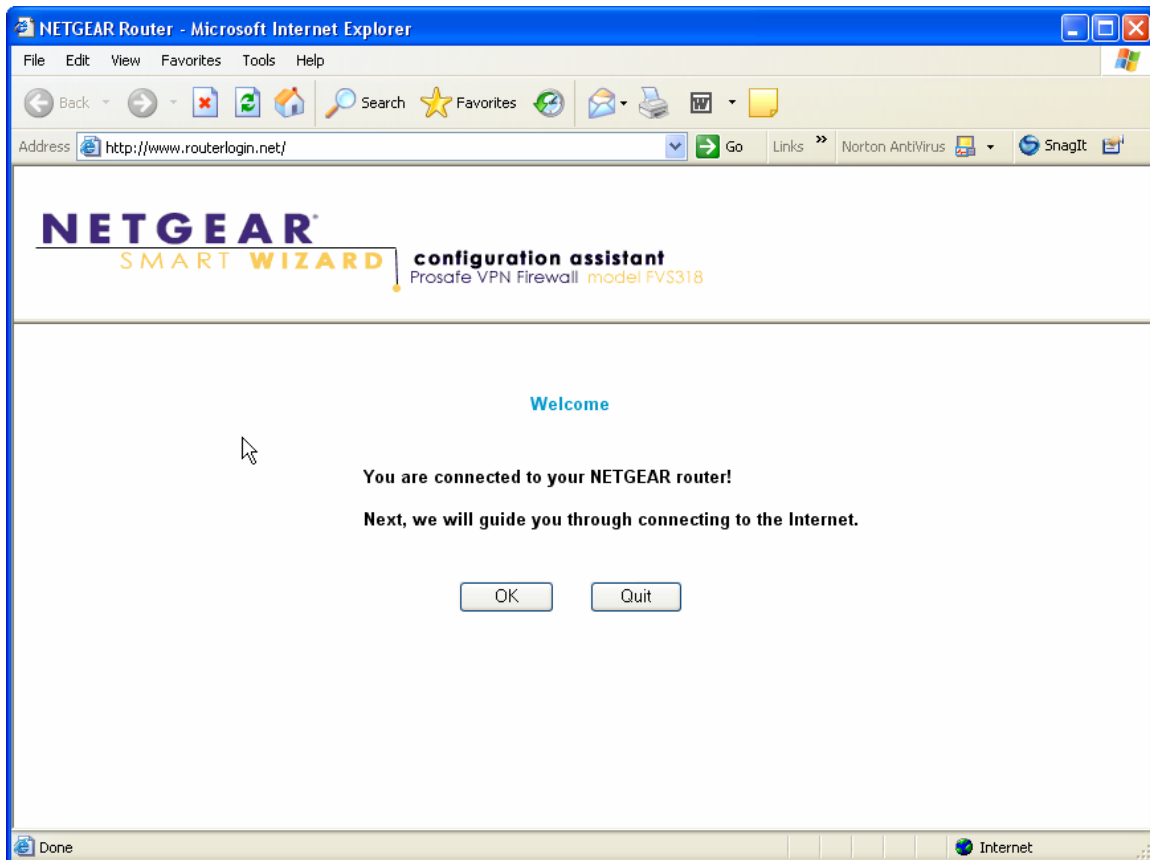


NETGEAR FVS318 Installation Instructions

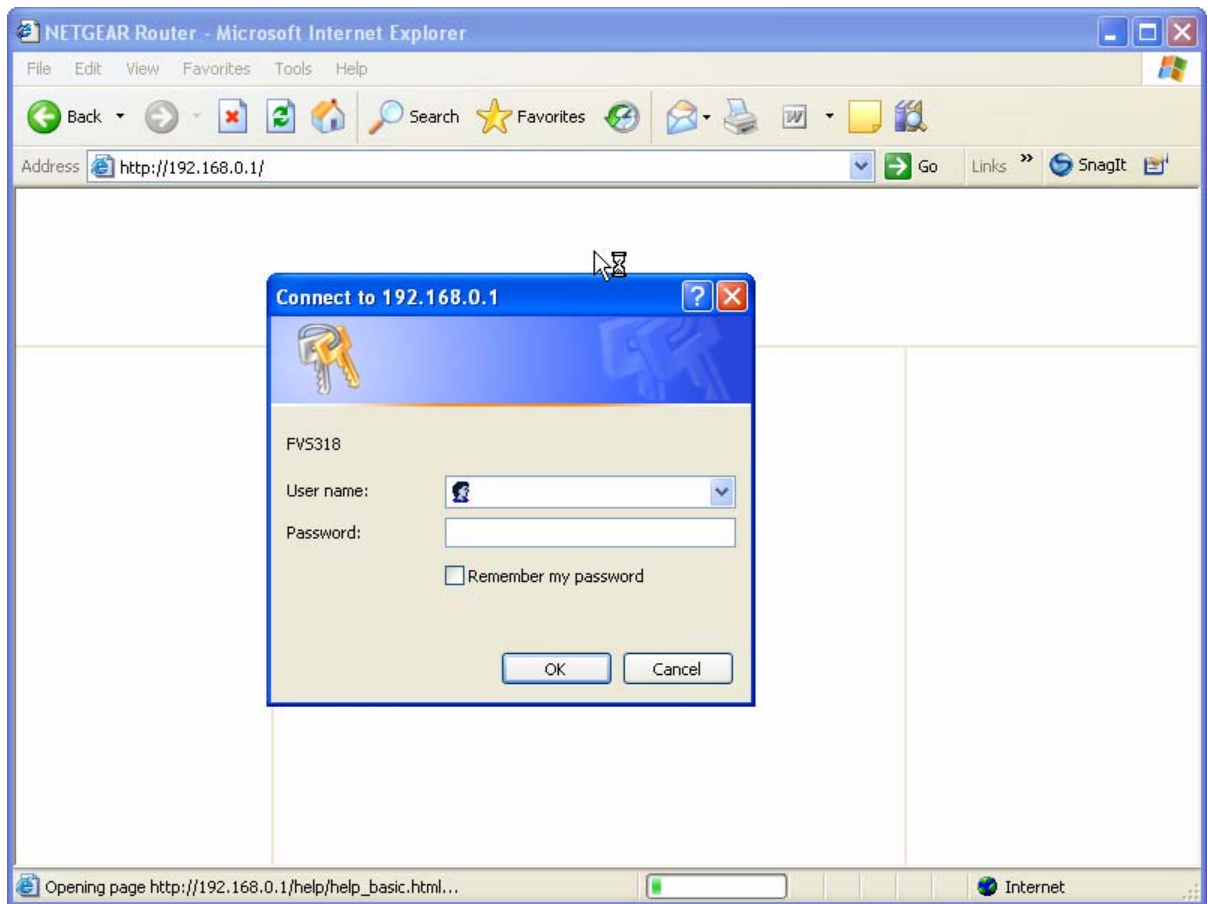
Part A – General Setup

Note: Please insure the router is plugged into the WAN connection and the Configuration PC is plugged into one of the 4 Ethernet ports prior to starting the setup procedures.

- **This screen is new in Firmware revision v2.4. Please ALWAYS insure you have the latest firmware in the router.**
- If you get this screen you will need to open your Browser and type in the following setting [HTTP://www.routerlogin.net/basicsetting.htm](http://www.routerlogin.net/basicsetting.htm) and Click “GO”



