **Disconnect** button is available to close the session.
4. As a result the SpeedTouch™'s embedded PPP dial-in client will close the Internet connection. The **Internet Gateway** icon displays **Disconnected** and your computers are off-line.



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# 3.3 MS Windows XP BroadBand Connection

## Prerequisites

To be able to use the MS Windows XP BroadBand Connection, your SpeedTouch™ must be configured for either:

- Bridging, or
- PPPoE Relay

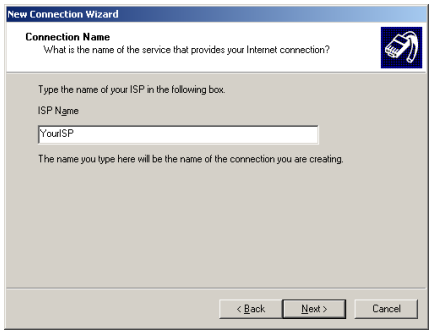
## Configuring a broadband connection

Proceed as follows:

1. On the **Start** menu, click **(Settings >) Control Panel**.
2. The **Control Panel** window appears. Go to **(Network and Internet Connections >) Network Connections**.
3. In the **Network Tasks** menu, click **Create a new connection**.

   The **New Connection** Wizard appears:


   Click **Next**.
4. Select **Connect to the Internet** and click **Next**.
5. Select **Set up my connection manually** and click **Next**.
6. Select **Connect using a broadband connection that requires a user name and password** and click **Next**.
7. Give a name to the connection you are creating, for example YourISP:



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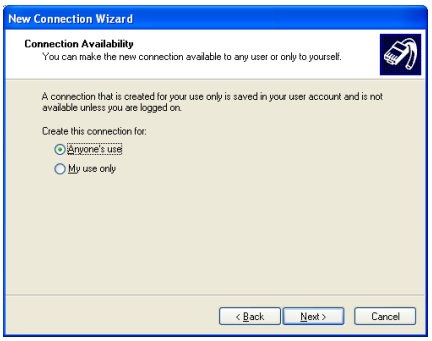
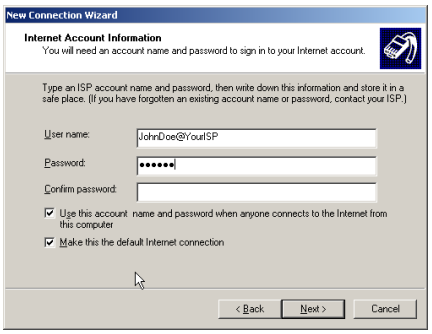
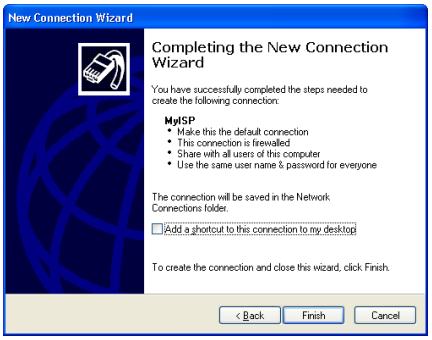
**8** Select whether the connection will be available to any user or only to yourself:




**9** Fill in the Internet account information. This information should be provided by your service provider:




**10** At the end of the configuration the following window appears:




Click **Finish** to complete the configuration.

The Connect **YourISP** window (see below) appears.



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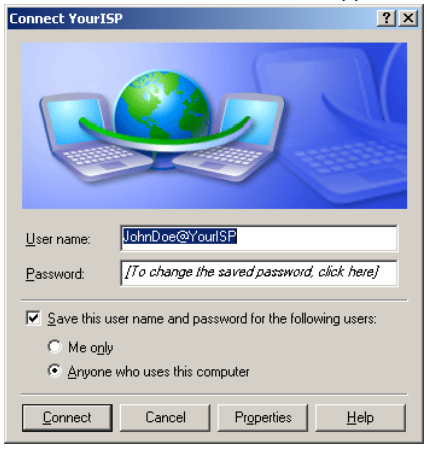
## Starting a broadband Internet session

Proceed as follows:

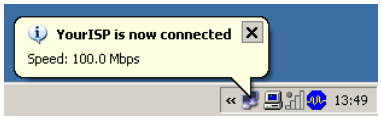
1. On the **Start** menu, point **Connect To** and click the name of the connection you've created, for example YourISP.

   If you are using the **Classic Start** menu click **Start > Settings > Network (and Dial-up) connections > YourISP**.

2. The **Connect YourISP** window appears:




3. If requested, enter user name and password for your user account at the Service Provider.
4. Click **Connect**.
5. As soon as the connection is established, the **Connection** message box and **Dialup** window are minimised into an icon in the notification area:




6. You can open your web browser and surf the Internet.



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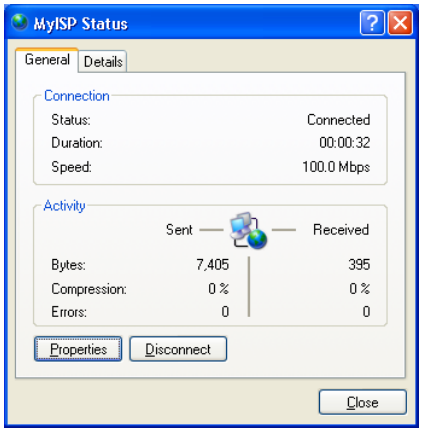
## Terminating a broadband Internet session

Proceed as follows:

1. On the **Start** menu, point **Connect To** and click the name of the connection you've created, for example YourISP.

   If you are using the **Classic Start** menu go to **Start > Settings > Network (and Dial-up) connections > YourISP**.

2. The **YourISP Status** window appears:




3. Click **Disconnect**.
4. The connection is released. As a result no Internet connectivity exists any more.



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# 3.4 Mac OS X PPPoE Dial-in Client

## Prerequisites

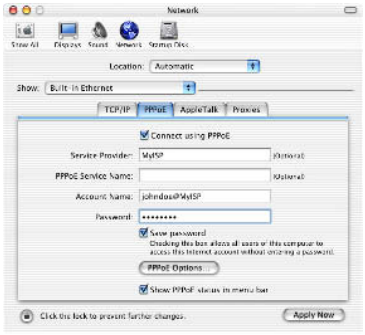
To be able to use the MS Windows XP BroadBand Connection, your SpeedTouch™ must be configured for either:

- Bridging, or
- PPPoE Relay

## Configuring a broadband connection

Proceed as follows:

1. On the **Apple** menu, click **System Preferences**.
2. In the **System Preferences** window, click the **Network** icon.
3. The **Network** window appears. Make sure **Built-in Ethernet** is selected in the **Show** list and click the **PPPoE** tab:




4. Enter the **Account Name** and **Password** provided by your **Service Provider**.

   Select **Save password** in case you want the computer to remember the password for this account name.

   Optionally you can enter a name for this connection in the **Service Provider** field. All other fields may stay empty.

5. Click **Apply Now**.



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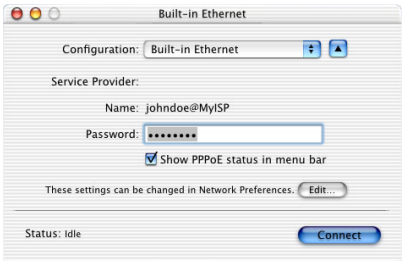
## Starting a broadband Internet session

Proceed as follows:

1. Click the **Internet Connect** dockling.

   If the **Internet Connect** dockling is not available, go to the **Applications** folder on the system startup disk and double-click **Internet Connect**.

2. The following window appears:




   Make sure **Built-in Ethernet** is selected in the **Configuration** list.

3. If needed, enter user name and password for your user account at the Service Provider.
4. Click **Connect**.
5. As soon as the connection is established you can open your web browser and surf the Internet.

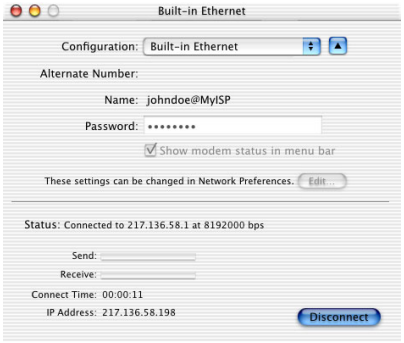
## Terminating a broadband Internet session

Proceed as follows:

1. Click the **Internet Connect** dockling.

   If the **Internet Connect** dockling is not available, go to the **Applications** folder on the system startup disk and double-click **Internet Connect**.

2. The following window appears:




   Make sure **Built-in Ethernet** is selected in the **Configuration** list

3. Click **Disconnect**.
4. The connection is released. As a result no Internet connectivity exists any more.



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# 4 Basic Configuration

## Introduction

The SpeedTouch™ comes with embedded HTML pages, providing an interface to the software installed on the device. It allows easy setup and management of the SpeedTouch™ via your web browser form any PC connected to the SpeedTouch™.

See "1.3.1 Access via the Web Interface" on page 12 to access the pages.

## Basic and Expert Mode

The pages are grouped in:

- Basic Mode: offering the main configuration tasks
- Expert Mode: adding advanced features to the basic mode and presenting the Command Line Interface (CLI) commands in a graphical user interface.

## SpeedTouch™ documentation

Consult:

- The SpeedTouch™ Installation and Setup Guide for more information on setup and installation procedures.
- The SpeedTouch™ Application Notes and Configuration guides for advanced configuration concepts.



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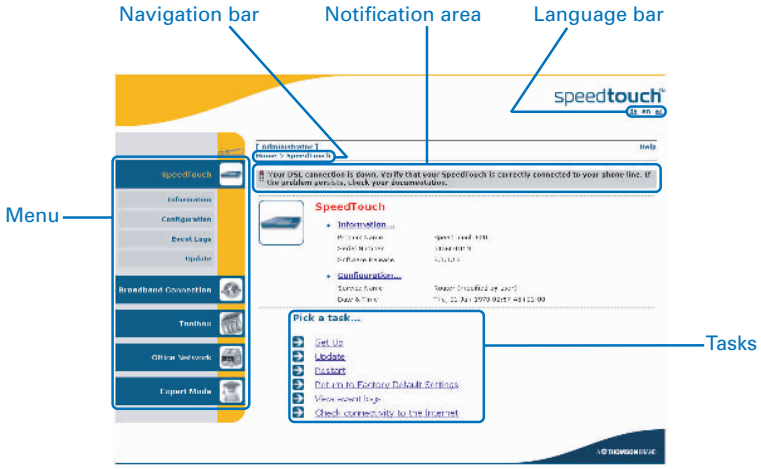
# 4.1 Navigation

## Navigation components

The SpeedTouch™ web interface consists of following components:

- Menu
- Language Bar
- Navigation Bar
- Notification Area
- Tasks





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## 4.1.1 Menu

### Menu items

The menu is located on the left side of the page and consists of the following menu items:

- SpeedTouch:
  Provides basic information on the SpeedTouch™.
- Broadband Connection:
  Allows you to view/configure your broadband connections.
- Toolbox:
  Allows you to assign games or applications to a device and secure your Internet connection.
- Office Network:
  Allows you to manage your local network.
- Expert Configuration Mode:
  Allows you to go to Expert Configuration mode for advanced configuration and maintenance of your SpeedTouch™ device.

### Collapsing and expanding the menu

You are able to collapse/expand the menu by clicking the arrow located on the top of the menu.



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## 4.1.2 Language Bar

Language bar

The language bar is located under the SpeedTouch™ logo and allows you to change the language of the SpeedTouch™ web interface.

The language bar will only be shown if more than one language is available.



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## 4.1.3 Navigation Bar

### Navigation bar

The navigation bar is located on the top of the page and allows you to:

- View the current user name.
  Click this name to change your password or switch to another user.
- View the current position on the SpeedTouch™ web interface.
- Get context related **Help** information.

### Display level

Depending on the page you are viewing following buttons will be available:

- **Overview** to view a summary of the current status or configuration.
- **Details** to view more detailed information on the current status or configuration.
- **Configure** to change the current settings.



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## 4.1.4 Notification Area

Notification area

The notification area is located under the Navigation Bar and is used to display:

- Error messages indicated by a red traffic light.
- Warnings indicated by an orange traffic light.
- Information indicated by a green traffic light.

If none of these events occur, the notification area will not be shown.



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## 4.1.5 Tasks

Tasks

To allow a swift configuration of your SpeedTouch™, some pages may offer you a number of related tasks. These tasks will guide you to the page where you can perform the selected task.



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# 4.2 Home

## SpeedTouch™ home page

The SpeedTouch™ home page gives you a short overview of all the configurable aspects of the SpeedTouch™:

- SpeedTouch
- Broadband Connection
- Toolbox
- Office Network




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# 4.3 SpeedTouch

## The SpeedTouch menu

The **SpeedTouch** menu consists of following items:

- Information
- Configuration
- Event Logs
- Update

## The SpeedTouch page

The **SpeedTouch** page gives you some basic information on the SpeedTouch™:

- Product Information
- Configuration




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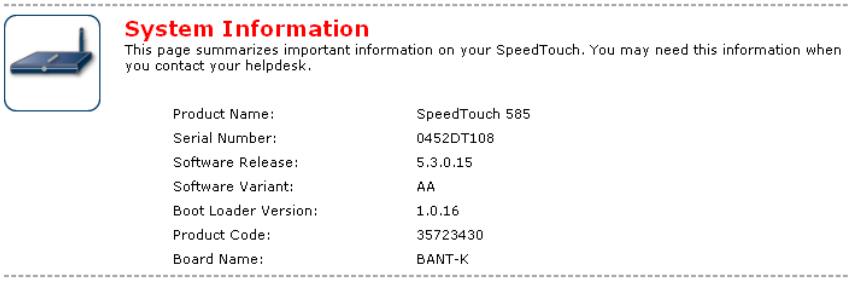
## 4.3.1 Information

Information

The **Information** page summarizes important information on your SpeedTouch™. You may need this information when you contact your helpdesk.



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# 4.3.2 SpeedTouch™ Easy Setup

## Easy Setup Wizard

This wizard helps you configure your SpeedTouch™ Internet connection.

To configure the SpeedTouch™ using the SpeedTouch™ Easy Setup wizard:

1. On the left menu, click **SpeedTouch**.
2. In the **Pick a task...** list, click **Set up**.
3. The **Easy Setup** wizard will now guide you through the configuration of your SpeedTouch™.




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## 4.3.3 Restart

### Accessing the Restart page

Proceed as follows:

1. On the left menu, click **SpeedTouch**.
2. In the **Pick a task...** list, click **Restart**.


### Restarting your SpeedTouch™

Proceed as follows:

1. Click **Yes, restart my SpeedTouch**.
2. The SpeedTouch™ restarts.
3. The SpeedTouch™ returns to the Home page.



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# 4.3.4 Configuration

## Overview

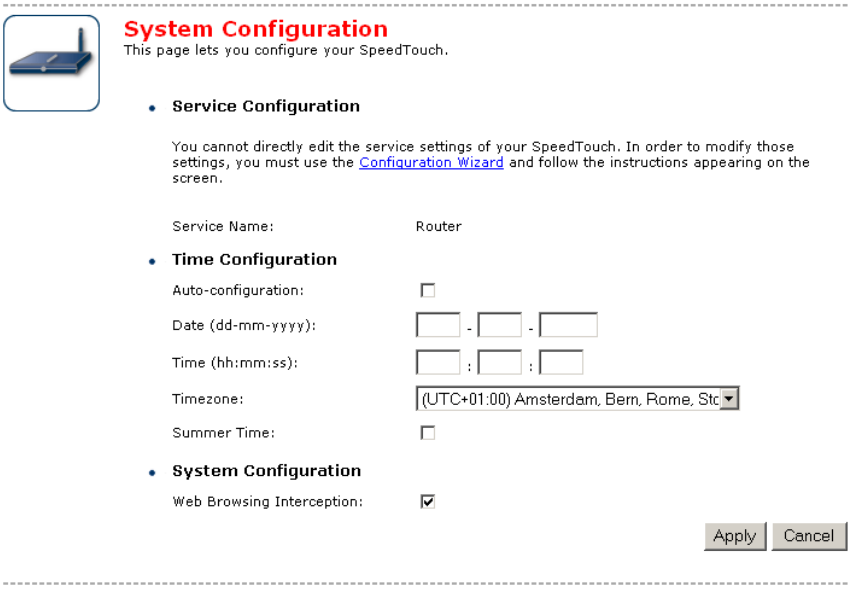
The **Overview** page displays the current configuration of your SpeedTouch™.

## Details

The **Details** page displays more detailed information on the current configuration of your SpeedTouch™.

## Configure

The **Configure** page allows you to change the current configuration.




If you want to:

- Reconfigure your SpeedTouch™:
  Click **Configuration Wizard** under **Service Configuration**. For more information, see "4.3.2 SpeedTouch™ Easy Setup" on page 55.
- Configure the time settings of your SpeedTouch™:
  - Select **Auto-configuration** if you want the SpeedTouch™ to use a time server to synchronise its clock to a dedicated time server.
  - Clear **Auto-configuration** to manually configure the SpeedTouch™ time settings.
- Disable/enable web browsing interception or set it to automatic.

  If you disable web browsing interception or set it to automatic you will not be able to use Web Site Filtering.

Click **Apply** to save your settings.



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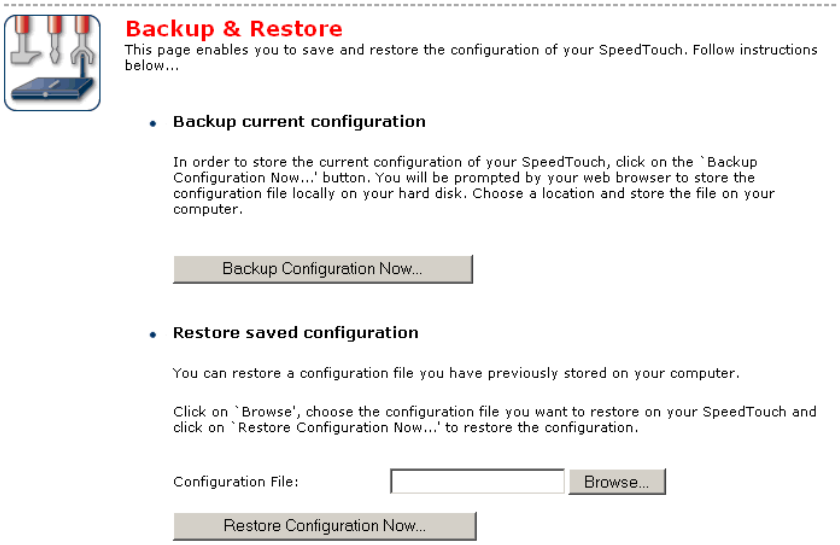
# 4.3.5 Backup & Restore

## Introduction

This page allows you to:

- Save your current configuration.
- Restore a previously saved configuration.




## Accessing the Backup & Restore page

Proceed as follows:

1. On the **SpeedTouch** menu, click **Configuration.**
2. Click **Configure**.
3. In the **Pick a task...** list, click **Save or Restore Configuration.**

## Saving your current configuration

Proceed as follows:

1. Click **Backup Configuration Now**.
2. Click **Save**.
3. Choose a location to save your backup file and click **Save**.

## Restoring a previously saved configuration

Proceed as follows:

1. Click **Browse.**
2. Select the configuration file you want to restore and click **Open**.
3. Click **Restore Configuration Now...**.
4. The SpeedTouch™ loads your configuration and restarts.
5. At the end of the procedure, the SpeedTouch™ returns to the Home page.



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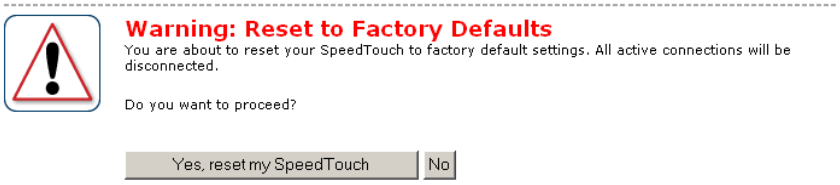
# 4.3.6 Reset to Factory Defaults

## Introduction

This page allows you to reset the SpeedTouch™ to return to the initial configuration of your SpeedTouch™. All your changes will be deleted.




## Accessing the Reset to Factory Defaults page

Proceed as follows:

1. On the left menu, click **SpeedTouch.**
2. In the **Pick a task...** list, click **Return to Factory Default Settings.**

## Resetting the SpeedTouch™ to factory defaults

If you want to reset your SpeedTouch™ to factory defaults, click **Yes, reset my SpeedTouch**.

If you reset your SpeedTouch™ to factory default settings, all active connections will be disconnected.



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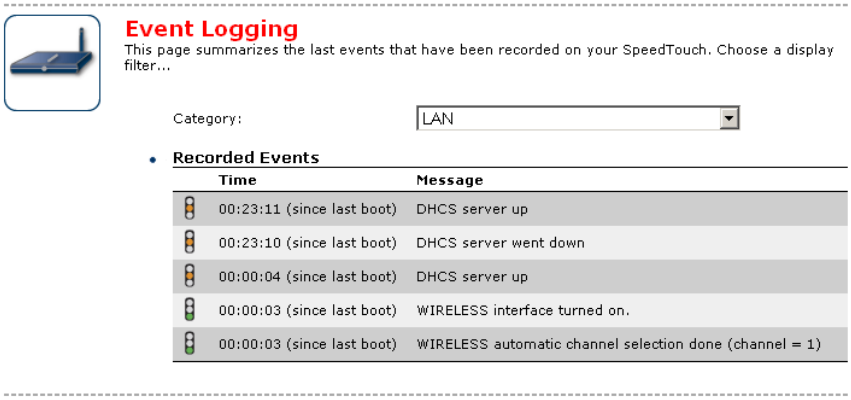
# 4.3.7 Event Logs

## Event Logging

The **Event Logs** page summarizes the latest events recorded on your SpeedTouch™.




## Recorded Events table

The **Recorded Events** table gives you an overview of the latest event logs that have been recorded since power on. The first column of the table indicates the importance of the event log

| Indicator | Description |
|---|---|
|  | Informational |
|  | Warning |
|  | Error |

The **Category** list allows you to filter the events shown in the **Recorded Events** table. For example, by clicking **Security** you can view all security related events, for example generated by the SpeedTouch™ firewall.



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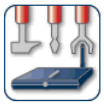
# 4.3.8 Update

## Updating the SpeedTouch™ system software

The **Update** page allows you to:

- View System Information.
- View information on the current System Firmware.
- Update your SpeedTouch™ from a remote server.
  Use this option if you want to have yourSpeedTouch™ check on the internet for new firmware and update if it found one.
- Update from a PC.
  Use this option if you want to install on your SpeedTouch™ that is located on the PC.



**System Update**

This page allows you to update your SpeedTouch with the latest software version available. Choose a way to update your SpeedTouch and follow the instructions.

- **System Information**

| | |
|---|---|
| Product Name: | SpeedTouch 585 |
| Serial Number: | 0452DT108 |
| Boot Loader Version: | 1.0.16 |
| Product Code: | 35723430 |
| Board Name: | BANT-K |

- **System Firmware**

| | |
|---|---|
| Current Software Version: | 5.3.0.15 |
| Current Software Variant: | AA |
| Available Software Version: | No update available |

**Update SpeedTouch from remote server...**

To check if a new software version is available click on 'Check For Updates...'

Check For Updates

**Upgrade from PC**

To update your SpeedTouch from your PC, you may follow the three steps described below.

**1-Download the latest software to your PC.**

You may update your SpeedTouch by downloading the latest software from the SpeedTouch Support Site to your PC's hard drive.

**2-Upload software to your SpeedTouch**

Select the update file you have placed on your PC's hard drive.

Browse...

**3-Load the new software and restart your SpeedTouch**

Note: uploading the new software takes several minutes to complete.

Proceed



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# 4.4 Broadband Connection

## The Broadband Connection menu

The **Broadband Connection** menu consists of following menu items:

- DSL Connection
- Internet Services

## The Broadband Connection page

The **Broadband Connection** page gives you a short status overview of the connections configured on the SpeedTouch™.


Click **View more** to see more information on the selected broadband connection.

If you configured a dial-up connection, you are able to establish/terminate the connection by clicking **Connect/Disconnect**.



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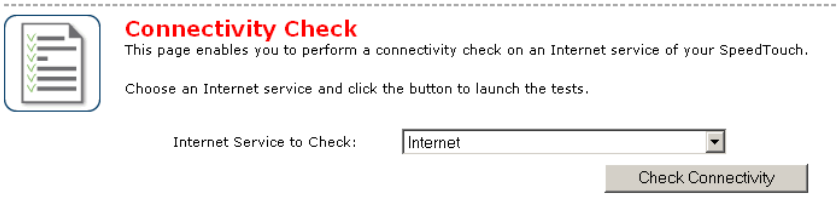
# 4.4.1 Connectivity Check

## Introduction

This page enables you to perform a connectivity check on an Internet service of your SpeedTouch™.




## Accessing the Connectivity Check page

Proceed as follows:

1. On the left menu, click **Broadband Connection**.
2. In the **Pick a task...** list, click **Check connectivity to the Internet**.

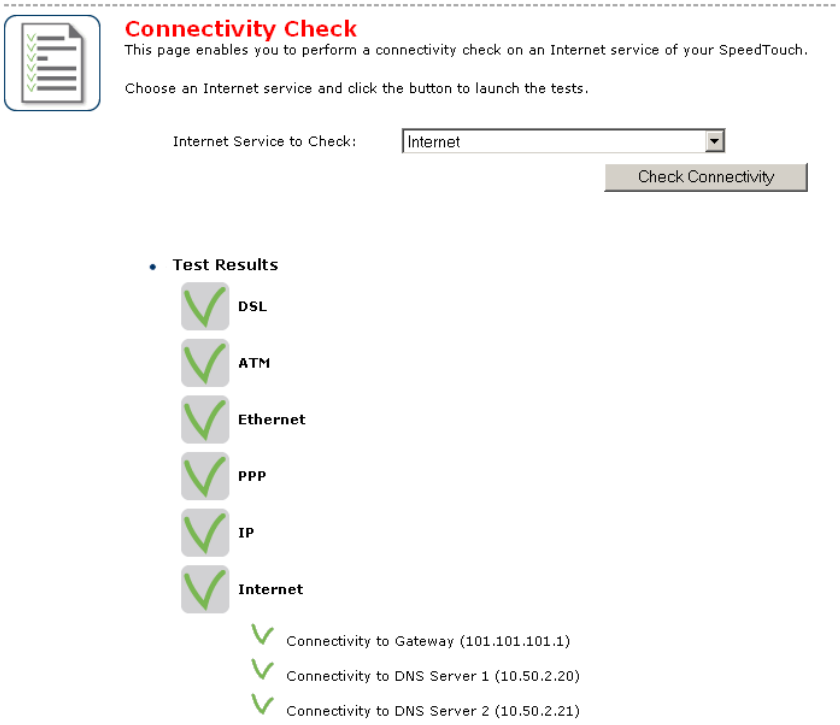
## Checking you Internet Connectivity

Proceed as follows:

1. In the **Internet Service to Check** list, click the Internet service that you want to check.
2. Click **Check Connectivity**.
3. The SpeedTouch™ lists the test results in the **Test Results** list.

## Analysing the test results

If the test is successful, you will get a list of green check marks. Otherwise a red cross will indicate which tests have failed.



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## 4.4.2 DSL Connection

### Overview

Click **Overview** to view brief information on your DSL connection.

### Details

Click **Details** to view a more detailed information on your DSL connection.

**DSL Connection**

- **Link Information**

| | |
|---|---|
| Uptime: | 0 days, 0:43:10 |
| Modulation: | G.992.1 Annex A |
| Bandwidth (Up/Down) [kbps/kbps]: | 544 / 2.272 |
| Data Transferred (Sent/Received) [KB/KB]: | 0,00 / 0,00 |
| Output Power (Up/Down) [dBm]: | 11,5 / 7,5 |
| Line Attenuation (Up/Down) [dB]: | 2,0 / 0,0 |
| SN Margin (Up/Down) [dB]: | 5,0 / 6,5 |
| Vendor ID (Local/Remote): | TMMB / ALCB |
| Loss of Framing (Local/Remote): | 0 / 0 |
| Loss of Signal (Local/Remote): | 0 / 0 |
| Loss of Power (Local/Remote): | 0 / 0 |
| Loss of Link (Remote): | 0 |
| Error Seconds (Local/Remote): | 0 / 0 |
| FEC Errors (Up/Down): | 0 / 0 |
| CRC Errors (Up/Down): | 0 / 0 |
| HEC Errors (Up/Down): | 0 / 0 |



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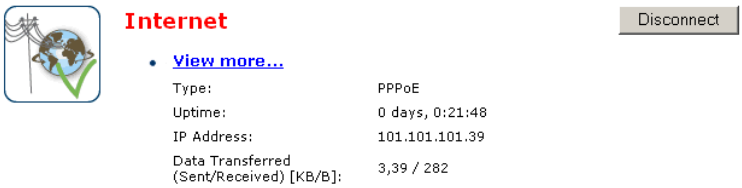
# 4.4.3 Internet Services

## Internet Services information

The **Internet Services** page displays information on your Internet Connection(s).




