SmoothWall Express

Installation Guide

SmoothWall Express, Installation Guide, SmoothWall Limited, July 2007

Contents

Welcome to SmoothWall Express

In this chapter:

• An overview of SmoothWall Express

• About this documentation and who should read it

• System and hardware information

• GPL, registration and support information.

Welcome

Welcome to SmoothWall Express and secure Internet connectivity.

SmoothWall Express is an open source firewall distribution based on the GNU/Linux operating system. Designed for ease of use, SmoothWall Express is configured via a web-based GUI and requires absolutely no knowledge of Linux to install or use.

SmoothWall Express enables you to easily build a firewall to securely connect a network of computers to the Internet.
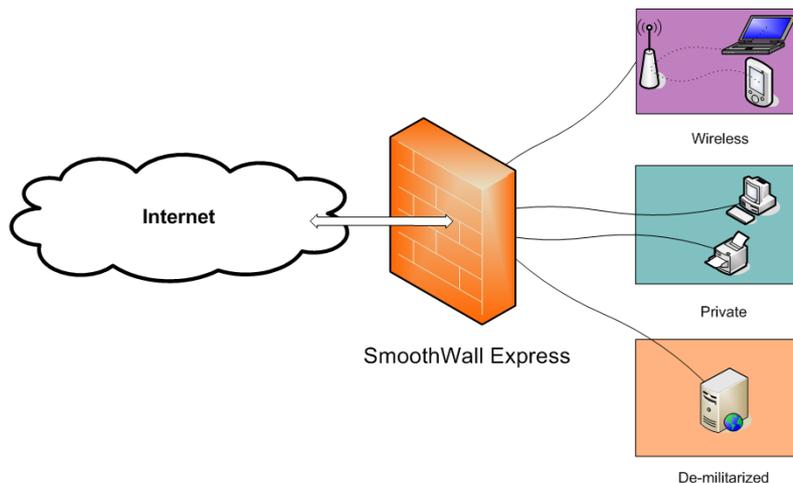
Almost any Pentium-class PC can be used, for example, an old low specification PC long redundant as a user workstation or server. SmoothWall Express creates a dedicated hardware firewall, offering the facilities and real security associated with hardware devices.

SmoothWall Express comes pre-configured to stop all incoming traffic that is not the result of an outgoing request. The rules files that implement this policy are part of the system configuration and should not normally be edited by other than the configuration procedure.

Note: If any of the Linux system or configuration files are changed by other than the SmoothWall Express configuration and installation procedures, there is a risk of compromising security, for which the SmoothWall Express Project Team cannot be held responsible.

However, we do not discourage people from experimenting with and further developing their SmoothWall Express – it is just that we must point out that ill-conceived or badly executed changes might compromise the security of the SmoothWall Express system.

Who should read this guide?

Anyone installing and maintaining SmoothWall Express should read this guide.

Other Documentation and User Information

https://my.smoothwall.org/ – here you can create a my.SmoothWall profile, access more documentation and sign up for newsletters and more information.

http://www.smoothwall.org/ – this is the home of the SmoothWall Express community, containing the collective wisdom of hundreds of SmoothWall Express experts in forums, FAQs and IRC channels.

System and Hardware Specifications

Note: Requirements may vary depending on traffic throughput and processing requirements, which themselves vary according to the number and size of protected networks.

The following specifications are the minimum hardware specifications and recommendations for SmoothWall Express:

System/hardware	Requirement/recommendations
Processor	Intel Pentium 200 or compatible processors.
Memory	128 megabytes of RAM. More RAM is required for additional services.
Storage	2 gigabytes hard disk – IDE and SCSI devices supported.
Network interface cards	A minimum of one supported network interface card (NIC). If the connection to the Internet is via a broadband device such as a cable modem, ethernet-presented ADSL, or another ethernet-presented connection, you will need a second NIC.
Keyboard	If the system BIOS supports boot without keyboard, this is only required for the initial installation.
Video card	Only required when installing SmoothWall Express.
Monitor	Only required when installing SmoothWall Express.
CD-ROM	Only required when installing SmoothWall Express.

System/hardware	Requirement/recommendations	
Floppy drive	Recommended for upgrading from previous versions.	
Internet connection type	Internet	a suitable NIC is required.
	ADSL	a supported PCI or USB modem is required.
	ISDN	a supported ISDN card or external RS232 or USB connected adapter is required.
	Modem	a modem, a supported RS232, ISA or PCI modem is required.

About Registration

The first time you connect to the Internet from your newly installed SmoothWall Express, a registration script runs once only.

In a manner similar to the way in which a web site cookie records a small amount of information for future viewing of that particular site, the registration script sends a few key pieces of information about your installation back to SmoothWall Limited. This data enables the development team to gauge the type of platforms on which SmoothWall Express is being deployed and to better judge what features it would be helpful to add to future releases.

Note: Please note that none of this information is sensitive and that all the information is stored securely in our database according to BS5750 and the Data Protection Act requirements.

SmoothWall Limited does not capture any other user information or any other data secretly or covertly – all information recorded is impersonal.We appreciate your concerns about security and data integrity.

If you would like to voluntarily provide any further information to assist the future development of products there is a registration form on the web site that can be used for this purpose.

The following system information is recorded:
*   The date of installation
*   The processor type and speed
*   Interface configuration
*   SmoothWall Express Version
*   The size of hard drive present
*   The amount of memory (RAM) present
*   A list of PCI and USB devices installed.

GPL and Open Source Software

SmoothWall Express is licensed under the General Public Licence (GPL); see http://www.gnu.org/ and http://www.copyleft.org/ for the full terms and conditions of the licence.

All program code written specifically for SmoothWall Express is licensed under the GPL, the copyright to which remains with the original author.

All code contributed to SmoothWall Express by SmoothWall Limited, even if previously released as part of their commercial products, is licensed under the GPL, the copyright of the code remaining with SmoothWall Limited.

The CD image file (.iso) by which SmoothWall Express is distributed also contains a large amount of Linux operating system and general purpose code, libraries etc. that was not written specifically for SmoothWall Express. Indeed, it is the use of this pre-existing code base that makes the open source concept so powerful and enabled the rapid development of the initial SmoothWall Express firewall.

The licensing and copyright of all this non SmoothWall Express specific code is the responsibility of the original author, i.e. the person who wrote the code. In general this code is licensed under the GPL or the Lesser GPL (LGPL).

In adherence with the terms of the GPL, any changes that have been made to other people's GPL or LGPL licensed code in the creation of SmoothWall Express are published by the SmoothWall Express open source project team via the http://www.smoothwall.org/ web site. All program code specifically written for SmoothWall Express is also available from the web site. You can reproduce, modify or distribute any of this code without payment of any royalty or fees – but you are expected to publish any changes that you make so that other may benefit, especially if you distribute your changed code to other people.