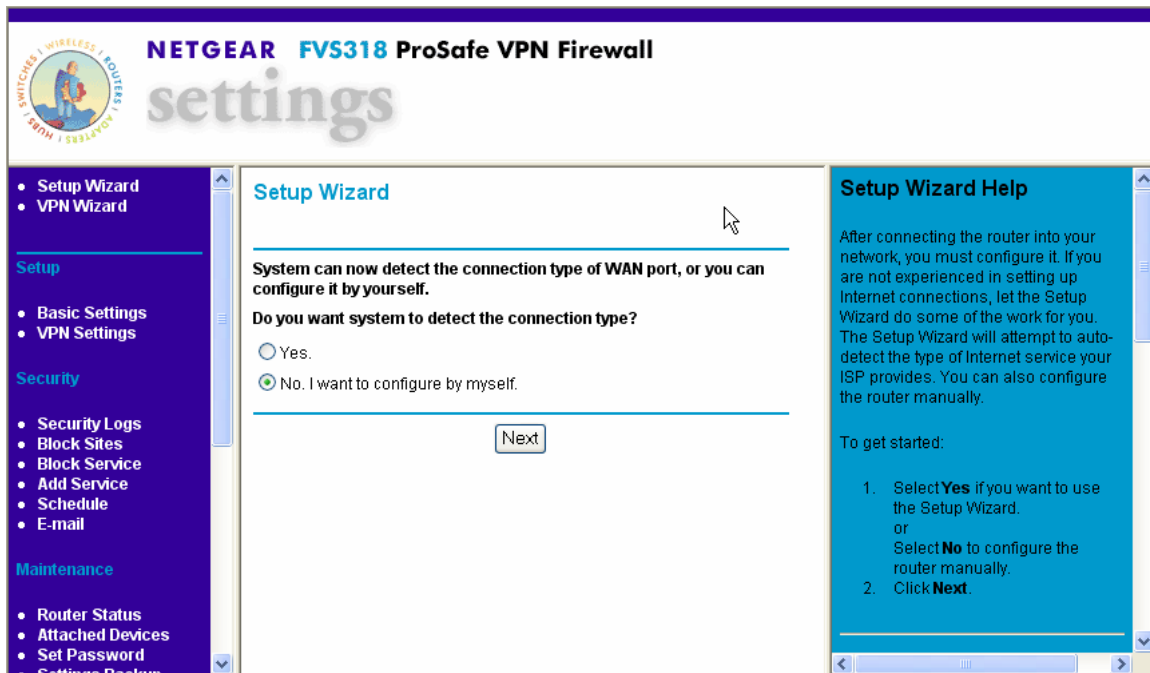
- If you did not see the previous screen type in the following address:
[HTTP://192.168.0.1](http://192.168.0.1) and Click “GO”



1. Enter the default User name of “admin” and the default password is “password”. Then click “OK”



- If you see this screen select No. I want to configure by myself and Click “Next”.



- If you have a Static IP address from your ISP, please enter the IP Address, Subnet Mask and the Default Gateway as provided by the ISP. Additionally you will want to include the DNS Server addresses provided by your ISP.

NETGEAR FVS318 Cable/DSL ProSafe VPN Firewall settings

Setup Wizard

- Setup Wizard
- Basic Settings
- VPN Settings

Security

- Security Logs
- Block Sites
- Schedule
- E-mail

Maintenance

- Router Status
- Attached Devices
- Set Password
- Settings Backup
- Router Upgrade

Advanced

- Ports
- Dynamic DNS
- LAN IP Setup
- Static Routes
- Remote Management

Logout

Basic Settings

Does your Internet connection require a login?

☒ No
☐ Yes

Account Name: FVS318
Domain Name: ATT.com

Internet IP Address

☐ Get dynamically from ISP
☒ Use static IP address

IP Address: 12 . 134 . 16 . 106
IP Subnet Mask: 255 . 255 . 255 . 248
Gateway IP Address: 12 . 134 . 16 . 105

Domain Name Server (DNS) Address

☐ Get automatically from ISP
☒ Use these DNS servers

Primary DNS: 12 . 127 . 16 . 83
Secondary DNS: 12 . 127 . 17 . 83

Help

The FVS318 *Settings* pages allow you to configure, upgrade and check the status of your NETGEAR Cable/DSL ProSafe VPN FireWall.

Click an item in the leftmost column. The current settings or information for that area appear in the center column.

Helpful information related to the selected *Settings* page appears in this column. If you are using Internet Explorer, you may click an item in the center column to jump directly to the related help section; otherwise, scroll down until you reach it.

Basic Settings Help

Note: If you are setting up the router for the first time, the default settings may work for you with no changes.

Does your Internet connection require a login?

Select this option based on the type of account you have with your ISP. If you need to enter login information everytime you connect to the Internet or you have a PPPoE account with your ISP, select **Yes**. Otherwise, select **No**.

Note: If you have installed PPP software such as WinPoET (from Earthlink) or Enternet (from PacBell), then you have PPPoE. Select **Yes**.

Account Name

- If your ISP provides a Dynamic IP address select the “Get dynamically from ISP” to configure this setting.

NETGEAR FVS318 Cable/DSL ProSafe VPN Firewall settings

- Setup Wizard
 - Setup
 - Basic Settings
 - VPN Settings
 - Security
 - Security Logs
 - Block Sites
 - Schedule
 - E-mail
 - Maintenance
 - Router Status
 - Attached Devices
 - Set Password
 - Settings Backup
 - Router Upgrade
 - Advanced
 - Ports
 - Dynamic DNS
 - LAN IP Setup
 - Static Routes
 - Remote Management
 - Logout

Basic Settings

Does your Internet connection require a login?

