



Service Managed Gateway™

How to Configure an ISDN Connection

Issue 1.2
Date 1 February 2006

1	Introduction	3
1.1	What is ISDN?	3
1.2	What is PPP?	3
2	Configuring an ISDN connection over frame relay	5
2.1	The Fast Start wizard	5
2.2	Disabling Activation	5
2.3	Generating an ISDN connection	8
2.3.1	Configuring the LAN (optional)	9
2.3.2	Costwatch – Advanced Configuration (optional).....	10
2.4	Saving the ISDN configuration	15
2.5	Modifying an existing ISDN connection	19
2.6	Removing an ISDN connection	21
3	Connecting the SMG to Activator	24
3.1	What is Activator?	24
3.2	Configuring an Activator connection on the SMG.....	24
3.2.1	Configuring an Activator connection	24

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1 Introduction

1.1 What is ISDN?

Integrated Systems Digital Network (ISDN) is an international communications standard that allows voice, data, and video information to be transferred over normal copper telephone wires or digital telephone lines at a rate of 64 Kbps. B-channels carry data and voice information, as well as other services, and a D-channel transmits control and signalling information.

1.2 What is PPP?

The Point-to-Point Protocol (PPP) is defined industry standard used widely to allow two devices to communicate across a logical link. PPP is extensively deployed by service providers as a means of connecting customers to Internet Protocol (IP)-based services, such as the Internet.

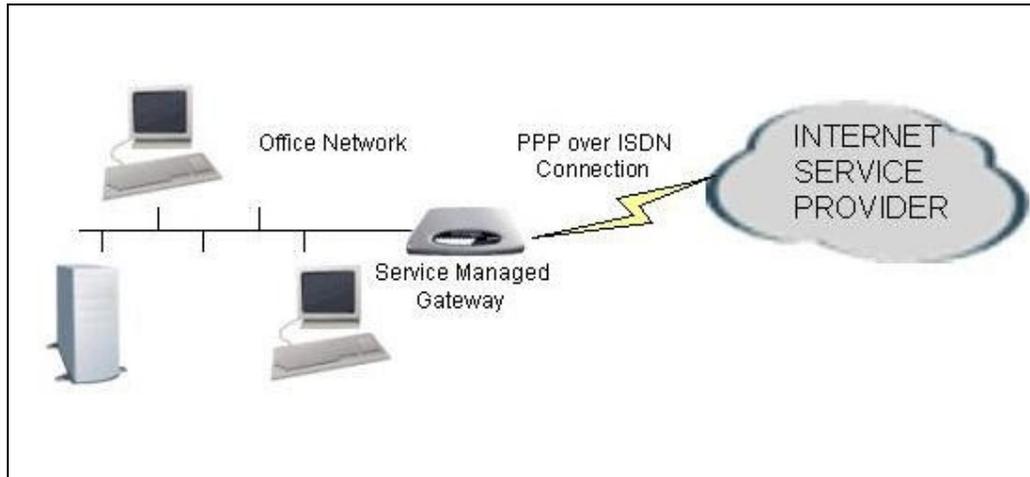


Figure 1: Using PPP to connect to branch office networks

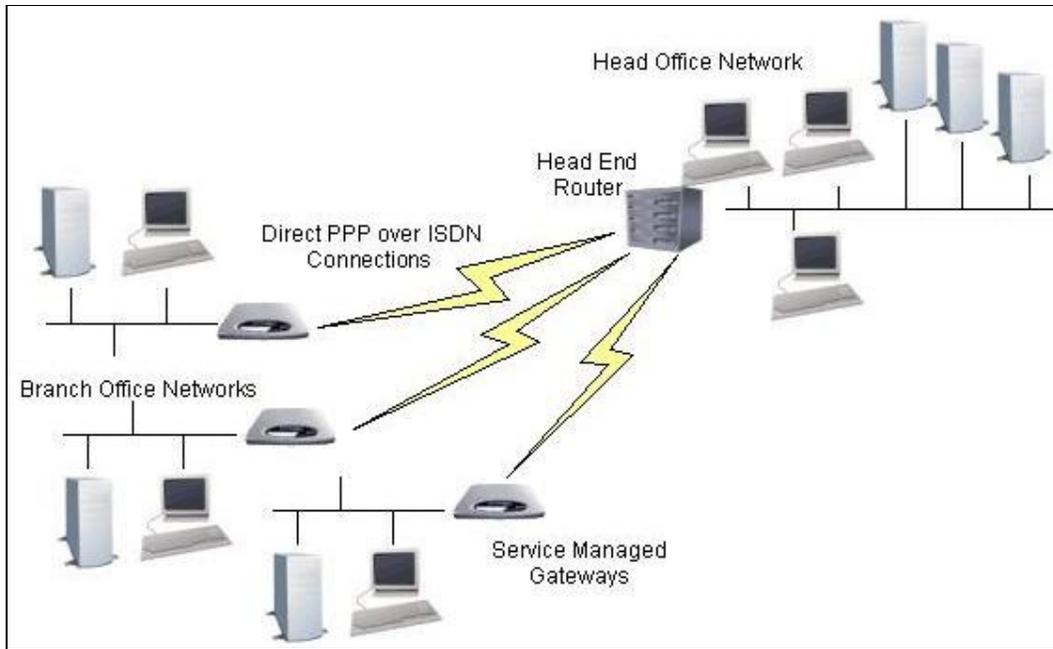


Figure 2: Configuring an ISDN Connection over PPP

2 Configuring an ISDN connection over frame relay

2.1 The Fast Start wizard

Your Service Managed Gateway is designed to be automatically configured by the Activator Distributed System (DSS) upon correct installation of the SMG.

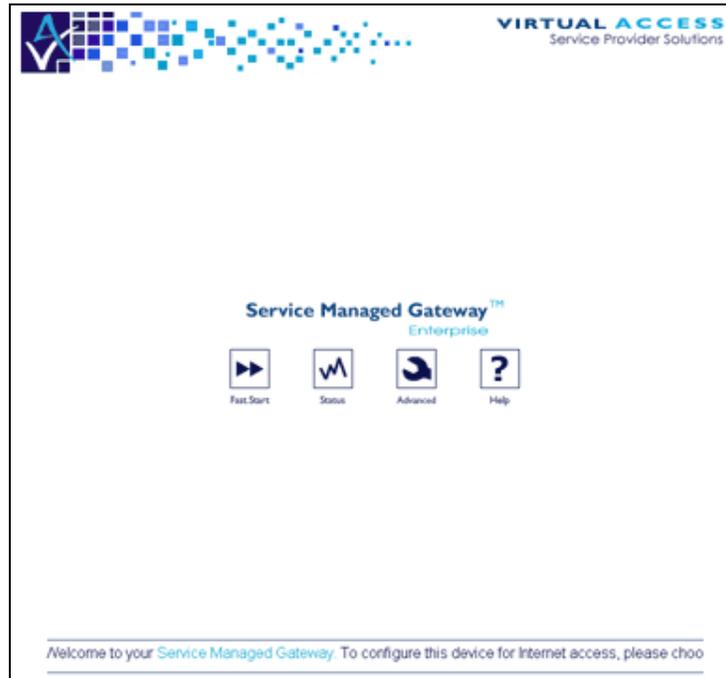


Figure 3: The Service Managed Gateway home page

If necessary, you can bypass Activation and use the Fast Start Wizard to manually configure the SMG. See the ISDN installation guide in the main documentation for details of how to complete the physical installation. When the SMG is correctly connected to your PC, type `fast.start` into the URL line of your browser to display the Start page.