If you configured a dial-up connection you are able to establish/terminate the connection by clicking **Connect/Disconnect**.

To view more detailed information on a specific connection, click the **View more...** link of the corresponding connection.



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# 4.4.4 Internet Service Settings

## Accessing the Internet Service Settings page

Proceed as follows:

1. On the **Broadband Connection** menu click **Internet Services.**
2. Click the **View more** link of the internet service you want to view.

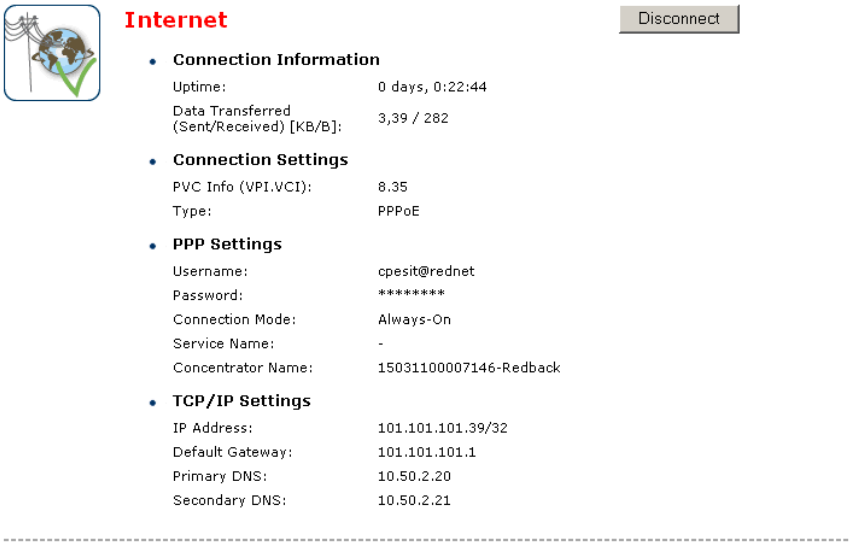
## Overview

The **Overview** page gives you basic information on the selected Internet Service.

If you configured a connection you are able to establish/terminate the connection by clicking **Connect/Disconnect**.

## Details

The **Details** page gives you more detailed information on the selected Internet Service.




If you configured a dial-up connection you are able to establish/terminate the connection by clicking **Connect/Disconnect**.



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# 4.5 Toolbox

## The Toolbox menu

The **Toolbox** menu consists of following menu items:

- Remote Assistance:
  Allows you to make your SpeedTouch™ accessible for remote support.
- Game & Application Sharing:
  Allows you to share services and games that you run in your private network towards the internet.
- Web Site Filtering:
  Allows you to block/allow access to specific web sites.
- Firewall:
  Allows you to configure the security level of the SpeedTouch™ firewall.
- Intrusion Detection:
  Allows you to view the intrusions you are protected against.
- Dynamic DNS:
  Allows you to assign a DNS host name to your broadband connection(s).
- User Management:
  Allows you to manage the users configured on your SpeedTouch™.

## The Toolbox page

The **Toolbox** page gives you an overview of the available services and their current status. You can click on the names of these services to go to the corresponding web page.




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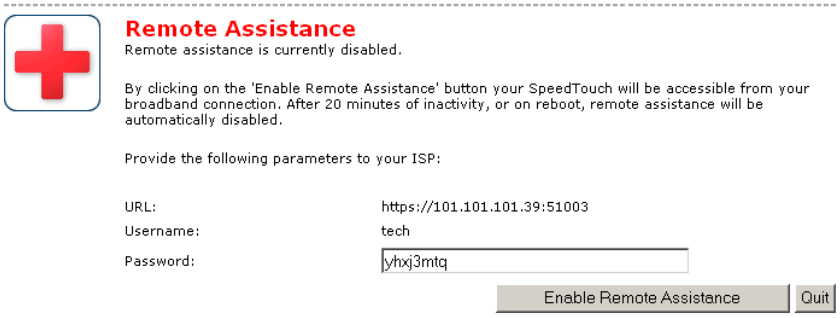
# 4.5.1 Remote Assistance

## Enabling Remote Assistance

This page allows you to make your SpeedTouch™ accessible for remote support.




You must be connected to the Internet to be able to enable remote assistance.

To use remote assistance:

1. If needed, type a password in the **Password** box.
2. Click **Enable Remote Assistance**.
3. Pass the information listed under:
   - **URL**
   - **Username**
   - **Password**

   to your technical support, in order for them to be able to access your SpeedTouch™.

   Once the technical support is connected, no other connections are possible.
4. The remote assistance session ends:
   - If the technical support disables remote assistance.
   - After 20 minutes of inactivity, or after a reboot, remote management.



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# 4.5.2 Game & Application Sharing

## Overview

The **Overview** page summarizes the games and applications on a particular host on your network, for which the SpeedTouch™ accepts connections coming from the Internet.

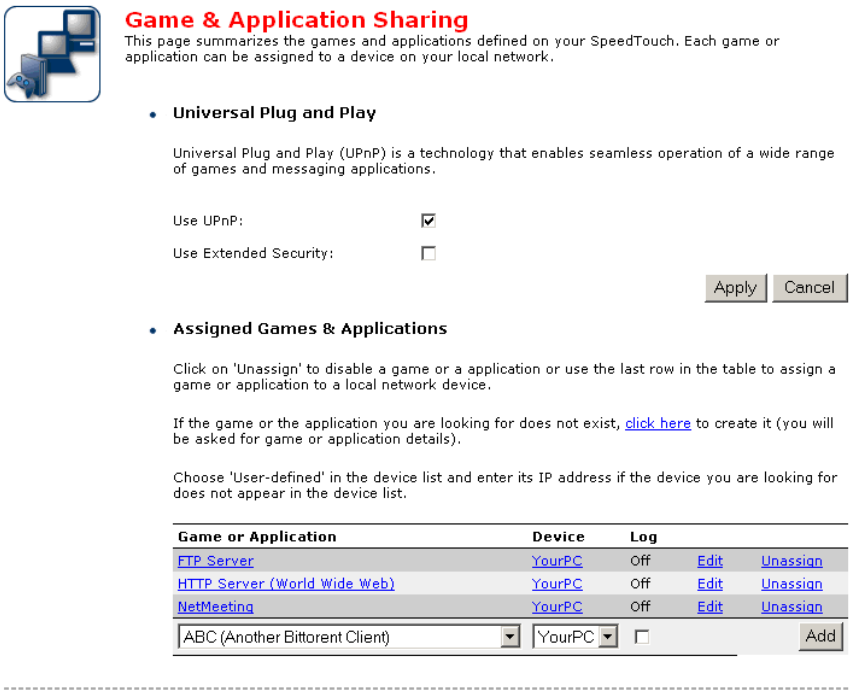
## Configure

The **Configuration** page allows you to:

- Select **Use UPnP** to enable UPnP on the SpeedTouch™.

  Universal Plug and Play is an architecture for transparent peer-to-peer connectivity of PCs, intelligent appliances, and (wireless) devices. It enables seamless operation of a wide range of games and messaging applications.

- Select **Use Extended Security** to only allow the creation of port maps.
- Assign a game or application to a specific network device.



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# 4.5.3 Defined Games & Applications

## Accessing the Defined Games & Applications page

Proceed as follows:

1. In the **Toolbox** menu, click **Game & Application Sharing**.
2. In the **Pick a task...** list, click **Modify a game or application**.

## The Defined Games & Applications page

This page gives you an overview of the games and applications defined on your SpeedTouch™. Each game or application can be assigned to a device on your local network.

**Defined Games & Applications**

This page summarizes the games and applications defined on your SpeedTouch. Each game or application can be assigned to a device on your local network.

| Game or Application | Assigned to ... | Mode | | |
|---|---|---|---|---|
| ABC (Another Bittorent Client) | | Client | Edit | Delete |
| Age of Empires | | Server | Edit | Delete |
| Age of Mythology | | Server | Edit | Delete |
| AIM Talk | | Client | Edit | Delete |
| Aliens vs. Predator | | Server | Edit | Delete |
| America s Army | | Server | Edit | Delete |
| Azureus | | Client | Edit | Delete |
| Bay VPN | | Server | Edit | Delete |
| BearShare | | Server | Edit | Delete |
| BitTorrent | | Client | Edit | Delete |
| Black and White | | Server | Edit | Delete |
| Call of Duty | | Server | Edit | Delete |
| Call of Duty - United Offensive | | Server | Edit | Delete |
| CarbonCopy32 | | Server | Edit | Delete |
| Castle Wolfenstein | | Server | Edit | Delete |
| Championship Manager 03-04 | | Server | Edit | Delete |
| Checkpoint FW1 VPN | | Server | Edit | Delete |
| Command and Conquer Generals | | Server | Edit | Delete |
| Command and Conquer Zero Hour | | Server | Edit | Delete |
| Counter Strike | | Server | Edit | Delete |
| Cu-SeeMe Cornell | | Server | Edit | Delete |
| Cu-SeeMe White Pine 3.1.2 and 4.0 | | Server | Edit | Delete |
| Dark Reign 2 | | Server | Edit | Delete |
| Default Server | | Server | Edit | Delete |
| Delta Force | | Server | Edit | Delete |
| Destroyer Command | | Server | Edit | Delete |
| Diablo II | | Server | Edit | Delete |
| Direct Connect | | Server | Edit | Delete |
| DirectX 7 | | Server | Edit | Delete |
| DirectX 8 | | Server | Edit | Delete |
| DirectX 9 | | Server | Edit | Delete |
| Doom3 | | Server | Edit | Delete |
| Dune 2000 | | Server | Edit | Delete |
| Dungeon Siege | | Server | Edit | Delete |
| eDonkey | | Server | Edit | Delete |
| Elite Force | | Server | Edit | Delete |
| eMule | | Server | Edit | Delete |
| Enemy Territory | | Server | Edit | Delete |
| Everquest | | Server | Edit | Delete |

To:

- View the translation rules of a game or application, click the name of the rule.
- Change the translation rules of a game or application, click the **Edit** link of the the game or application.



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# 4.5.4 Game or Application Definition

## Accessing the Game or Application Definition page

Proceed as follows:

1. In the **Toolbox** menu, click **Game & Application Sharing**.
2. In the **Pick a task...** list, click **Modify a game or application**.
3. Click the name of the game or application you want to view/change.

## Overview

This page gives you an overview of the port mappings used to allow this service or game to be initiated from the Internet.

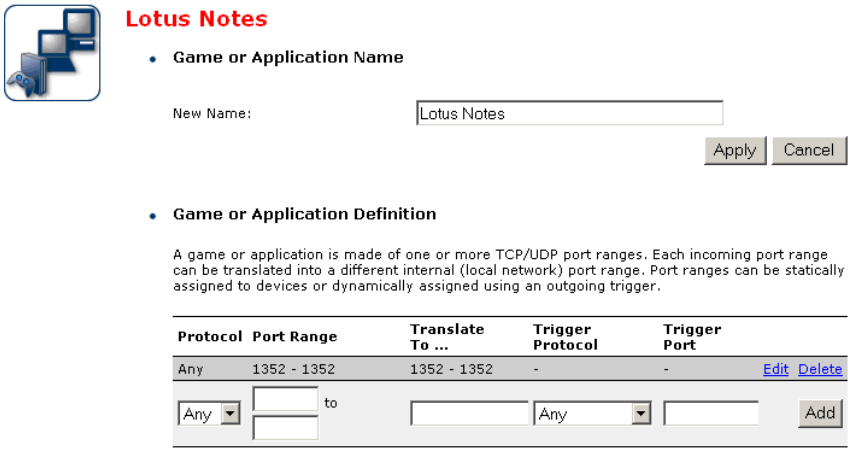
Consult the user's guide or support pages of your application to know which ports are being used by this application.

A service is made of one or more TCP/UDP port ranges. Each incoming port range can be translated into a different internal (local network) port range. Port ranges can be statically assigned to devices or dynamically assigned using an outgoing trigger.

## Configure

Under:

- **Game or Application Name** you can:
  Change the name of the game or application.
- **Game or Application Definition** you can:
  Change the TCP/UDP port definition for this game or application.




## Adding a Port Translation rule

Proceed as follows:

1. In the **Protocol** list, click the protocol the game or application uses.
2. In the **Port Range** box, type the port range the game or application uses.
3. In the **Translate To...** box, type the port range to which the SpeedTouch™ has to translate the ports specified under **Port Range**.
4. If you want to make a dynamic translation rule you must specify a trigger protocol and port.

   As soon as the SpeedTouch™ receives outgoing traffic on this trigger port, it will activate this translation rule.
5. Click **Apply**.



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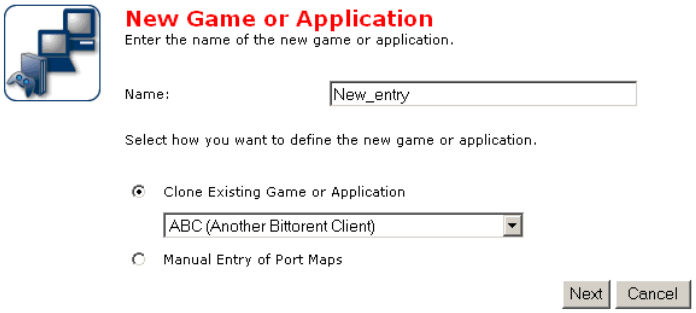
# 4.5.5 New Game or Application

## Accessing the Game or Application Definition

Proceed as follows:

1. On the **Applications** page, click **Game & Application Sharing**.
2. In the **Pick a task...** list, click **Create a new game or application**.




## Creating a new game or application

Proceed as follows:

1. Type the name of the game or application in the **Name** box.
2. Click:
   - **Clone Existing Game or Application** if you want to start from the port mappings of the selected game or application.
   - **Manual Entry of Port Maps** if you want to manually configure the port mapping for this game or application.
3. The SpeedTouch™ creates the game or application and takes you to the Game or Application Definition page to configure the port mappings for this game or application.
4. Enter the necessary port mappings and click **Add**.



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# 4.5.6 Web Site Filtering

## Web Site Filtering

The SpeedTouch™ allows you to block/allow particular web sites:

- Based on the web site's URL.

  As within a web site lots of references can be made to other URLs, it is recommended to use this feature in combination with content based filtering.

- Based on the web site's content.
- Redirect a web site to another web site.

If your administrator account is configured as default user, make sure to configure a password for this account or change the default user. Otherwise users on your local network can surf to your SpeedTouch™ to disable your filtering rules.

For more information, see "4.5.13 User Management" on page 83 and "4.5.15 Change Default User" on page 85.

## Overview

The **Overview** page displays:

- The current **Address Based Filtering** rules.
- The current **Content Based Filtering** configuration.
  To view which content types are blocked/allowed, click **Details**. For more information, see "4.5.8 Content Level" on page 77.

Address based filtering rules have priority over content based filtering rules.

## Configure

The **Configure** page allows you to:

- Deny access to a specific web site.
- Allow access to a specific web site.
- Redirect a web site.
- Configure content based filtering settings.

## Content levels

Following content levels are available:

- **All**:
  Allow all categorized web sites.
- **Legal**:
  Allow all except illegal, extreme, spam and spyware web sites.
- **Teenagers**:
  Block illegal, adult, extreme, online ordering/gambling, spam and spyware web sites.
- **Children**:
  Only allow children-save web sites.
- **BlockAll**:
  Block all categorized web sites.



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### Deny access to a specific web site

Use this feature if:

- **Allow** is selected under **Action for Unknown Sites.**
- **Block** is selected under **Action for Unknown Sites** and you want to make an exception on an allow rule. For example: you are allowing “provider.com” but you want to deny access to “mail.provider.com”.
- A content category/group is allowed by Content Based Filtering and you want to make an exception. For example: you are allowing **Web Mail** content but you want to deny access to “mail.provider.com”.

Proceed as follows:

1. Type the URL of the web site you want to block (for example “mail.provider.com”) in the **Web Site** box.
2. In the **Action** list, click:
   - **Block** if you want to block this web site.
   - **Redirect** if you want to redirect to another page. Type the address of the redirect page in the **Redirect** box.
3. Click **Add**.

### Allow access to a specific web site

Use this feature if:

- **Block** is selected under **Action for Unknown Sites**
- **Allow** is selected under **Action for Unknown Sites** and you want to make an exception on a block/redirect rule. For example: you are blocking “bank.com” but you want to allow access to “netbanking.bank.com”.
- A content category/group is blocked by Content Based Filtering and you want to make an exception. For example: you are blocking **Finance / Investment** content but you want to allow access to “netbanking.bank.com”.

Proceed as follows:

1. Type the URL of the web site you want to allow (for example “netbanking.bank.com”) in the **Web Site** box.
2. Click **Allow** in the **Action** list.
3. Click **Add**.

### Redirect a web site

Proceed as follows:

1. Type the URL of the web site you want to redirect (for example “cracks.am”) in the **Web Site** box.
2. Click **Redirect** in the **Action** list.
3. Type the URL of the web site you want to redirect to (for example “mycompany.com/internetpolicy.htm”) in the **Redirect** box.
4. Click **Add**.



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### Redirecting all web sites

Proceed as follows:

1. Type "*" in the **Web Site** box.
2. Click **Redirect** in the **Action list**.
3. Type the URL of the web site you want to redirect to (for example "mycompany.com/internetpolicy.htm") in the **Redirect** box.
4. Click **Add**.
5. Type the URL of the web site you want to redirect to (for example "mycompany.com/internetpolicy.htm") in the **Web Site** box.
6. Click **Allow** in the **Action list**.
7. Click **Add**.

### Configure content based filtering settings

Under **Content Based Filtering** you are able to:

- Enable/disable content based filtering.
- Allow/block uncategorized web sites.
- Select a content level in the **Content Level** list.

To change a content level definition, click the **Edit** link of the content level you want to change. For more information, see "4.5.8 Content Level" on page 77.



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# 4.5.7 Web Filtering Activation

## Accessing this page

Proceed as follows:

1. On the **Toolbox** menu, click **Parental Control**.
2. In the **Pick a task...** list, click **Activate Web filtering License**.

## Web Filtering Activation page

This page allows you to:

- Activate a Web Filtering evaluation license.
- Activate a free 30-days Web Filtering evaluation license.

## Standard license activation

Proceed as follows:

1. Click **Standard**.
2. In the **License Key** box, type the license key provided by your ISP.
3. Click **Apply**.



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# 4.5.8 Content Level

## Accessing this page

Proceed as follows:

1. On the **Toolbox** menu, click **Parental Control**.
2. Click **Configure**.
3. Click the **Edit** link of the content level you want to edit.

## Overview

This page gives you an overview of the different categories and their rules.

Following icons indicate whether the content type is allowed or not:

| Icon | Description |
|---|---|
|  | The category/group is allowed |
|  | The category/group is not allowed. |
|  | The group is partly allowed. |

## Configure

This page allows you to change:

- The content level name.
- The content level description.
- The content level configuration.



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# 4.5.9 New Content Level

## Introduction

This page allows you to create a new content level. To access this page:

1. On the **Toolbox** menu, click **Parental Control**.
2. In the upper right corner, click **Configure**.
3. Under **Pick a task...**, click **Create a new content level**.

## Procedure

To apply a new content level following actions must be performed:

1. Content level creation
2. Content level configuration
3. Content level definition
4. Content level activation

You can create up to 16 content levels.

## Content level creation

Proceed as follows:

1. In the **Name** box, type a name for the new content level.
2. In the **Description** box, type a short text to describe what this security level will do.
3. Click **Next**.

## Content level configuration

Proceed as follows:

1. The Configuration section becomes available.
2. Click:
   - **Clone Existing Level** to start from a previously created content level.

     If no levels have been defined before, this option will not be shown.
   - **Black List** to allow all web sites by default.
   - **White List** to block all web sites by default.
3. Click **Next**.

## Content level definition

Only web sites that match the selected content level will be allowed. Proceed as follows:

1. If you want to:
   - Allow a category:
     Select the check box next to the category name.
   - Allow an entire group:
     Select the check box next to the group name.
   - Block a category:
     Clear the check box next to the category name.
   - Block an entire group:
     Clear the check box next to the group name.
2. Click **Apply**.



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## Content level activation

To activate your new content level:

1. On the **Toolbox** menu, click **Parental Control**.
2. In the upper right corner, click **Configure**.
3. In the **Content Level** list, select your new content level.
4. The new content level is now active.



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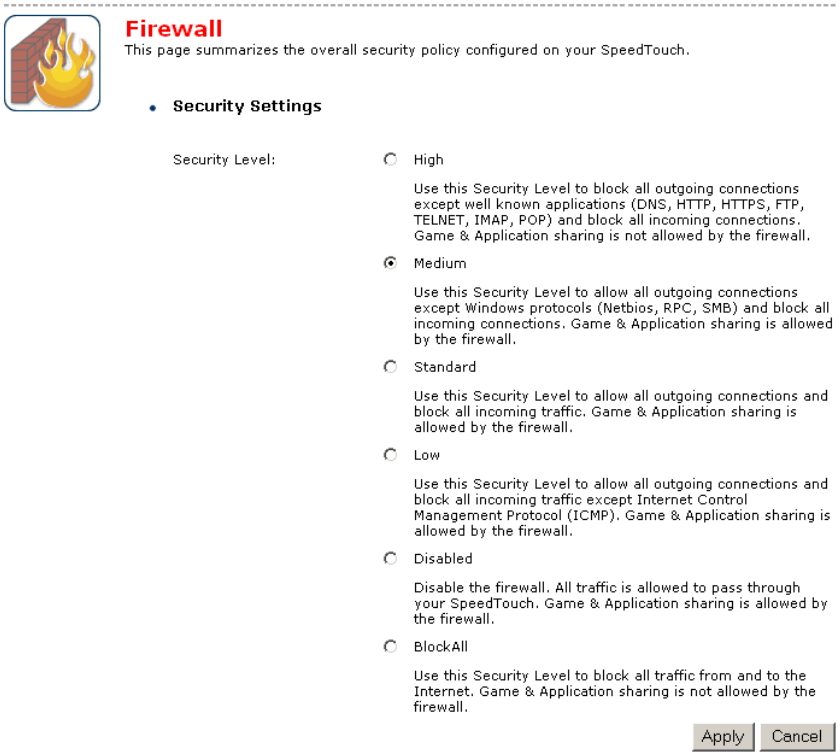
# 4.5.10 Firewall

## Overview

The **Overview** page summarizes the overall security policy configured on your SpeedTouch™.

## Configure

The **Configure** page allows you to select the security level of the SpeedTouch™.




Select one of following security levels:

- **Medium**:
  Use this Security Level to allow all outgoing connections except Windows protocols (Netbios, RPC, SMB) and block all incoming connections. Game and Application sharing is allowed by the firewall.
- **Standard**:
  Use this Security Level to allow all outgoing connections and block all incoming traffic. Game and Application sharing is allowed by the firewall.
- **Low**:
  Use this Security Level to allow all outgoing connections and block all incoming traffic except Internet Control Management Protocol (ICMP). Game and Application sharing is allowed by the firewall.
- **Disabled**:
  All traffic is allowed to pass through your SpeedTouch™. Game and Application sharing is allowed by the firewall.
- **BlockAll**:
  Use this Security Level to block all traffic from and to the Internet. Game and Application sharing is not allowed by the firewall.



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# 4.5.11 Intrusion Detection

## Intrusion Detection

Your SpeedTouch™ is protecting your network against malicious intrusions. This page shows you the intrusions you are protected against.

The **Protected Intrusions** table shows the number of times the SpeedTouch™ actively protected your network against each intrusion since last statistics reset.

**Intrusion Detection**

Your SpeedTouch is protecting your network against malicious intrusions. This page shows you the intrusions you are protected against.

- **Protected Intrusions**

The table shows the number of times the SpeedTouch actively protected your network against each intrusion since last statistics reset.

| Intrusion Name | Count |
|---|---|
| fragment_sweep | 0 |
| zero-length_fragment_size | 0 |
| small_fragment_size | 0 |
| fragment_size_overrun | 0 |
| fragment_overlap | 0 |
| fragment_out-of-order | 0 |
| ip_protocol_scan | 0 |
| tcp_port_scan | 0 |
| tcp_syn_scan | 0 |
| stealth_tcp_null_scan | 0 |
| stealth_tcp_fin_scan | 0 |
| stealth_tcp_xmas_scan | 0 |
| stealth_tcp_full_xmas_scan | 0 |
| stealth_tcp_vecna_scan | 0 |
| stealth_tcp_syn-fin_scan | 0 |
| udp_port_scan | 0 |
| ping_sweep_scan | 0 |
| tcp_syn_flood | 0 |
| udp_flood | 0 |
| ping_flood | 0 |
| icmp_unreachable_storm | 0 |
| smurf_broadcast_attack | 0 |
| smurf_storm_attack | 0 |
| fraggle_broadcast_attack | 0 |
| fraggle_storm_attack | 0 |
| land_attack | 0 |
| spoofed_packet | 0 |
| tcp_null_port | 0 |
| tcp_data_on_syn_segment | 0 |
| tcp_invalid_urgent_offset | 0 |
| udp_null_port | 0 |
| icmp_type_unknown | 0 |
| icmp_code_unknown | 0 |
| ip_zero_payload | 0 |
| tcp_rate_limiting | 0 |



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# 4.5.12 Dynamic DNS

## What is Dynamic DNS

The Dynamic DNS service allows you to assign a dynamic DNS host name (e.g. john.dyndns.org) to a broadband connection even if it is using a dynamic IP address. As soon as the device gets a new IP address, the dynamic DNS server updates its entry to the new IP address.

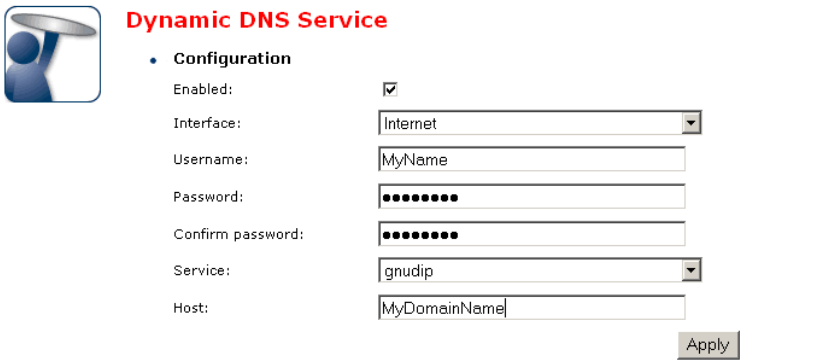
## Overview

Click **Overview** to view the different Dynamic DNS clients with their name, hostnames, interface and IP address.

## Configure

The **Configure** page allows you to assign a Dynamic DNS host name to a broadband connection:

1. Create an account at the Dynamic DNS service of your choice, for example:
   - www.dyndns.org
   - www.no-ip.com
   - www.dtdns.com
   - GnuDIP for Linux
2. On the **Dynamic DNS** page, click **Configure**.
3. Select **Enabled**.




4. If needed, click the broadband connection to which you want to assign the Dynamic DNS hostname in the **Interface** list.
5. Type the user name and password of your Dynamic DNS service account in the corresponding fields.
6. In the **Service** list, click your Dynamic DNS service.
7. In the **Host** box, type the host name you want to assign to this interface (for example myspeedtouch.dyndns.org).
8. Click **Apply**.



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# 4.5.13 User Management

## Overview

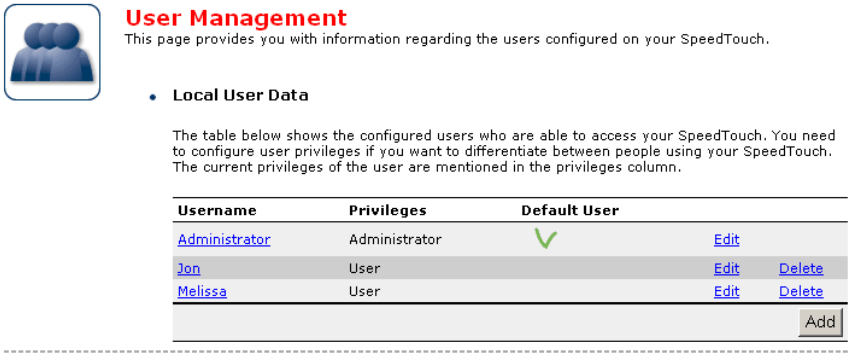
The **Overview** page gives you an overview of the currently configured users and their privileges.

Clicking the name of a user allows you to edit his user account.

## Configure

The **Configure** page allows you to:

- Click **Add** to create a new user account.
- Click **Delete** to remove a user.
- Click **Edit** to change a user account.