☒ No
☐ Yes

Account Name: FVS318
Domain Name:

Internet IP Address

☒ Get dynamically from ISP
☐ Use static IP address

IP Address: 0 0 0 0
IP Subnet Mask: 255 255 255 0
Gateway IP Address: 0 0 0 0

Domain Name Server (DNS) Address

☒ Get automatically from ISP
☐ Use these DNS servers

Primary DNS: 0 0 0 0
Secondary DNS: 0 0 0 0

Help

The FVS318 *Settings* pages allow you to configure, upgrade and check the status of your NETGEAR Cable/DSL ProSafe VPN Firewall.

Click an item in the leftmost column. The current settings or information for that area appear in the center column.

Helpful information related to the selected *Settings* page appears in this column. If you are using Internet Explorer, you may click an item in the center column to jump directly to the related help section; otherwise, scroll down until you reach it.

Basic Settings Help

Note: If you are setting up the router for the first time, the default settings may work for you with no changes.

Does your Internet connection require a login?

Select this option based on the type of account you have with your ISP. If you need to enter login information everytime you connect to the Internet or you have a PPPoE account with your ISP, select **Yes**. Otherwise, select **No**.

Note: If you have installed PPP software such as WinPoET (from Earthlink) or Enternet (from PacBell), then you have PPPoE. Select **Yes**.

Account Name

- If your ISP requires a login and password in order to connect, please click Yes and then enter them here.

NETGEAR FVS318 Cable/DSL ProSafe VPN Firewall settings

- Setup Wizard
 - Setup
 - Basic Settings
 - VPN Settings
 - Security
 - Security Logs
 - Block Sites
 - Schedule
 - E-mail
 - Maintenance
 - Router Status
 - Attached Devices
 - Set Password
 - Settings Backup
 - Router Upgrade
 - Advanced
 - Ports
 - Dynamic DNS
 - LAN IP Setup
 - Static Routes
 - Remote Management
 - Logout

Basic Settings

Does your Internet connection require a login?

☐ No
☒ Yes

Account Name: FVS318
Domain Name:

Login: Username
Password: *****
Idle Timeout: 5 Minutes

Domain Name Server (DNS) Address

☒ Get automatically from ISP
☐ Use these DNS servers

Primary DNS: 0 0 0 0
Secondary DNS: 0 0 0 0

Router's MAC address

☒ Use default address

Help

The FVS318 *Settings* pages allow you to configure, upgrade and check the status of your NETGEAR Cable/DSL ProSafe VPN Firewall.

Click an item in the leftmost column. The current settings or information for that area appear in the center column.

Helpful information related to the selected *Settings* page appears in this column. If you are using Internet Explorer, you may click an item in the center column to jump directly to the related help section; otherwise, scroll down until you reach it.

Basic Settings Help

Note: If you are setting up the router for the first time, the default settings may work for you with no changes.

Does your Internet connection require a login?

Select this option based on the type of account you have with your ISP. If you need to enter login information everytime you connect to the Internet or you have a PPPoE account with your ISP, select **Yes**. Otherwise, select **No**.

Note: If you have installed PPP software such as WinPoET (from Earthlink) or Enternet (from PacBell), then you have PPPoE. Select **Yes**.

Account Name

2. For any of the three previous screens you must select “Apply at the bottom of the screen to complete this step.

NETGEAR FVS318 Cable/DSL ProSafe VPN Firewall

settings

- Setup Wizard
- Setup
 - Basic Settings
 - VPN Settings
- Security
 - Security Logs
 - Block Sites
 - Schedule
 - E-mail
- Maintenance
 - Router Status
 - Attached Devices
 - Set Password
 - Settings Backup
 - Router Upgrade
- Advanced
 - Ports
 - Dynamic DNS
 - LAN IP Setup
 - Static Routes
 - Remote Management
- Logout

Basic Settings

Does your Internet connection require a login?

☒ No
☐ Yes

IP Address: 0 0 0 0
IP Subnet Mask: 255 255 255 0
Gateway IP Address: 0 0 0 0

Domain Name Server (DNS) Address

☒ Get automatically from ISP
☐ Use these DNS servers

Primary DNS: 0 0 0 0
Secondary DNS: 0 0 0 0

Router's MAC address

☒ Use default address
☐ Use this computer's MAC: 192 168 0 2

Apply Cancel Test

Help

The FVS318 Settings pages allow you to configure, upgrade and check the status of your NETGEAR Cable/DSL ProSafe VPN Firewall.