Access the Fast Start Wizard by clicking the `Fast.Start` icon on the home page of the Service Managed Gateway web.

The Fast Start wizard guides you through a series of forms that you must complete to configure the SMG.

2.2 Disabling Activation

When you click the `Fast.Start` icon, the status of the Activation process appears.

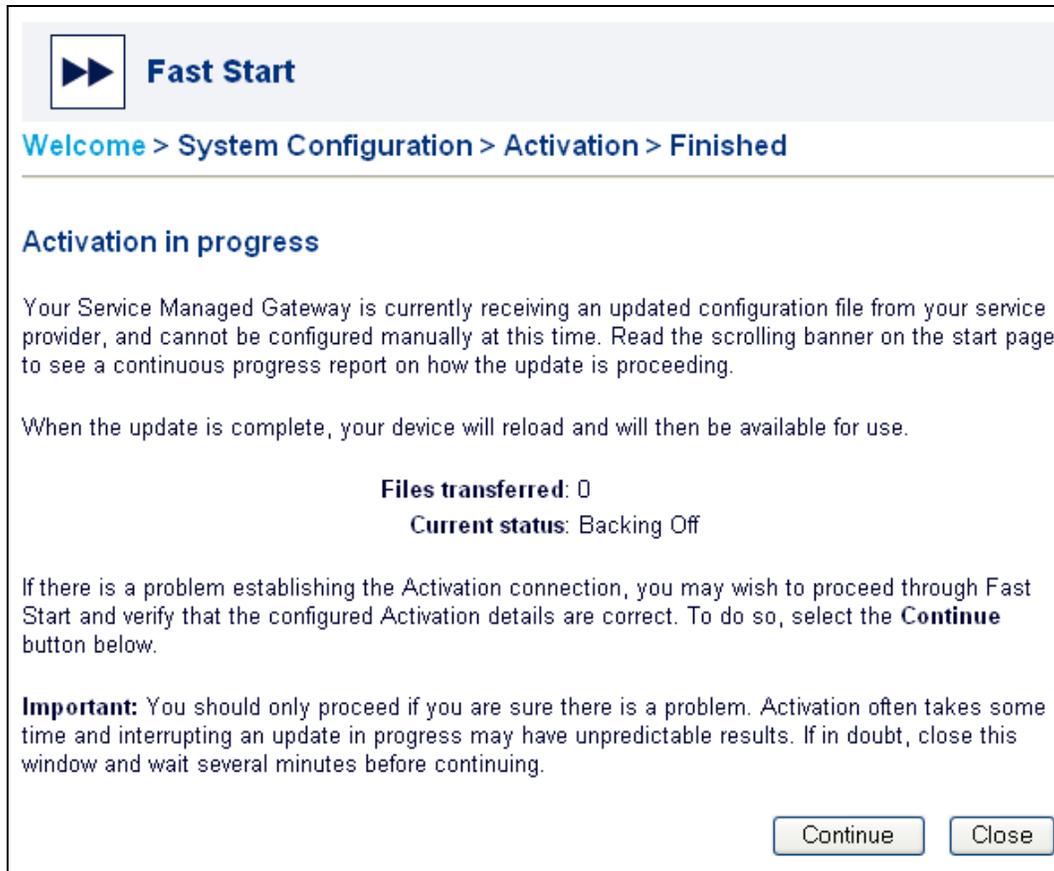


Figure 4: The Activation in progress page

To manually configure the SMG, you must disable Activation. To do this, click the Continue button. If you do not need to stop Activation, click Close.

Warning! Do not disable Activation unless you are sure there is a problem or if you must manually Activate your Service Managed Gateway.

Click **Continue**. The Welcome page appears.

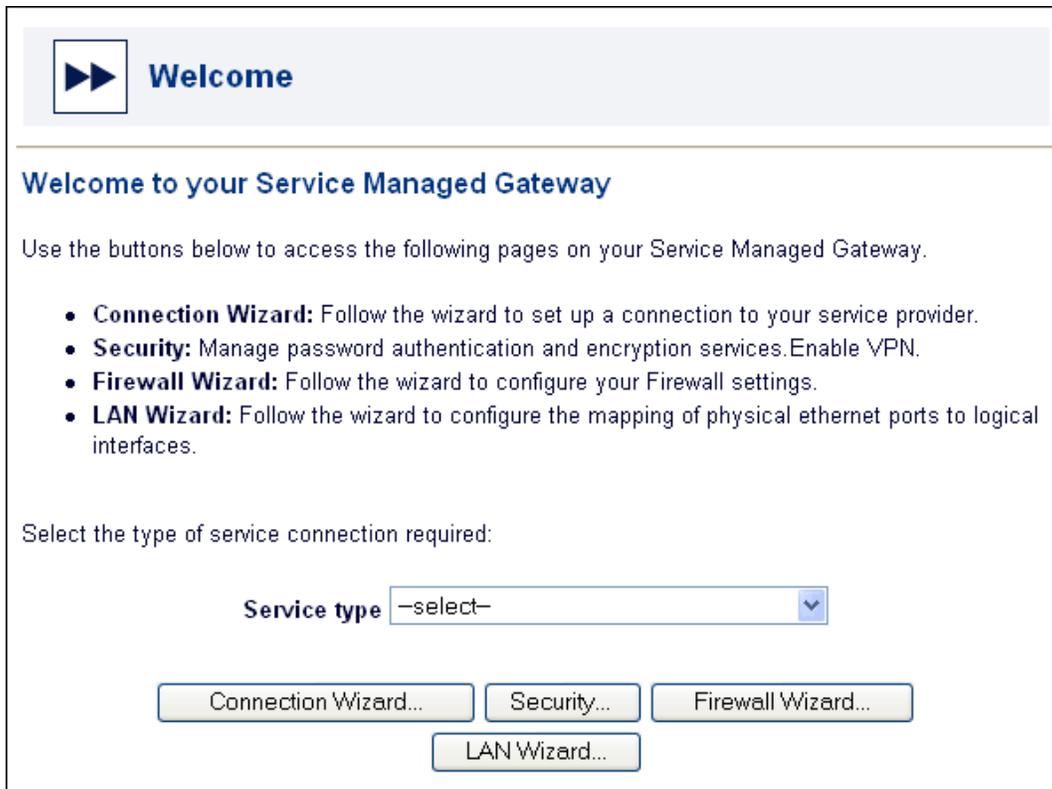


Figure 5: The Welcome page

From the Service type drop-down list, select **Routed ISDN PPP Connection**.