Open source is not shareware and vice versa. Shareware may be available 'free of charge', without royalties or fees but the whole source code of the software is not usually made freely available to you, unlike open source. The confusion is a result of the English language having two meanings for the word free, as in free of charge and free as in liberty (free to do what you want).

Your use and installation of SmoothWall Express acknowledges your acceptance of the terms of the GPL.

You are encouraged to participate in and support the open source movement. The Free Software Foundation (FSF) is generally seen as the champion of the open source movement and you are encouraged to support their efforts to promote and defend open source.

Need some help?

Support for SmoothWall Express is provided by way of mailing lists and forums accessible by visiting: http://community.smoothwall.org/

This support is provided on an entirely voluntary basis by members of the SmoothWall Express open source community. Nobody is paid to provide support for SmoothWall Express. Thus, the SmoothWall Express open source project team cannot be held responsible for the quality, accuracy or timeliness of the information provided by the volunteers who are kind enough to offer their time and knowledge to the benefit of others.

For those users, particularly commercial users, who want professional support, we recommend the use of SmoothWall Limited's commercial products which are fully supported by both SmoothWall Limited and its world-wide network of resellers. For further details see SmoothWall Limited's web site at: http://www.smoothwall.net/

Installing SmoothWall Express

In this chapter:

* Warning!
* Program messages and conventions
* How to install SmoothWall Express.

Note: This is beta documentation. What you see on your screen and the information in this document may, and probably will, differ.

Also, cross references and other information may be incorrect.

If you would like to send me constructive feedback or make suggestions about the documentation, you can contact me at docs@smoothwall.net

Warning!

Do not install SmoothWall Express on your main or only workstation – all data on the workstation's hard disk will be lost.

Installing SmoothWall Express **ERASES ALL DATA** from the workstation's hard disk. Before you start the installation, ensure that all valuable data is safely backed up.

SmoothWall Limited cannot be held responsible for any loss of data.

Messages and Conventions

SmoothWall Express's installation and initial setup programs use a text-based interface that is compatible with all types of graphic card.

The following keyboard controls are used to interact with the programs:

Key	Explanation
Arrows	Move the cursor/focus/highlight between options.
Tab	Advances the focus to the next screen object.
Space	Clicks a button if it has the focus.
Enter or Return	Clicks a button if it has the focus. Clicks **Ok** if the focus is not currently on a button.

The following on-screen buttons are used throughout the installation and setup process:

Button	Explanation
Cancel	Exits the current section of the installation or setup process without saving or activating any changes.
	If the Setup program is being run as part of the first-time setup process, the Cancel button will exit the setup program and require the installation process to be restarted.
Done	Indicates that configuration of the current feature is complete. Changes will be saved and activated and control will return to the menu or installation procedure.
Finished	Exits once all configuration changes have been completed in the Setup program.
Ok	Confirms the selection of the highlighted option, acknowledges a message or proceeds to the next screen.

Installing SmoothWall Express

SmoothWall Express's install is designed to run on a workstation with a bootable CD-ROM drive. It automatically checks the workstation and hardware components and installs SmoothWall Express accordingly.

To install SmoothWall Express:

1   Browse to http://www.smoothwall.org/ and download and burn a CD of SmoothWall Express.

2   Insert the CD into the CD drive of the workstation you want to use as a firewall appliance and reboot. The following screen is displayed:
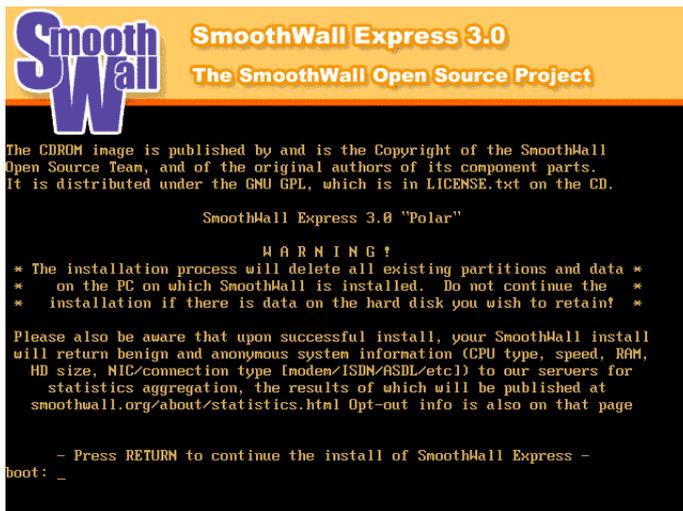
3   After reading the information, press **Enter**. The following dialog box opens:

4   Press Enter to continue.

The following dialog box opens:

5   Press Enter to continue. The following dialog box opens:
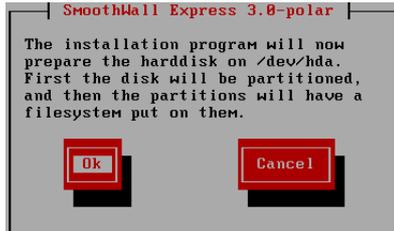
6   Press Enter. The following dialog box opens:

Note: The installation process **ERASES ALL DATA** from the workstation's hard disk. Ensure that all valuable data is safely backed up before you continue. The SmoothWall Express Open Source Project cannot be held responsible for any loss of data.

7   Press Enter to continue. SmoothWall Express files are installed. When complete, the Congratulations! dialog box opens:

8   Press Enter.

The following dialog box opens:

```
┤ SmoothWall Express 3.0-polar ├

Do you want to restore the configuration for this SmoothWall
Express from a previous installation using a backup floppy
disk? If you select 'Yes', the areas which were restored from
the backup will be automatically configured and will not be
displayed to you. This can also be used to restore settings
from a previous version of SmoothWall Express.

        No                              Yes
```
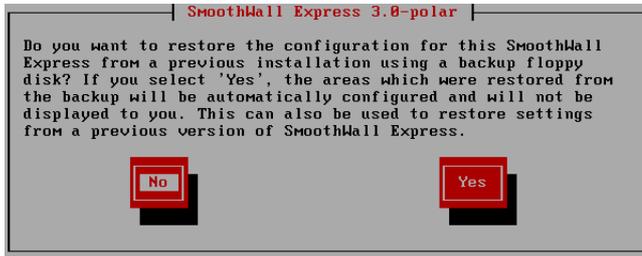
Note: If you select Yes here, you access upgrade and restore options for existing SmoothWall Express systems. For information on upgrading SmoothWall Express, see *Chapter 3, Upgrading to SmoothWall Express* on page 17.