Click an item in the leftmost column. The current settings or information for that area appear in the center column.

Helpful information related to the selected Settings page appears in this column. If you are using Internet Explorer, you may click an item in the center column to jump directly to the related help section; otherwise, scroll down until you reach it.

Basic Settings Help

Note: If you are setting up the router for the first time, the default settings may work for you with no changes.

Does your Internet connection require a login?

Select this option based on the type of account you have with your ISP. If you need to enter login information everytime you connect to the Internet or you have a PPPoE account with your ISP, select **Yes**. Otherwise, select **No**.

Note: If you have installed PPP software such as WinPoET (from Earthlink) or Enternet (from PacBell), then you have PPPoE. Select **Yes**.

Account Name

- This screen is mostly for information. The DHCP scope range is 192.168.0.2 – 192.168.0.100. This information will be useful when proceeding to the next step.

SPECIAL NOTE: Part B – Adjusting MTU Value. This procedure MUST be followed in order to prevent chronic disconnections of the VPN tunnel!

The screenshot shows the 'LAN IP Setup' configuration page for a NETGEAR FVS318 ProSafe VPN Firewall. The page is divided into three main sections: a left sidebar with navigation links, a central configuration area, and a right sidebar with help text.

Left Sidebar:

- Security Logs
- Block Sites
- Block Service
- Add Service
- Schedule
- E-mail
- Maintenance**
 - Router Status
 - Attached Devices
 - Set Password
 - Settings Backup
 - Diagnostics
 - Router Upgrade
- Advanced**
 - Ports
 - Dynamic DNS
 - LAN IP Setup
 - Static Routes
 - Remote Management
- Web Support**
 - Knowledge Base
 - Documentation
- Logout

Central Configuration Area (LAN IP Setup):

- ☐ Enable UPnP
- LAN TCP/IP Setup**
 - IP Address: 192.168.0.1
 - IP Subnet Mask: 255.255.255.0
 - RIP Direction: None
 - RIP Version: RIP-2B
- MTU Size**: ☐ Default ☒ Custom (1468)
- ☒ Use router as DHCP server
 - Starting IP Address: 192.168.0.2
 - Ending IP Address: 192.168.0.100
 - WINS Server: 0.0.0.0
 - Lease Time: 72 /hours
- Reserved IP Addresses**

#	IP Address	MAC Address	Description

Right Sidebar (LAN IP Setup Help):

The DHCP and TCP/IP default values work for the LAN IP Setup for most users.

Enabling UPnP

Select the Enable UPnP check box to enable Universal Plug and Play (UPnP).

LAN TCP/IP Setup

The IP settings are advanced settings that you may configure if you are a network administrator. RIP is applicable if your network contains multiple routers.

- IP Address:** Type the IP address of your router (factory default: 192.168.0.1).
- IP Subnet Mask:** Specifies the network number portion of an IP address. Your router will automatically calculate the subnet mask based on the IP address that you assign. Unless you are implementing subnetting, use 255.255.255.0 as the subnet mask (computed by the router).
- RIP Direction:** RIP (Routing Information Protocol, RFC1058 and RFC1389) allows a router to exchange routing information with other routers. The RIP Direction selection controls how the router sends and receives RIP packets. None is the default.
 - ☐ When set to **Both** or **Out Only**, the router will broadcast its routing table periodically.

- In the next step we need to add some information for the incoming FPM Wakeup message on port 5069. This will be directed to the Static IP address of the FPM workstation. We need to set up a service for port forwarding for the Galileo workstation running the FPM/GPM application. In this case due to the previously mentioned scope definitions the **Static IP Address** for the FPM Workstation will be 192.168.0.99.

FPM/GPM Workstation IP Address = 192.168.0.99
FPM/GPM Workstation Subnet Mask = 255.255.255.0
FPM/GPM Workstation Default Gateway = 192.168.0.1

5. On the left side of the screen select “Add Service”

NETGEAR FVS318 ProSafe VPN Firewall

settings

- VPN Settings
- Security
 - Security Logs
 - Block Sites
 - Block Service
 - Add Service**
 - Schedule
 - E-mail
- Maintenance
 - Router Status
 - Attached Devices
 - Set Password
 - Settings Backup
 - Diagnostics
 - Router Upgrade
- Advanced
 - Ports
 - Dynamic DNS
 - LAN IP Setup
 - Static Routes
 - Remote Management
- Web Support
 - Knowledge Base