Figure 6: The dialog box that lets you cancel Activation

To allow Activation to continue, click **Cancel**. The dialog box closes and Activation continues.

To disable Activation, click **OK**. If you click **OK**, the Activation process ends and the next page of the Fast Start wizard appears.

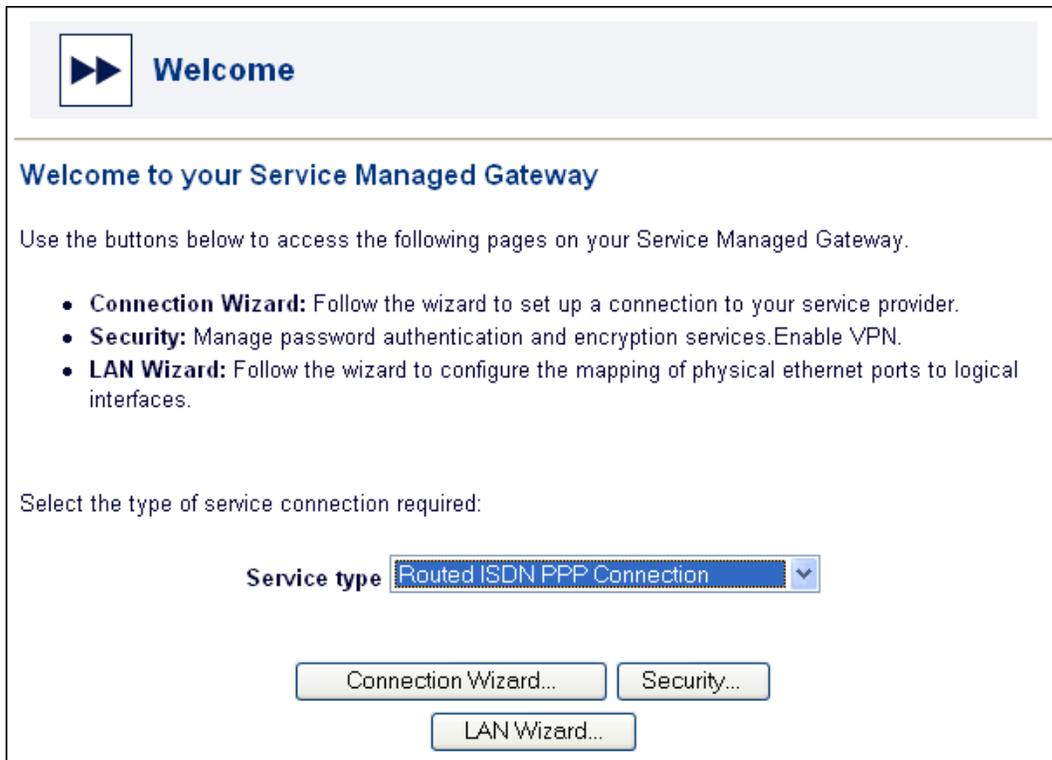


Figure 7: The Welcome page

Click **Connection Wizard** to open the Connections page.

2.3 Generating an ISDN connection

The Connections page of the ISDN Connections Wizard allows you to set up an ISDN connection over Point-to-Point Protocol (PPP).

On the Connections page, a table displays existing links, if any, and offers you the option of adding a PPP connection.

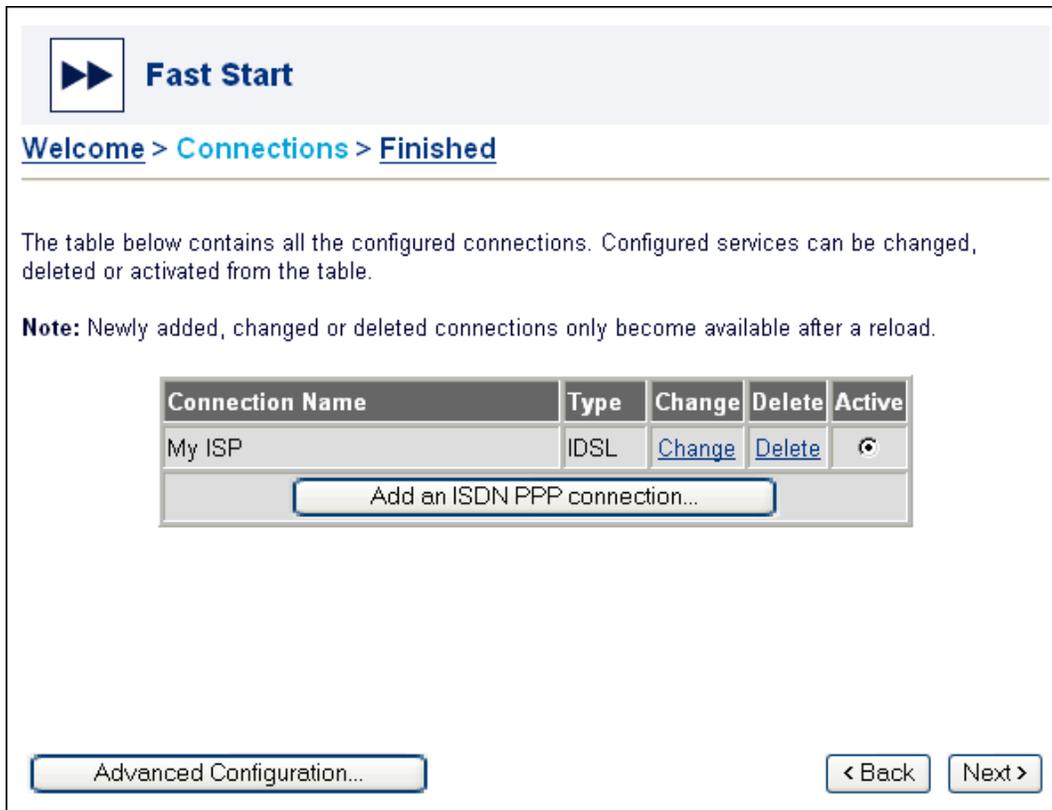


Figure 8: The Connections page

For information about how to alter LAN settings, read section 2.3.1, 'Configuring the LAN (optional)'.

For information about how to configure costwatch, read section 2.3.2, 'Costwatch – Advanced Configuration (optional)'.