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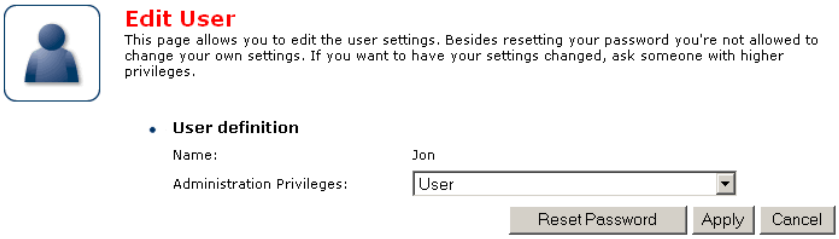
# 4.5.14 Edit User

## Accessing the User Edit page

Proceed as follows:

1. On the **Toolbox** menu, click **User Management**.
2. Under **Local User Data**, click on the name of the user you want to edit.




## Editing a user account

The **Edit User** page allows you to:

- Click **Reset Password** to reset the password of the selected user to the user name. So, if you reset the password of John his password will be “John”.
- Change the administration privileges of the selected user.

  You can not change the administration privileges of the account you are logged on to.



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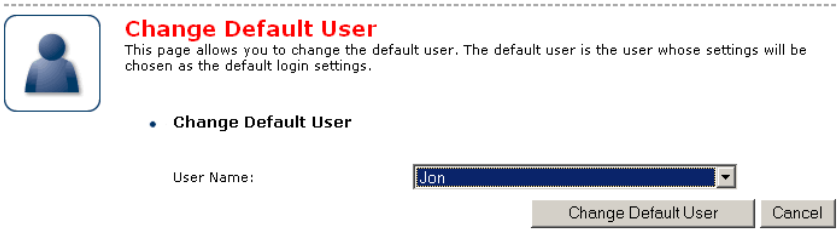
# 4.5.15 Change Default User

## Changing the default user

This page allows you to change the default user. If users browse to the SpeedTouch™ web pages, they will be automatically logged in under this account.




To allow users to automatically log on under this account, this default user account must be configured with a blank password.



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# 4.5.16 Add User

## Adding users

This page allows you to add a new user.


Under **User definition** you can configure:

- The name of the new user.

  The password of the new user will be equal to the user name; for example if the user name is John Doe, the password will be John Doe. Also when resetting a user, the password will be changed into the user name.

- The administration privileges of the new user

  You can only add users with less than or equal administration privileges as yourself.



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# 4.6 Office Network

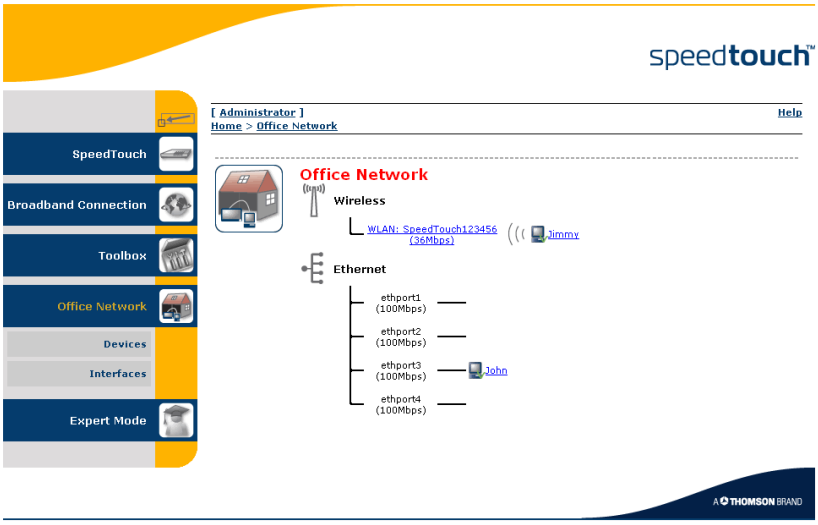
## Office Network Menu

This menu consists of following items:

- Devices
  Allows you the view/configure the devices detected on your local network.
- Interfaces
  Allows you to view/configure the interfaces that are available on the SpeedTouch™.

## The Office Network page

The Office Network gives you an overview of your SpeedTouch™ network.




## Viewing (wireless) client information

If you click a on (wireless) client you will be able to:

- View the (wireless) client's network settings.
- Configure the (wireless) client's network settings by clicking **Configure**.



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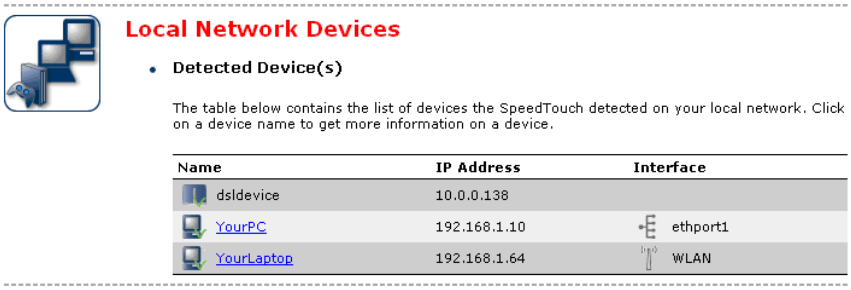
# 4.6.1 Devices

## Overview

The **Overview** page gives you an overview of the devices that are currently connected to the SpeedTouch™ network. Click on a device name to get more information on a specific device.




## Configure

The **Configure** page gives you an overview of the devices that are currently connected to the SpeedTouch™ network.

To:

- Get more information on a specific device, click on the name of the device. See "4.6.2 Device Settings" on page 89 for more information.
- Edit a device from the **Detected Device(s)** list, click **Edit**.
- Delete a device from the **Detected Device(s)** list, click **Delete**.

Once a device connects to the SpeedTouch™ network, it will remain listed in the **Detected Device(s)** list until you delete it.



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# 4.6.2 Device Settings

## Accessing the device settings page

Proceed as follows:

1. On the **Office Network** menu, click **Devices**.
2. In the **Detected Device(s)**, click the name of the device you want to view.

## Overview

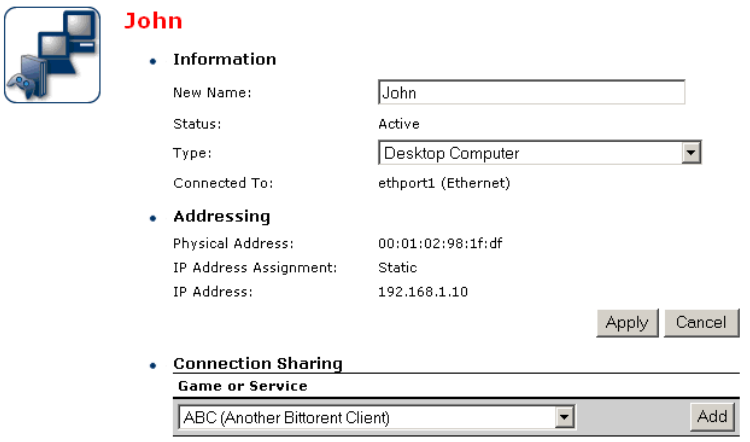
The **Overview** page displays following information:

- **Information** allows you to view:
  - **Status** shows whether the device is currently connected to the SpeedTouch™ network.
  - **Type** shows the device type.
  - **Connected To** shows the interface to which the device is currently connected.
- **Addressing** allows you to view:
  - **Physical Address** shows the MAC address of the device.
  - **IP Address Assignment** shows whether the device is using a static or dynamic IP address.
  - **IP Address** shows the current IP address of the device.
- **Connection Sharing**:
  Gives you an overview of the games or services that are currently assigned to this device. Click the name of the game or service to view the used port mappings.
  For more information, see "4.5.4 Game or Application Definition" on page 71.

## Configure

The **Configure** page allows you to:

- Change the device information.
- Allow a game or service running on this device to be initiated from the Internet.



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# 4.6.3 Assign Public IP

## Introduction

This page allows you to assign the public IP address of your Internet Connection(s) to a specific device on your local network. You might want to do this if:

- You do not want to use the Network Address Translation engine of your SpeedTouch™.
- This device is running server applications (web server,...) and you want it to be accessible from the Internet.

  You can also achieve this by creating a port mapping for the specified server, as described in "4.5.2 Game & Application Sharing" on page 69.
- This device has to be considered as the unique access point to your local network (DMZ).

  It is not recommended to use this feature as this device will loose all security offered by the SpeedTouch™.

## Accessing the Assign Public IP page

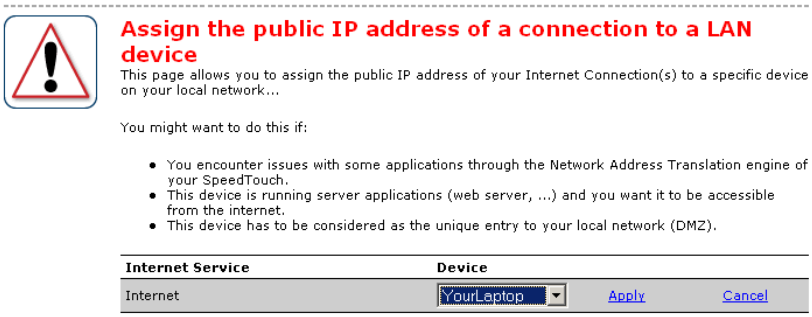
Proceed as follows:

1. On the **Office Network** menu, click **Devices**.
2. In the **Pick a task...** list, click **Assign the public IP address of a connection to a device**.

## Assigning the public IP address to a device

Proceed as follows:

1. Click the **Edit** link of your Internet connection.
2. In the **Device** list, select the device you want to assign the public address to.




3. Click **Apply**.
4. The SpeedTouch™ prompts you that you will have to make some adjustments as a result of the new configuration, click **OK**.
5. Release and renew the IP address of the device.

   For more information, see your operating system's user guide or help.
6. If needed, reassign server applications to this device.



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# 4.6.4 Wireless Device Settings

## Accessing the wireless device settings page

Proceed as follows:

1. On the **Office Network** menu, click **Devices**.
2. In the **Detected Device(s)**, click the name of the wireless device you want to view.

## Overview

The **Overview** page displays following information:

- **Information** allows you to view:
  - **Status** displays whether the device is currently connected to the SpeedTouch™ network.
  - **Type** displays the device type.
  - **Connected To** displays the interface to which the device is currently connected.
  - **Allowed on LAN** indicates whether the wireless client is allowed to connect to the SpeedTouch™ WLAN.
- **Addressing** allows you to view:
  - **Physical Address** displays the MAC address of the device.
  - **IP Address Assignment** displays whether the device is using a static or dynamic IP address.
  - **IP Address** displays the current IP address of the device.
  - **Always use the same address** indicates whether the wireless client has a static DHCP lease or not.
  - **DHCP Lease Time** displays the time for which the wireless client can use this IP address.
- **Connection Sharing**:
  Gives you an overview of the games or services that are currently assigned to this device. Click the name of the game or service to view the used port mappings.
  For more information, see "4.5.4 Game or Application Definition" on page 71.

## Configure

The **Configure** page allows you to:

- Change the device information.
- Assign a static DHCP server lease to this device by selecting the **Always use the same address** check box.
- Allow a game or service running on this device to be initiated from the Internet.



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# 4.6.5 Access Point Settings

## Accessing the Access Point settings

Proceed as follows:

1. On the left menu, click **Office Network**.
2. Under **Wireless**, click the name of the Access Point you want to view or configure.

The Access Points names are of the following format: “WLAN: “ + Network Name, for example “WLAN: SpeedTouch123456”.

## Overview

The **Overview** page displays a brief overview of the current configuration.

## Details

The **Details** page displays a more detailed overview of the current configuration.

## Configure

Under **Configuration** following fields are available:

- **Interface Enabled**:
  Allows you to enable/disable the wireless interface.
- **Physical Address**:
  Displays the Base Service Set Identifier (BSSID) of the selected Access Point.
- **Network Name (SSID)**:
  Allows you to change the network name of your WLAN.
- **Interface Type**:
  Allows you to choose between:
  - 802.11b
  - 802.11b(legacy)/g
  - 802.11b/g
  - 802.11g
- **Actual Speed**:
  Displays the current transmission speed.
- **Channel Selection**:
  Allows you to select a fixed channel or let the SpeedTouch™ automatically select a channel for you.
- **Region**:
  Displays your region.
- **Channel**:
  Displays the channel that is currently used by the Access Point.
- **Allow multicast from Broadband Network**:
  Allows you to allow/deny multicast messages from the Internet.

Large bandwidth streams like video streams, have a large impact on your wireless performance.



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Under **Security** following fields are available:

- **Broadcast Network Name**:
  By default the SpeedTouch™ broadcasts its network name, allowing you to easily recognise your wireless network in the list of available networks. Once you have configured your wireless clients, it is recommended to disable this feature by clearing this check box.
- **Allow New Devices**:
  Allows you to change the access control used by the SpeedTouch™.
- **Encryption**:
  Allows you to select an encryption level for your wireless network. Following encryption methods are supported by the SpeedTouch™:
  - The Wired Equivalent Protocol (WEP)
  - WPA-Pre Shared Key (WPA-PSK).

  The default WEP key and the default WPA key is printed on the SpeedTouch™ bottom label.

  Before configuring the SpeedTouch™ encryption, make sure you know which encryption methods are supported by your wireless client.

## WEP

The Wired Equivalent Privacy (WEP) algorithm protects wireless communication from eavesdropping.

WEP relies on a secret key that is shared between the wireless client (e.g. a laptop with a wireless ethernet card and the SpeedTouch™. The fixed secret key is used to encrypt packets before they are transmitted. I.e. during transmission between client and AP ("in the air") the information in the packets is encrypted.

If your wireless client(s) supports WPA-PSK we recommend you to use WPA-PSK, because WEP encryption has been proven to have some security issues.

To enable WEP:

1. Select Use WPA-PSK Encryption
2. In the **WEP Key Length** list, click the desired Data Security level (either 64-bit or 128-bit and Alphanumeric or Hexadecimal).
3. In the **Encryption key** box, type a Network key of your choice. In case of:
   - **64 bits, Alphanumeric**:
     The 40-bits Network key must consist of 5 alphanumeric characters.
   - **64 bits, Hexadecimal**:
     The 40-bits Network key must consist of 10 hexadecimal digits.
   - **128 bits, Alphanumeric**:
     The 104-bits Network key consists of 13 alphanumeric characters.
   - **128 bits, Hexadecimal**:
     The 104-bits Network key consists of 26 hexadecimal digits.
4. Click **Apply** to immediately apply your changes.
5. Configure your wireless client(s) with the same settings.



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## WPA-PSK

The SpeedTouch™ supports WPA-PSK which has 3 improvements regarding to WEP:

- Authentication via a 4-way handshake to check whether the Pre-Shared Keys (PSKs) are the same.
  - Stronger encryption types:
    - Temporal Key Integrity Protocol (TKIP) (default): Instead of using a fixed WEP key, TKIP uses in pairs temporary session keys which are derived from the PSK during the 4-way handshake. For each packet it uses a different key. TKIP also provides a message integrity check (MIC) and a rekeying mechanism (in seconds).
    - Advanced Encryption Standard (AES): State-of-the-art encryption; can only be used if all wireless devices in your WLAN support AES.
- Message Integrity Check (MIC). Which is a strong mathematical function in which the recipient and transmitter each compute and compare the MIC. If they don't match it is assumed that a third person has been trying to read the data.

To enable WPA-PSK:

1. Select **WPA-PSK Encryption**.
2. In the **WPA-PSK Encryption Key** box, type a passphrase (aka Pre-shared key) of your choice. The passphrase must consist of 8 to 63 ASCII characters or 64 HEX digits.
3. In the **Encryption** list, click select the desired Encryption method (either TKIP or AES).

   AES is not yet implemented in most clients but AES is implemented in the SpeedTouch™ because it will be the future security standard.
4. Optionally select the rekeying interval.
5. Click **Apply** to immediately apply your changes.
6. Configure your wireless client(s) with the same settings.

## Access control on the SpeedTouch™

Following modes are available:

- **New stations are allowed (automatically)**:
  All New stations can access the SpeedTouch™ WLAN.
- **New stations are allowed (via registration)**:
  Only allowed stations in the Access Control List (ACL) have access. You can add new stations via registration.
  For more information, see " Registering new wireless clients" on page 94
- **New stations are not allowed**:
  Only allowed stations in the Access Control List (ACL) have access.

## Registering new wireless clients

Proceed as follows:

1. On the **Office Network** menu, click **Devices**.
2. Under **Pick a task...**, click **Search for wireless devices**.
3. The SpeedTouch™ searches for new wireless stations that use the encryption key of the SpeedTouch™ Access Point.
4. The SpeedTouch™ takes you to the **Office Network**. The new station will be shown next to the name of the SpeedTouch™ WLAN.

   To view the device settings, click the name of the new station. For more Information, see "6 If needed, reassign server applications to this device." on page 90.



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# 4.6.6 Configuring WDS

## What is WDS

The **Wireless Distribution System** (WDS) allows you to extend the range of your wireless network by introducing one or more WDS-enabled devices into your wireless network.

You can only establish WDS links with WDS enabled devices.

## Accessing the WDS page

To access the WDS pages on the SpeedTouch™:

1. On the left menu, click **Office Network**.
2. Under **Wireless**, click the Access Point you want to configure for WDS.

   The Access Points names are of the following format: “WLAN: “ + Network Name, for example “WLAN: SpeedTouch123456.
3. Click **Configure**.
4. Under **Pick a task...** list, click **Configure WDS**.

## SpeedTouch™ configuration

Proceed as follow:

1. Under **Pick a task...**, click **Scan for wireless accesspoints**.
2. The SpeedTouch™ prompts you that all associated stations will loose connectivity for a few seconds. Click **OK**.
3. The SpeedTouch™ lists the results in the **Accessible Access Points** table.
4. Select the Access Point to which you want to establish a WDS connection.
5. Click **Apply**.
6. Configure this Access Point with:
   - The same WEP key if WEP is enabled.
   - The same **fixed** channel.



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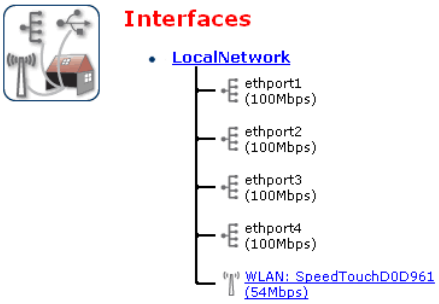
# 4.6.7 Interfaces

## Interfaces overview

This page gives you an overview of the interfaces used on your SpeedTouch™. If you want to know more on the network settings of a specific interface, click the name of the interface you want to view.



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# 4.6.8 Interface Settings

## Overview

The **Overview** page gives you an overview of the current interface settings.

**Interface - LocalNetwork**

- **Interface Information**

  Interface Group: lan

- **TCP/IP Configuration**

  Auto-IP: Disabled

  Use DHCP Server: Enabled

- **IP Addresses**

| IP Address/Mask | Type |
|---|---|
| 10.0.0.138/24 | Static |
| 192.168.1.254/24 | Static |

- **DHCP Pools**

| DHCP Pool Name | Address Range | Gateway |
|---|---|---|
| LAN_private | 192.168.1.64 - 192.168.1.253 | 192.168.1.254 |

## Configure

The **Configure** page allows you to:

- Change the IP address settings of the SpeedTouch™.
- Change the DHCP IP address pool settings.

Before changing the DHCP pools, make sure that at least one IP address of the SpeedTouch™ uses the same subnet as the IP addresses in the DHCP pools.

## Assigning a new IP address to the SpeedTouch™

Under **IP Addresses**:

1. Type the IP address of your choice (for example 192.168.1.1) in the left text box.
2. Type subnet mask in the right text box (for example 255.255.255.0).
3. Click **Add**.
4. Network devices using the same subnet mask can now access the SpeedTouch™ using this IP address.



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# 4.6.9 DHCP Pool

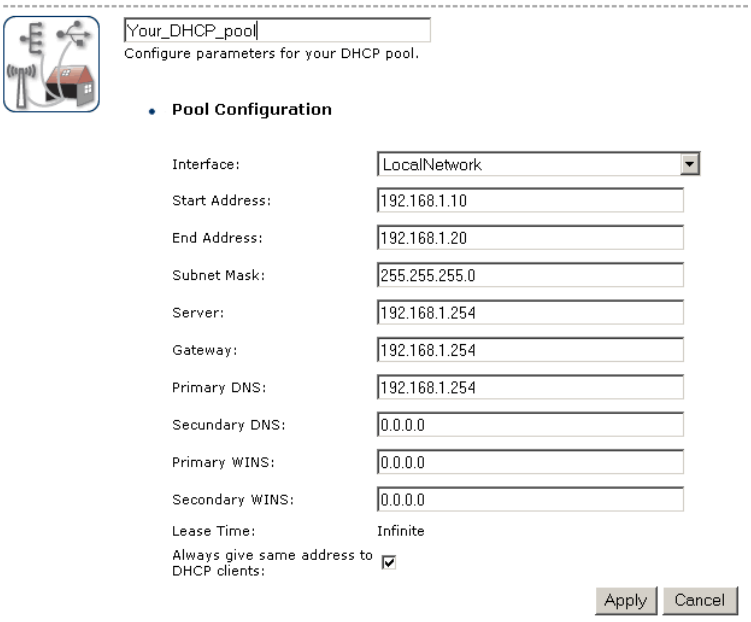
## DHCP Pool

This page allows you to create/change a DHCP pool.

## Accessing the DHCP Pool page

Proceed as follows:

1. On the **Office Network** menu, click **Interfaces**.
2. Click on the name of the interface of which you want to change the DHCP pool settings.
3. Click **Configure**.




4. Under **DHCP Pools** click:
   - **Add** if you want to add a new DCHP pool.
   - **Edit** if you want to edit an existing DHCP pool.
   - **Delete** if you want to delete an existing DHCP pool.

   This link will only be shown if there are more than one DHCP pools.



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## The DHCP Pool page

Following settings are available for configuration:

- **Interface**:
  The SpeedTouch™ interface for which the DHCP pool applies.
- **Start Address**:
  The start IP address of the DHCP server's address pool.
- **End Address**:
  The end IP address of the DHCP server's address pool.

  Both the start and end IP address define the IP address range used by the DHCP server to assign leases.
- **Subnet Mask**:
  The subnet mask of the DHCP server's address pool.
- **Server**:
  The SpeedTouch™ IP address used as DHCP server address.
- **Gateway**:
  The IP address that will be assigned to the DHCP clients as their default gateway.
- **Primary DNS**:
  The IP address of the primary DNS server.
- **Secondary DNS**:
  The IP address of the secondary DNS server.
- **Primary WINS**:
  The IP address of the primary WINS server.
- **Secondary WINS**:
  The IP address of the secondary WINS server.
- **Lease Time**:
  The time for which the DHCP client is allowed to use the assigned IP address:

  If **Always give same address to DHCP clients** the lease time will be automatically set to **Infinite**.
- **Always give same address to DHCP clients**:
  Select this check box if you always want to use the same IP address for the DHCP clients.



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# 5 Expert Configuration

## Introduction

The SpeedTouch™ Expert Mode pages allows for advanced configuration and maintenance of your SpeedTouch™ device.

While the Basic pages are mainly constructed to allow you to overview and diagnose the running product and its configuration, the Expert Mode pages have been designed to allow in-depth configuration of every aspect of your SpeedTouch™.

## Web GUI overview

The following Site Map gives you an overview of all available menus in Expert Mode:

| Click … | To … |
|---|---|
| SpeedTouch™ | view information on your SpeedTouch™, configure or upgrade it. |
| IP Router | view/configure the SpeedTouch™ IP interfaces, IP routing table and NAT entries |
| Connections | view/configure a broadband connection |
| Local Networking | view/configure the SpeedTouch™ DHCP server/ client, the DNS configuration, the managed Ethernet switch and the wireless interfaces. |
| Firewall | view/configure the SpeedTouch™ Firewall. |
| VPN | configure the SpeedTouch™ for VPN. |
| SIP PBX | configure the SpeedTouch™ SIP PBX. |
| Back to Basic Configuration… | switch to the Basic Configuration web interface. |



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## Expert Mode navigation

The Navigation and notification area displays the current user and the site navigator, as well as notification messages, if applicable.

In addition, following action buttons are always available on every page:

| Click … | To … |
|---|---|
| Save All | force a save of the current configuration of your SpeedTouch™. |
| CLI | access the complete SpeedTouch™ Command Line Interface in a graphical way. |
| Help | open the SpeedTouch™ help pages. |

If available on your SpeedTouch™, you are able to change the language of your SpeedTouch™ web pages via the language action buttons in the top right corner on each of the SpeedTouch™ pages.



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# 5.1 Home

## Overview

The Expert Mode Home page is in fact the same as the SpeedTouch™ Home page in Basic Mode; it provides an instant overview of all aspects of your SpeedTouch™ configuration and operational status.

For more information, see Home (of Basic Configuration web interface).



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# 5.2 SpeedTouch™

## Overview

The SpeedTouch™ menu consists of the following topics:

| Click … | To … |
|---|---|
| Easy Setup | start the embedded Easy Setup wizard. |
| System Information | view important SpeedTouch™ information. |
| Connections | start/stop PPP connection sessions. |
| Diagnostics | view detailed system and configuration information of the SpeedTouch™ and perform IP connectivity checks on WAN connections. |
| Syslog | view/configure the SpeedTouch™ system logging engine. |
| System Update | manage various kinds of system configuration files and to perform a system upgrade. |
| SpeedTouch™ Services | view/configure existing SpeedTouch™ services or to add new ones. |
| SNTP | view/configure SpeedTouch™'s real-time clock engine. |
| SLA | access the SpeedTouch™ Service Level Agreement (SLA) facilities. |
| Add-on | add new or extend existing functionality of your SpeedTouch™ via software key activation. |



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## 5.2.1 Easy Setup

### Introduction

Click **Easy Setup** to start the SpeedTouch™ Easy Setup wizard.

The Easy Setup wizard provides an easy way to prepare the SpeedTouch™ for Internet connectivity. Depending on the installed wizard templates (see " Manage configuration files" on page 113 for more information) you can select from one or more semi-automatic scripts helping you to fully configure most aspects of the SpeedTouch™ with a minimum of effort and risk of wrong or insufficient configurations.




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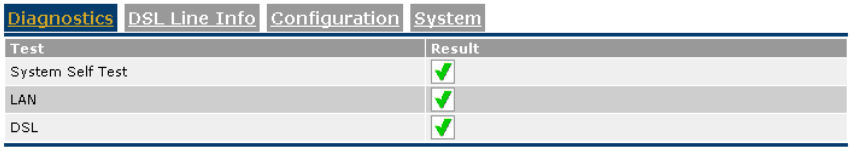
# 5.2.2 System Information

## Overview

The **System Information** page is the SpeedTouch™ expert start page. It consists of four sections:

- Diagnostics
- DSL Line Info
- Configuration
- System




## Diagnostics

Select **Diagnostics** to view the results of the System Self Test, LAN connectivity and DSL synchronisation test:

| If result is... | Then ... |
|---|---|
|  | the overall status of the particular item is healthy. |
|  | an error situation has been detected for that item. |

## DSL Line Info

Select **DSL Line Info** to view the current physical status of the ADSL line.

The DSL Statistics allow you to view:

- **Line Status**: this shows whether the DSL link is synchronised (Enabled) or not (Initialising).
- **Bandwidth Up/Down**: the maximum available bandwidth of the DSL link in both up- and downstream direction.
- **Uptime**: The duration of the current Enabled Line Status.
- **kBytes Tx/Rx**: the amount of kilobytes (kBytes) sent (Tx) and received (Rx) since the establishment of the DSL link.

In addition, per configured Internet Service interface you van view:

- The interface's currently assigned or configured local WAN IP address
- The interface's currently assigned or configured primary (and secondary) DNS server IP address(es)

In case the negotiation of IP addresses failed, **Unassigned** or **-** is displayed for the applicable interface.

## Configuration

Select **Configuration** to view the configuration currently active on the SpeedTouch™.

See "5.2.6 System Update" on page 112 for more information.



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## System

Select **System** to view some important system information of the SpeedTouch™.

The **System** table lists the SpeedTouch™'s:

- **Product Name**
- **Physical Address**. This worldwide unique hardware address is also called Medium Access Control (MAC) address.
- **Software Release**
- **Board Name**
- **Serial Number**
- **Product Code**

Most of the information is also listed on the identification label on the bottom of the SpeedTouch™.



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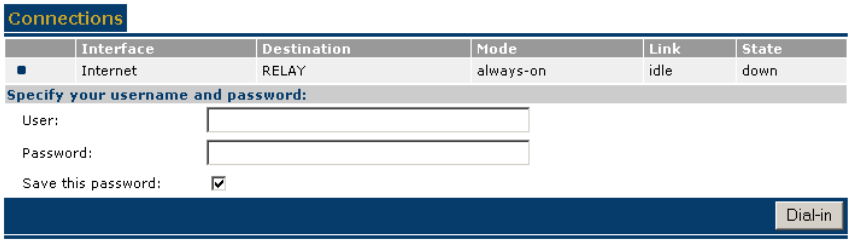
# 5.2.3 Connections

## Overview

The **Connections** page allows you to start and stop PPP connection sessions. All existing PPP connections are listed in the Connections table.