Services

Service Table

	#	Name	Type	Port (TCP or UDP)
<input type="radio"/>	1	FTP	TCP	20 .. 21
<input type="radio"/>	2	Telnet	TCP	23 .. 23
<input type="radio"/>	3	SMTP	TCP	25 .. 25
<input type="radio"/>	4	HTTP	TCP	80 .. 80
<input type="radio"/>	5	DNS	UDP	53 .. 53
<input type="radio"/>	6	NetMeeting	TCP	1720 .. 1720
<input type="radio"/>	7	Half Life	UDP	27015 .. 27015
<input type="radio"/>	8	Delta Force II	UDP	3568 .. 3569
<input type="radio"/>	9	Quake II	UDP	27910 .. 27910
<input type="radio"/>	10	Real Audio	UDP	6970 .. 7170

Add Service Help

The firewall already holds a list of many service port numbers, but you can use the Add Service menu to add additional services and applications to the list.

To define a new service:

1. Click **Add Custom Service**.
2. Enter a descriptive **Name** for the service.
3. Select the service **Type** - whether it uses TCP or UDP for the transport protocol. If you cannot determine which is used, select both.
4. Type the **Start Port** and the **Finish Port** - the lowest and highest port numbers the service uses. If the service only uses a single port number, enter the same number in both fields.
5. Click **Apply** to update the table of known services.

To delete or edit an entry in the table, select its button and then click **Edit** or **Delete**.

6. Select “Add Custom Service” and fill in the following information to allow the incoming FPM/GPM wakeup message to come in.

Name = FPM_GPM

Type = TCP/UDP

Start Port = 5069

Finish Port = 5069

Then Click “Apply”

The screenshot shows the NETGEAR FVS318 ProSafe VPN Firewall settings interface. The left sidebar contains a navigation menu with categories: VPN Settings, Security, Maintenance, Advanced, Web Support, and Knowledge Base. The 'Security' section is expanded, showing options like Security Logs, Block Sites, Block Service, Add Service, Schedule, and E-mail. The 'Add Service' option is selected. The main content area is titled 'Add Custom Services' and contains a 'Service Definition' form. The form has four fields: 'Name' (FPM_GPM), 'Type' (TCP/UDP), 'Start Port' (5069), and 'Finish Port' (5069). Below the form are 'Back', 'Apply', and 'Cancel' buttons. To the right of the form is a blue 'Add Service Help' section with instructions on how to define a new service and how to delete or edit an entry.

NETGEAR FVS318 ProSafe VPN Firewall settings

Add Custom Services

Service Definition

Name :

Type :

Start Port : (TCP or UDP)

Finish Port : (TCP or UDP)

Add Service Help

The firewall already holds a list of many service port numbers, but you can use the Add Service menu to add additional services and applications to the list.

To define a new service:

1. Click **Add Custom Service**.
2. Enter a descriptive **Name** for the service.
3. Select the service **Type** - whether it uses TCP or UDP for the transport protocol. If you cannot determine which is used, select both.
4. Type the **Start Port** and the **Finish Port** - the lowest and highest port numbers the service uses. If the service only uses a single port number, enter the same number in both fields.
5. Click **Apply** to update the table of known services.

To delete or edit an entry in the table, select its button and then click **Edit** or **Delete**.

7. Next select “Ports from the left side of the screen. Then “Add”

The screenshot shows the 'Ports' configuration page in the NETGEAR FVS318 ProSafe VPN Firewall settings. The left sidebar contains a tree view with categories: VPN Settings, Security, Maintenance, Advanced, and Web Support. Under 'Security', 'Ports' is selected. The main content area has a table with columns: #, Enable, Service Name, Action, LAN Server IP Address, WAN Users, and Log. Below the table are buttons for 'Add', 'Edit', and 'Delete'. There are also checkboxes for 'Default DMZ Server' (with IP 192.168.0.0) and 'Respond to Ping on Internet WAN Port'. At the bottom are 'Apply' and 'Cancel' buttons. A 'Ports Help' sidebar on the right explains the functionality and provides a list of actions: Allow always, Allow per schedule, and Block per schedule. It also includes a note about scheduling and a list of steps to allow Internet users to access services on the LAN.