Click **Add an ISDN PPP connection**. The message 'Creating new ISDN connection' appears momentarily, followed by the Fast Start page entitled Access the Internet as a client using ISDN.

2.3.1 Configuring the LAN (optional)

To alter LAN settings for your connection, click the **LAN Configuration** button on the Welcome page. The LAN Configuration pop-up window opens.

Eth-0 LAN Configuration

Service Managed Gateway local address settings:

Ethernet Interface

IP address . . .

IP address mask . . .

Provide DHCP Addresses

Enabled

Addresses from to

Figure 9: The LAN Configuration window

Ethernet Interface

Use the 'IP address' and 'IP address mask' fields to configure IP details for the LAN.

Provide DHCP Addresses

You can configure the Dynamic Host Configuration Protocol (DHCP) to provide addresses automatically by setting the Enabled field to 'yes'. To prevent the DHCP from distributing addresses automatically, set this field to 'no'. You can also determine the number of addresses to be used by specifying a range.

After you configure the LAN settings, click **OK** to close the pop-up window and return to the Connections page.

2.3.2 Costwatch – Advanced Configuration (optional)

Your Service Managed Gateway supports a feature called Costwatch. Costwatch monitors events on the SMG and alerts you by email to any situations that may result in unnecessary ISDN call charges.

To enable Costwatch, click the **Advanced Configuration** button on the Connections page. The Advanced Configuration page appears.

Advanced Configuration Page

Now select your ISDN service type from the list below.

ISDN service type

CostWatch is a feature that will notify you by email of situations which may lead to unnecessary ISDN call charges. CostWatch will notify you of:

- an excessive number of data calls
- an excessive amount of total call time
- an excessively long individual data call

Such events may indicate a misconfigured PC application, a problem with your service connection, or simply a need for increased bandwidth.

Send messages to (e.g. user@company.com)

Mail server name (e.g. mail.company.com)

Leave these details blank if you prefer not to use CostWatch. Use the **Advanced Settings** button below to change the default notification settings. After completing Fast Start, you can use the Test CostWatch option in Advanced to ensure that email notification is working correctly.

Figure 10: The Advanced Configuration window

ISDN service type

Select the appropriate ISDN service type from the drop-down list provided.

Send messages to

Enter an e-mail address to which Costwatch can send alert messages

Mail server name

Enter your e-mail server (SMTP server) name in this field.

You can alter the default Costwatch settings. Click the **Advanced Settings** button. The Costwatch Advanced Settings window appears.

CostWatch Advanced Settings

Select the events for which you would like to receive email notification:

Excessive single call duration ▼
Notify if any one call exceeds minutes

Excessive total call duration ▼
Notify if total call duration exceeds minutes per day

Excessive number of calls ▼
Notify if number of calls exceeds per hour

Figure 11: The Costwatch Advanced Settings window

After you configure the appropriate values in the fields provided, click **OK** to close the Costwatch Advanced Settings window.

Click **OK** to enable Costwatch and close the Advanced Configuration window.

Generating and configuring an ISDN PPP connection

To generate an ISDN PPP connection, click **Add an ISDN PPP** connection on the Connections page. The message Creating new IDSL Frame Relay connection appears, and then the page entitled Access the Internet as a client using ISDN appears. Enter details about network access on the Access the Internet page.

Access the Internet as a client using ISDN

Connection name (e.g. My ISP)

ISDN access number of your ISP

Connection username

Connection password

Re-enter connection password

Stay connected for the first minutes

Disconnect if idle for more than minutes

Use **Advanced Network Options** if you need to configure any options not listed above.

Figure 12: The Access the Internet as a client using ISDN page

Connection name

Specify a descriptive Connection name. This name identifies the connection for maintenance functions such as viewing connection statistics.

ISDN access number of your ISP

Enter the number that must be dialled to connect to your Internet service provider.

Connection username/password

In most cases, your service provider requires that you enter a login and password to access Internet services.

Enter your login name in the Connection username field. Enter your password in the Connection password field.

For security, an asterisk (*) appears each time you type a character. To verify that you typed the password correctly, re-enter it in the Re-enter connection password field.

Connection time

You can determine connection timeouts to ensure that users don't remain connected for long periods when the connection is not being used. Use the lower two fields on this form to set timeout parameters. At this point you can click **OK** to configure the connection.

Before you configure the connection, you may want to set additional parameters that are not listed above. To do this, click the Advanced Network Options button. This opens the Advanced ISDN Network Options pop-up window:

Advanced ISDN Network Options

Please refer to the User Guide for details of these parameters.

MultiLink enabled

Second MultiLink telephone number
(usually blank)

1-B to 2-B threshold %

2-B to 1-B threshold %

IP address obtained automatically (No details)

DNS address obtained automatically (No details)

IP address translation enabled

OK Cancel

Figure 13: The Advanced ISDN Network Options window

MultiLink enabled

You can configure the SMG to support multilinks. To do this, set the MultiLink enabled field to 'yes'. This provides the capability to use more than one ISDN B-channel for the service, which can reduce traffic congestion at times of high use.

1-B to 2-B threshold

Using this field, you can determine how full the first B-channel must be before the second B-channel opens. In this case, once the first B-channel reaches 80% saturation, the second B-channel starts taking network traffic.

2-B to 1-B threshold

Using this field, you can set a saturation level for the second B-channel at which the B-channel closes. In the above example, when use of the B-channel is 20% or less, that B-channel closes, and all traffic is handled by the first B-channel.

IP address obtained automatically

If the connection is assigned a permanent IP address, change the IP address obtained automatically entry to 'no', then click Details to display the IP Addressing pop-up window.

IP Addressing

Local PPP IP address . . .

Remote PPP IP address . . .

PPP IP address mask . . .

Figure 14: The IP Addressing window

Enter the IP address and subnetwork mask assigned to your connection by your ISP in Local PPP IP address and PPP IP address mask, respectively. Click **OK**.

DNS address obtained automatically

The Domain Name System (DNS) is used to associate host names with IP addresses. The DNS server is responsible for tracking these associations. Usually the DNS address is obtained automatically. If this is not the case, set the DNS address obtained automatically entry to 'no', then click Details to display the DNS Addressing pop-up window:

DNS Addressing

Primary DNS IP address . . .

Secondary DNS IP address . . .

Figure 15: The DNS Addressing window

Enter the IP address of the primary DNS server in Primary DNS IP Address. If applicable, enter the IP address of the secondary DNS server, in Secondary DNS IP Address.

Click **OK** to close the DNS Addressing window.

IP address translation enabled

IP address translation can be used to 'hide' the devices on the local LAN by substituting the IP address of the originating device with the IP address of the SMG. Set IP address translation enabled to 'no' if IP address translation is to be disabled for the leased line connection.