If no PPP connections have been defined, this table is empty.




## Connections

In the **Connections** table, per interface, following information is provided:

- **Interface**: the name of the PPP connection interface
- **Destination**: the name of the ATM interface of the PPP connection
- **Mode**: the PPP connection mode, being either:
  - **always-on**: by default the session will always be active
  - **dial-in**: the session is only activated if you explicitly **Dial-in**
  - **dial-on-demand**: the session is automatically started as soon as outgoing traffic has been generated
- **Link**: the actual PPP link status, being either:
  - **idle**: no PPP link set-up
  - **connecting**: PPP link set-up pending
  - **connected**: PPP link set up
  - empty, in case of an idle, listening PPP connection
- **State**: the PPP connection interface state, being either:
  - **up**: WAN connectivity on this interface achieved
  - **down**: no WAN connectivity achieved (yet)

## Start/stop PPP sessions

To start an idle PPP session:

1. Select the applicable PPP connection (with Link **idle**).
2. Type/edit the Password for the user name.
3. Select whether the password should be saved or not.
4. Click **Dial-in** to apply your changes and start the PPP connection session.

To stop an active PPP connection session (with Link **connecting** or **connected**):

1. Select the applicable PPP connection.
2. Click **Hang-up** to stop the PPP connection session.



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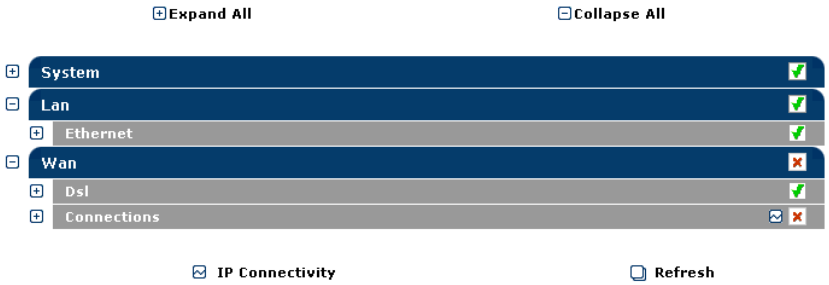
# 5.2.4 Diagnostics

## Overview

The **Diagnostics** page provides in-depth information, counters and statistical data on the SpeedTouch™ system settings, and its LAN and WAN connections.

The diagnostics are broken down into three expandable categories:

- **System**
- **LAN**
- **WAN**




Per category an overall status is displayed:

| If the status is … | Then … |
|---|---|
|  | the overall status of the particular category is healthy. |
|  | an error situation has been detected for that category. |
|  | the overall status of the category could not be determined. |

Following action buttons are provided:

| Click … | To … |
|---|---|
| **Expand All** | expand all collapsed categories. |
| **Collapse All** | collapse all expanded categories. |
| **IP Connectivity** | check all connections on IP connectivity. |
| **Refresh** | refresh all diagnostical counters and values. |
| next to a category | Expand the applicable category. |
| next to a category | Collapse the applicable category. |



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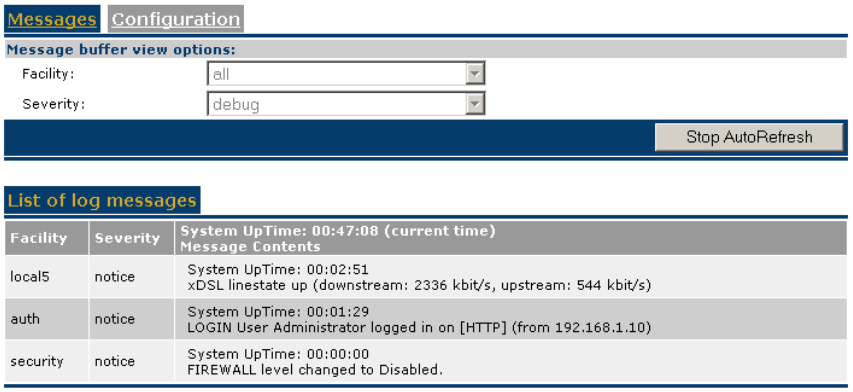
# 5.2.5 Syslog

## Overview

The **Syslog** page consists of two sections:

- Messages
- Configuration




## Messages

This section allows to overview system log and alert messages your SpeedTouch™ generated during operation. System log messages are used to provide a historical overview of events, errors, and messages generated during SpeedTouch™ operation.

Per message following information is shown:

- Facility
- Severity
- The system message content (and time of generation)

By default the table is automatically refreshed every 30 seconds and shows all system log messages.

- Click **Stop AutoRefresh** to stop the automatic refreshing of the table.

  The **Message buffer view options** menu becomes accessible to:

  - Select the **Facility** level of syslog messages to show in the table.
  - Select the **Severity** level of syslog messages to show in the table.
  - Change the **Refresh rate** of the table.

  As long as **AutoRefresh** is disabled you can manually refresh the table by clicking **Refresh**.

- Click **AutoRefresh** to apply your changes and to start automatic update of the table (using the new refresh rate).

## Configuration

This section allows you to view/configure remote destinations (syslog servers) to send (a subset of) the SpeedTouch™ syslog messages for remote monitoring purposes.

To add a destination:

1. In the **Facility** box, type the Facility of your choice.
2. In the **Severity** box, click the Severity of your choice.
3. In the **Destination** box, type a destination (IP address or host name) to send the messages to.
4. Click **Add**.



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To change or delete a destination:

1. Select the applicable interface
2. If needed, make your changes and click:
   - **New** to add a new destination with the new settings next to the existing one.
   - **Apply** to apply the changes to the existing destination.
   - **Delete** to remove the destination from the list of destinations.

Click **Deactivate** to withdraw all forwarding of syslog messages for all destinations; to re-enable forwarding of syslog messages, click **Activate**.

### Facility

Following priority facilities are possible for a syslog message generated by the SpeedTouch™. The facilities are listed by descending priority, each followed by (notation, priority value):

- Kernel messages (kern, 0)
- User-level messages (user, 8)
- Mail system (mail, 16)
- System daemons (daemon, 24)
- Authorization messages (auth, 32)
- Syslog daemon messages (syslog, 40)
- Line printer subsystem (lpr, 48)
- Network news subsystem (news, 56)
- UUCP subsystem (uucp, 64)
- Clock daemon (cron, 72)
- Security messages (security, 80)
- FTP daemon (ftp, 88)
- NTP subsystem (ntp, 96)
- Log audit (audit, 104)
- Log alert (alert, 112)
- Clock daemon (clock, 120)
- Local use messages (local0 ... local7, 128 ... 184)

### Severity

Following priority severities are possible for a syslog message generated by the SpeedTouch™ SpeedTouch™. The severities are listed by descending priority, each followed by (notation, priority value):

- Emergency conditions, system unusable (emerg, 0)
- Alert conditions, immediate action is needed (alert, 1)
- Critical conditions (crit, 2)
- Error conditions (err, 3)
- Warning conditions (warning, 4)
- Normal but significant conditions (notice, 5)
- Informational messages (info, 6)
- Debug-level messages (debug, 7)



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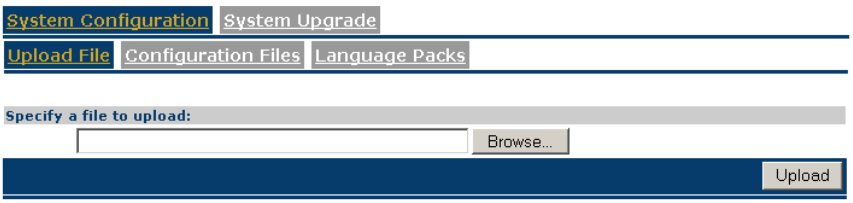
# 5.2.6 System Update

## Overview

The **System Update** page features all means for management and maintenance of your SpeedTouch™. It consists of two sections:

- System configuration
- System Upgrade




## System configuration

The **System Configuration** section allows you to manage locally stored system files.

Select:

- **Upload File** to upload a system file to the SpeedTouch™.
  See " Upload system files" on page 112 for more information.
- **Configuration Files** to manage stored configuration files.
  See " Manage configuration files" on page 113 for more information.
- **Language Packs** to manage stored SpeedTouch™ web interface language packs. See " Manage language packs" on page 113 for more information.

## Upload system files

Following file types are allowed:

- .ini
  Files with extension ***ini*** are SpeedTouch™ configuration files. These files are intended for backing up configurations (to back up your current configuration, see "4.3.5 Backup & Restore" on page 58).
- .tpl
  Files with extension ***tpl*** are configuration templates, used by the SpeedTouch™ Home Install Wizard, available on the SpeedTouch™ Setup CD, or the embedded Easy Setup wizard.
- .lng
  Files with extension ***lng*** are language packs for your SpeedTouch™. These files allow you to select the language in which the SpeedTouch™ web interface is presented.

You can only upload files with known extensions; however this does not guarantee the validity of a system file. Only upload files if these are:

- configuration files (.ini) you backed up yourself from this SpeedTouch™.
- template files (.tpl) that are known to be valid for your SpeedTouch™ (e.g. stemming from the SpeedTouch™ Setup CD delivered with your SpeedTouch™).
- language packs (.lng) that match your SpeedTouch™'s Board name and Software release.



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To upload system files:

1 Click **Browse** to specify the file on your local drive you wish to upload.

2 Click **Upload** to upload the system file to your SpeedTouch™.

Each file requires an amount of memory. Make sure to limit the number of files to the minimum.

## Manage configuration files

This table allows you to view configuration files that are currently stored on your SpeedTouch™.

Following configuration files are listed:

- **Active Configuration**; showing details on the configuration that is currently running on your SpeedTouch™.
- **Backup Configuration**; listing configuration backups stored on your SpeedTouch™.
- **Wizard template**, listing configuration wizard templates that are currently available for the embedded Easy Setup.

To view the configuration of, backup, or delete a configuration file:

1 Select the configuration file. A **Details** pane shows some extra information on the selected configuration file.

2 Click:

- **Backup** to store the file on a location on your local disk.
- **Delete** to remove the file from your SpeedTouch™.

  Some configuration files may be required for the SpeedTouch™'s system integrity. These files are protected and cannot be deleted from your SpeedTouch™.
- **Cancel** to return to the configuration file overview.

## Manage language packs

Your SpeedTouch™ is able to display its web interface, embedded Easy Setup and this Help in various languages.

Use the Language bar to change the language in which the SpeedTouch™ web interface, Easy Setup and this Help is displayed. For more information, see "4.1.2 Language Bar" on page 48.

Although all language pack files stored on your SpeedTouch™ are listed, only language pack files that match with the board name and the software version of your SpeedTouch™ can be actually used. (See " System" on page 107 for more information to identify your SpeedTouch™).



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## System Upgrade

The **System Upgrade** section allows you to manage your SpeedTouch™'s system software and upload or apply a new system software.

For extended management reasons and roll-back scenarios your SpeedTouch™ provides storage room for two system software packages: the active system software the SpeedTouch™ is currently running and the passive one.

- The **System software properties** table provides information on the active software:
- A **link** is provided to check for the latest available system software (based on the information provided in the **System software properties** table and your SpeedTouch™'s serial number.
- The **Software Versions** table allows you to overview the currently stored active and passive system software and to:
  - Upload system software.
  - Switch to another system software version.

## Upload system software

Proceed as follows:

1. Make sure you have a valid system software for your SpeedTouch™ readily available on your local disk.

   

   Use the link provided to check for the latest available system software.
2. If a **Passive system software version** is listed, click **Remove Passive** to remove it from the SpeedTouch™ storage.
3. Click **Browse...** to specify the system software file on your local drive you wish to upload.
4. Click **Upload** to upload the system software to your SpeedTouch™.

   

   Uploading system software may take a few minutes. Meanwhile do not browse to another SpeedTouch™ page in order not to interrupt the upload process.

If the upload was successful the uploaded system software will be listed as **Passive system software version**.

## Switch to another system software version

To upgrade your SpeedTouch™ system software to a new version, or in some cases roll-back to a previous version:

1. Make sure that a Passive system software is correctly uploaded to your SpeedTouch™ (it should be listed in the **Software Versions** table).
2. Click **Switch Over** to restart the SpeedTouch™ and activate the passive system software version as active version.

   

   Switching the system software versions may take a few minutes. Do not power off your SpeedTouch™, or interrupt the switch process in any other way.

During restart, the SpeedTouch™ will switch the passive and active system software; the previous active system software will be stored as passive system software version.

If for any reason the switch-over failed, the system software version that was running as active software version will be retained. To ensure correct operation of the SpeedTouch™ after recovery, the previous passive system software may need to be removed; instead the active system software will be duplicated as passive system software version.



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# 5.2.7 SpeedTouch™ Services

## Overview

The SpeedTouch™ **Services** page allows you to view and configure all services that are currently configured on your SpeedTouch™. The purpose of this page is to centralise the management of all SpeedTouch™ embedded Services and Applications, or otherwise stated, all internal modules and engines of the SpeedTouch™ that accept, relay or initiate IP traffic.

The SpeedTouch™ **Service** table provides an overview of registered services and some additional information.

SpeedTouch Services

| Services | Type | Protocol | SourceIP | Ext.Port | Int.Port | Interface | RemoteIP |
|---|---|---|---|---|---|---|---|
| PPTP VPN | group | | auto | - | any | any | any |
| DNS Client | client | udp | auto | - | 53 | any | any |
| Simple Network Tim... | client | udp | auto | - | 123 | any | any |
| Ping using ICMP fo... | client | icmp | auto | - | 8 | any | any |
| Ping using UDP for... | client | udp | auto | - | 7 | any | any |
| TraceRoute using I... | client | icmp | auto | - | 8 | any | any |
| TraceRoute using U... | client | udp | auto | - | 33434 | any | any |
| System Logging Eve... | client | udp | auto | - | 514 | any | any |
| HTTP web server | server | tcp | - | 80 | 80 | lan | any |
| HTTP web server ov... | server | tcp | - | 443 | 443 | lan | any |
| HTTP intercept proxy | proxy | tcp | auto | 80:lan1,... | 8080 | any | any |
| File Transfer | server | tcp | - | 21 | 21 | lan | any |
| Virtual Terminal | server | tcp | - | 23 | 23 | lan | any |
| Routing Informatio... | peer | udp | auto | 520 | 520 | any | any |
| Handles the rip qu... | server | udp | - | 520 | 520 | any | any |
| DNS Server | relay | udp | auto | 53 | 53 | lan | any |
| Dynamic DNS | group | | auto | - | any | any | any |
| DHCP Server | server | udp | - | 49152 | 49152 | any | any |
| Rx snmp GET, SET a... | server | udp | - | 161 | 161 | lan | any |
| Send snmp traps to... | client | udp | auto | - | any | any | any |
| Simple Service Dis... | server | udp | auto | 1900 | 1900 | any | any |
| Setup and upgrade ... | server | udp | auto | 3235 | 3235 | any | any |
| CPE Wan Management... | client | tcp | auto | - | any | any | any |
| CPE Wan Management... | server | tcp | - | 51005 | 51005 | any | any |
| IP connectivity co... | group | | auto | - | any | any | any |
| ICMP echo responder | server | icmp | - | 8 | 8 | lan | any |

Select an entry to change its configuration.

Show dynamic SpeedTouch services | Show members of service groups

Optionally you can click:

- **Show/Hide Dynamic** SpeedTouch™ **services** to show/hide SpeedTouch™ services that have been dynamically created by the SpeedTouch™.
- **Show/Hide members of service groups** to show/hide all the individual SpeedTouch™ services that are member of a SpeedTouch™ service Group.

Select a service to:

- **View detailed SpeedTouch™ service information**.
- Edit SpeedTouch™ service properties.

Generally it is advised not to alter any of the settings of a SpeedTouch™ service.



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## Edit SpeedTouch™ service properties

Editing SpeedTouch™ services might be useful in cases where you want to hide/protect the service by deviation from the typical service settings or restricting access from/to interfaces. However;

Do not edit SpeedTouch™ system services unless specifically needed.

To edit a SpeedTouch™ system service:

1. Select the service.
2. In **Service properties**:
   - Select or clear **Service enabled** to respectively enable or disable the service.
   - Depending on the service, either:
     - Select a **Source IP interface**.
     - Type a new **Internal TCP/UDP port**.
3. In **External TCP/UDP Port**, optionally:
   - Clear existing **External TCP/UDP ports**, if applicable.
   - Type the port number of an additional external TCP/UDP port to add.
4. In **Allow service via (Interface)**, optionally:
   - Clear existing interfaces, if applicable.
   - Type the name of the additional interface.
5. In **Accept service from (Remote IP)**, optionally:
   - Clear existing remote IP addresses, if applicable.
   - Type the IP address of the specific remote IP host.
6. Click **Apply** to apply your changes to the SpeedTouch™ service.

You must repeat the procedure for each individual External TCP/UDP port, interface, or remote IP address you want to add.



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## SpeedTouch™ service types

The SpeedTouch™ service can be of following type:

| Type | Indicates a SpeedTouch™ service that... |
|---|---|
| Client | is the originator of an IP connection (source IP packets). |
| Server | is the responder of an IP connection (listening to IP packets). |
| Peer | can be an originator or a responder of an IP connection. |
| Proxy | is a responder on the LAN side and originator on the WAN side of the SpeedTouch™. |
| Relay | is a responder on one side (LAN or WAN) and re-originates on the other side (WAN resp. LAN) of the SpeedTouch™. |
| Group | is an assembly of SpeedTouch™ services. Editing such kind of entries will edit all members of that Group. |
| Transparent-Map | uses transparent NAT port mappings. |
| Dynamic | has been dynamically created or enabled by the SpeedTouch™ service manager. |
| Sibling | the service is member of a SpeedTouch™ Group service. |
| Shared | uses a protocol port as another existing SpeedTouch™ service. |



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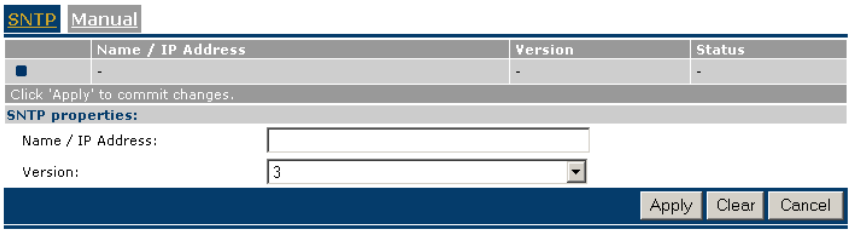
# 5.2.8 SNTP

## Overview

The Simple Network Time Protocol (SNTP) web page allows you to configure the SpeedTouch™ real-time clock.




The page contains two sections:

- **SNTP Client**
- **Manual**

Selecting **Manual** ***immediately disables*** the SpeedTouch™ SNTP client. As a consequence the SpeedTouch™ real-time clock will no longer be periodically synchronised with an Internet time server.

## SNTP Client

As long as the SNTP section is selected, automatic time synchronisation of the SpeedTouch™ real-time clock by means of the SpeedTouch™ SNTP client is guaranteed (given that NTP servers are configured of course).

The **SNTP** table allows you to overview and add/delete NTP servers (present on the Internet or your local network) to which the SpeedTouch™ real-time clock is able to synchronize its time settings with.

To add an NTP server:

1. Click **New** (if an entry is currently selected, click **Cancel** first)
2. Type the host name or IP address of the NTP server.

   You can check the Internet for free accessible real-time NTP servers.
3. Select the NTP version (1, 2, 3, or 4). This information is most likely provided with the NTP server's IP address.
4. Click **Apply**.

You can add multiple NTP servers. This ensures that the SpeedTouch™ SNTP client will always be able to contact at least one NTP server to synchronize the SpeedTouch™ real-time clock with.

## Manual

You can manually configure the SpeedTouch™'s real-time clock in case no connection to an NTP server is available.

To manually configure the SpeedTouch™ real-time clock:

1. Type the current **Date** (day/month/year)
2. Type the current **Time** (hour:minutes:seconds in 24-hour clock)
3. Select the **Time Zone** suiting your physical regional location.
4. Select **Daylight saving** to adjust the SpeedTouch™ real-time clock to daylight saving time, if used in your region.
5. Click **Apply** to apply the time settings to the SpeedTouch™ real-time clock.



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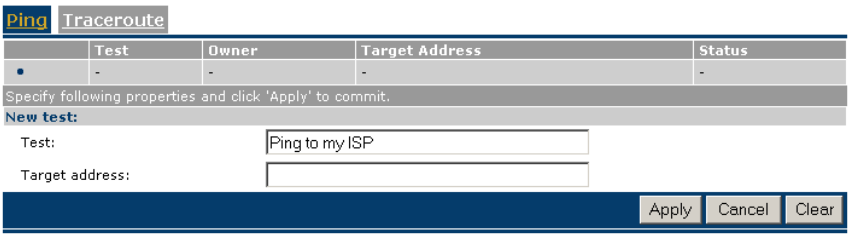
# 5.2.9 SLA

## Overview

The **Service Level Agreement** (SLA) page allows you to view and configure ping and traceroute tests.




The page contains two sections:

- Select **Ping** to view/configure and perform ping tests.
- Select **Traceroute** to view/configure and perform traceroute tests.

## Ping

The **Ping** table provides a list of configured ping test entries.

By default no ping tests are configured. To add a ping test see Add/delete a ping test.

Select a ping test entry to:

- Modify ping test properties.
- Perform a ping test and view test results and history (see Ping tests and results).
- Delete the entry (see Add/delete a ping test).

## Add/delete a ping test

To add a ping test entry:

1. Click **New** (if an entry is currently selected, click **Cancel** first).
2. Type a name for the ping test entry.
3. Type the host name or IP address of the target to ping.
4. Click **Apply**.

To delete a ping test:

1. Select the ping test entry to delete.
2. Click **Delete**.

## Modify ping test properties

To modify a ping test entry:

1. Select the ping test entry.
2. Click **Modify**.
3. Make your changes.
4. Click **Apply** to apply your changes to the ping test entry.



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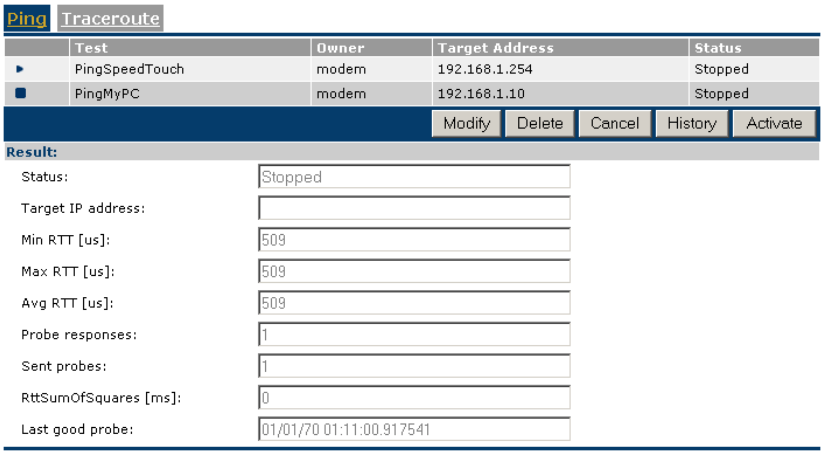
## Ping tests and results

To start/stop a ping test:

1. Select the ping test entry.
2. Click:
   - **Activate** to start the ping test.
   - **Deactivate** a ping test that is currently running.

To view the results of the ping test:

1. Select the ping test entry, if needed.
2. Click **Result**.




To overview a history of ping tests:

1. Select the ping test entry.
2. Click **History**.

## Traceroute

The **Traceroute** table provides a list of configured traceroute test entries.

By default no traceroute tests are configured. To add a traceroute test see Add/delete a traceroute test below.

Per traceroute test entry following information is shown in the table:

- an intuitive **Test** name of the traceroute Test
- the traceroute test entry **Owner**
- the traceroute **Target Address** (host or IP address)
- the traceroute test **Status**, being either:
  - Stopped
  - In Progress

Select a traceroute test entry to:

- Modify traceroute test properties.
- Perform a traceroute test and view test results and history (see traceroute tests and results).
- Delete the entry (see Add/delete a traceroute test).



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## Add/delete a traceroute test

To add a traceroute test entry:

1. Click **New** (if an entry is currently selected, click **Cancel** first).
2. Type a name for the traceroute test entry.
3. Type the host name or IP address of the target to traceroute.
4. Click **Apply**.

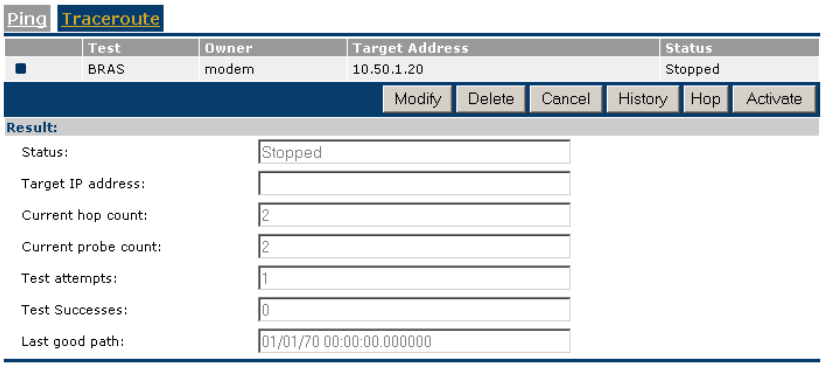
To delete a traceroute test:

1. Select the traceroute test entry to delete.
2. Click **Delete**.

## Modify traceroute test properties

To modify a traceroute test entry:

1. Select the traceroute test entry.
2. Click **Modify**.




3. Make your changes.
4. Click **Apply** to apply your changes to the traceroute test entry.

## traceroute tests and results

To start/stop a traceroute test:

1. Select the traceroute test entry.
2. Click:
   - **Activate** to start the traceroute test.
   - **Deactivate** a traceroute test that is currently running.

To view the results of the traceroute test:

1. Select the traceroute test entry, if needed.
2. Click **Result**.

To overview a history of traceroute tests:

1. Select the traceroute test entry.
2. Click **History**.

To view a list of hops that have been reached by the traceroute request:

1. Select the traceroute test entry.
2. Click **Hop**.



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# 5.2.10 Add-on

## Overview

Some of the SpeedTouch™'s extended functionalities require a software activation key to enable the corresponding software module.

To acquire a software activation key for activating a SpeedTouch™ software module, proceed as follows:

1. Click the name of the software module you intend to activate. This link will forward you to the SpeedTouch™ software activation key web server.
2. Follow the instructions for generating and downloading the software activation key.
3. If required, paste the obtained software key in the Software Activation Code Input display box.
4. Click **Add** to process the software activation key.
5. Click **Restart** to restart the SpeedTouch™. This allows the SpeedTouch™ system software to validate the software activation key and to activate the corresponding module.t

Important: The key is unique for each module and for each SpeedTouch™ device. It can not be re-used for activating another software module, or be copied from or to another SpeedTouch™ device.

Once activated, the software key can not be disabled anymore via the Add-on web page.

For more information, refer to “6 Software Keys” on page 181.



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# 5.3 IP Router

## Overview

The **IP Router** menu consists of the following topics:

| Click … | To … |
|---|---|
| IP Addresses | view/configure the IP addresses assigned to any of the SpeedTouch™ interfaces. |
| Expressions | view/configure interface, or IP, or Service related expressions. |
| Classification | view/configure packet classification and handling. |
| IP Routing | view/configure the SpeedTouch™ IP forwarding and routing table. |
| RIP | view/configure the SpeedTouch™ Routing Information Protocol (RIP) engine. |
| NAT | vie/configure the SpeedTouch™ Address Translation information base. |
| IP QoS | view/configure the SpeedTouch™ IP Quality of Service (IPQoS) engine. |



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# 5.3.1 IP Addresses

## Overview

The **IP address table** shows all IP addresses configured on any of SpeedTouch™'s interfaces.

In the table following information is provided per IP address:

- The **Interface** to which the IP address applies
- The **IP address/Netmask** (in prefix notation)
- The IP address **Type**, being either:
  - **auto**, in case the address has been automatically assigned by the SpeedTouch™ at startup or via negotiation
  - **extra**, in case of a manually configured IP address.
- You can also assign additional new IP addresses to the SpeedTouch™ (see Add/change an IP address).

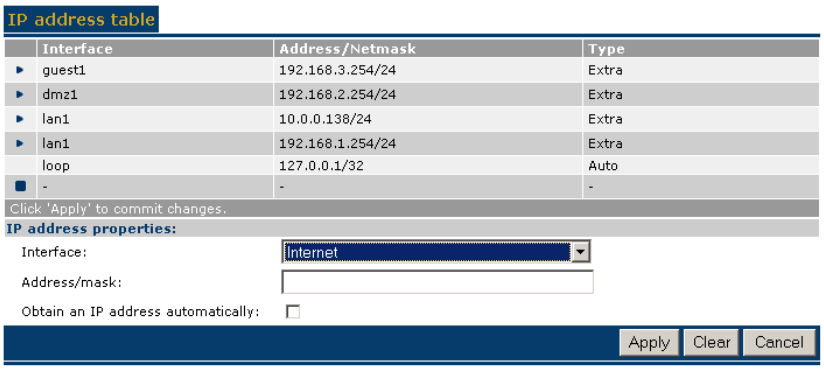
In case you select an IP address entry, you can:

- Make changes to the IP address configuration (see Add/change an IP address) and click **Apply**.
- Click **Delete** to delete the IP address.