9 Select **No** and press Enter to start configuring your new installation of SmoothWall Express. The Keyboard mapping dialog box opens:

```
┤ Keyboard mapping ├

Choose the type of keyboard you are using
from the list below.

        trq                      ↑
        ua
        ua-utf
        ua-utf-ws                #
        ua-ws
        uk                       ↓

        Ok                   Cancel
```
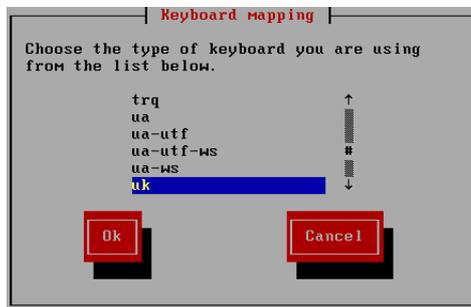
10 Select your keyboard type and press Enter to continue. The Hostname dialog box opens:

```
┤ Hostname ├

Enter the machine's hostname.
    smoothwall_____

        Ok                   Cancel
```
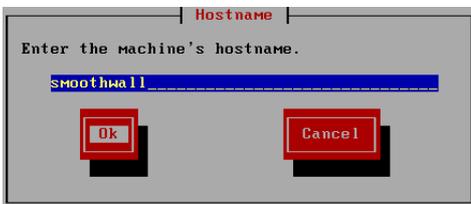
Here you can specify a hostname for SmoothWall Express.

Note: We recommend that you only use lowercase characters in the hostname.

- You can use hyphens '-' and dots '.'.

- You cannot use numbers, spaces, underscores '_' or any other wildcard or punctuation characters except '.'.

  The default hostname is smoothwall. If you have multiple SmoothWall Express systems, use unique hostnames.

11 If you want to use a different hostname, enter it. Select **Ok** and press Enter to continue.

The Default security policy dialog box opens:

```
┤ Default security policy ├

Select the default security policy for outgoing requests.
This setting does NOT affect incoming requests in any way,
which are always blocked unless explicitily allowed.

  'Open' : all outgoing requests are allowed (this is the
same as previous versions of SmoothWall Express).
  'Half-open' : most outoing requests are allowed, except
for potentionally harmful ones.
  'Closed' : all outgoing requests are blocked, and must
be explicitly enabled on the ports and services you require.

                    Open
                    Half-open
                    Closed


        Ok                        Cancel
```

The following policies are available.

Policy	Description
Open	SmoothWall Express allows all outgoing requests. This is how previous versions of SmoothWall Express worked.
Half-open	The default policy, SmoothWall Express allows most outgoing requests and blocks potentially harmful requests.
Closed	SmoothWall Express blocks all outgoing requests. Anything to be allowed must be explicitly enabled.

12 Select the security policy that suits your requirements. Select **Ok** and press Enter. The Network configuration menu opens, for example:

```
┤ Network configuration menu ├

Current config: GREEN (RED is modem/ISDN)

         Network configuration type
         Drivers and card assignments
         Address settings
         DNS and Gateway settings


      Ok                    Done
```
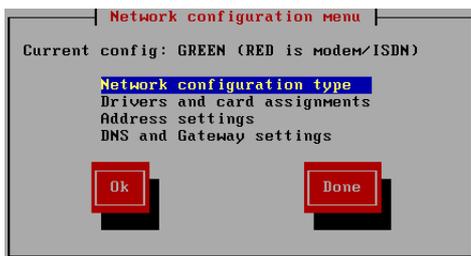
13 Select **Network configuration type** and press Enter.

The Network configuration type dialog box opens:
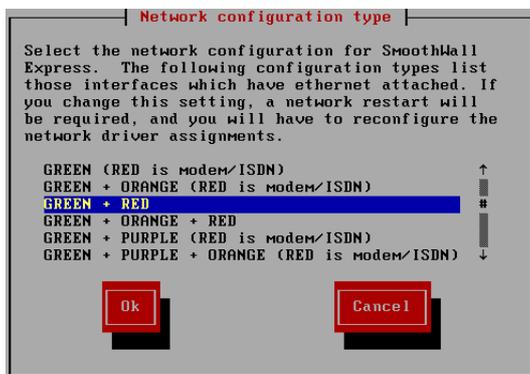
SmoothWall Express supports the following network configuration types:

Type	Explanation
Green (Red is modem/ISDN)	Select if SmoothWall Express will use: • a network interface card (NIC) to connect to the internal network it is protecting • a modem or ISDN card to connect to the Internet or external network.
Green + Orange (Red is modem/ISDN)	Select if SmoothWall Express will use: • a NIC to connect to the internal network it is protecting • a NIC to connect to a de-militarized zone • a modem or ISDN card to connect to the Internet or external network.
Green +Red	Select if SmoothWall Express will use: • a NIC to connect to the internal network it is protecting • a NIC to connect to the Internet or external network.
Green + Orange + Red	Select if SmoothWall Express will use: • a NIC to connect to the internal network it is protecting • a NIC to connect to a de-militarized zone • a NIC to connect to the Internet or external network.
Green + Purple (Red is modem/ISDN)	Select if SmoothWall Express will use: • a NIC to connect to the internal network it is protecting • a NIC to connect to a wireless network • a modem or ISDN card to connect to the Internet or external network.
Green + Purple + Orange (Red is modem/ ISDN)	Select if SmoothWall Express will use: • a NIC to connect to the internal network it is protecting • a NIC to connect to a wireless network • a NIC to connect to a de-militarized zone • a modem or ISDN card to connect to the Internet or external network.

Type	Explanation
Green + Purple + Red	Select if SmoothWall Express will use: • a NIC to connect to the internal network it is protecting • a NIC to connect to a wireless network • a NIC to connect to the Internet or external network.
Green + Purple + Orange + Red	Select if SmoothWall Express will use: • a NIC to connect to the internal network it is protecting • a NIC to connect to a wireless network • a NIC to connect to a de-militarized zone • a NIC to connect to the Internet or external network.

14 Select the configuration type that fits your network. Select **Ok** and press Enter. You return to the Network configuration menu.

15 Select **Drivers and card assignments** and press Enter to continue. The Drivers and card assignments dialog box opens, for example:
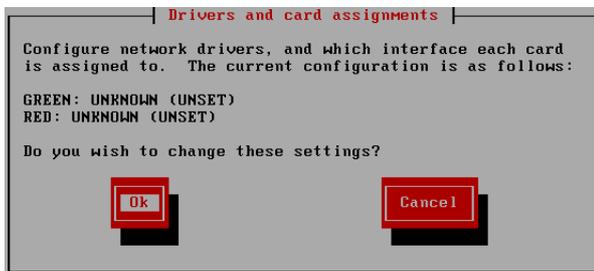
Depending on the type of network configuration you selected, you are prompted to configure the network drivers and interfaces required.