Click **OK** to close the Advanced ISDN Network Options pop-up window. Click **OK** to close the Access the Internet as a client using ISDN page and return to the Connections page.

2.4 Saving the ISDN configuration

Click **OK** on the Access the Internet as a client using ISDN page. The new or altered connections appear on the Connections page.

Fast Start

[Welcome](#) > [Connections](#) > [Finished](#)

The table below contains all the configured connections. Configured services can be changed, deleted or activated from the table.

Note: Newly added, changed or deleted connections only become available after a reload.

Connection Name	Type	Change	Delete	Active
My ISP	IDSL	Change	Delete	<input type="checkbox"/>

[Add an ISDN PPP connection...](#)

[Advanced Configuration...](#) [< Back](#) [Next >](#)

Figure 16: The Connections page, showing new or changed connections

Note: Reload the SMG to make newly-configured connections available.

Click **Next** to open the Finished page.

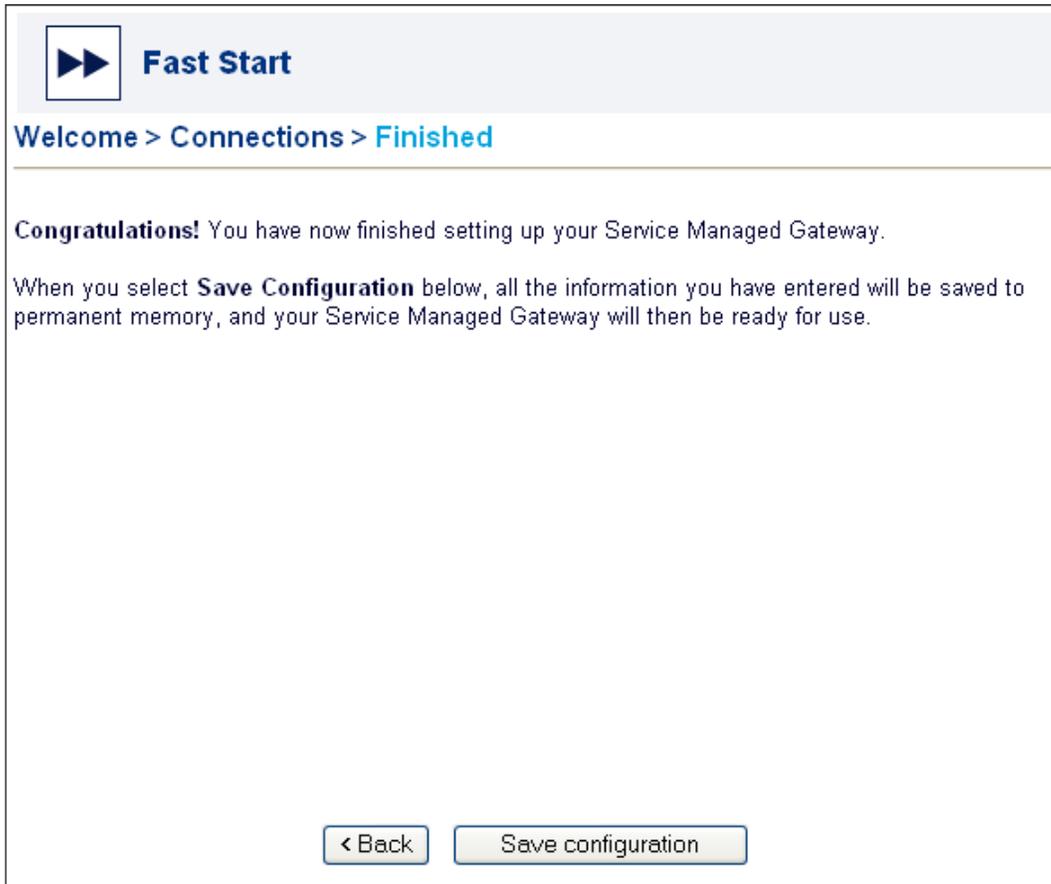


Figure 17: The first Finished page, where you save the configuration

Click **Save Configuration** to retain the new configuration in the permanent memory of the SMG. The SMG automatically reloads so the new connection can be implemented.

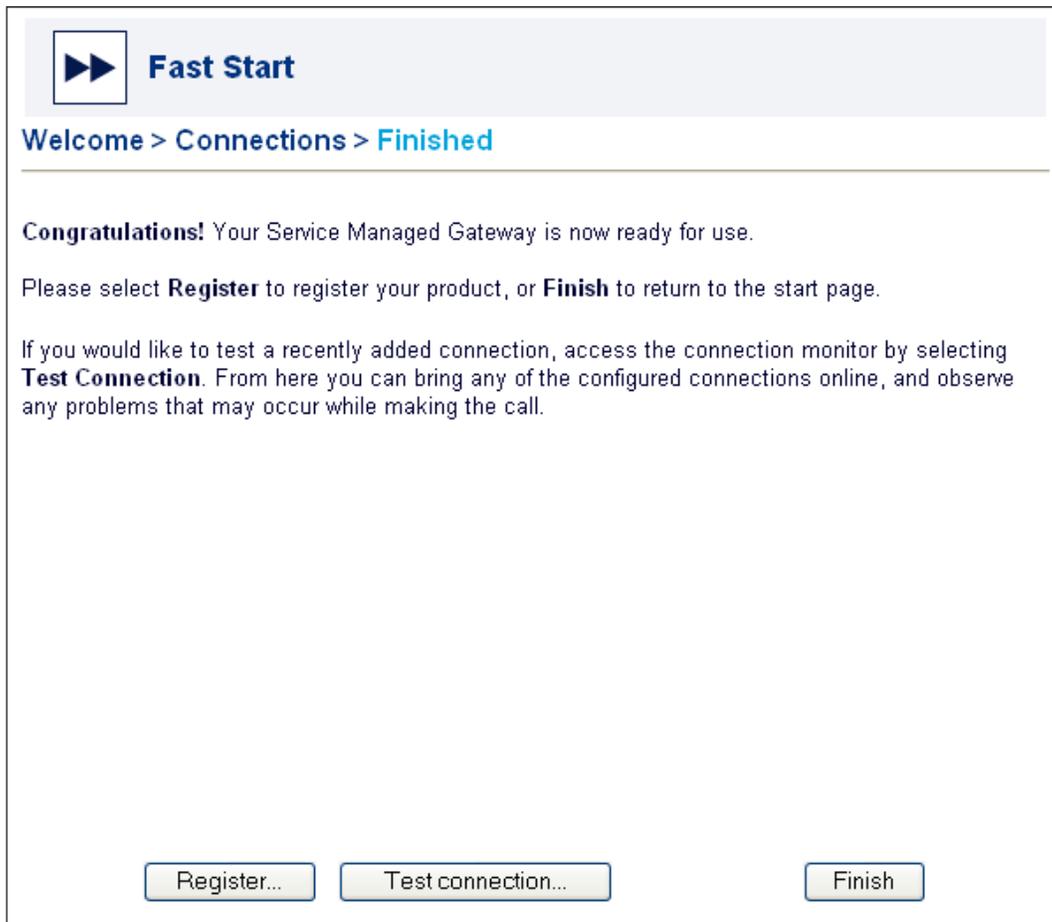


Figure 18: The second Finished page, where you can register or test the connection

Click **Register** to register the SMG. The Registration page appears. This brings up a form that you can fill in, print and send off to complete your registration.