## Add/change an IP address

To add a new IP address to the SpeedTouch™:

1. Click **New**.
2. Select the **Interface** to which the IP address must apply.




3. Either:
   - Type a valid IP **address/mask** (in prefix notation).
   - Select **Obtain an IP address automatically**.
4. Click **Apply** to add the IP address.

To change the configuration of an existing IP address:

1. Select the IP address entry.
2. Make your changes.
3. Click **Apply**.



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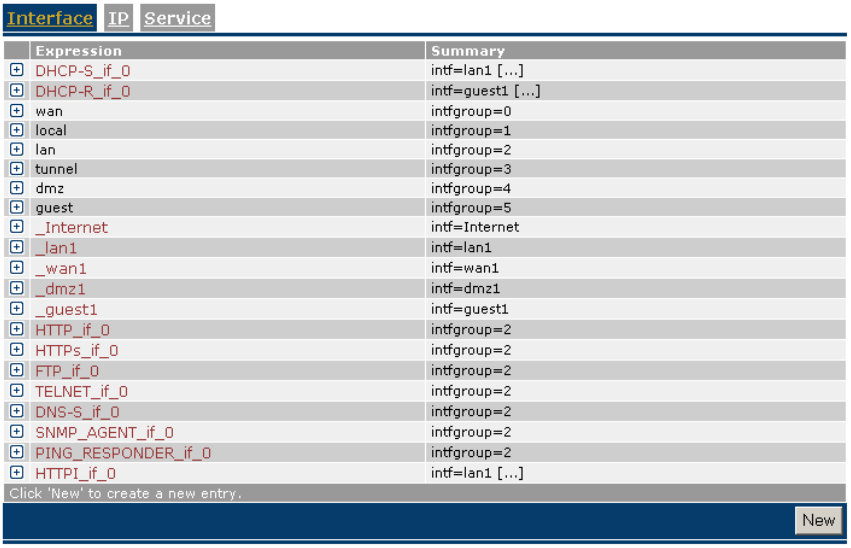
# 5.3.2 Expressions

## Overview

Expressions are used in rules for source and destination interface, source and destination IP address(es) (ranges) and services.

The Expressions page consists of three sections:

- Interface
- IP
- Service




Expressions are also used by the SpeedTouch™ Stateful Inspection Firewall.

## Interface

The **Interface** section bundles all expressions that express a relation based on Interfaces.

The Expressions table provides following information per expression:

- The Name of the expression
- A Summary of the expression's configuration
- For more detailed information you can expand the expression (click ⊞).

## Adding an interface related expression

To add a new interface related expression:

1. Click **New**.
2. In the **Interface Expressions Properties** table:
   - Type a **Name** for the expression.
   - Select the **Interface group** the expression should relate to. For negative logic, select **Not**.
   - Select the **interface** the expression should relate to. An interface is the connection between the SpeedTouch™ and one of his attached networks. For negative logic, select **Not**.
3. Click **Apply**.



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## IP

The **IP** section bundles all expressions that express a relation based on IP addresses.

The **Expressions** table provides following information per expression:

- The Name of the expression
- A Summary of the expression's configuration.
- For more detailed information you can expand the expression (click ⊞).

## Adding an IP related expression

To add a new IP related expression:

1. Click **New**.
2. In the **IP Expressions Properties** table:
   - Type a **Name** for the expression.
   - Type an **IP address** or an IP address range. For negative logic, select **Not**.

     You can define a valid IP address range by:
     - Typing a subnet, e.g. 10.0.0.0/8
     - Typing a IP address subset range, e.g. 10.[1-31].[9-11].[1-5]
     - Using wild cards, e.g. 192.5.*.*
3. Click **Apply** to add the expression to the table.

## Service

The **Service** section bundles all expressions that express a relation based on services.

The **Expressions** table provides following information per expression:

- The Name of the expression
- A Summary of the expression's configuration.
- For more detailed information you can expand the expression (click ⊞).

## Adding a service related expression

To add a new service related expression:

1. Click **New**.
2. In the **Service Expressions Properties** table:
   - Type a **Name** for the expression.
   - Select a **Protocol** to filter on. For negative logic, select **Not**.
   - Type a **Source port from... to...** to define the source port range. For negative logic, select **Not**.
   - Type a **Destination port from... to...** to define the the destination port range. For negative logic, select **Not**.
3. Click **Apply** to add the expression to the table.



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# 5.3.3 Classification

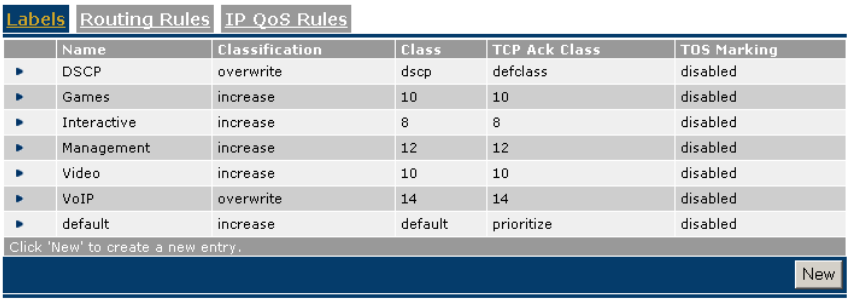
## Overview

The **Classification** page consists of three section:

- **Labels**, providing a list of existing packet classification labels and abilities to add/modify or delete packet classification label entries.
- **Routing Rules** allow you to associate a routing label (used in IP Routing) to a data flow by means of classification rules.
- **IPQoS Rules** allow you to associate an IP QoS label (used in IP QoS) to a data flow by means of classification rules.

## Labels

The **Labels** section provides an overview of existing packet-classification labels.




The Labels table provides following information per label:

- the packet-classification label **Name**
- the kind of packet **Classification**
- the **Class** of of classification
- the **TCP Ack class**
- whether **TOS Marking** is enabled or disabled.

Proceed as follows to create a new label:

1. Click **New** to add a label.
2. Fill in all the fields.
3. Click **Apply.**



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## Routing Rules

The **Routing Rules** section provides an overview of the existing routing rules.

Proceed as follows to create a new rule:

1. Click **New** to create a new rule.
2. Fill in all the fields.
   - **Index:**
     The index of the label rule.
   - **Name**:
     The name of the rule.
   - **Label**:
     The label allows to identify packets with matching criteria. If such a packet arrives it is “labelled” with a packet classification label. Still no packet classified routing is done. Only if you add a route that uses that particular label as route criterion, the effective classification based routing is applied.
   - **Service**:
     The service or protocol. (e.g. smtp, http, telnet,...)
   - **Source Interface**:
     The source interface. (e.g. _lan1, _wan1, _dmz1,...)
   - **Source IP - Select**:
     The name of the source IP expression.
   - **Destination IP - Select**:
     The name of the destination IP expression.
   - **State**:
     Select this check box to enable this rule.
   - **Log**:
     Select this check box to generate a syslog message when this label is being used.
3. Click **Apply**.

## IP QoS Rules

The **IP QoS Rules** section provides an overview of the existing routing rules.

Proceed as follows to create a new rule:

1. Click **New** to create a new rule.
2. Fill in all the fields.
3. Click **Apply**.



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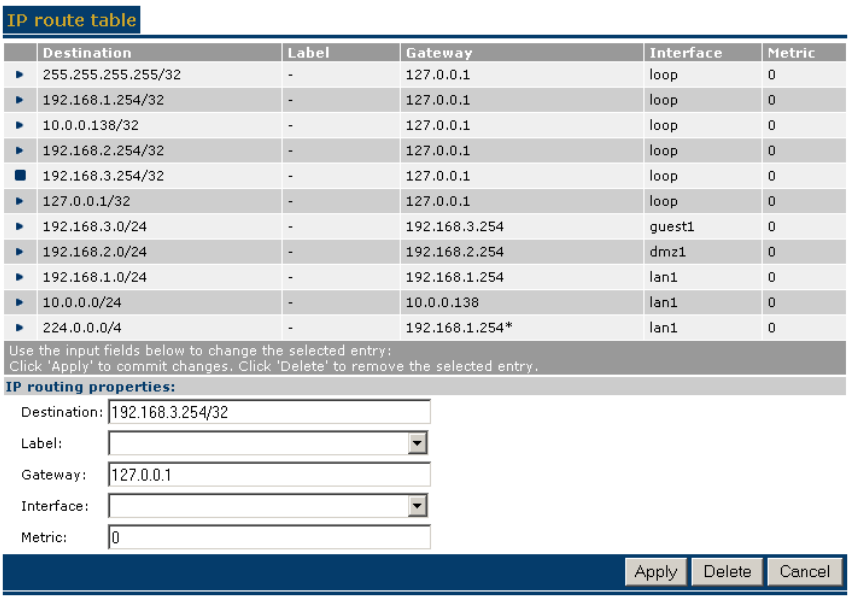
# 5.3.4 IP Routing

## Overview

The **IP Routing** table presents the current content of the SpeedTouch™ Routing Information Base. It contains all routes to all possible destinations and is consulted by the SpeedTouch™ any time prior to sending or forwarding any packets.




Similar to the IP address table, a number of IP Routes are pre-configured. Other routes are either added via adding an IP address manually, or via the address negotiation of a Packet Service connection session, e.g. for Routed PPPoA's or Routed PPPoE's IPCP, via the DHCP client, e.g. for Routed Ethernet (MER), via pre-configuration, for example for Routed IPoA, or by the Routing Information Protocol.

## Adding an IP route

To add an IP route:

1. Click **New** in the bottom row of the table
2. Specify the **Destination** IP prefix
3. If needed, select a packet-classification routing **Label** (in case the route applies for classified packets)
4. Either specify the IP address of a directly connected **Gateway** OR select the **Interface** to which the route should apply (mutually exclusive).
5. Click **Apply**.

## Deleting an IP route

To delete an IP route:

1. Select the IP route you want to delete
2. Click **Delete**.

An IP prefix is the combination of an IP address and (sub)net mask and e.g. 192.6.11.150/24.



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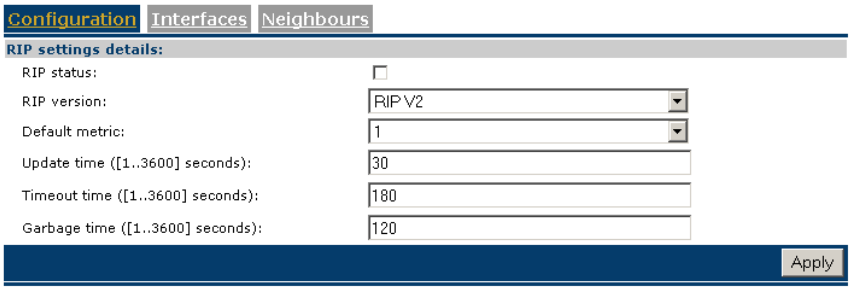
# 5.3.5 RIP

## Overview

The RIP web page contains three tabs:

- Configuration
- Interfaces
- Neighbours




## Configuration

The **Configuration** section allows you to enable/disable the SpeedTouch™ RIP functionality and configure the some basic RIP settings.

## Interfaces

The RIP **Interfaces** table allows you to configure interface specific RIP settings such as:

- Override the master RIP status (enable/disable)
- Override the master RIP version, separately for receiving and sending RIP messages
- Specify whether authorization is needed or not, and if so the required authorization string
- Specify whether routed must be included in RIP updates sent to a gateway from which the updates were learned
- Specify whether the interface should transmit RIP updates or not.

## Neighbours

Optionally, the RIP **Neighbours** table allows you to define one or more RIP neighbours. This may be necessary in cases where multicast messages can not be sent or received among the network.



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# 5.3.6 NAT

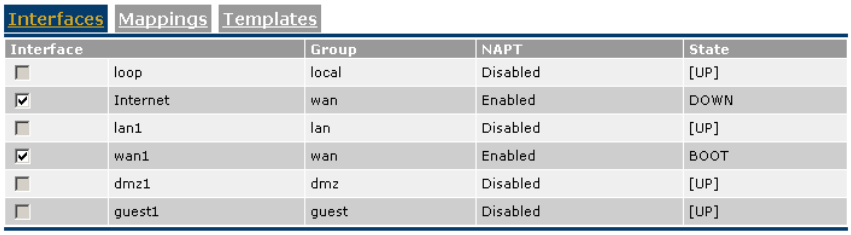
## Overview

The **NAT** menu consists of following sections:

- Interfaces
- Mappings
- Templates

## Interfaces

The **Interface** page allows you to enable/disable NAPT on a specific interface.




| Interface | | Group | NAPT | State |
|---|---|---|---|---|
| ☐ | loop | local | Disabled | [UP] |
| ☑ | Internet | wan | Enabled | DOWN |
| ☐ | lan1 | lan | Disabled | [UP] |
| ☑ | wan1 | wan | Enabled | BOOT |
| ☐ | dmz1 | dmz | Disabled | [UP] |
| ☐ | guest1 | guest | Disabled | [UP] |

Proceed as follows to enable/disable an interface:

1. Select the interface that has to be enabled/disabled
2. Click **Save All** to make the settings permanent.

## Mappings

The **Mappings** page allows you to map one or more private IP addresses into one or more public IP address on a specific interface.

Depending on your needs following fields are available:

- **Interface**:
  The name of the IP interface that needs to be NAT-ed.
- **Protocol**:
  The IP protocol on which address translation has to be applied. This allows the SpeedTouch™ to link specific traffic (protocol dependent) to a chosen private host.
- **Outside address**:
  The outside (typically public) IP address(es).
- **Inside address**:
  The inside (typically private) IP address(es).
- **Access list**:
  You can use the access list to define the address(es) that are allowed to use the outbound connections.
- **Foreign address**:
  Foreign address is to define the address(es) that are allowed to use the inbound connections.
- **Flags**
- **Description**

If you selected NAPT, you will have to specify a port range for the inside and outside address.



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### Creating a NAT mapping

Proceed as follows to create a address translation mapping:

1. Click **New** to create a new map.
2. Select or fill in all the fields (see above).
3. Click **Apply**.

### Templates

The Template page allows you to create a NA(P)T template.

Depending on your needs following fields are available:

- **Interface**:
  The name of the IP interface that needs to be NAT-ed.
- **Group**:
  The IP interface group scope for this template.
- **Type**:
  Allows you to choose the translation type.
- **Protocol**:
  The IP protocol on which address translation has to be applied. This allows the SpeedTouch™ to link specific traffic (protocol dependent) to a chosen private host.
- **Outside address**:
  The outside (typically public) IP address(es).
- **Inside address**:
  The inside (typically private) IP address(es).
- **Access list**:
  You can use the access list to define the address(es) that are allowed to use the outbound connections.
- **Foreign address**:
  Foreign address is to define the address (es) that are allowed to use the inbound connections.
- **Flags**
- **Description**

If you selected NAPT, you will have to specify a port range for the inside and outside address.

### Creating a NAT template

Proceed as follows to create a template:

1. Click **New** to create a new template.
2. Select or fill in all the fields (see above).
3. Click **Apply**.



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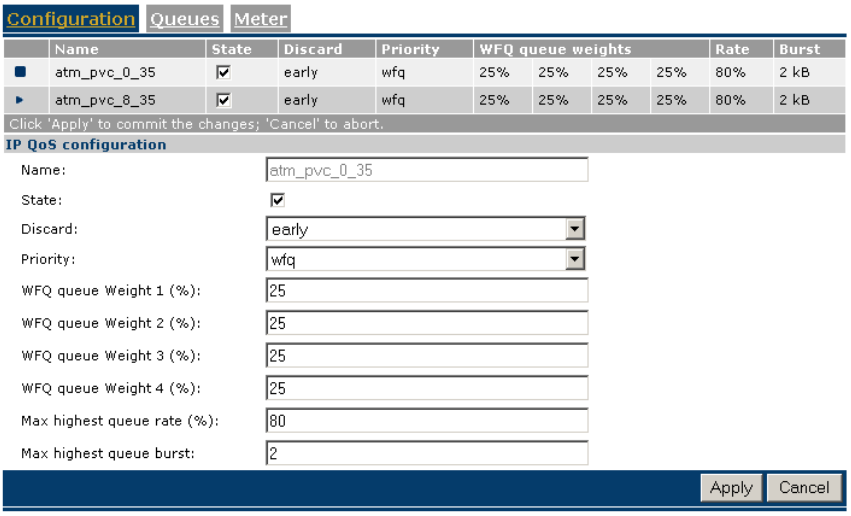
# 5.3.7 IP QoS

## Definition

Quality of Service is the ability for an application to obtain the network service it requires for successful operation. Nowadays the total amount of data traffic increases, while new types of data emerge, like: voice data, video data, audio data.

These new types of data pose new requirements for data transport, e.g. low latency, low data loss... To meet these requirements, the entire network must ensure them via a connection service guarantee. Such a connection service guarantee can both be applied to connection oriented networks (connection based) and to packet-oriented networks (data-stream or data type based).




Quality of Service allows specifying a connection service guarantee via a set of connection parameters. Throughout the network, this set of connection parameters will be used to handle the connection data in a way to achieve the connection service guarantee. This handling includes reserving bandwidth, priority based queuing, scheduling, modifying data characteristics, ...

Examples of connection parameters include the maximum amount of bandwidth that may be used, the guaranteed amount of bandwidth that will always be available, the maximum delay the data can experience throughout the network, a priority indication,...



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## Configuration

The **Configuration** page allows you to configure IPQoS for a given destination interface for the IPQoS queues instantiation.

When enabling or disabling IPQoS, take the following into account:

- if the WAN interface (for example PPPoA, IPoA,...) is detached at the time of enabling/disabling IPQoS, then the WAN interface has to be attached in order for the enabling/disabling of IPQoS to take effect.
- if the WAN interface is attached at the time of enabling/disabling IPQoS, then the WAN interface has to be detached and then re-attached in order for the enabling/disabling of IPQoS to take effect.

Following settings are available:

- **Name**:
  The destination interface for the IPQoS queues instantiation.
- **State**:
  Disable or enable IPQoS for the interface.
- **Discard**:
  Determines the packet discard strategy in case of congestion. Choose between:
  - **tail**: Tail Drop: arriving packets will be dropped as soon as the destination queue is in an overflow state.
  - **early**: Early Packet discard: arriving packets will be dropped early according to the BLUE active queue management algorithm.
- **Priority**:
  Select the subqueue priority algorithm. Choose between:
  - **wfq**:
    Weighted Fair Queuing (WFQ) is used for the four AF queues. The realtime queue has priority over the WFQ queues, which have priority over the best-effort queue.
  - **strict**:
    Priority queuing is used. Strict Priority scheduling is used between all queues. The higher the queue number, the higher the priority.
  - **wrr**:
    Weighted Round Robin (WRR) is used for the four AF queues. Each queue is scheduled in turn, with a circular “round” wrapping.
- **WFQ queue Weight**:
  A number between 1 and 97. Represents the weight of the queue used for WFQ or WRR.
- **Max highest queue rate (%)**:
  Represents a percentage of the interface bandwidth for rate-limiting of the Real Time queue. In case of congestion, the Real Time queue will only use this percentage of the interface bandwidth when there is also traffic on the other queues. This prevents other queues from starvation (when the highest uses all bandwidth).
- **Max highest queue burst**:
  Represents the Real Time queue burst size (in kilobytes) for rate limiting.



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# 5.4 Connections

## Overview

The **Connections** menu consists of the following topics:

| Click … | To … |
|---|---|
| ATM | view/configure SpeedTouch™'s ATM interfaces. |
| Routed PPPoE | view/configure the Routed PPP over Ethernet (PPPoE) Internet services. |
| Routed PPPoA | view/configure the Routed PPP over ATM (PPPoA) Internet services. |
| Routed PPPoI | view/configure the Routed PPP over ISDN (PPPoI) Internet services. |
| Bridged Ethernet | view/configure the Bridged Ethernet Internet services. |
| Routed Ethernet | view/configure the Routed Ethernet Internet services. |
| Routed IPoA | view/configure the Routed IP over ATM (IPoA) Internet service. |
| PPTP-to-PPP Relay | view/configure the PPTP-to-PPP Relay Internet services. |
| Virtual LAN | view/configure the SpeedTouch™ Virtual LAN functionality. |



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# 5.4.1 ATM

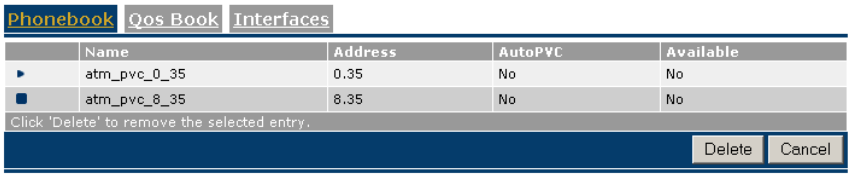
## Overview

The ATM page consists of following sections:

- Phonebook
- QoS Book
- Interfaces

## Phonebook

The SpeedTouch™ Phonebook is a repository for ATM connectivity information. A number of pre-configured entries may already reside in the SpeedTouch™ Phonebook.




The Phonebook:

- Allows you to use named connections.
- Provides an instant overview of all possible connections.
- Indicates whether hardware and software resources are actually assigned to Phonebook entries.
- Resolves conflicts when adding new connectivity information.

## Adding a phonebook entry

To add a new Phonebook entry:

1. Click **New**.
2. In the Name box, type the Connection Service Name.
3. In the Address box, type the Virtual Channel Identifiers (VPI and VCI) (for example 8.35).
4. Click **Apply**.

## Connection Service Name

There are a few limitations on names:

- A phonebook name cannot have spaces.
- The name INCOMING is reserved for internal use.
- For entries of connection service type PPPoA, planned to be used for the Relayed PPPoA packet service, the phonebook name may not start with capital P or T (Microsoft Windows OS restrictions).
- Phonebook entries with a name starting with DHCP are reserved for the PPP-to-DHCP spoofing feature of the SpeedTouch™.

## Virtual Channel Identifiers (VPI and VCI)

The address format is vpi*vci, e.g. 8*35; or vpi.vci, e.g. 8.35.

VPI (Virtual Path Identifier) and VCI (Virtual Channel Identifier) are two parameters identifying ATM Virtual Channels.



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It is the responsibility of the network operator to provide end-to-end connectivity throughout the network on these virtual channels. Due to regional differences or because of the specific policy of your local operator, specific VPI/VCI values may be required. In this case, the network operator, ISP or corporate administrator will provide the correct values.

The VPI can range from 0 to 15, VCI from 32 .. 511.

If your SpeedTouch™ is equipped with an ATMF-25.6Mb/s interface, VPI 0 to 7 (included) are cross-connected between the DSL port and the ATMF-25.6Mb/s port. Unless these cross-connects are deleted using the CLI, these VPI values (0 ... 7) cannot be used.

## QoS Book

The **QoS Book** table displays following parameters:

- **Name**:
  The name of the new QoS entry.
- **txctd**:
  The name of the Connection Traffic Descriptor (CTD) for the transmit (upstream) direction.
- **rxctd**:
  The name of the CTD for the receive (downstream) direction.

## Interfaces

The **Interfaces** tab allows you to configure:

- **Name**:
  The name of the ATM interface to be configured.
- **Destination**:
  The WAN destination for this ATM interface. Typically, an ATM phonebook entry.
- **Qos name**:
  The name of the Quality of Service (QoS) book entry to apply on this ATM interface.
- **Encapsulation**:
  The type of encapsulation to be used for this ATM interface. Choose between:
  - **llc**: Logical Link Control (LLC) / Sub Network Access Protocol (SNAP)
  - **vcmux**: Virtual Channel MUltipleXing (VCMUX).
  - **auto**: the SpeedTouch™ will determine the encapsulation method to use.
- **Number of retries**:
  A number between 0 and 65535. Represents the number of times the SpeedTouch™ retries to set up a WAN connection before giving up.
- **FCS**:
  Enable or disable the inclusion of the Ethernet Frame Check Sequence (FCS) in the packet header on the WAN side (only used for llc encapsulation for mac).

  This parameter is normally left disabled.
- **Upper layer protocol**:
  Select the Upper Layer Protocol (ULP) for this interface. Choose between:
  - **ip** (for a Routed IPoA interface).
  - **mac** (for a Bridged Ethernet, Routed ETHoA, Bridged PPP over Ethernet (PPPoE), Routed PPPoE or a PPPoE Relay interface).
  - **ppp** (for a Routed PPP over ATM (PPPoA) interface).



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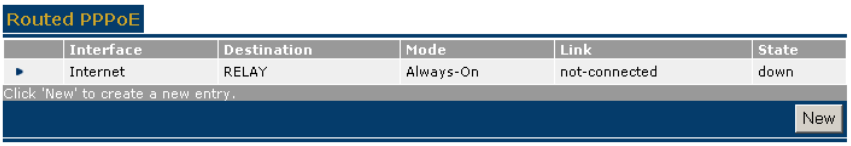
# 5.4.2 Routed PPPoE

## Introduction

The **Routed PPPoE** configuration page allows you to add new Routed PPPoE, or Routed PPPoE Relay connection entries or to change settings of existing entries.




## Creating a Routed PPPoE connection entry

To add a Routed PPPoE connection entry:

1. Click **New**.
2. In the **Interface** box, type a unique interface name (different from the MER interface name).
3. In the **Destination** list, click the appropriate Routed Ethernet destination indicated by the Routed Ethernet interface name
4. Type user name and password for the account at the ISP [optional].
5. If applicable, type a Service name and/or Access Concentrator [optional]
6. Click **Apply**.

## Additional configuration

Once created, per Routed PPPoE connection, additional configuration is possible by clicking:

- Routing
- Other

These parameters can only be modified when the link is down. Take the link down first by clicking **Hang-up**.

## Routing

Following fields are available:

- **Destination**:
  Controls the networks that can be reached via this particular PPP connection. Specify the remote host or network in prefix notation. e.g. 172.16.0.0/16.
- **Label**:
  Allows you to assign a label to this connection.



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### Other

This window holds miscellaneous information and configuration possibilities. Following fields are available:

- **Mode**:
  A PPP connection can be established in three ways:
  - **Manually**:
    You have to press the Dial-In button of a particular connection.
  - **Always-On**:
    The SpeedTouch™ automatically tries to establish PPP connections.
  - **On-Demand**:
    A PPP connection is triggered by specific frames arriving at the Ethernet port.
- **Idle Time Limit**:
  Allows you to specify after which time limit the PPP connection is released. Otherwise stated, if no traffic passes over the PPP connection for Idle Time, the connection is closed.
- **Authentication** allows you to select the default PPP authentication mechanism when starting the PPP session. Via the drop down box, three authentication methods can be selected for the connection:
  - **Auto** (default):
    Preferably the CHAP (Challenge Handshake Authentication Protocol) will be used. However, if not successful, PAP (Password Authentication Protocol) authentication is used instead. If in turn PAP fails, the connection will NOT be authenticated.
  - **CHAP**:
    CHAP authentication is forced. If not successful, the connection will NOT be authenticated.
  - **PAP**:
    PAP authentication is forced. If not successful, the connection will NOT be authenticated.
- **Local IP** and **Remote IP**:
  During PPP session setup IP addresses are negotiated. Typically at the client side, these fields are left empty. This forces the client to ask the server for addresses. To setup the SpeedTouch™ as PPP server, you are able to supply suitable values (according your network configuration).
- **Primary DNS** and **Secondary DNS**:
  During PPP session setup the BRAS will normally provide the DNS server IP addresses. Typically at the client side, these fields should therefore be left empty.

  In cases where the DNS server IP addresses are not provided by the BRAS, or to setup the SpeedTouch™ as PPP server, you are able to supply suitable values (according your network configuration).

### Statistics

For a running PPP session the fourth tab allows you to overview following connection statistics:

- **IP address**:
  local IP address assigned by the server.
- **Bytes received**:
  Number of bytes received on this PPP connection.
- **Bytes dropped**:
  Number of bytes failed to transmit.
- **Bytes sent**:
  Number of bytes transmitted over this PPP connection.



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# 5.4.3 Routed PPPoA

## Introduction

The **Routed PPPoA** configuration page allows you to add new Routed PPPoA connection entries or to change settings of existing entries.

## Creating a Routed PPPoA connection entry

To add a Routed PPPoA connection entry:

1. Click **New**.
2. In the **Interface** box, type a unique interface name (different from the MER interface name).
3. In the **Destination** list, click the appropriate Routed Ethernet destination indicated by the Routed Ethernet interface name
4. Type user name and password for the account at the ISP [optional].
5. Click **Apply**.

## Additional configuration

Once created, per Routed PPPoA connection, additional configuration is possible by clicking:

- Routing
- Other

These parameters can only be modified when the link is down. Take the link down first by clicking **Hang-up**.