16 Select **Ok** and press Enter to continue. The Card assignment dialog box opens:

17 Select **Probe** and press Enter to automatically detect NICs.

Note: If you choose Select, you will be prompted to enter NIC information manually. Consult the documentation delivered with your NIC(s) and follow SmoothWall Express online instructions if you want to configure the cards manually.

Information on the NIC(s) detected is displayed, for example:
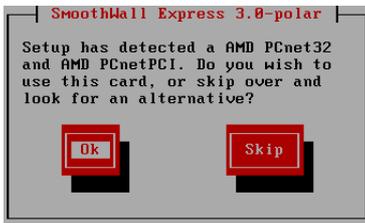
18   Select **Ok** and press Enter to continue. The Card assignment dialog box opens, for example:

19   Select **GREEN** and press Enter. Repeat the steps above to assign cards to the interfaces on your network.When complete, the following dialog box opens.

20   Press Enter to return to the Network configuration menu. Select **Address settings** and press Enter. The Address settings dialog box opens, for example:

21   Select **GREEN** and press Enter. The following dialog box opens:
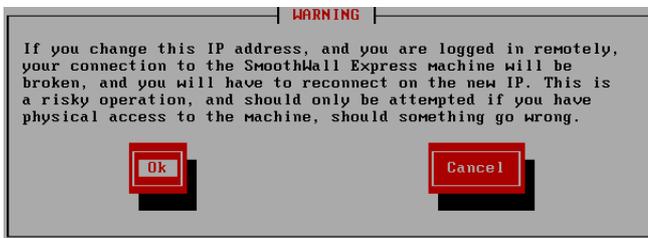
Note: The information displayed only applies if you are working with SmoothWall Express remotely.

22   Press Enter to continue.

The Interface dialog box opens, for example:

23   Enter the following information:

Field	Enter
IP address	The IP address that this SmoothWall Express NIC will use, for example: `192.168.72.142`
Network mask	The network mask used in conjunction with the IP address to define the network that this NIC belongs to, for example: `255.255.255.0`

24   Select **Ok** and press Enter. You return to the Address settings dialog box:

25   Repeat the steps above to configure addresses for orange and/or purple networks if you are using them.

26   If you are using a modem or ISDN card for Internet connectivity, select **Done** and press Enter to return to the Network configuration menu and go to step 31. Otherwise, for ethernet connections, select **RED** and press Enter.

The following dialog box opens:

27   The following options are available:

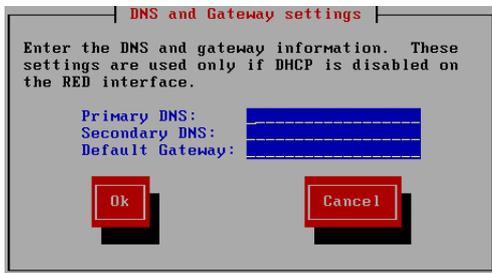| Option	Explanation
Static	Select this option if you want SmoothWall Express to use a static IP address that has been assigned by your Internet Service Provider (ISP).

Option	Explanation
DHCP	Select this option if your ISP dynamically assigns you a different IP address each time you connect to the Internet.
PPPOE	Select this option if your ISP uses Point-to-Point Protocol over Ethernet (PPPoE) to connect you to the Internet.
DHCP Hostname	If you have selected DHCP, you can change the DHCP hostname here.
IP address	If you have selected Static, enter the static IP address to be used.
Network mask	If you have selected Static, accept the default or enter a new network mask to be used.

28 When complete, select **Ok** and press Enter. In the Address settings dialog box, select **Done** and press Enter.

29 In the Network configuration menu, select **DNS and Gateway settings** and press Enter. The DNS and Gateway settings dialog box opens:

30 Configure the following settings:

Option	Explanation
Primary DNS	Enter the IP address of your ISP's primary DNS server. Secondary DNS.
Secondary DNS	Optionally, enter your ISP's secondary DNS server.
Default Gateway	Enter the IP address of the router that provides the connection between your ISP and SmoothWall Express.

31 Select **Ok** and press Enter. In the Network configuration menu dialog box, select **Done** and press Enter.

The Section menu is displayed:

The following dialog boxes appear:

This menu is used when configuring advanced installations, modem and ISDN connections. For more information, see *Chapter 4, Configuring Advanced Options* on page 19.

32 Select **Finished** and press Enter to continue with the installation process. The following dialog box opens:

33 Enter the following information:

Field	Explanation
Password	Enter a strong password for the admin account. Minimum = 6 characters Maximum = 25 characters The admin account is used to access SmoothWall Express via a web browser and carry out routine configuration and management.
Again	Re-enter the password to confirm it.

34 Select **Ok** and press Enter. The following dialog box opens:

35   Enter the following information:

Field	Explanation
Password	Enter a strong password for the root account. Minimum = 6 characters Maximum = 25 characters The root account has complete control of SmoothWall Express and is used to log on to the SmoothWall Express console via SSH on the non-standard port 222.
Again	Re-enter the password to confirm it.

36   Select **Ok** and press Enter. The following dialog box opens:

37   Select **Ok** and press Enter to reboot the workstation.

After rebooting, you can access SmoothWall Express from a network client running a web browser. For more information, see *Chapter 5, Accessing SmoothWall Express* on page 27.

Upgrading to SmoothWall Express

In this chapter:

- How to upgrade from an earlier version of SmoothWall Express by installing the latest version and re-using the settings from your current SmoothWall Express.

Prerequisites

In order to upgrade from an earlier version of a SmoothWall system, you must have:

- An archive containing the settings you want to use in the new version, see the Administrator's Guide delivered with your current SmoothWall system for information on how to archive settings for upgrades

- Carried out the initial SmoothWall Express installation, see *Chapter 2, Installing SmoothWall Express* on page 5 for more information.

Upgrading to the Latest Version

To upgrade to the latest version of SmoothWall Express:

After completing the initial installation, see *Chapter 2, Installing SmoothWall Express* on page 5, the following screen is displayed:
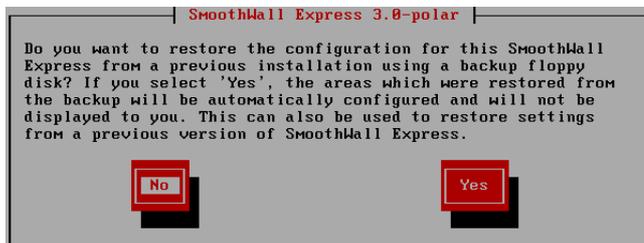
1   Select **Yes** and press Enter. The following screen is displayed, for example:

2   Insert the floppy containing the archive of settings, select **Ok** and press Enter.

The Select backup screen is displayed, for example:
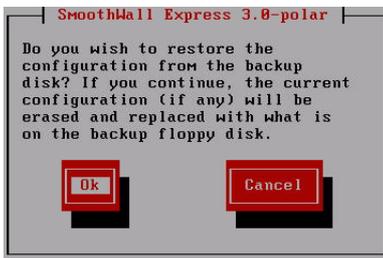
3   Select **Ok** and press Enter. The following screen is displayed:

4   Select **Ok**, remove the floppy and press Enter. The installation program deploys your existing settings to the latest version of SmoothWall Express and displays the Keyboard mapping screen:
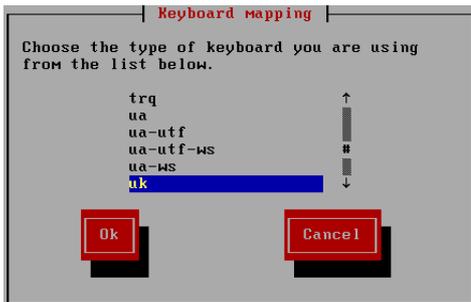
5   See *Chapter 2, Installing SmoothWall Express* on page 5 for information on how to complete upgrading SmoothWall Express.