#	Enable	Service Name	Action	LAN Server IP Address	WAN Users	Log
---	--------	--------------	--------	-----------------------	-----------	-----

☐ Default DMZ Server 192 168 0 0

☐ Respond to Ping on Internet WAN Port

Ports Help

Using the Ports page, you can make local computers or servers available to the Internet for different services, to play Internet games, or to use Internet applications.

You can choose to schedule when to allow access as well as which remote computers will be allowed. You can schedule access to local services as follows:

- Allow always
- Allow per schedule
- Block per schedule

Note: If you want to block or allow by schedule, be sure to specify a time period in the Schedule menu.

To allow Internet users to access services on your LAN:

1. Click **Add** to bring up the *Add Server* menu.
2. Select the **Service Name** or application to enable. (If the desired service or application does not appear, you must define it using the *Add Service* menu).
3. Select the **Action** or time you will enable access according to the schedule defined in the **Schedule** menu:
 - Allow always
 - Allow per schedule
 - Block per schedule
4. Type the **Local Server Address** - the IP address of the PC on your LAN that will provide the service.

8. Now we will connect the Service to the IP address of the FPM/GPM workstation.

The Static IP address for the FPM/GPM workstation is 192.168.0.99

The screenshot shows the 'Add Server' dialog box in the NETGEAR FVS318 ProSafe VPN Firewall settings. The left sidebar is the same as in the previous screenshot, but 'Add Server' is selected under 'Security'. The main content area is the 'Add Server' dialog with fields for 'Service Name' (FPM_GPM), 'Action' (ALLOW always), 'Local Server Address' (192.168.0.99), 'WAN Users Address' (Any), and 'Log' (Never). There are also 'start' and 'finish' time fields. At the bottom are 'Back', 'Apply', and 'Cancel' buttons. The 'Ports Help' sidebar on the right is the same as in the previous screenshot.

Add Server

Service Name: FPM_GPM

Action: ALLOW always

Local Server Address: 192 168 0 99

WAN Users Address: Any

start: 0 0 0 0

finish: 0 0 0 0

Log: Never

Ports Help

Using the Ports page, you can make local computers or servers available to the Internet for different services, to play Internet games, or to use Internet applications.

You can choose to schedule when to allow access as well as which remote computers will be allowed. You can schedule access to local services as follows:

- Allow always
- Allow per schedule
- Block per schedule

Note: If you want to block or allow by schedule, be sure to specify a time period in the Schedule menu.

To allow Internet users to access services on your LAN:

1. Click **Add** to bring up the *Add Server* menu.
2. Select the **Service Name** or application to enable. (If the desired service or application does not appear, you must define it using the *Add Service* menu).
3. Select the **Action** or time you will enable access according to the schedule defined in the **Schedule** menu:
 - Allow always
 - Allow per schedule
 - Block per schedule
4. Type the **Local Server Address** - the IP address of the PC on your LAN that will provide the service.

- After you have clicked “Apply” at the bottom of the screen you are finished with the configuration. The information is automatically saved. Select “Logout” on the left side of the screen to end the configuration.
- **Special Note: Due to the nature of Firewall Protection in routers with this device you MUST use the destination host name FPVPN.GALILEO.COM in the Nortel Client for all workstations!**

Part B – Adjusting the MTU Value.

MTU, Partial Loss of Internet Connection, and Performance

- MTU (Maximum Transmission Unit) is the largest packet a network device transmits. The best MTU setting for equipment is often just the default value. MTU is sometimes presented as something that can be easily changed to improve performance, but in practice this may cause problems. **You need to follow this procedure in order to prevent problems with the VPN connection. This will manifest itself as severe performance problems such as chronic disconnects.**
- **Setting MTU size is a process of trial-and-error: start with the maximum value of 1500, then reduce the size until the problem goes away.**

In order to find the optimum size for the MTU setting you will need to utilize the extended portions of the PING command. (The parameters are case sensitive!)

```
PING -f -l 1500 fpnet.galileo.com
```

```
-f      Set Don't Fragment flag in packet
-l size Send buffer size (lowercase L)
```

If you have a problem with the packet size the following message will be returned:
Packet needs to be fragmented but DF set.

Reduce the size of the send buffer until the reply message comes back normally.
Reply from 12.17.202.11: bytes=1500 time=36ms TTL=59

Once you have determined the proper setting you MUST return to page 7 (LAN IP) Step 3 and modify the MTU value in order to prevent chronic disconnections. The “Custom” radio button MUST be selected in order to have the router specify the smaller packet size.