Before you click Finish, you can test your connection to ensure that you have configured it correctly. Click the **Test Connection** button on the Finished page to access the Connection Monitor.

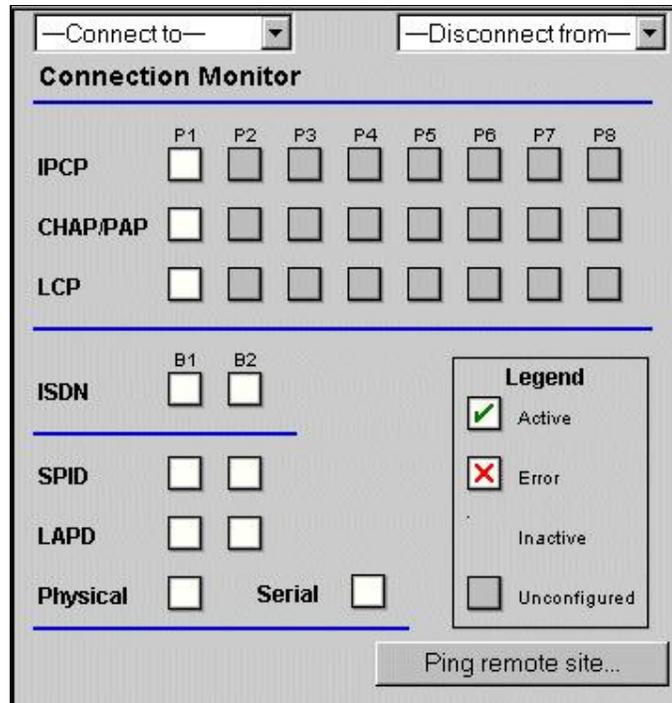


Figure 19: The Connection Monitor

Note: the SPID checkbox appears only on United States models.

For more information about the Connection Monitor, please consult the Advanced section of the Operating the SMG documentation.

When you click **Finish**, you return to the SMG home page. From the home page you can access the Advanced and Status menus to further configure, view and monitor the SMG.

2.5 Modifying an existing ISDN connection

To modify the configuration of an existing connection over ISDN, click the **Fast Start** icon.

The Fast Start welcome page appears. From the Service type drop-down menu, select **ISDN line**.

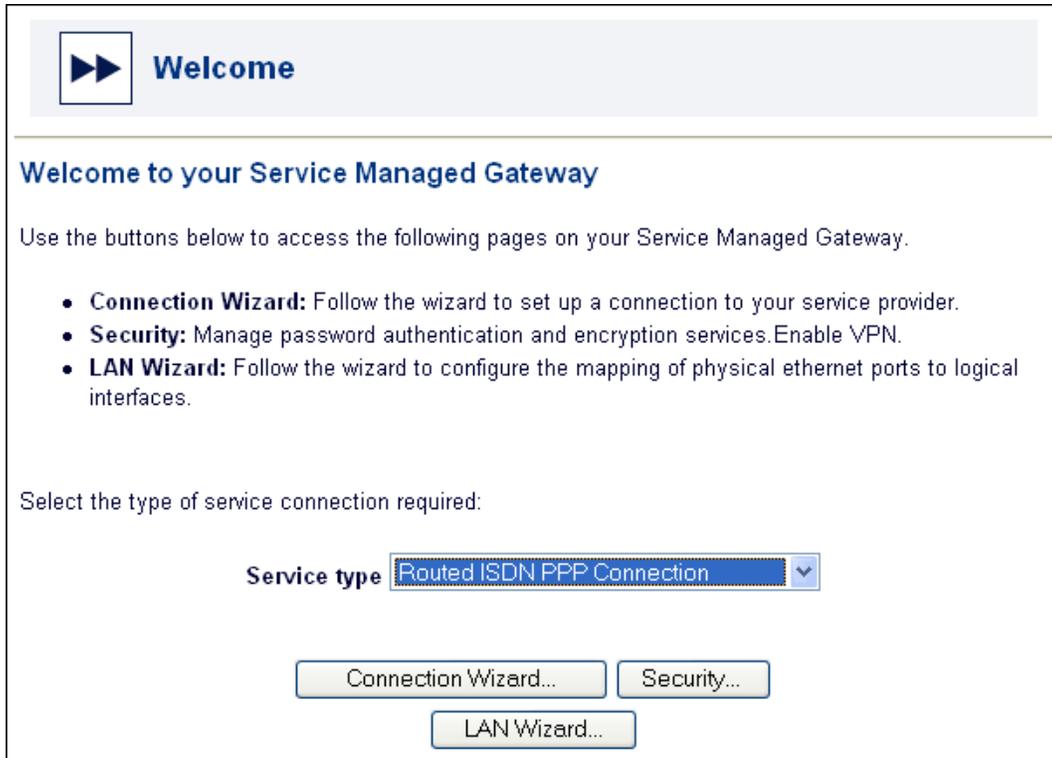


Figure 20: The Welcome page that lets you access the Connection Wizard

Click **Connection Wizard** to open the Connections page. The Connection Wizard page lists ISDN connections that have already been configured on the SMG.

Fast Start

[Welcome](#) > [Connections](#) > [Finished](#)

The table below contains all the configured connections. Configured services can be changed, deleted or activated from the table.

Note: Newly added, changed or deleted connections only become available after a reload.

Connection Name	Type	Change	Delete	Active
My ISP	ISDN	Change	Delete	<input type="radio"/>
My Connection	ISDN	Change	Delete	<input checked="" type="radio"/>

[Add an ISDN PPP connection...](#)

[Advanced Configuration...](#) [< Back](#) [Next >](#)

Figure 21: The Connections page, which lists existing connections

Identify the name of the connection that you want to alter. Then click the **Change** link in the same row.

The current configuration for the connection appears. Change the configuration by following the steps outlined in the sections above.