## Routing

Following fields are available:

- **Destination**:
  Controls the networks that can be reached via this particular PPP connection. Specify the remote host or network in prefix notation. e.g. 172.16.0.0/16.
- **Label**:
  Allows you to assign a label to this connection.



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## Other

This window holds miscellaneous information and configuration possibilities. Following fields are available:

- **Mode**:
  A PPP connection can be established in three ways:
  - **Manually**:
    You have to press the Dial-In button of a particular connection.
  - **Always-On**:
    The SpeedTouch™ automatically tries to establish PPP connections.
  - **On-Demand**:
    A PPP connection is triggered by specific frames arriving at the Ethernet port.
- **Idle Time Limit**:
  Allows you to specify after which time limit the PPP connection is released. Otherwise stated, if no traffic passes over the PPP connection for Idle Time, the connection is closed.
- **Authentication** allows you to select the default PPP authentication mechanism when starting the PPP session. Via the drop down box, three authentication methods can be selected for the connection:
  - **Auto** (default):
    Preferably the CHAP (Challenge Handshake Authentication Protocol) will be used. However, if not successful, PAP (Password Authentication Protocol) authentication is used instead. If in turn PAP fails, the connection will NOT be authenticated.
  - **CHAP**:
    CHAP authentication is forced. If not successful, the connection will NOT be authenticated.
  - **PAP**:
    PAP authentication is forced. If not successful, the connection will NOT be authenticated.
- **Local IP** and **Remote IP**:
  During PPP session setup IP addresses are negotiated. Typically at the client side, these fields are left empty. This forces the client to ask the server for addresses. To setup the SpeedTouch™ as PPP server, you are able to supply suitable values (according your network configuration).
- **Primary DNS** and **Secondary DNS**:
  During PPP session setup the BRAS will normally provide the DNS server IP addresses. Typically at the client side, these fields should therefore be left empty.

  In cases where the DNS server IP addresses are not provided by the BRAS, or to setup the SpeedTouch™ as PPP server, you are able to supply suitable values (according your network configuration).

## Statistics

For a running PPP session the fourth tab allows you to overview following connection statistics:

- **IP address**:
  Local IP address assigned by the server.
- **Bytes received**:
  Number of bytes received on this PPP connection.
- **Bytes dropped**:
  Number of bytes failed to transmit.
- **Bytes sent**:
  Number of bytes transmitted over this PPP connection.



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# 5.4.4 Routed PPPoI

## Availability

The ISDN modem is only fully functional after activating the ISDN software module with the ISDN software module activation key. For more information, see "5.2.10 Add-on" on page 122.

## Introduction

The **Routed PPPoI** configuration page allows you to add new Routed PPPoI connection entries or to change settings of existing entries.

## Creating a Routed PPPoI connection entry

To add a Routed PPPoI connection entry:

1. Click **New**.
2. In the **Interface** box, type a unique interface name.
3. In the **ISP profile** list, click:
   - The name of a profile if you want to use an existing profile.
   - **New** to create a new profile. Type the name you want to assign to this profile in the **Enter Name** box.

   These ISP profile contain the ISDN parameters.
4. Type user name and password for the account at the ISP.
5. If needed, enter the **ISDN parameters** of your ISP.
6. Click **Apply**.

## Additional configuration

Once created, per Routed PPPoI connection, additional configuration is possible by clicking:

1. Routing
2. Other

These parameters can only be modified when the link is down. Take the link down first by clicking **Hang-up**.

## Routing

Following fields are available:

- **Destination**:
  Controls the networks that can be reached via this particular PPP connection. Specify the remote host or network in prefix notation. e.g. 172.16.0.0/16.
- **Label**:
  Allows you to assign a label to this connection.



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### Other

This window holds miscellaneous information and configuration possibilities. Following fields are available:

- **Mode**:
  A PPP connection can be established in three ways:
  - **Manually**:
    You have to press the Dial-In button of a particular connection.
  - **Always-On**:
    The SpeedTouch™ automatically tries to establish PPP connections.
  - **On-Demand**:
    A PPP connection is triggered by specific frames arriving at the Ethernet port.
- **Idle Time Limit**:
  Allows you to specify after which time limit the PPP connection is released. Otherwise stated, if no traffic passes over the PPP connection for Idle Time, the connection is closed.
- **Authentication** allows you to select the default PPP authentication mechanism when starting the PPP session. Via the drop down box, three authentication methods can be selected for the connection:
  - **Auto** (default):
    Preferably the CHAP (Challenge Handshake Authentication Protocol) will be used. However, if not successful, PAP (Password Authentication Protocol) authentication is used instead. If in turn PAP fails, the connection will NOT be authenticated.
  - **CHAP**:
    CHAP authentication is forced. If not successful, the connection will NOT be authenticated.
  - **PAP**:
    PAP authentication is forced. If not successful, the connection will NOT be authenticated.
- **Local IP** and **Remote IP**:
  During PPP session setup IP addresses are negotiated. Typically at the client side, these fields are left empty. This forces the client to ask the server for addresses. To setup the SpeedTouch™ as PPP server, you are able to supply suitable values (according your network configuration).
- **Primary DNS** and **Secondary DNS**:
  During PPP session setup the BRAS will normally provide the DNS server IP addresses. Typically at the client side, these fields should therefore be left empty.

  In cases where the DNS server IP addresses are not provided by the BRAS, or to setup the SpeedTouch™ as PPP server, you are able to supply suitable values (according your network configuration).

### Statistics

For a running PPP session the fourth tab allows you to overview following connection statistics:

- **IP address**:
  Local IP address assigned by the server.
- **Bytes received**:
  Number of bytes received on this PPP connection.
- **Bytes dropped**:
  Number of bytes failed to transmit.
- **Bytes sent**:
  Number of bytes transmitted over this PPP connection.



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# 5.4.5 Bridged Ethernet

## Overview

The Bridged Ethernet page consists of following sections:

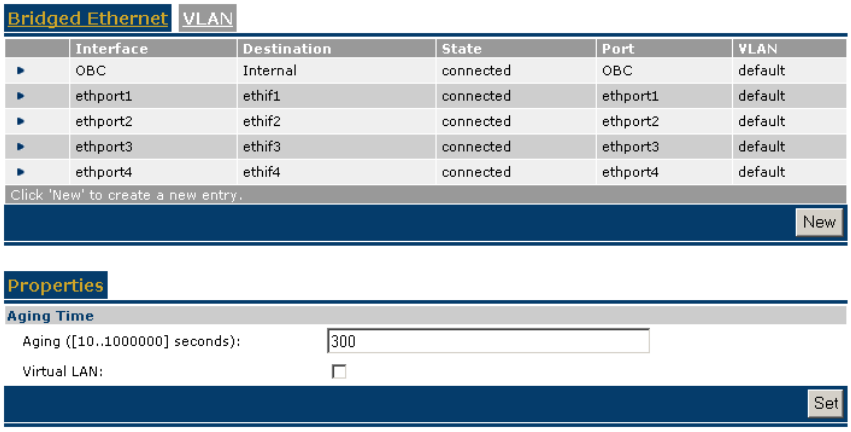
- Bridged Ethernet
- VLAN

## Bridged Ethernet

The Bridged Ethernet page allows you to configure the SpeedTouch™ for IEEE802.1D Transparent Bridging, which equally may include preparing it for Bridged PPPoE.

Next to transparent bridging, the SpeedTouch™ also features full VLAN awareness, and as such allow Ethernet interface grouping or VLAN-tag based forwarding.

The Bridged Ethernet page gives you an overview of all interfaces that are connected to the SpeedTouch™ Ethernet bridge.




## Bridge properties

Under the Bridged Ethernet overview table are the parameters that are applicable for the Ethernet bridge itself. Following parameters are configurable:

- Aging time

  Using this input, the aging timer of the bridge internal database can be changed. If the aging time of a MAC entry has expired, this entry will be removed from the database.

- Virtual LAN

  By selecting this checkbox, the SpeedTouch™ bridge will become fully ***VLAN ID*** aware. This means that if incoming Ethernet packets are VLAN tagged, this tag will be taken into account, and as such the packet will only be bridged to the ports that are member of that VLAN.

  The SpeedTouch™ will always take into account the VLAN interface configuration that is set. This means that if an interface is configured to be member of VLAN_A, it will not be able to communicate with an interface that is set to be VLAN_B, even if the bridge state is set to VLAN = disabled!



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### Add a new Bridge port

Proceed as follows to add a new port to the Ethernet Bridge:

1. Click **New** under the Bridge Ethernet overview table
2. In the **Interface** box, type a unique interface name; in the **Destination** list, select the interface you want to use for this connection.
3. Mark the **Multicast filter** checkbox if you wish to filter out multicast streams on this interface. In normal situations multicast packets are flooded on all ports of the bridge, but this might cause unwanted performance issues on some interface types.
4. Select the **VLAN name** to which arriving packets on this interface should be assigned. In VLAN enabled mode this is only applicable for untagged packets.
5. Select the default **Priority*** to be used for tagging outgoing VLAN packets on this interface.
6. Mark the **Ingress Filtering*** checkbox to filter out VLAN tagged packets that arrive on an interface that has not the same VID as the packet.
7. Mark the **Accept VLAN only*** checkbox to no longer accept packets arriving on this interface without a VLAN tag.
8. Choose your preferred **Priority configuration** from the list. This will make the SpeedTouch™ to map the priority indication in the VLAN packet (IEEE 802.1p value) to an internal priority class. This internal class can be taken into account in other modules of the SpeedTouch™.
   - Disabled, to not perform priority mapping
   - Overwrite, to set the VLAN priority indication as the internal priority.
9. Click **Apply**.

The parameters that are marked with an asterisk (*) are only applicable when the SpeedTouch™ Ethernet bridge is in VLAN enabled mode.

### VLAN

Next to transparent bridging, the SpeedTouch™ is also capable of operating in a full VLAN ID aware mode. By using VLAN tagging, it is possible to make distinction between different virtual networks residing on the same physical Ethernet segment, and as such define different properties for them.

### VLAN interface overview

On the VLAN page, there is an overview of all VLANs that are defined in the SpeedTouch™ (through the Virtual LAN pages) and the bridge ports that are member of it.



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## VLAN interface configuration

Proceed as follows to add or remove Bridged Ethernet interfaces for a certain VLAN:

1. Select the VLAN you wish to edit.
2. A listing of all bridge interfaces will appear, each followed by a drop-down list. Change the value of the drop-down list to add or remove interfaces from this VLAN:
   - **(none)**, which means that this interface is not a member of the selected VLAN.
   - **Tagged**, which means that this interface is a member of the selected VLAN, and that packets coming in and going out of the SpeedTouch™ will be VLAN tagged.
   - **Untagged**, which means that this interface is a member of the selected VLAN, but that the VLAN functionality will be not visible outside the SpeedTouch™. This means that inside the SpeedTouch™ VLAN will be used to isolate interfaces from each other, but that outside of the SpeedTouch™ no VLAN tagging will be used.
3. Click **Apply**.



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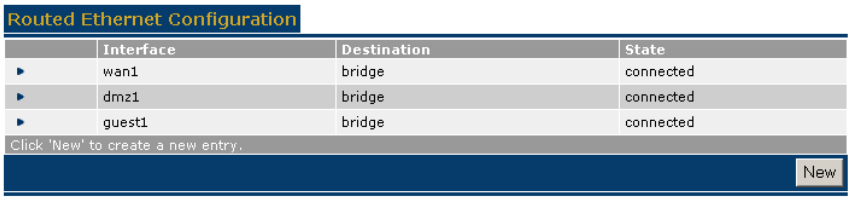
# 5.4.6 Routed Ethernet

## Introduction

The Routed Ethernet web page allows you to add and modify Routed Ethernet interfaces.

Routed Ethernet interfaces can be used for creating end-to-end MAC Encapsulated Routing (MER) connections, or for creating a destination interface to create Routed PPPoE connections on, or to apply a routed PPPoE Relay scenario.



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# 5.4.7 Routed IPoA

## Creating a new Routed IPoA Ethernet Interface

To add a new Routed IPoA Ethernet interface, proceed as follows:

1. Click **New**.
2. Following fields become available:
   - **Interface Name**:
     Is a name that has local significance only and allows to reference a particular Routed IPoA interface
   - **Local IP Address**:
     Is an IP address that must be configured on the local Routed IPoA Ethernet interface and is provided by your ISP or system administrator.
   - **Remote IP address**:
     Is an IP address that is configured on the device connected at the remote end of the ATM virtual channel and is again supplied by your ISP or system administrator
   - **Destination Network**:
     This input field allows to specify all networks (0.0.0.0/0), a summarized network (e.g. 20.0.0.0/24, 20.0.1.0/24, 20.0.2.0/24 and 20.0.3.0/24 can be summarized into 20.0.0.0/22) or a specific network (e.g. 20.0.0.0/24). Additional networks can be specified via entries in the forwarding table.
3. In the **Interface** box, type a unique interface name.
4. In the **Destination** list, select the interface you want to use for this connection.
5. Assuming a numbered IPoA link, configure the Local and Remote IP addresses.
6. If required enable NAPT via the NAPT box (by default unchecked)
7. For IP connectivity beyond the local and remote IP address, a single or summarized network can be supplied in the **Destination Network** field. In the ultimate case "all destination networks" can be specified via the so-called default route (0.0.0.0/0).
8. Click **Apply**.

If all field values are correctly specified, the Routed IPoA interface is created and attached to the specified ATM virtual channel.

## Generated IP routes

In the assumption that Local IP, Remote IP and Destination Network are specified, 3 IP routes are automatically added:

- A host route to Local IP address
- A host route to the Remote IP address
- A network route to the specified Destination Network.



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## 5.4.8 PPTP-to-PPP Relay

### Overview

The PPTP-to-PPP Relay, referred to as "Relay" further in this section, interacts with a PPTP tunneling application installed on the locally attached computers, for example Microsoft's Dial-Up Networking.

A typical user-relay interaction scenario is as follows: A PPTP Tunnelling application is started on one of the locally attached computers. This application establishes a PPTP tunnel to the SpeedTouch™ and is the trigger for the Relay to come into action. The Relay chooses a free PPPoA phonebook entry and from then on relays all PPP frames sourced by the PPTP application from the tunnel to the virtual channel identified by the phonebook entry and vice versa. At the remote end of the virtual channel, the BRAS extracts the PPP frames, reconstructs the encapsulated IP packets and forwards these to the Internet.

If, at the end of a session, the user disconnects the PPTP application, it destroys the tunnel and the Relay subsequently releases the virtual channel.

Multiple users can initiate/terminate tunnels towards the Relay as long as there are free ATM virtual channels on the DSL Line. The maximum number of tunnels may however be restricted by DSL provider / ISP provisioning rules.

The SpeedTouch™ Relayed PPPoA page allows you to overview current active relay session, currently maintained by the SpeedTouch™.



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# 5.4.9 Virtual LAN

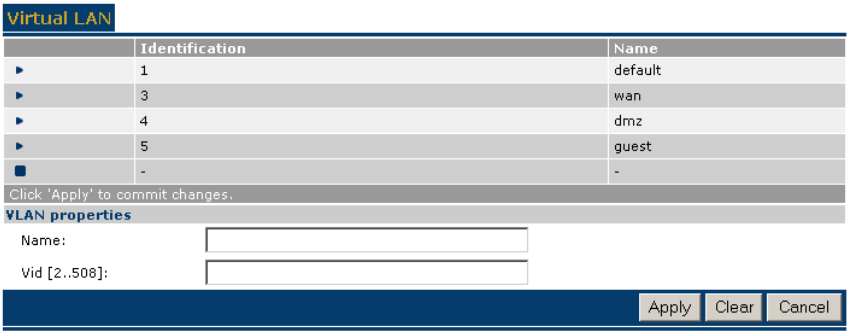
## Concept

The concept of VLAN was introduced as a way to solve many of the issues of a large Layer 2 environment. It controls the traffic on a physical LAN. The physical LAN is partitioned into multiple virtual LANs. Each VLAN is assigned a number, called the VID, that identifies it uniquely within the network. Traffic between these systems stays bottled up within their VLAN.

Although different VLANs use a common physical network, the traffic of each VLAN is isolated from the other VLANs.

## The Virtual LAN page

The Virtual LAN page gives you an overview of the Virtual LANs currently defined on the SpeedTouch™. It also allows you to add new VLANs, and delete existing VLANs.




## Creating a new VLAN

To add a Virtual LAN:

1. Click **New**.
2. In the **Name** box, type a unique name that describes the use of the VLAN.
3. In the **VID** box, enter the unique VLAN ID to be used for this VLAN.
4. Click **Apply** to create the VLAN you have defined.
5. Click **Save All** to make your changes permanent.

## Using VLAN

The Virtual LANs that are defined can be used in the Ethernet Configuration pages as described in “5.4.5 Bridged Ethernet”.



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# 5.5 Local Networking

## Overview

The **Connections** menu consists of the following topics:

| Click … | To … |
|---|---|
| DHCP | View/configure the SpeedTouch™ DHCP settings. |
| DNS | View/configure the SpeedTouch™ DNS settings. |
| Managed Switch | View/configure the SpeedTouch™ Managed Switch. |
| Wireless | View/configure the SpeedTouch™ wireless access point settings. |



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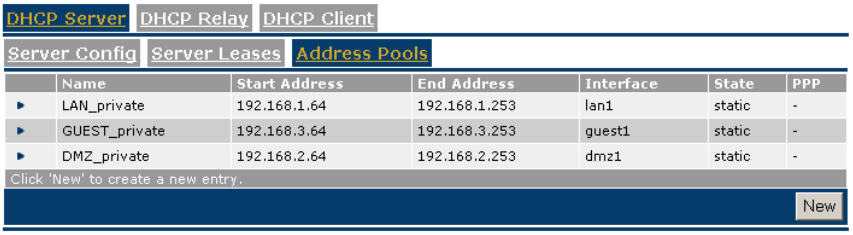
# 5.5.1 DHCP

## Overview

The DHCP web page offers three tabs to configure the SpeedTouch™ 's DHCP functionality:

- DHCP Server:
  To configure the general behaviour of the SpeedTouch™ 's DHCP server.
- DHCP Relay:
  To configure the SpeedTouch™ DHCP relay.
- DHCP Client:
  To configure the SpeedTouch™ DHCP client.




## DHCP Server

The DHCP server configuration is split up in three sections:

- Server Config:
  To configure the SpeedTouch™ DHCP server 'master' settings and behaviour.
- Server Leases:
  To overview current the SpeedTouch™ DHCP server's current leases, and/or add/delete static DHCP lease entries.
- Address Pools:
  To overview and add/delete DHCP address pools for the SpeedTouch™ DHCP server.

As mentioned before, the SpeedTouch™ DHCP server - configuring local network hosts - can be run in conjunction with one or more SpeedTouch™ DHCP clients or SpeedTouch™ DHCP Relay agents, each created on behalf of a wide area connection. I.e. for WAN interfaces the SpeedTouch™ offers DHCP client, or DHCP relay support to configure MAC Encapsulated Routing (MER) or Routed IPoA interfaces independently.

## Server Config

Following fields are available:

- **Activate server**:
  Select this check box to enable the SpeedTouch™ DHCP server.
- **Activate verify first**:
  Select this check box to enable IP address conflict network probing before handing out an address to a client.
- **Activate trust client**:
  Select this check box if you want the SpeedTouch™ to take the IP address suggested by a DHCP client into account.



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## Server Leases

In case the SpeedTouch™ DHCP server is running this table holds all leases which are assigned by the DHCP server to (accepted) DHCP clients.

Following lease parameters are shown :

- **Client ID**:
  The MAC address of the DHCP client.
- **Address**:
  The IP address leased by the DHCP client.
- **Pool**:
  The DHCP server address pool the lease IP address is taken from.
- **TTL**:
  The DHCP server lease's Time To Live (in seconds).
  For a permanent DHCP lease, TTL displays **infinite**.
- **State**:
  The DHCP server lease state:
  - **Free** (in case of statically added DHCP leases):
    Indicating unused DHCP server leases. No DHCP request from this particular Client ID has been received by the DHCP server (yet).
  - **Used**:
    Indicating assigned DHCP leases. A DHCP lease has been assigned to this Client ID in the past (actually (Pool lease time)-TTL seconds ago).

As soon as a DHCP request is received, the SpeedTouch™ DHCP server will assign the IP address matching the DHCP client's identity to this client (e.g. in case of a renewal, or for static entries). If no pre-configured lease could be found in the table, a new lease will be created when the client's request is granted.

Existing DHCP leases can be made static (i.e. TTL infinite) by selecting the DHCP lease and clicking **Lock**.

DHCP leases can be added manually, e.g. for DHCP client devices that need a "static" IP configuration. You can also remove existing DHCP leases.



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## Address Pools

One or more disjunctive DHCP server address pools can be created per existing SpeedTouch™ interface using the **Address Pool** table. The first address pool displayed in the table has the highest priority for a certain interface.

If you select one of the address pools, following fields become available:

- **Name**:
  The name of the DHCP server's address pool.
- **Interface**:
  The SpeedTouch™ interface for which the address pool applies.
- **Start address**:
  The start IP address of the DHCP server's address pool.
- **End address**:
  The end IP address of the DHCP server's address pool. Both the start and end IP address define the IP address range used by the DHCP server to assign leases.
- **Subnet mask**:
  The subnet mask of the DHCP server's address pool.
- **Lease time**:
  The maximum time a client is allowed to use the address.
- **Gateway**:
  The IP address that will be assigned to DHCP clients as their default gateway
- **Server**:
  The SpeedTouch™ IP address used as DHCP server address (applicable for SpeedTouch™ multi-homing).
- **Primary DNS Server**:
  The IP address of the primary DNS server.
- **Secondary DNS Server**:
  The IP address of the secondary DNS server.

The table header shows following pool properties in addition :

- **State** : the current DHCP server's address pool state.
- **PPP** : the PPP interface used to fill the DHCP server's address pool dynamically (dynamic pools only).

## Address pool types

Two kinds of DHCP server address pools can be envisaged :

- Static address pools.
- Dynamic address pools.

Static address pools are configured manually by the user (state = static); on the other hand dynamic pools are configured dynamically based on the PPP-IPCP parameters negotiated for a (Routed) PPP connection (PPP interface given in the PPP column). When the PPP connection is up (state = up), all pool properties are defined except for the lease time which has to be configured manually. At the moment the PPP connection goes down (state = down) the pool parameters are remain valid to preserve LAN connectivity. If the pool parameters have been changed after the PPP connection comes up again, all associated leases are updated as well.



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## DHCP Relay

The **DHCP relay** tab allows you to add/delete and overview SpeedTouch™ 's DHCP relay interfaces.

The DHCP relay configuration is split up in two sections:

- Relay Config
  To add/delete and configure a DHCP relay server on a certain interface
- Relay Interfaces
  To enable/disable and define the behaviour of the DHCP relay agent per configured interface.

## Relay Config

The Relay Configuration table allows you to add or delete (additional) DHCP relay agents for a specific interface.

To create a new DHCP relay agent:

1. Click **New**.
2. In the **DHCP relay server** box, type the IP address of the DHCP server.
3. In the **Interface** list, click the appropriate relay interface (click **None** to indicate no interface is specified).
4. In the **Gateway Address (giaddr)** box, type the Gateway IP address to be used for the giaddr field in relayed DHCP packets.
5. Click **Apply**.

## Relay Interfaces

The **Relay Interfaces** table allows you to configure interface specific DHCP relay settings as:

- Enable/disable the DHCP relay server
- The maximum number of hops allowed for relayed DHCP requests and replies (as indicated in the DHCP packet)
- Defining whether to forward (trusted) or to drop (not trusted) DHCP request packets when a DHCP relay agent info option is present and the Gateway IP address field is 0 (as specified in RFC3046).
- Define the remote ID (as specified in RFC3046) to allow the DHCP relay agent to relay DHCP responses to the proper network.



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## DHCP Client

Dynamic interfaces are created and managed by means of the **DHCP Client** table.

Following fields are listed in the **DHCP Client** table:

- **Interface**:
  The name of the SpeedTouch™ logical interface for which this DHCP client applies
- The **Address** column shows the IP address assigned to the interface given in the first column.
- The **State** column shows the current state of the dynamic interface. According to RFC2131, following states are envisaged:
  - **init**:
    The DHCP client hasn't been activated yet. (You can activate a DHCP client entry by selecting it and clicking Enable.
  - **requesting**:
    The DHCP client is searching for a DHCP server.
  - **selecting**:
    The DHCP client requests a server for an IP address.
  - **bound**:
    A dynamic IP address has been assigned by the DHCP server.
  - **renewing**:
    The DHCP client requests a known server to extend its lease.
  - **rebinding:**
    The DHCP client searches a server to extend its lease.
- The **Timeout** column is filled in for each DHCP client which is currently in the "bound" state. It indicates the lease time of the assigned IP address.

For each of these interfaces you can configure following fields:

- **IP Address**:
  The preferred IP address to be assigned to the DHCP client. If not accepted, the (remote) DHCP server may overrule this address.
- **Client ID**:
  MAC address of the SpeedTouch™ logical interface, to be communicated to the (remote) DHCP server. If empty, the SpeedTouch™ 's MAC address is used.
- **Host name**:
  The host name associated with the dynamic IP address, to be communicated to the (remote) DHCP server
- **User ID**:
  The user class identifier option to be associated with the lease.
- **Lease time**:
  The preferred duration of the lease of the dynamic IP address, if assigned. If not accepted, the (remote) DHCP server may overrule this lease time.
- **Vendor ID**:
  Enable transmission of the vendor class identifier option (selected) or not (cleared).



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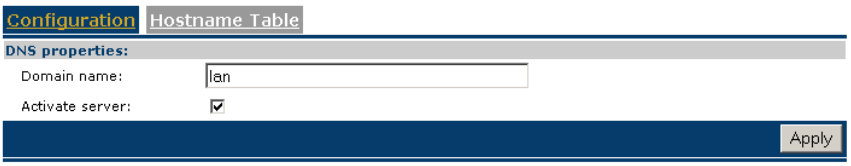
# 5.5.2 DNS

## Overview

DNS is short for Domain Name System. It is a network functionality that allows network members to use host names rather than IP addresses for referencing networked computers.




The DNS web page consists of two sections:

- Configuration
- Hostname Table

## Configuration

In addition to the host name, a local computer needs the DNS domain name to construct a fully qualified name. By default the SpeedTouch™ DNS's domain name is lan. You can specify another (sub)domain name in the domain field (and **Apply**)

In normal conditions you should never disable the SpeedTouch™ DNS server, surely not in case the SpeedTouch™ DHCP server is active on the local network as well. If required however, you can disable the SpeedTouch™ DNS server by clearing **Activate Server** (and **Apply**).

Disabling the SpeedTouch™ DNS server will disable all DNS forwarding functionality as well. This may compromise end-to-end connectivity through the SpeedTouch™ connections.

## Hostname Table

The **Hostname Table** shows all DNS host names (with respective IP address) the SpeedTouch™ DNS server is aware of (for example entries created via DHCP server replies to leases).

If not all computers reveal their hostname in the DHCP request, or even worse if they do not support DHCP, static entries can be added to the local DNS database.

Proceed as follows:

1. Click **New**.
2. In the **Hostname** field, type the name you want to associate to the specified IP address.
3. In the **Address** box, type the IP address of the computer.
4. Click **Add**.

Make sure to keep the database consistent.



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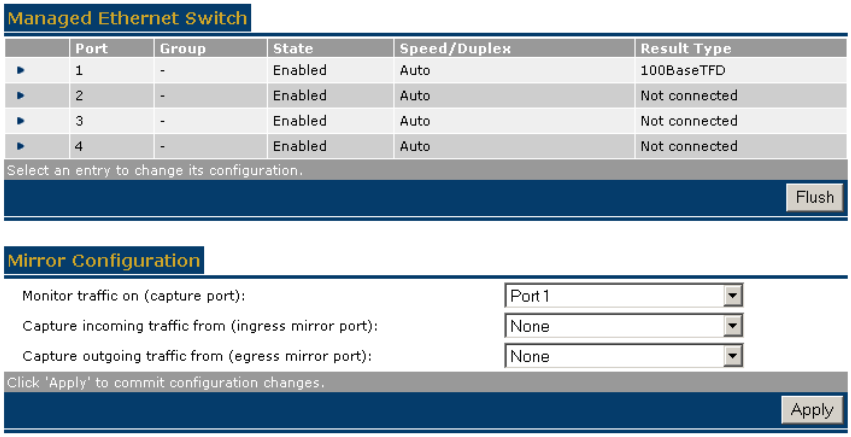
# 5.5.3 Managed Switch

## Overview

Your SpeedTouch™ is equipped with a four-port 10/100Base-T auto-sensing MDI/MDI-X Ethernet switch. Each physical Ethernet port of the switch can be managed individually for extended networking control and monitoring purposes.




The **Managed Switch** page consists of two sections:

- Managed Ethernet Switch
  - provides an overview of each individual Ethernet port.
  - Allows per Ethernet port to configure some Ethernet port properties.
- Mirror Configuration allows you to configure port mirroring and traffic capturing.