Configuring Advanced Options

In this chapter:

• Configuring web proxy settings if required by your ISP

• Configuring ISDN, ADSL and DHCP settings.

Configuring Web Proxy Settings

Note: As the majority of Internet Service Providers (ISPs) do not use web proxy servers, it is unlikely that you will need to make changes on this screen. If your ISP does use a proxy server, you should already be aware of the configuration details. If you do not, consult your ISP.

Some ISPs require you to connect to the Internet via a web proxy server. The Setup program's Web proxy option enables you to configure SmoothWall Express to use such a proxy server. This ensures that SmoothWall Express will be able to connect to the Internet, register itself and download any updates available from SmoothWall Limited.

To configure web proxy settings required by your ISP:

Note: These settings do not apply to your SmoothWall Express proxy service.

1 From the Section menu, select **Web proxy**. The following screen is displayed:

2 Enter the following information:

Field	Enter
Hostname	The hostname of the web proxy your ISP requires you to use to access the Internet. Contact your ISP if you are unsure of the address.
Port	The port number of the port used by the web proxy. 80 and 8080 are the most commonly used ports for web proxies. Contact your ISP if you are unsure of the number.

Note: The settings here have nothing to do with SmoothWall Express's own web proxy service, which is configured separately using the web-based interface. See the *SmoothWall Express Administrator's Guide* for more information.
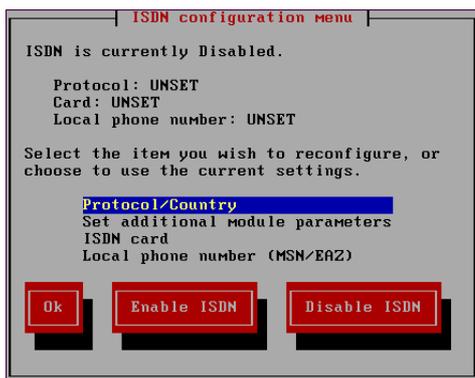
3   Select **Ok** to return to the Section menu. To continue with the Setup program, select another Section menu option and press Enter. To end the Setup program, select **Finished** and press Enter.

If you have finished with the Setup program, the next step is to set administration account passwords. For more information, see *Chapter 2, Installing SmoothWall Express* on page 5.

Enabling ISDN

The Section menu's ISDN configuration option enables you to configure a wide range of ISDN devices for use with SmoothWall Express.

To enable ISDN:

1   From the Section menu, select **ISDN Configuration**. The ISDN configuration menu screen is displayed:

```
┤ ISDN configuration menu ├

 ISDN is currently Disabled.

    Protocol: UNSET
    Card: UNSET
    Local phone number: UNSET

 Select the item you wish to reconfigure, or
 choose to use the current settings.

        Protocol/Country
        Set additional module parameters
        ISDN card
        Local phone number (MSN/EAZ)


   Ok         Enable ISDN        Disable ISDN
```

The following options are available:

Option	Explanation
Protocol/ Country	Lists regional settings. Consult your ISP documentation for details regarding which protocol and country settings to use.
	To specify an ISDN protocol:
	1 On the ISDN configuration menu screen, select **Protocol/Country** and press Enter. The following screen is displayed:
	``` ┤ ISDN protocol selection ├ Choose the ISDN protocol you require. German 1TR6 Euro (EDSS1) Leased line US NI1 Ok Cancel ```
	2 Select the protocol you want to use and press Enter to continue.

Option	Explanation
Set additional module parameters	Sets additional address information for legacy ISDN devices. Refer to your ISDN device to determine if additional parameters need to be set. **To set additional parameters:** **1** On the ISDN configuration menu screen, select **Set additional module parameters** and press Enter. The following screen is displayed: *Some ISDN cards (especially ISA ones) may require additional module parameters for setting IRQ and IO address information. If you have such a ISDN card, enter these extra parameters here. For example: "io=0x280 irq=9". They will be used during card detection.* **2** Enter any the parameters required and press Enter to continue.
ISDN card	Lists supported ISDN devices and includes the AUTODETECT option. We recommend that you use auto-detection. If auto-detection is not possible, refer to your ISDN device documentation and select the appropriate device from the menu. **To specify your ISDN card type:** **1** On the ISDN configuration menu screen, select **ISDN card** and press Enter. The following screen is displayed: *Choose the ISDN card installed in this system. Please note that USB ISDN (ST5481) will not be detected via the AUTODETECT feature.* * AUTODETECT * Teles 16.0 Teles 8.0 Teles 16.3 (non PnP) Teles 16.3c Teles PCI Creatix/Teles PnP AVM A1 (Fritz) AVM ISA/PCI ELSA PCC/PCF cards **2** Select **AUTODETECT** to auto-detect your ISDN card. Or, select your ISDN card type from the list. **Note:** It is not possible to automatically detect USB ISDN devices. Consult your ISDN device documentation and manually specify an appropriate ISDN card from the list. **3** Press Enter to continue. **Note:** Many ISDN cards are re-badged cards from a major manufacturer. It is not unusual for the auto-detection feature to report the card as being from a different manufacturer. Consult your SmoothWall Limited representative if you need more information on hardware compatibility.

Option	Explanation
Local phone number (MSN/EAZ)	Used to enter the local phone number on which the ISDN service is enabled. **To enter the phone number:** **1** On the ISDN configuration menu screen, select **Local phone number (MSN/EAZ)** and press Enter. The following screen is displayed: ![ISDN Configuration screen showing "Enter the local phone number (MSN/EAZ)." with Ok and Cancel buttons] **2** Enter the phone number and press Enter to continue.
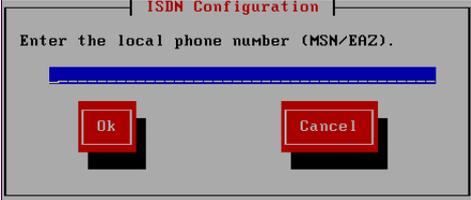
After configuring the settings, the ISDN configuration menu screen displays the settings, for example:

![ISDN configuration menu screen: ISDN is currently Disabled. Protocol: Leased line, Card: UNSET, Local phone number: 55512345. Select the item you wish to reconfigure, or choose to use the current settings. Protocol/Country, Set additional module parameters, ISDN card, Local phone number (MSN/EAZ). Buttons: Ok, Enable ISDN, Disable ISDN]
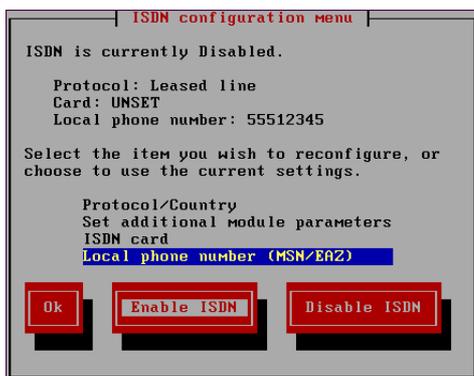
3 Select **Enable ISDN** and press Enter to enable your ISDN settings and return to the Section menu.

Note: You must complete the configuration using SmoothWall Express's web-based interface. See the *SmoothWall Express Administrator's Guide* for more information.

4 To continue with the Setup program, select another Section menu option and press Enter. To end the Setup program, select **Finished** and press Enter.

If you have finished with the Setup program, the next step is to set administration account passwords. For more information, see *Chapter 2, Installing SmoothWall Express* on page 5.
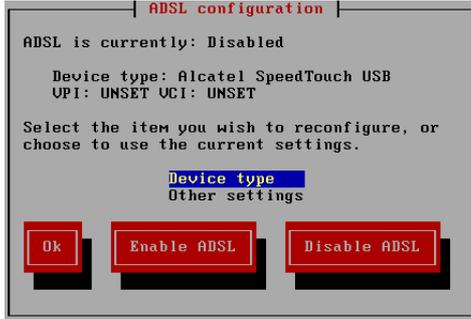
Enabling ADSL

The Section menu's ADSL configuration option allows you to configure and enable a wide range of ADSL devices for use with SmoothWall Express.
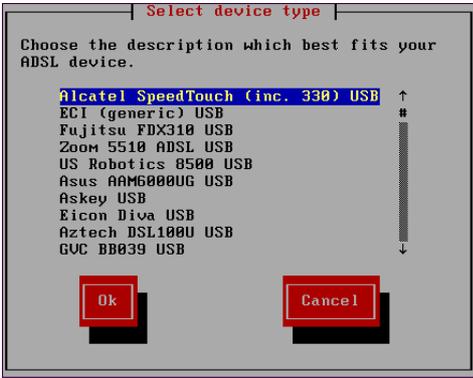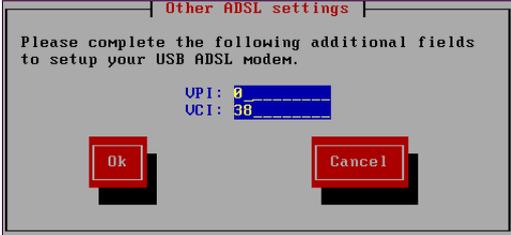
Note: You only need to enable ADSL when using a PCI or USB ADSL modem. If presentation is by Ethernet, this is not needed.
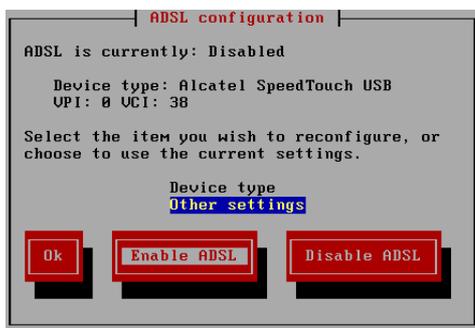
To enable ADSL:

1   From the Section menu, select **ADSL Configuration**. The ADSL configuration screen is displayed:

The following options are available:

Option	Explanation
Device type	Specifies the ADSL device type. **To specify an ADSL device:** **1** On the ADSL configuration screen, select **Device type** and press Enter. The following screen is displayed: **2** Select the type of ADSL device you want to use and press Enter to continue.
Other settings	Sets the Virtual Path Identifier (VPI) and Virtual Circuit Identifier (VCI). Refer to your ADSL device documentation for more information on your device. The default settings are suitable for UK users. **To specify other settings:** **1** On the ADSL configuration screen, select **Other settings** and press Enter. The following screen is displayed: **2** Enter the VPI value. The default setting = 0. **3** Enter the VCI value. The default setting = 38. **4** Press Enter to continue.

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After configuring the settings, the ADSL configuration screen displays the settings, for example:

```
                ┤ ADSL configuration ├
  ADSL is currently: Disabled

     Device type: Alcatel SpeedTouch USB
     VPI: 0 VCI: 38

  Select the item you wish to reconfigure, or
  choose to use the current settings.

                  Device type
                  Other settings

  ┌─────┐      ┌───────────────┐      ┌───────────────┐
  │ Ok  │      │  Enable ADSL  │      │  Disable ADSL │
  └─────┘      └───────────────┘      └───────────────┘
```

5   Select **Enable ADSL** and press Enter to enable your ADSL settings and return to the Section menu.

Note: You must complete the configuration using SmoothWall Express's web-based interface. See the *SmoothWall Express Administrator's Guide* for more information.

6   To continue with the Setup program, select another Section menu option and press Enter. To end the Setup program, select **Finished** and press Enter.

If you have finished with the Setup program, the next step is to set account passwords. For more information, see *Installing SmoothWall Express* on page 6.
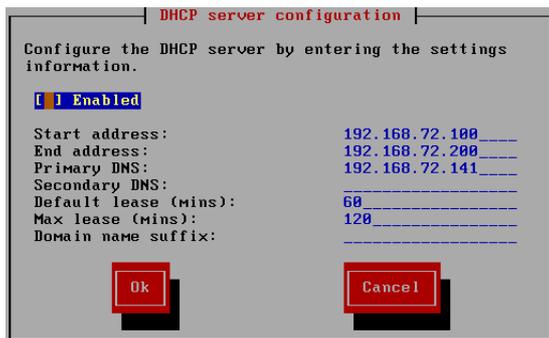
Enabling DHCP

The Section menu's DHCP option enables you to use SmoothWall Express's Dynamic Host Configuration Protocol (DHCP) server to provide all the necessary network information for the client desktop computers on your Green (local) network.

Note: The following process is designed to get DHCP up and running fast. You should configure DHCP completely using SmoothWall Express's web interface after you complete the setup process. See the *SmoothWall Express Administrator's Guide* for more information.

To enable DHCP:

1   From the Section menu, select **DHCP**. The DHCP server configuration screen is displayed:

```
              ┤ DHCP server configuration ├
  Configure the DHCP server by entering the settings
  information.