2.6 Removing an ISDN connection

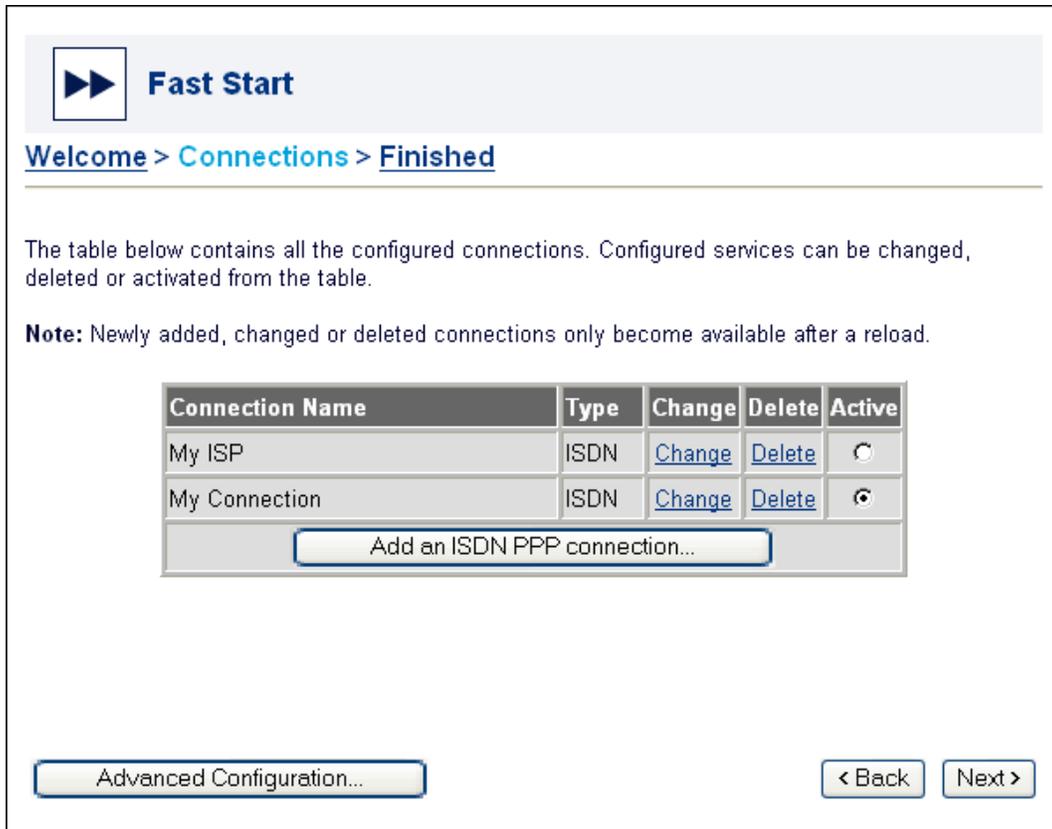
To delete an existing ISDN connection, click the **Fast Start** button.

The Fast Start Welcome page appears. From the Service type drop-down list, select the type of ISDN connection that you want to remove.



Figure 22: The Welcome page that lets you access the Connection wizard

Click **Connection Wizard** to open the Connections page. The page lists ISDN connections that have already been configured on the SMG.



Fast Start

[Welcome](#) > [Connections](#) > [Finished](#)

The table below contains all the configured connections. Configured services can be changed, deleted or activated from the table.

Note: Newly added, changed or deleted connections only become available after a reload.

Connection Name	Type	Change	Delete	Active
My ISP	ISDN	Change	Delete	<input type="radio"/>
My Connection	ISDN	Change	Delete	<input checked="" type="radio"/>

[Add an ISDN PPP connection...](#)

[Advanced Configuration...](#) [< Back](#) [Next >](#)

Figure 23: The Connections page, which lists existing connections

Identify the name of the connection that you want to delete. Then click the **Delete** link in the same row, and, when prompted, confirm your intention to remove the connection.

3 Connecting the SMG to Activator

3.1 What is Activator?

Virtual Access Activator is a system that activates and manages network services. It streamlines network rollout and maintenance by supporting automated device connection and management. When properly installed, the SMG will connect automatically to Activator. If the ISDN license on your Service Managed Gateway is enabled, you can also connect the SMG manually to an Activator management server.

Note: You do not need to configure a service connection on the SMG before connecting to Activator.

3.2 Configuring an Activator connection on the SMG

The Fast Start Wizard is the easiest way to configure an Activator connection on the SMG. See the ISDN Installation Guide for details of how to complete the physical installation. When the SMG is correctly connected to your PC, type **fast.start** into the URL line of your browser to display the Start page.

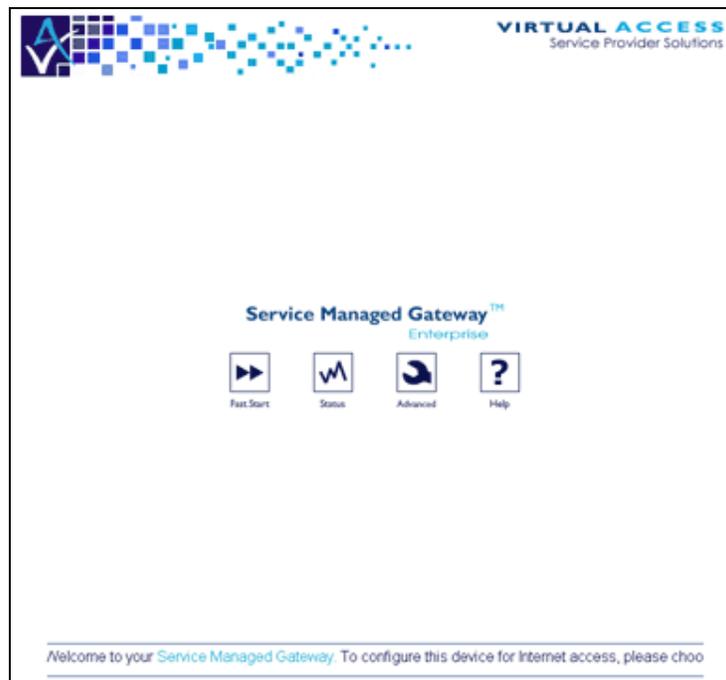


Figure 24: The Service Managed Gateway home page

Click the Fast.Start icon on the home page of the embedded web to open the Fast Start Wizard.

The Fast Start wizard will guide you through a series of forms that you must complete to configure the SMG.

3.2.1 Configuring an Activator connection

When you click the Fast.Start icon on the Start page and auto-activation is disabled (see above), the Welcome page appears.