## Managed Ethernet Switch

Under **Managed Ethernet Switch**, you can select a port to change:

- **State**.
  Allows you to enable/disable the interface.
- **Speed/Duplex**. Select either:
  - **auto**:
    Auto negotiation of Ethernet communication speed (10Mb/s or 100Mb/s) and Duplex mode (half duplex or full duplex).
  - **10BaseTHD**:
    10Mb/s communication speed in half duplex mode.
  - **10BaseTFD**:
    10Mb/s communication speed in full duplex mode.
  - **100BaseTHD**:
    100Mb/s communication speed in half duplex mode.
  - **100BaseTFD**:
    100Mb/s communication speed in full duplex mode.



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## Mirror Configuration

Port mirroring allows monitoring from one port (called mirrored port) to another port (called mirror capture port). This functionality allows any port's Ingress and/or Egress traffic to be monitored to a pre-defined "mirror capture port".

Depending on your configuration you can mirror (from mirror port to mirror capture port):

- The outgoing traffic
- The incoming traffic
- Both incoming and outgoing traffic.



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## 5.5.4 Wireless

### Overview

The SpeedTouch™ IEEE802.11g compliant Wireless LAN (WLAN) interface allows you to share its high-speed Internet connection with multiple networking clients in a local network, without needing to (re-)wire your home.

The SpeedTouch™ acts as a wireless Access Point (AP), connecting wireless clients and transferring data between them.

The wireless web page consists of four sections:

- Access point settings to configure the basic settings of the SpeedTouch™ wireless access point
- Security to overview and control the security settings and wireless client access to the SpeedTouch™ 's wireless network segment
- Associated stations to overview the wireless stations, currently associated with the SpeedTouch™ wireless access point.
- Networks to scan for wireless clients in your neighbourhood and scan for, view, configure WDS connections with other wireless devices.

Be aware that in case you are connected wirelessly to the SpeedTouch™ and you change its wireless access point settings, wireless connectivity may be lost!



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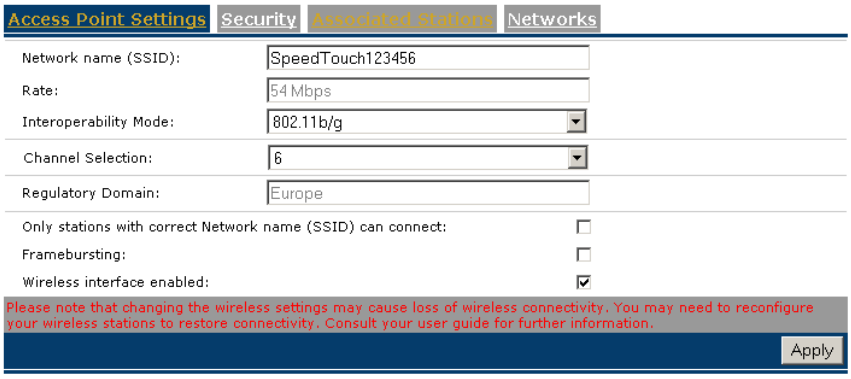
## Access point settings

This section provides an overview and allows you to configure the basic wireless networking parameters for your SpeedTouch™ wireless access point.




Following wireless access point settings can be viewed or configured:

- **Network Name (SSID)**:
  The network name, also known as Service Set ID (SSID). For more information, see " Network Name (SSID)" on page 162.
- **Rate**:
  Displays the current modulation rate in which the SpeedTouch™ is operating. Take into consideration that if the distance between the SpeedTouch™ and the clients increases the throughput decreases. Walls, closets and big metal objects have a negative influence.
- Interoperability Mode
- **Channel Selection** allows you to choose between:
  - **Auto**:
    The best communication channel is automatically selected by the SpeedTouch™ (recommended setting). The **Current Channel** displays the channel currently in use.
  - A specific channel.
- **Regulatory Domain** displays the access point's Regulatory Domain.
- **Only stations with correct Network name (SSID) can connect**:
  If this check box is:
  - Cleared, the SpeedTouch™ broadcasts its SSID and accepts every client.
  - Selected, the SpeedTouch™ does not broadcast its SSID and accepts only those clients who have the correct Network name (SSID).
- **Framebursting**:
  Allows you to enhance the performance of wireless networks by improving the efficiency between the client and the access point if you have mainly downstream traffic.
- **Allow multicast frames sent to local clients**.
- **Wireless interface enabled**:
  Allows you to enable/disable the wireless interface.



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### Network Name (SSID)

The WLAN's 'radio' link is a shared medium. As no physical connection exists between the SpeedTouch™ and wireless clients, a name must be given to allow unique identification of your WLAN radio link. This is done by the Network Name, also known as Service Set ID (SSID). Wireless clients must be configured for the same Network Name in order to be able to communicate with other clients on the (W)LAN - via the SpeedTouch™ wireless access point.

To change the Network Name (SSID):

1. Type a Network Name of your choice.
2. Click **Apply** to immediately apply your changes.

### Network Name broadcast

By default the access point broadcasts its SSID and accepts every client. However, for security reasons you are able to configure not to broadcast its SSID and to accept only those clients who have exactly the same SSID, as configured on the SpeedTouch™

To change the Network Name broadcasting configuration:

1. Select **Only stations with correct Network Name (SSID) can connect** to disable Network Name broadcasting.
2. Click **Apply** to immediately apply your changes.

When you enable this option, the SSID will not be broadcasted. The SpeedTouch™ wireless network will no longer be visible in the list of available networks of your wireless client.

### Interoperability Mode

By default the **interoperability mode** allows for both IEEE 802.11g complaint wireless clients and IEEE 802.11b compliant wireless clients to connect to the SpeedTouch™.

To change the interoperability mode:

1. Select the desired option:
   - **802.11g and b** to allow both IEEE802.11b and IEEE802.11g compliant wireless clients to connect to the SpeedTouch™
   - **802.11g only** to allow only IEEE802.11g compliant wireless clients
2. Click **Apply** to immediately apply your changes.

### Channel

By default the SpeedTouch™ chooses its radio channel automatically at start-up of the access point on basis of the least interference with other access points.

To update the channel:

1. Click update to let the SpeedTouch™ re-evaluate the aerial conditions to base the new channel selection on. Your changes will immediately be applied.

Wireless associated clients always follow the access point's radio channel selection. They will change their channel into that of the new updated channel selection.

To configure a fixed channel:

1. In the **Channel Selection** list, click the desired channel. Be aware of your region limitations.
2. Click **Apply** to immediately apply your changes.

To return to auto mode:

1. In the **Channel Selection** list, click **auto**.
2. Click **Apply** to immediately apply your changes.



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## Enable/disable the wireless interface

To disable your wireless interface:

1. Clear **wireless interface enabled**.
2. Click **Apply** to immediately apply your changes.

All your wireless clients will be disconnected!

You can also disable your wireless interface by pressing the front panel button for 10 seconds. When the WLAN led is extinguished, the interface is disabled.

To enable the wireless interface:

1. Select **Wireless interface enabled**.
2. Click **Apply** to immediately apply your changes.

You can also enable your wireless interface by pressing the front panel button for 10 seconds until the WLAN led starts flashing.

## Security

The security configuration tab allows you to configure the SpeedTouch™:

- Security Mode settings.
- Access Control settings.

## Security Mode

Three security levels are available for protecting the SpeedTouch™ wireless network environment.

- **level 0**:
  No security i.e. the data will not be encrypted, no authentication process will be used.
- **level 1**:
  Backwards compatible security with any Wi-Fi certified client(WEP), i.e. encrypting the traffic between the SpeedTouch™ and the clients by sharing a pre-defined 64-bit or 128-bit Network key.
- **level 2**:
  WPA-PSK is the highest form of security available but make sure that your wireless client and client manager are compatible with it.

By default the SpeedTouch™ access point uses security level 0, implying that no encryption is used for wireless networking. In case security level 1 or 2 is active, select **Security Level 0 - no encryption** to return to security level 0. Selecting this security level has immediate effect. Data will no longer be encrypted. Therefore, to re-access the wireless environment of the SpeedTouch™ you must first disable security on your wireless client.



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## WEP

The Wired Equivalent Privacy (WEP) algorithm is used to protect wireless communication from eavesdropping.

WEP relies on a secret key that is shared between the wireless client (e.g. a laptop with a wireless ethernet card and the SpeedTouch™. The fixed secret key is used to encrypt packets before they are transmitted. I.e. during transmission between client and AP ("in the air") the information in the packets is encrypted

To enable level1 - WEP:

1. Select **Security Level 1 - WEP**.
2. In the **Type** list, click the desired Data Security level (either 64-bit or 128-bit and Alphanumeric or Hexadecimal).
3. In the **Encryption key** box, type a Network key of your choice. In case of:
   - **64 bits, Alphanumeric**:
     The 40-bits Network key must consist of 5 alphanumeric characters.
   - **64 bits, Hexadecimal**:
     The 40-bits Network key must consist of 10 hexadecimal digits.
   - **128 bits, Alphanumeric**:
     The 104-bits Network key consists of 13 alphanumeric characters.
   - **128 bits, Hexadecimal**:
     The 104-bits Network key consists of 26 hexadecimal digits.
4. Click **Apply** to immediately apply your changes.

## WPA-PSK

The SpeedTouch™ supports WPA-PSK which has 3 improvements regarding to WEP:

- Authentication via a 4-way handshake to check whether the Pre-Shared Keys (PSKs) are the same.
- Stronger encryption types:
  - Temporal Key Integrity Protocol (TKIP) (default): Instead of using a fixed WEP key, TKIP uses in pairs temporary session keys which are derived from the PSK during the 4-way handshake. For each packet it uses a different key. TKIP also provides a message integrity check (MIC) and a rekeying mechanism (in seconds).
  - Advanced Encryption Standard (AES): State-of-the-art encryption; can only be used if all wireless devices in your WLAN support AES.
- Message Integrity Check (MIC), which is a strong mathematical function in which the recipient and transmitter each compute and compare the MIC. If they don't match it is assumed that a third person has been trying to read the data.

To enable level2 - WPA-PSK:

1. Select **Security Level 2 - WPA-PSK (WPA Personal)**.
2. In the **WPA passphrase** box, type a passphrase (aka Pre-shared key) of your choice. The passphrase must consist of 8 to 63 ASCII characters or 64 HEX digits.
3. In the **Encryption** list, click the desired Encryption method (either TKIP or AES).

   

   AES is not yet implemented in most clients but AES is implemented in the SpeedTouch™ because it will be the future security standard.
4. Optionally select the rekeying interval.
5. Click **Apply** to immediately apply your changes.



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## Access Control

Wireless client access control allows to authorize or explicitly inhibit access between specific wireless clients and the SpeedTouch™ wireless access point based on the wireless client's MAC address.

The **Access Control** tab allows you to manage the SpeedTouch™ Access Control List (ACL).

By default **New stations allowed automatically** is selected. Any client with the correct wireless settings (Network Name and, if required, Network key) will be automatically associated to the SpeedTouch™ and will be allowed to send/receive data via the SpeedTouch™ wireless access point. In case **New wireless client allowed** is not selected, you must manually add the wireless clients and their authorization to the access control list.

You can use the Association / Registration button to allow wireless clients to enter the access control list. This button can be found on the back panel of the SpeedTouch™, or on the **Access Control** tab. Pressing this button triggers the SpeedTouch™ to unlock the access control list for a time frame of one minute, after which the access control list is locked again. Any wireless clients trying to associate with the SpeedTouch™ having the correct wireless settings (Network Name and, if required, Network key) will be added to the table.

Per wireless client present in the access control list, the following information is provided and can be re-configured:

- An intuitive name for the wireless client
- Whether the wireless client is allowed (select yes) or not (select no) to exchange data between the wireless clients and the SpeedTouch™.

Regardless of whether registration of wireless clients is controlled via the Association / Registration button or not, you can always manually add/delete clients to/from the access control list or define wireless clients that are specifically allowed (select **yes**) or not allowed (select **no**) to access the SpeedTouch™ wireless network.

To delete all wireless clients from the access control list, click **Flush**. Be aware that if you are connected wirelessly to the SpeedTouch™, you will lose your connection.



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## Associated stations

The **Associated Stations** tab allows you to overview the currently associated clients.

To add an associated station to the access control list:

1. Select the entry you want to explicitly add to the ACL. Associated stations that are not present in the ACL yet, are identified by the name **Not Registered (ACL)**.
2. To change the access rights for this station, click **Access Control**.
3. Change the name of the station (optional but recommended).
4. In the **Allowed** list, click:
   - **Yes** to allow it to exchange data with other stations.
   - **No** to explicitly deny the station to associate with the SpeedTouch™.
5. Click **Apply** to immediately apply your changes.

## Networks

The **Networks** tab allows you to:

- Scan for Other Networks.
- Enable WDS connections with other wireless devices.

## Other Networks

The **Other Networks** tab allows you to overview the wireless networks in your neighbourhood.

To scan for other wireless networks:

1. Click **Scan**.
2. The SpeedTouch™ scans all channels for wireless networks.
3. The SpeedTouch™ lists the available networks in the table.

## WDS

The Wireless Distribution System (WDS) allows you to extend the range of your SpeedTouch™ by means of one or more wireless repeater(s).

To allow a WDS connection with a specific access point:

1. Click **New**.
2. In the **Name** box, type an appropriate name for the access point.
3. In the **BSSID** box, type the BSSID of the access point.



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# 5.6 Firewall

## Overview

The **Firewall** menu consists of the following topics:

| Click … | To … |
|---|---|
| Expressions | view/configure interface, or IP, or Service related expressions. For more information, see “5.3.2 Expressions” on page 125. |
| Policy | view/configure the SpeedTouch™ Stateful Inspection Firewall security level and its policies. |
| Log | view log messages for SpeedTouch™ firewall events. |



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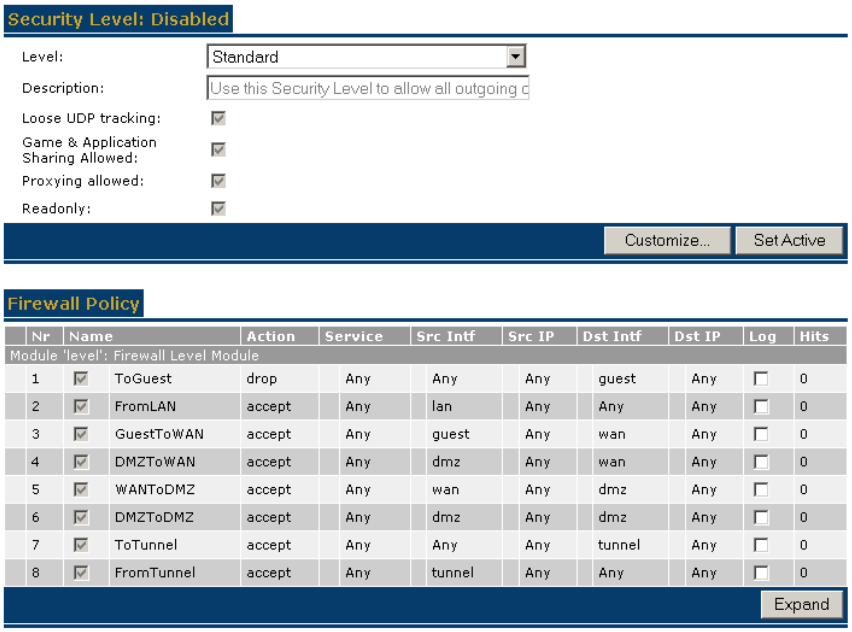
# 5.6.1 Policy

## Firewall levels

The **Level** list allows you to choose between the following level:

- **Disabled**:
  All traffic is allowed to pass through your SpeedTouch™. Game and Application sharing is allowed by the firewall.
- **BlockAll:**
  Use this Security Level to block all traffic from and to the Internet. Game and Application sharing is not allowed by the firewall.
- **High**:
  Use this Security Level to block all outgoing connections except well known applications (DNS, HTTP, HTTPS, FTP, TELNET, IMAP, POP) and block all incoming connections. Game & Application sharing is not allowed by the firewall.
- **Medium**:
  Use this Security Level to allow all outgoing connections except Windows protocols (Netbios, RPC, SMB) and block all incoming connections. Game and Application sharing is allowed by the firewall.
- **Standard**:
  Use this Security Level to allow all outgoing connections and block all incoming traffic. Game and Application sharing is allowed by the firewall.
- **Low**:
  Use this Security Level to allow all outgoing connections and block all incoming traffic except Internet Control Management Protocol (ICMP). Game and Application sharing is allowed by the firewall.



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### Buttons

Click:

- **Customize...** to create a new firewall level starting from the selected firewall level. For more information, see " Creating a firewall rule" on page 170.
- **Set Active** to activate the selected firewall rule.

To save the new configuration, click **Save All**.

### Loose UDP tracking

If this check box is:

- Selected:
  The source port of the original UDP connection is opened for all hosts which want to connect to this port.

  This can be configured for example for gaming: to allow the client to receive information from other players of the same online game, loose udp tracking should be configured to allow incoming packets on the port that was used to start the communication with the server.
- Cleared:
  Only returning UDP streams belonging to the same connection are allowed.

### Game & Application Sharing Allowed

Select this check box to allow the firewall to open ports for "games and application sharing" in order to use applications like Peer-to-Peer file sharing (PtoP), Internet Games, Web serving, FTP serving, WebCams, IRC DDC, and Instant Messaging such as AIM, ICQ, Yahoo and MS Messenger.

### Proxying allowed

Select this check box to allow the firewall to act as a proxy server.

A proxy server acts both as a server and a client for the purpose of making requests on behalf of other clients. Requests are serviced internally or by passing them on to other servers. A proxy interprets, and, if necessary, rewrites a request message before forwarding it. For example HTTP Intercept.



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## Creating a firewall rule

Proceed as follows to create a new security level and to add rules:

1. Select one of the six security levels.
2. Click **Customize.**
3. Type name and description for the new security level and click **Apply.**
4. Click **New** to add a rule.
5. Fill in all the fields.
   - **Index:**
     The index of the firewall rule. The firewall hierarchically goes through the rules, starting from rule 1. When no rule is hit, the firewall will block the traffic because of his default behaviour.
   - **Name**:
     The name of the rule.
   - **Source Interface**:
     The source interface. (e.g. _lan1, _wan1, _dmz1,...)
   - **Source IP - Select**:
     The name of the source IP expression.
   - **Destination Interface**:
     The destination interface (e.g. _lan1, _wan1, _dmz1,...)
   - **Destination IP- Select**:
     The name of the destination IP expression.
   - **Service**:
     The service or protocol. (e.g. smtp, http, telnet,...)
   - **Flags**:
     - **Enable:**
       To enable the rule or not.
     - **Log:**
       To log the actions concerning this rule. You can see the result in **Firewall > Log**.
   - **Action**:
     - **Accept:**
       The connection is accepted.
     - **Deny:**
       Send to the sender that the packet could not be delivered.
     - **Drop:**
       The packet is silently discarded.
     - **Reset:**
       Reset of the connection.
     - **Count:**
       Counts the number of connections that match the rule description. Contrary to other actions this action does not stop further parsing of the firewall rules database.
       The reults are shown in the **Hits** column.
6. Click **Apply**.
7. Click **Set Active** to activate the new settings.



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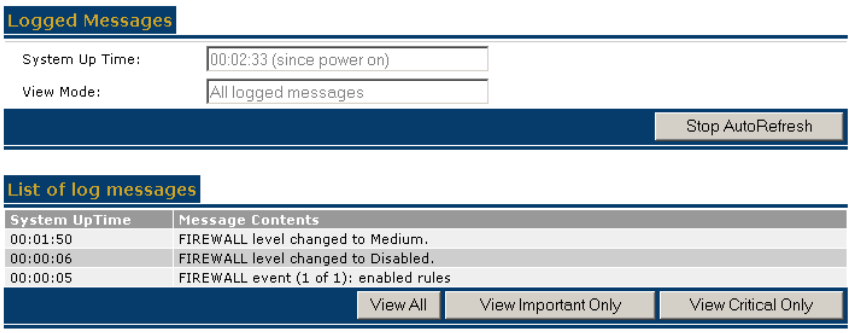
## 5.6.2 Log

### Introduction

The Log page allows you to view log messages when:

- a firewall rule is hit.
- the firewall is enabled or disabled.
- the firewall level is changed.
- a firewall rule is created.
- a firewall rule is modified.
- a firewall rule is deleted.



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# 5.7 VPN

**Availability**

The VPN feature is only available if you activated the VPN software module. For more information, see "5.2.10 Add-on" on page 122.

**Overview**

The VPN menu consists of following items

| Click … | To … |
|---|---|
| LAN to LAN | connect your LAN with a remote LAN through an IPSec VPN tunnel. |
| VPN Client | set up a connection between the SpeedTouch™ and a remote VPN server. |
| VPN Server | set up the SpeedTouch™ as a VPN server. |
| Certificates | manage your authentication certificates. |
| Advanced | configure VPN tunnels with a component oriented environment. |
| Debug | see status, statistics and logging. |



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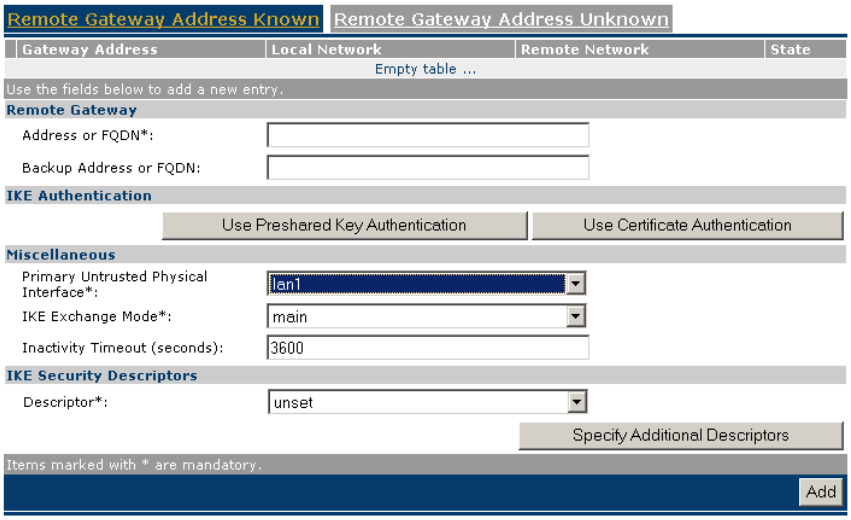
# 5.7.1 LAN to LAN

## Tabs

The LAN to LAN page consists of two tabs. Select:

- **Remote Gateway Address Known** as the starting page when the SpeedTouch™ must be able to initiate a VPN connection.
- **Remote Gateway Address Unknown** as the starting page when the SpeedTouch™ only needs to have responder capability. By not specifying the Remote Gateway Address, you allow additional sites to join the VPN without requiring any modification to the configuration of your SpeedTouch™.




## Configuration procedure

Perform the following steps to configure your LAN to LAN application:

1. On the **LAN to LAN** web page, select either **Remote Gateway Address Known** or **Remote Gateway Address Unknown**.
2. Configure the Remote Gateway parameters.
3. Define the Connection parameters.
4. Save the configuration.



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## 5.7.2 VPN Client

### The VPN Client page

The VPN client in the SpeedTouch™ can replace a software VPN client installed on a computer. You can use it for example to connect from your home to your employer's corporate network for tele-working. The **VPN Client** page allows you to configure a VPN client that functions in Initiator mode. This means that the VPN client takes the initiative to set up a secure connection to a remote VPN server.

### Configuration procedure

Perform the following steps to configure your VPN client:

1. Select **VPN > VPN Client**.
2. Fill out the various parameter fields in the **VPN Client** web page.
3. Select the IKE Authentication method. Either **Preshared Key** or **Certificate Authentication** can be selected.
4. Select the Start Mechanism. Either **manual dial-in** or **Automatic Start (Always On)** can be selected.
5. Click **Add** to confirm the data and **Save All** to save the configuration.



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# 5.7.3 VPN Server

## The SpeedTouch™ as VPN Server

In a VPN client-server scenario, the VPN server is always the responder in the IKE negotiations. Various VPN clients can dial in to a VPN server, since it supports multiple simultaneous VPN connections. A VPN server does not know a priori which remote Security Gateway will attempt to set up a VPN connection. In time, new users may join the VPN. It is an advantage that the SpeedTouch™ VPN server requires no modifications to its configuration when new clients are added to the VPN. The SpeedTouch™ can establish a secure connection with any Remote Gateway that meets the VPN settings, regardless its location in the public network.

The use of the Extended Authentication protocol can optionally be configured. In this case, a list of authorized users is composed and stored in the SpeedTouch™.

## Configuration procedure

Perform the following steps to configure your VPN server:

1. Select **VPN > VPN Server**.
2. Fill out the various parameter fields in the **VPN Server** web page.
3. Select the IKE Authentication method. Either **Preshared Key** or **Certificate Authentication** can be selected.
4. Click **Apply** to confirm the data and **Save All** to make the configuration permanent.

Optional: If you use the Extended Authentication protocol, you have to compose an authorized users list.



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## 5.7.4 Certificates

| | |
|---|---|
| Certificates pages | The Certificates pages allow you to manage your certificates. |
| Secure Storage page | This page shows the list of certificates stored in the SpeedTouch™. |
| Request Import page | This page allows importing new certificates from a Certificate Authority into the SpeedTouch™. |
| CRL page | This page allows managing the use of Certificates Revocation Lists. |
| CEP page | This page allows configuring the Certificates Enrollment Protocol settings. |



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# 5.7.5 Advanced

## When to use

The Advanced **VPN** menu gives access to two main pages where the complete IPSec configuration can be done. These pages are component-oriented, as opposed to the application-oriented pages described in "5.7.1 LAN to LAN" on page 173, "5.7.2 VPN Client" on page 174 and "5.7.3 VPN Server" on page 175. Component-oriented means that a number of components are constructed and subsequently combined.

It is highly recommended to use the application-oriented web pages for VPN configurations. Only in exceptional cases, these pages will not be sufficiently flexible to fulfil your requirements. Only in these cases, the **Advanced VPN** menu should be used.

## How to use

Configuring an operational IPSec connection basically consists of the definition of a **Peer Profile** and a **Connection Profile**. The **Peer** represents the remote Security Gateway and all the parameters required to set up an IKE Security Association to this Security Gateway. A **Connection** represents the IPSec connection and all its associated parameters.

All parameters of an IPSec configuration can be adjusted, so the functionality of these web pages corresponds to the Command Line Interface (CLI). Choices have to be made in accordance to the data known to the user, and the VPN layout.

The **Advanced VPN** menu should be used by skilled persons only, as these pages allow you to manually adjust configuration components that are in general automatically generated by the SpeedTouch™. Therefore, take care when altering settings in the **Advanced VPN** menu.



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## 5.7.6 Debug

### Status page

This page shows the status of the **IKE Security Association (Phase 1)** and the **IPSec Security Association(s) (Phase 2)**. For an operational VPN connection, both an **IKE Security Association** and an **IPSec Security Association** should be active.

### Statistics page

This page shows the amount of traffic carried over the **IKE Security Association (Phase 1)** and the **IPSec Security Association(s) (Phase 2).**

### Logging page

On the Logging page you can monitor the received and transmitted messages of the IKE and IPSec negotiations.

Proceed as follows:

1. Browse to **Expert mode > VPN > Debug > Logging**.
2. Select the desired level of **Trace Detail**. Select **high** to see the most detailed level of logging.
3. Start the VPN connection.
4. Browse again to **Expert mode > VPN > Debug > Logging**.

### Tear Down All Tunnels

On this page you can halt all established VPN tunnels.



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# 5.8 SIP PBX

## Availability

The VPN feature is only available if you activated the SIP PBX software module. For more information, see "5.2.10 Add-on" on page 122.

## SpeedTouch™ SIP PBX

The SpeedTouch™ has a key role in the enhancement of Voice over IP services for corporations, universities or enterprises. Using the SpeedTouch™ integrated multi-media SIP PBX, the user can secure the SIP communications and manage, without involvement of the operator, certain local services such as registration blocking, sessions screening, sessions logging. The added value of a PBX is now available in a SIP-enabled network!

## Enabling the SIP PBX

To enable the SIP PBX:

1. On the **SpeedTouch** menu, click **SpeedTouch Services**.
2. Select the **SIP PBX, registrar...** entry.
3. Under Service properties, click **Service enabled**.
4. Optionally, you can change the SIP port in the Internal **TCP/UDP port:** box.