  [ ] Enabled

  Start address:               192.168.72.100____
  End address:                 192.168.72.200____
  Primary DNS:                 192.168.72.141____
  Secondary DNS:               _____
  Default lease (mins):        60_____
  Max lease (mins):            120_____
  Domain name suffix:          _____

            ┌───────┐            ┌───────┐
            │  Ok   │            │ Cancel│
            └───────┘            └───────┘
```

2   Press the spacebar to enable the DHCP server and enter the following information:

Field	Information
Start address	Enter the first IP address you want SmoothWall Express's DHCP server to offer to its client PCs.

Field	Information
End address	Enter the highest IP address that SmoothWall Express's DHCP server will allocate.
Primary DNS	SmoothWall Express also runs a DNS proxy server and can provide a DNS service to all network clients that connect through it.
	By default, the primary DNS is set to the IP address of the internal network connection you configured earlier.
	You can accept this DNS or enter another DNS server, such as your ISP's.
Secondary DNS	Optionally, enter the IP address of a second DNS server to use if the primary DNS becomes unavailable.
Default lease (mins)	Enter the default lease time, in minutes, that a client PC can retain an IP address provided by the DHCP server. Upon expiry of the lease, the client PC has to re-request a new IP address. For most users, this field should be left at its default value.
Max lease (mins)	Enter the maximum lease time, in minutes, to specify the maximum length of time that a client PC can retain an IP address provided by the DHCP server. Upon expiry of the lease, the client PC has to re-request a new IP address. For most users, this field should be left at its default value.
Domain name suffix	Entering a domain name suffix entry allows you to define the domain name that will be given to systems requesting an IP address.
	For many small networks this field should be left blank.

3   After reviewing the information you have entered, select **Ok** and press Enter to return to the Section menu.

4   To continue with the Setup program, select another Section menu option and press Enter. To end the Setup program, select **Finished** and press Enter.

Accessing SmoothWall Express

In this chapter:

- How to access SmoothWall Express for the first time
- Connecting to the Internet if you are using a modem
- Checking for updates
- More resources.

Accessing SmoothWall Express for the First Time

Note: The examples in the following sections are illustrated using Mozilla Firefox. You can access and administer SmoothWall Express using a browser of your choice.

To access SmoothWall Express for the first time:

1 In the browser of your choice, enter the address of your SmoothWall Express, for example: `https://192.168.72.142:441`

Note: The example address uses HTTPS to ensure secure communication with SmoothWall Express. You can use HTTP on port 81 if you are satisfied with less security.

2 Accept SmoothWall Express's certificate.

3 When prompted by your browser, enter the following information:

Field	Information
Username	Enter admin. This is the name of the default SmoothWall Express administrator account.
Password	Enter the password you specified for the admin account when installing SmoothWall Express.

4 Click **OK**. The Control > home page opens. What is displayed on the Control > home page depends on how you have configured SmoothWall Express during installation.

If you have configured SmoothWall Express to use NICs only, the following is displayed:

If you have configured SmoothWall Express to use NIC(s) and a modem or ISDN card for Internet connectivity, the following is displayed:

5   If you are using NICs only, see *Installing Updates* on page 33 for more information on how to proceed. If you are using a modem, see *Connecting Using a Modem/ISDN Card* on page 29 on how to get connected.
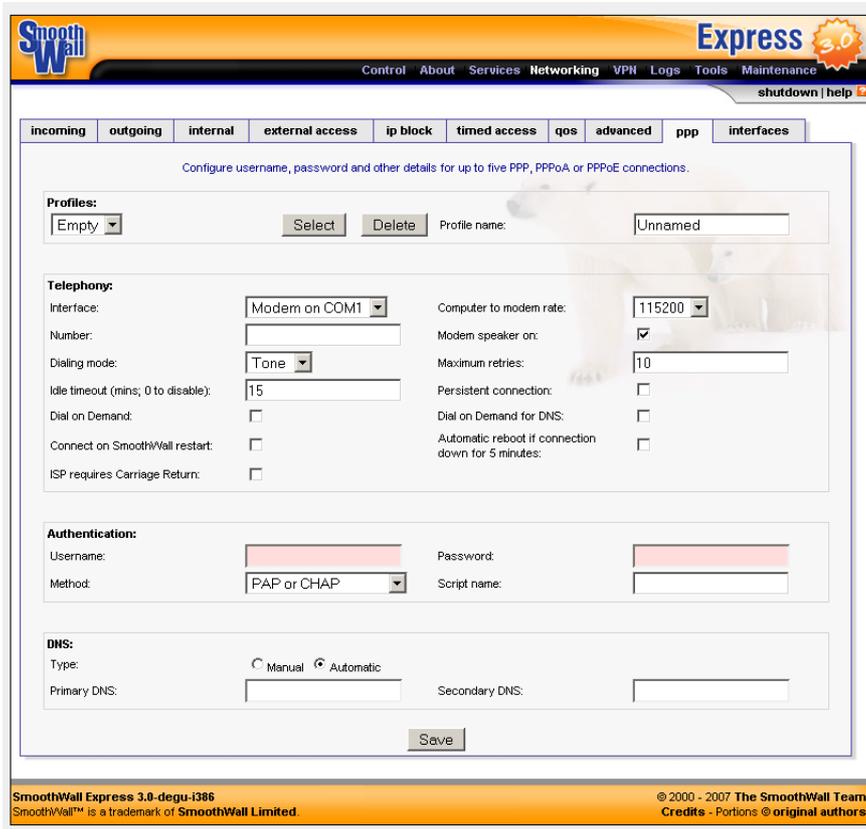
Connecting Using a Modem/ISDN Card

If during installation, you configured your network type to use a modem or ISDN card to connect to the Internet or external network, the following is displayed:

To connect using a modem or ISDN card:

1 Browse to the **Networking > ppp settings** page:

Note: The settings available depend on if you are using a modem or ISDN card.

2   Consult the connection information your ISP has provided and then enter the following information:

Setting	Information
Profile name	Enter a descriptive name for the connection.
Interface	From the drop-down list, depending on the type of connection you are creating, select one of the following: **Modem on COM** – the modem and the COM port it is on **Single ISDN** – if your connection uses single ISDN **Dual ISDN** – if your connection uses dual ISDN **PPPoE** – if your connection is Point-to-Point Protocol over Ethernet **ADSL** – if your connection uses an ADSL modem.
Computer to modem rate	The default is usually sufficient and ensures that modems with data compression capabilities run at their maximum possible speed. **Note:** Old 486 PCs may need this rate to be reduced to 57,600 bits/second.
Number	Enter your ISP's dial-in access modem number.
Modem speaker on	Select to turn on the modem speaker, if it has one.
Dialing mode	From the drop-down list, select the dialling mode used by your telephone exchange.
Maximum retries	Accept the default number or enter a different number of failed dial attempts before SmoothWall Express stops trying to connect. After this number, SmoothWall Express will not try to dial again until you click Dial on the Control > home page. **Note:** This number applies even if the Persistent connection option is enabled.