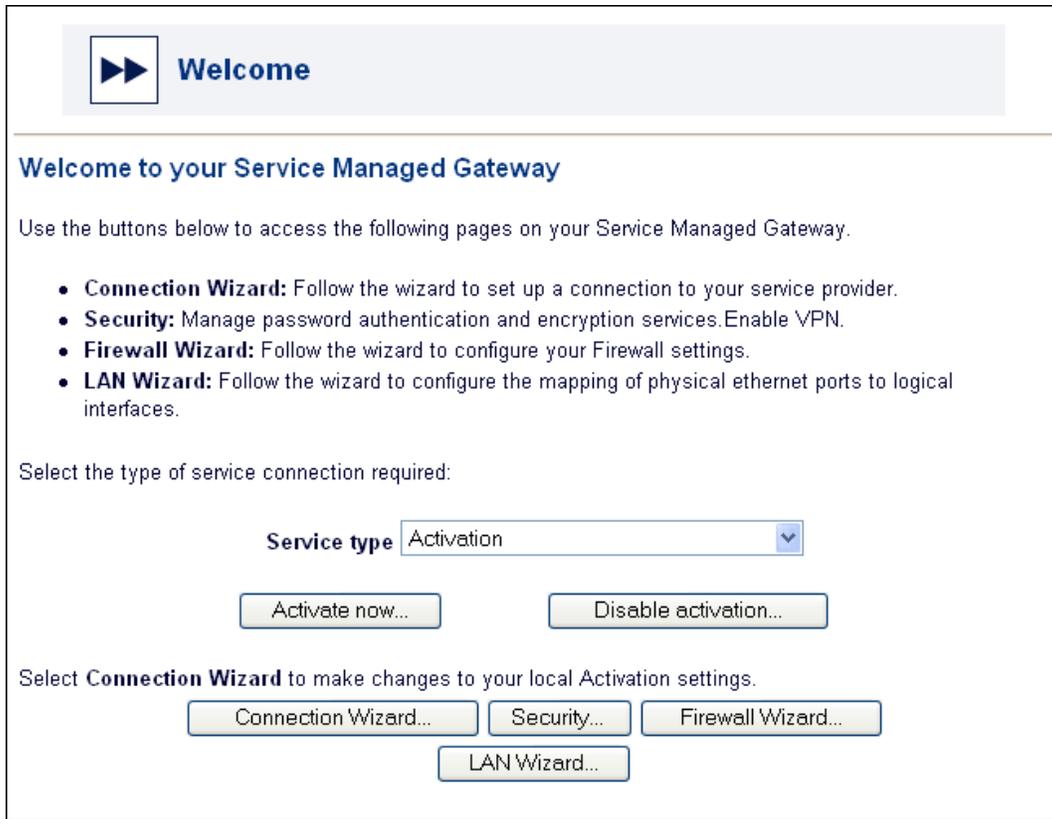


Figure 25: The Welcome page that lets you access the Connection Wizard

Select **Activation** from the Service type drop-down list. Click the **Connection Wizard** button to open the Activation page. You use this page to set up a connection between Activator and the SMG.

Activator ISDN phone number

Fast Start

Activation > Finished

In order to allow your Service Managed Gateway to activate automatically, you need to enter the telephone number of your provider's activation service, along with a user name and password. Your service provider will supply you with these details.

Activator ISDN phone number

Activator username

Activator password

Re-enter Activator password

Advanced settings...

When you have entered your Activation details, select **Next** to continue.

< Back Next >

Figure 26: The Activator service window

In the Activator ISDN phone number field, enter the phone number to connect with your Activator service provider over the ISDN line.

Activator username/password

To increase security, enter a username and password in the field provided. This means that only users with the correct login credentials can access the Activator configuration. For privacy, the password that you enter appears as a series of asterisks (*) on screen. To ensure that you have entered the correct password, re-enter it in the field provided.

Your service provider may request that the SMG knows the IP address of their Activator server. If this is the case, click **Advanced Settings**.

Advanced Activator Settings

Some service providers require you to enter the IP address of their Activator server. Usually, this is not required however.

Activator Server IP Address . . .

OK Cancel

Figure 27 The Advanced Activator Settings window

Enter the Activator server IP address. You can get this from your service provider if necessary. Click **OK** to close the Advanced Activator Settings pop-up window.

After you enter your details on the Activator page, click **OK** to open the Finished page, where you can save your Activator configuration.

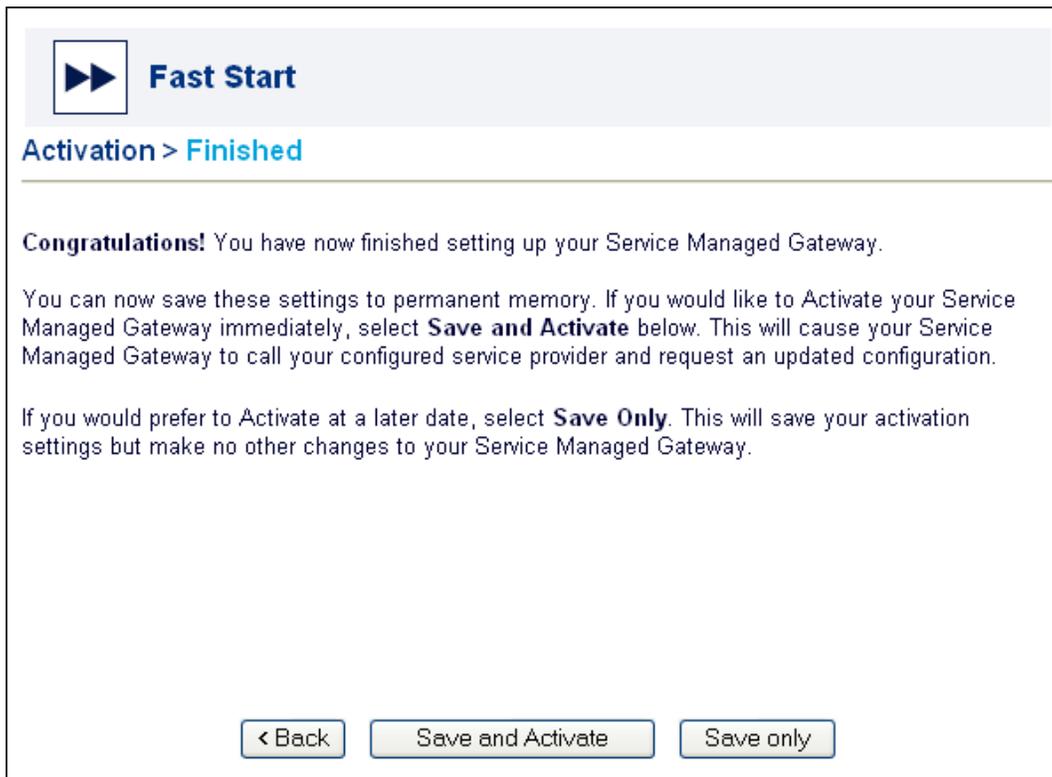


Figure 28: The Activation Finished page

To save your Activator settings, but not actually connect to the Activator server yet, click **Save only**.

To save your settings and connect to the Activator server immediately, click **Save and Activate**. The SMG calls your service provider and requests an Activator connection.