## Overview

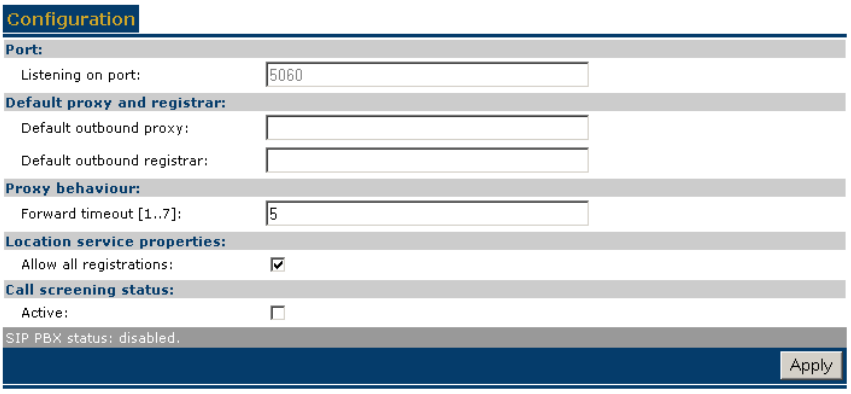
The **SIP PBX** menu consists of:

- General
- Location Service
- Call Logging
- Call Screening

## General

The **General** page allows you to:

- Change the default proxy and registrar:
  By default, these fields are left empty. This implies that if you configure a SIP User to use the default settings, this User Agent is only allowed to register to the SIP PBX.
- Enable/disable call screening.



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## Location Service

The **Location Service** page allows you to:

- View the registered users.
- Add new SIP users.

## Call Logging

All inbound and outbound SIP sessions that cross the multi-media SIP PBX can be monitored from the SpeedTouch™web interface.

Both successful and failed calls will be shown.

This is a useful tool to supervise the SIP communications involving your LAN User Agents.

The **Syslog Settings** tab allows you to log SIP call information to the syslog.

## Call Screening

To increase SIP communications security, it may make sense to block sessions originating from either side of the network that are associated with particular users or groups, on account of fraud, abuse, and so forth.



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# 6 Software Keys

## Introduction

A Software Key is a tool to disclose or activate services or software modules.

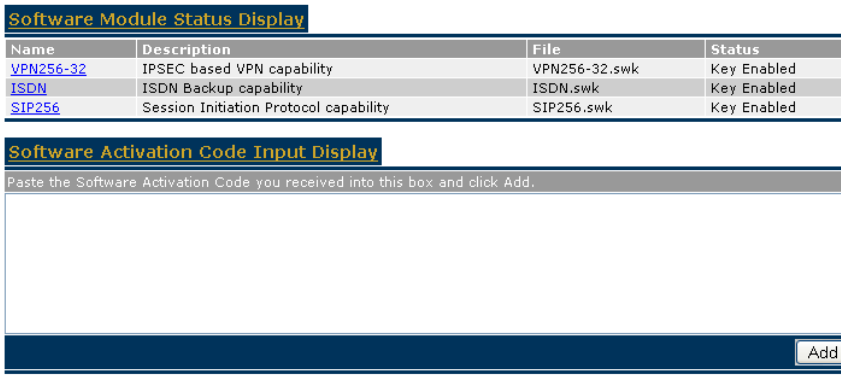
The following Software modules can be activated:

- VPN256-32, VPN16-4, VPN16-1:
  Integrated VPN IPSec capability (SpeedTouch™608 (WL)/620)
- ISDN:
  Integrated ISDN Modem full capacity (SpeedTouch™608 WL/620)
- SIP256:
  SIP Multi-Media PBX capability (SpeedTouch™620)

## How to activate a Software module

Proceed as follows to activate a software module:

1. Browse to the SpeedTouch™ web pages at http://192.168.1.254.
   The SpeedTouch™ **Home** Page appears.
2. Select **Expert Mode > SpeedTouch > Add-On.**
   The **Add-On** page appears.



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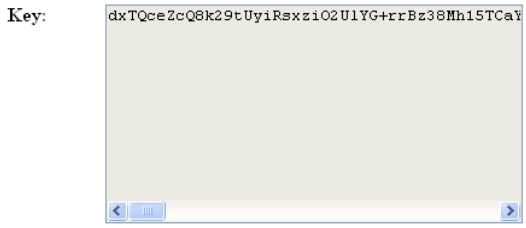
3 Select the desired software module to open the registration web site on the Internet.

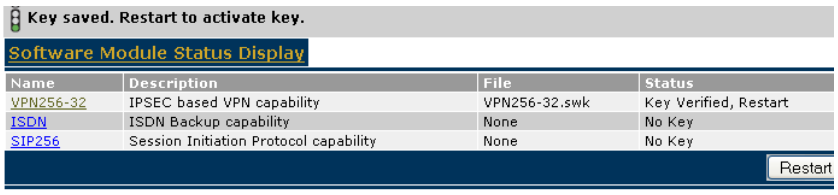

Complete the form to request a new software Key.

4 Select the **Request Software Key** button to proceed.




As a result you will get a text box with the key in it.

5 Copy the key and past it into the **Software Activation Code Input Display** and click the **Add** button.




6 Click the **Restart** button, to restart the SpeedTouch™and activate the software module. A progress bar will show, indicating the time needed.



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# 7 Software Upgrade

## Introduction

This chapter describes how to upgrade the SpeedTouch™ system software or firmware.

## System software upgrades availability

For the availability of new system software version packages you can:

- Click the **SpeedTouch Maintenance** link, available on the Setup CD menu.
- Go to the embedded Update page.
- Check for SpeedTouch™ upgrades at http://www.speedtouch.com/upgrade.

## System software packages and security

All system software packages for the SpeedTouch™ are digitally signed and encrypted. Packages that may have become corrupted, or been altered in any way, will not be accepted by the SpeedTouch™.

This way the SpeedTouch™ or its service can never be corrupted or lost.

## System software upgrades

Depending on the Operating System your computer is running, you can upgrade your SpeedTouch™ via:

- The SpeedTouch™ Update page (all Operating Systems); see "7.1 Embedded Update Page" on page 184 for more information.
- The SpeedTouch™ Upgrade Wizard (Microsoft Windows or Mac OS X); see "7.2 Upgrade Wizard on Setup CD" on page 186 for more information.
- The SpeedTouch™ BootP client (all Operating Systems); see "7.3 Upgrade via a BOOTP/TFTP Server" on page 189 for more information.

## Preliminary steps

Before you start with upgrading the SpeedTouch™, always make sure:

- To inform all people relying on the SpeedTouch™ services, that service may be down for some short period.
- The new system software file is stored on your local disk or another storage device.

It is NOT possible to upgrade your SpeedTouch™ over a wireless connection.



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# 7.1 Embedded Update Page

## Introduction

This procedure is OS independent and supports roll-back scenarios. Your SpeedTouch™ provides storage room for two system software packages: the active system software the SpeedTouch™ is currently running and a passive package. A switch over from the one package to the other can be performed.

## Procedure

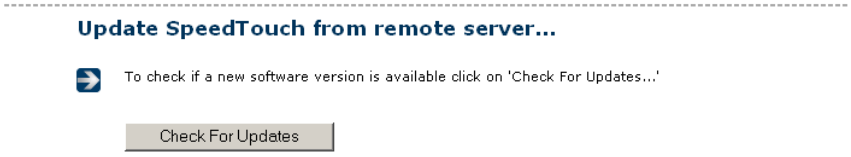
Proceed as follows:

1. Go to the embedded web pages.
2. In the menu select **SpeedTouch > Update**.
3. Choose a way to update your SpeedTouch™. This can be done:
   - From a remote server
   - From a PC

## From a remote server

You can upgrade your SpeedTouch™ from a remote server.

This procedure enforces you to upgrade right away, disconnecting all connected devices.




1. Click **Check For Updates**.
2. In the **Pick a task...** list, click **Update software**.
3. The new software is retrieved and stored on the SpeedTouch™, remembering the current configuration and connection states. Your SpeedTouch™ will automatically restart and restore the connections.
4. At the end of the procedure, the SpeedTouch™ returns to the Home page.



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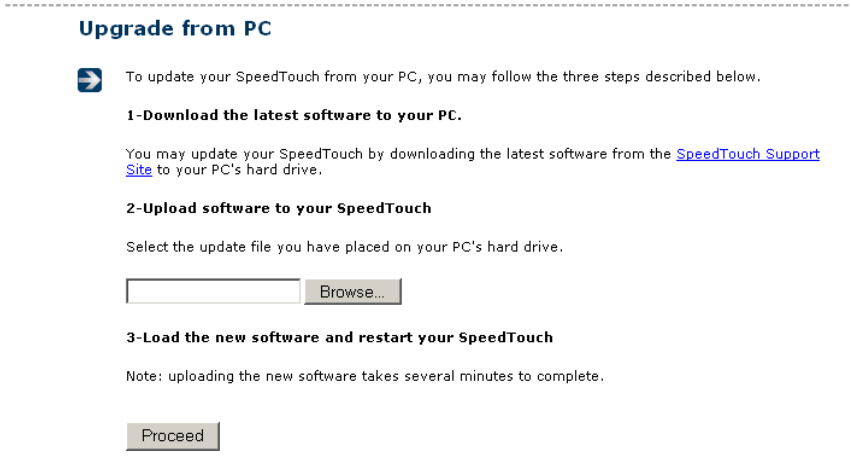
## From a PC

You can upgrade your SpeedTouch™ from a PC.

This procedure is done in steps. You will download the software image to your PC first. You can choose another moment to upload the software to your SpeedTouch™.




1. To download the latest software version:
   1. Click **SpeedTouch Support Site**.
   2. On the SpeedTouch™ Support Site, download the software. Remember the location where you save this software.
2. To upload the software to your SpeedTouch™:
   1. Click **Browse**.
   2. Select the file and click **Open**.
   3. The new software is retrieved and stored on the SpeedTouch™, without being activated (passive build).
3. To load the new software:
   1. Click **Proceed**.
   2. Your SpeedTouch™ performs firmware switch over (active build will become passive and vice versa), and automatically restarts and restores the current configuration and connections.
4. At the end of the procedure, the SpeedTouch™ returns to the Home page.



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# 7.2 Upgrade Wizard on Setup CD

## Introduction

The procedures described in this section are valid only in case:

- You run an MS Windows Operating System or Mac OS X.
- Your SpeedTouch™ and computer are properly connected through Ethernet.

It is NOT possible to upgrade your SpeedTouch™ over a wireless connection.

During the upgrade procedure in most cases configuration settings are backed up by the wizard and restored after uploading the system software.

## Starting the Upgrade Wizard

To launch the SpeedTouch™ Upgrade Wizard:

1. Insert the Setup CD in your computer's CD-ROM or DVD-ROM drive. The SpeedTouch™ CD menu will pop up automatically.

   If not:

   - In MS Windows:

     Click **Run** on the **Start** menu and enter the following path: **D:\Setup.exe** where D stands for the drive letter of your CD-ROM or DVD-ROM drive.

   - On Mac OS X

     Double-click the CD icon and then double-click **Menu**.

2. Optionally, in the **Choose Language** window, select the language of your choice and click **OK**.
3. The SpeedTouch™ safety instructions will be displayed in your default web browser. Close the window.
4. Select **I have read and I fully understand the Safety Instructions and Regularity Information** and click **Continue**.
5. In the SpeedTouch™ **CD** Menu, click **SpeedTouch Maintenance**.
6. Click **Upgrade My SpeedTouch**, to start the SpeedTouch™ Upgrade Wizard.
7. See " Upgrade procedure" on page 187 to continue.



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## Upgrade procedure

1 In the **Welcome to the SpeedTouch Upgrade Wizard** window, click **Next**.

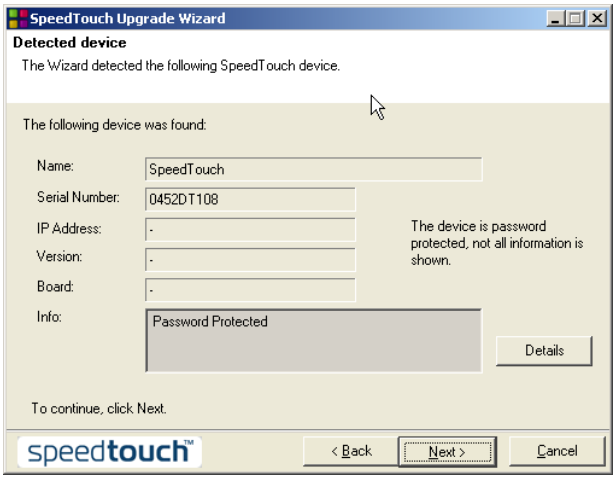

2 The SpeedTouch™ **Software License Agreement** window appears.

You must accept before continuing. Click **Yes** to accept.

If you accepted this License Agreement in a previous upgrade, this window will not be shown.

3 The SpeedTouch™ Upgrade Wizard will search for the SpeedTouch™ on the network. A progress bar is displayed.

4 The SpeedTouch™ Upgrade Wizard should find your SpeedTouch™ device on the local network. This is indicated by the following window:




If more than one device is found, a list of available devices will be provided. If this is the case, select your SpeedTouch™ device and click **Next**.

If the wizard does not find any SpeedTouch™ on the network an error window appears, refer to "8.1.3 Upgrade Troubleshooting" on page 195.

It is NOT possible to upgrade your SpeedTouch™ over a wireless connection.

5 Enter your SpeedTouch™ security **User name** and **Password**.



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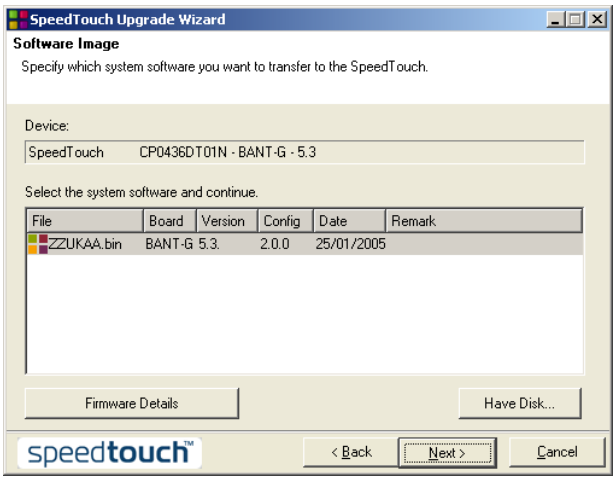
6 The following window shows the system software version currently active on the SpeedTouch™ as well as one or more system software versions available on the CD:




For more information on a found software version, click **Firmware Details**.

Select the appropriate system software version and click **Next**.

If your Service Provider has included a separate disk with dedicated upgrade system software, click **Have Disk** to navigate to the location of the appropriate file.

7 The following window will allow you to overview your selection. Click **Next** to continue.

8 A progress bar will be displayed.

9 Finally, click **Finish** to close the wizard.

## System software downgrade

Via the identical procedure it is also possible - although not recommended - to downgrade the SpeedTouch™ by uploading an older system software than the current running version.

However, be aware that functionality added by previous upgrades may be lost, that system password settings may be lost as well as end-to-end connectivity and other configuration settings.

In case of a system software downgrade, in step 6, you must specifically acknowledge your decision before being able to proceed.



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# 7.3 Upgrade via a BOOTP/TFTP Server

## SpeedTouch™ system software management

The SpeedTouch™ system software is based on BOOTP, a standard mechanism used for booting diskless stations.

You can force the SpeedTouch™ in BOOTP mode, allowing a BOOTP/TFTP server to manage the SpeedTouch™ file system, and submit upgrade files to it.

## Important note

It is recommended only to use the procedure described below, if you are familiar with the use of a BOOTP server, and the mechanisms on which BOOTP is based.

Upgrading the system software via the procedure described below will reset the SpeedTouch™ to its factory default settings. Therefore, prior to performing an upgrade of the system software it is recommended to back up the SpeedTouch™ configuration. See " Accessing the Backup & Restore page" on page 58 on how to make a backup.

## Before you start

You need a third party BOOTP/TFTP server installed on the computer from which you want to perform the SpeedTouch™ system software upgrade.

Make sure:

- That the SpeedTouch™ is connected to your computer via its Ethernet or USB port.

  

  It is NOT possible to upgrade your SpeedTouch™ if you are connected wirelessly.

- A valid SpeedTouch™ system software image file is available on your local disk.
- To disable your personal firewall software.

Depending on the BOOTP/TFTP server, you might need the SpeedTouch™ Medium Access Control (MAC) address of your SpeedTouch™ device. To retrieve this address see "4.3.1 Information" on page 54.



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## Procedure

To upgrade/restore the SpeedTouch™ system software:

1. In a preliminary step, make sure that a BOOTP server is readily installed on the computer from which you intend to perform the system software upgrade.
2. Configure the BOOTP server to use the SpeedTouch™ system software image file in its reply to BOOTP requests from the SpeedTouch™ you want to upgrade.
3. To identify the BOOTP requests from the SpeedTouch™, you will need to define an IP range for basic communication between the BOOTP server and the SpeedTouch™. Depending on the BOOTP server, you might also need to specify its MAC address (can be found on the web pages, see "4.3.1 Information" on page 54).
4. Start a telnet session as described in " Telnet session" on page 14.
5. Put the SpeedTouch™ in BOOTP with the following CLI command.

```
=>software upgrade
```

6. The SpeedTouch™ reboots and starts sending BOOTP requests.

   In BOOTP mode the Power LED is solidly lit red and the Ethernet LED is flashing green.

7. The BOOTP server will reply to the BOOTP requests and will perform the required operations to send the system software to the SpeedTouch™.
8. After checking whether the received system software is valid for the device, the SpeedTouch™ will start in normal operational mode to complete the upgrade.
9. Optionally, you can upload the backup configuration as described in "4.3.8 Update" on page 61.



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# 8 Troubleshooting

## Introduction

This chapter suggest solutions for problems you may encounter while installing or configuring your SpeedTouch™.

If the suggestions do not resolve the problem, look at the support pages on http://www.speedtouch.com/support or contact your service provider.

For Internet connection troubleshooting, refer to the provided Installation and Setup Guide.



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# 8.1 General SpeedTouch™ Troubleshooting

### SpeedTouch™ does not work

If none of the LEDs light up, make sure that:

- The SpeedTouch™ is plugged into a power socket outlet.
- You are using the correct power supply for your SpeedTouch™ device, that is 18V AC.
- The power on the SpeedTouch™ is turned on via the rocker switch on the back panel.

### SpeedTouch™ unreachable

In case your SpeedTouch™ is unreachable due to misconfiguration, you might consider a hardware reset to factory defaults as described in "8.3 Reset to Factory Defaults" on page 199.

However, note that resetting the SpeedTouch™ to its factory settings will revoke all the changes you made to the configuration.

### Poor SpeedTouch™ performance

Make sure that the SpeedTouch™ is installed and configured as instructed in the Installation and Setup Guide or as instructed by the Service Provider.



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### 8.1.1 Wired Ethernet Troubleshooting

**LAN LED does not light up**

Make sure that:

- The LAN cable is securely connected to the 10/100Base-T port.
- You are using the correct cable type for your Ethernet equipment, that is UTP CAT5 with RJ-45 connectors.



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## 8.1.2 Wireless Ethernet Troubleshooting

### Not able to connect wireless clients

Check following:

- In case registration is enabled, you must press the 'Association' button to register the wireless client or search for wireless devices via the embedded web pages.
- Make sure the SpeedTouch™ Association Control List is not locked. You can check this on the web pages. On the Wireless Access Point settings, make sure **New stations are not allowed** is NOT selected.

### No wireless connectivity

Make sure that:

- Both wireless client adapter and SpeedTouch™ are allowed to connect through wireless channels as defined for local regulatory domain.
- The WLAN client is configured for the correct wireless settings (SSID, security settings).
- Check the signal strength, indicated by the wireless client manager. If the signal is low, try to place the SpeedTouch™ or to direct the SpeedTouch™'s antenna for optimal performance.
- Make sure that the wireless client adapter is enabled (message like "radio on").

### Poor wireless connectivity or reach

Check following:

- Choose automatic channel selection or carefully select a radio channel that does not interfere with other radio channels.
- Make sure both WLAN client adapter and SpeedTouch™ are allowed to connect through wireless channels as defined for local regulatory domain.
- Check the location of the SpeedTouch™ in the building.
- Check the signal strength, indicated by the wireless client manager. If the signal is low, try to place the SpeedTouch™ or to direct the SpeedTouch™'s antenna for optimal performance.



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## 8.1.3 Upgrade Troubleshooting

### Introduction

While upgrading your SpeedTouch™ via the Upgrade Wizard on the web pages or on the Setup CD, you might encounter one of following problems.

### Upgrade via web pages

One of following messages might appear:

- Update from remote server:

| Message | Due to |
|---|---|
| Failed to retrieve new software version from the support site. Try again later. | ▸ The file does not exist, meaning there is no newer software release.<br>▸ Loss of connectivity. Try again later. |
| Could not install the new software version. If problem persists, contact your helpdesk. | An internal error (switchover from active to passive build failed, out of disk space,...) occurred. Try again later. If the problem persists, contact your helpdesk. |

- Upgrade from PC:

| Message | Due to |
|---|---|
| Failed to upload new software version from your computer. If problem persists, contact your helpdesk. | Loss of connectivity. Try again after a reboot of your SpeedTouch™. |
| Could not install the new software version. If problem persists, contact your helpdesk. | An internal error (switch over from active to passive build failed, out of disk space,...) occurred. Try again after a reboot of your SpeedTouch™. If the problem persists, contact your helpdesk. |



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## Upgrade via Setup CD

If the Upgrade Wizard in step 4, as described in " Upgrade procedure" on page 187, does not find any SpeedTouch™ on the network, an error window will appear, stating your SpeedTouch™ has not been found.

In this case check that:

- The SpeedTouch™ is turned on and fully initialised.
- Your PC is correctly connected to the SpeedTouch™.
- Your PC has a valid IP address. To check this in MS Windows:
  1. In the Windows task bar, click **Start**.
  2. Select **Run...**
  3. Type **cmd** in the **Open** field.
  4. Click **OK**. A black window will appear with a flashing cursor.
  5. Type **ipconfig** and then press Enter.
  6. Verify that your computer has a valid IP address, that is any address but 0.0.0.0.
- No dedicated firewall device or router is placed between your PC and the SpeedTouch™.
- No personal firewall software is running on your PC.

To repeat the search for your SpeedTouch™, click **Back** or restart the wizard. As soon as the wizard finds your SpeedTouch™, you can continue with the Upgrade Wizard.



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# 8.2 UPnP™ on Windows XP Systems

## SpeedTouch™ not detected by UPnP™ or IGD Control Client

Check on following:

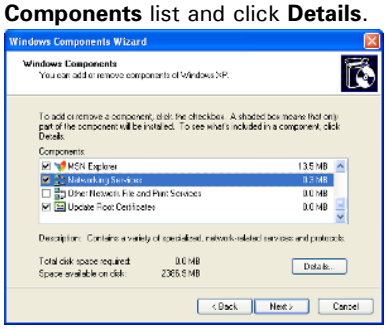
- Make sure the UPnP™ and Internet Gateway Device Control Client Networking components are added to your MS Windows XP system.
- Your computer doesn't support UPnP™ if you run an operating system other than MS Windows XP and MS Windows Millennium.
- Make sure that UPnP™ is not disabled in the SpeedTouch™ web page; see "4.5.2 Game & Application Sharing" on page 69.

## Adding UPnP™

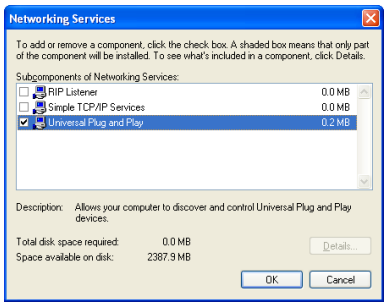
If you are running Microsoft Windows XP, it is recommended to add the UPnP™ component to your system.

Proceed as follows:

1. On the **Start** menu, click **(Settings >) Control Panel**.
2. The **Control Panel** window appears. Click **Add or Remove Programs**.
3. In the **Add or Remove Programs** window appears, click **Add/Remove Windows Components**.
4. In the **Windows Components Wizard**, select **Networking Services** in the **Components** list and click **Details**.




5. In the **Networking Services** window, select **Universal Plug and Play** or **UPnP User Interface** and click **OK**.




6. Click **Next** to start the installation and follow the instructions in the **Windows Components Wizard**.
7. At the end of the procedure the wizard prompts you that the installation was successful. Click **Finish** to quit.



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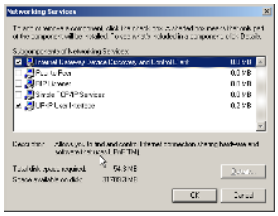
## Adding IGD Discovery and Control

Your MS Windows XP system is able to discover and control Internet Gateway Devices (IGD), like the SpeedTouch™ on your local network. Therefore it is recommended to add the IGD Discovery and Control client to your system.

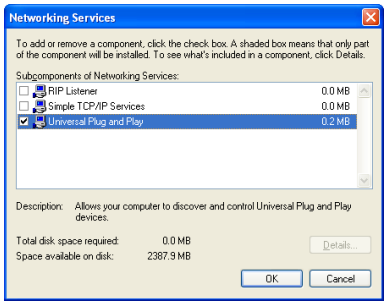
Proceed as follows:

1. On the Windows task bar, click **Start**.
2. Select **(Settings >) Control Panel** > **Add or Remove Programs**.
3. In the **Add or Remove Programs** window, click **Add/Remove Windows Components**.
4. The **Windows Components Wizard** appears:



Select **Networking Services** in the **Components** list and click **Details**.

5. In the **Networking Services** window, Select **Internet Gateway Device Discovery and Control Client** and click **OK**.




6. Click **Next** to start the installation and follow the instructions in the **Windows Components Wizard**.
7. At the end of the procedure the wizard prompts you that the installation was successful. Click **Finish** to quit.



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# 8.3 Reset to Factory Defaults

## Resetting your SpeedTouch™

You might consider a reset to factory defaults as described below.

Be aware that a reset to factory defaults will revoke all configurational changes you made to the SpeedTouch™.

You can choose between:

- Hardware reset
- Software reset

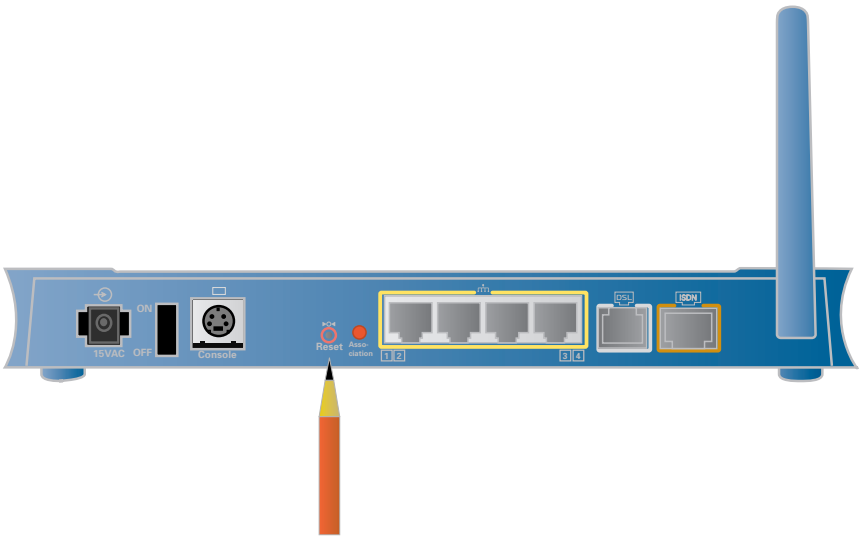
A reset to factory default settings deletes the configuration profile settings. Therefore, after the reset, a reconfiguration of your SpeedTouch™ will be needed.

Also your WLAN clients will have to be re-associated, as described in "2.2.2 Connecting First-time Wireless Clients" on page 24.

## Hardware reset

Proceed as follows:

1. Make sure the SpeedTouch™ is powered on.
2. Use a pen or an unfolded paperclip to push the recessed reset button on the back panel. The reset button is marked with a red circle. Keep it pushed until the power LED lights red - this will take about 7 seconds.




3. Release the reset button.
4. The SpeedTouch™ restarts.

Your system administrator may have disabled the physical reset button of the SpeedTouch™. In this case, a hardware reset to defaults is not possible.



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## Software reset

Proceed as follows:

1. Go to the SpeedTouch™ web pages.
2. In the menu select **SpeedTouch > Configuration**.
3. In the **Pick a task...** list, click **Reset my SpeedTouch to default settings**.
4. The SpeedTouch™ restarts.
5. The SpeedTouch™ returns to the SpeedTouch™ Home page (unless the IP address of your computer is not in the same subnet as the default IP address of the SpeedTouch™, being 192.168.1.254).



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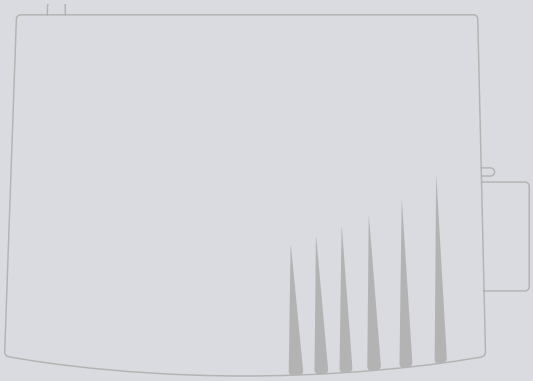

## Need more help?

Additional help is available online at www.speedtouch.com

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