Idle timeout (mins; 0 to disable)	Determines the length of inactivity before SmoothWall Express drops the connection when used in non-persistent connections. The default is 15 minutes. Set this option to zero (0), to disable it. **Note:** When disabled, you will have to disconnect and hang-up manually.
Persistent connection	Select to enable SmoothWall Express to keep the link to your ISP up and available for use all of the time – if the connection drops, it will automatically be re-dialled.

Setting	Information
Dial on Demand	Select to configure SmoothWall Express to automatically connect to the ISP detailed in the current profile whenever a user on the network initiates a connection to the Internet.
	Note: If dial on demand is enabled and your Internet connection is charged on a per minute basis, you may get an unpleasant surprise when the next telephone bill arrives!
	Note: You still have to click Connect on the Control > home page to start SmoothWall Express.
Dial on Demand for DNS	Select to configure SmoothWall Express to dial up to the Internet each time a DNS request is made by any machine on the local network – this can happen a lot when reading e-mail with embedded HTML, for example.
	Note: If not selected, SmoothWall Express will not dialup to the Internet each time a DNS request is made, but only when a specific connection is requested. This is one simple way to help reduce telephone charges when the ISP connection is one that is paid for on a per minute basis.
Connect on SmoothWall restart	Select to configure SmoothWall Express to automatically connect to the ISP after being rebooted.
Automatic reboot if connection down for 5 minutes	Select to configure SmoothWall Express to automatically reboot if the Red interface is detected as being down for 5 minutes.
	This option is primarily intended for users of Alcatel USB ADSL modems which appear not to automatically reconnect in some circumstances.
	Note: This option cannot be used in conjunction with Dial on Demand.
ISP requires Carriage Return	Select this option if your ISP requires that the modem send a carriage return to signal it has finished sending.
Service name	For PPPoE connections, enter the name of the PPPoE service.
Concentrator name	For PPPoE connections, enter the name of the PPPoE concentrator.
Keep second channel up	For ISDN connections, select this option to control the action of the second data channel for high-speed, 128Kbit access.
	If the data throughput keeps changing, this may cause the ISDN channel to go up and down. Selecting this option will force the second channel to remain up, instead of automatically closing once the data-rate decreases below a threshold where the second channel is of no benefit.
Minimum time to keep second channel up (sec)	For ISDN connections, select this option to stop the second channel repeatedly going up and down due to the threshold being exceeded for short periods of time.
	You can enter a higher value to force the second channel to stay up for longer, so a momentary lull in the data traffic will not cause the second channel to go down.
Username	Enter the username supplied by your ISP.

Setting	Information
Password	Enter the password supplied by your ISP.
Method	Select one of the following authentication methods: **PAP or CHAP** – this is the most common method used by ISPs **Standard login script** – uses a standard text-based login script **Demon login script** – uses the UK Demon Internet ISP's modified version of the standard login script to connect to Demon's authentication servers **Other login script** – enables you to use a custom login script if none of the other methods are suitable. **Note:** If you need this, you will need to login to SmoothWall Express as the root user and create the file in `/etc/ppp`
Script name	If you have selected the Other login script method, enter the script's name.
Type	Here you determine DNS details. Select form the following: **Manual** – enter the IP addresses of your ISP's DNS server **Automatic** – select if your ISP supports automatic DNS server configuration.
Primary DNS	If you select Manual as the DNS type, enter the primary DNS server IP address.
Secondary DNS	Optionally, if you select Manual as the DNS type, enter the secondary DNS server IP address.

3   Click **Save** and browse to the **Control > home** page:
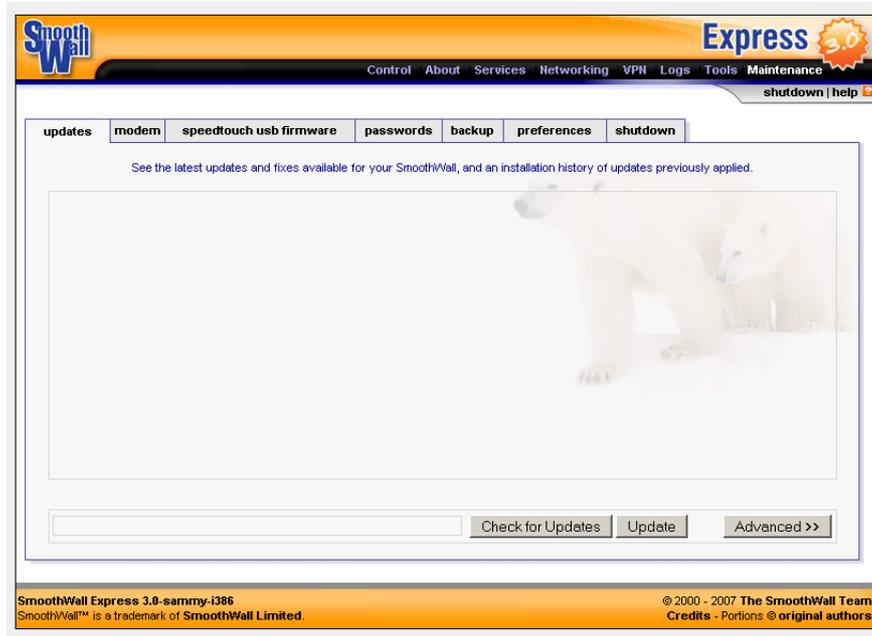

4   Click **Connect** to connect SmoothWall Express to the Internet.

Installing Updates

The next step is to ensure that your SmoothWall Express system has the latest updates installed.

To check for and install updates:

1   Navigate to the **Maintenance > updates** page:

2   Click **Check for updates**. The Updates area displays any updates available.

3   Select the updates from the list and click **Update**.

You can now review SmoothWall Express functionality. For more information, see the *SmoothWall Express Administrator's Guide*. Visit https://my.smoothwall.org/ for more information.

Where to go next?

To keep up to date with the latest in the world of SmoothWall Express, we recommend that you visit:

•   https://my.smoothwall.org/ – where you can create a my.SmoothWall profile, access more documentation, sign up for newsletters and get fun stuff, themes and much more

•   http://www.smoothwall.org/ – home of the SmoothWall Express community, containing the collective wisdom of hundreds of SmoothWall Express experts in forums, FAQs and IRC channels.