

**Equipment Required**

- Category 5 - UTP cable for connecting the system to the existing network.
- VT100 terminal or PC with VT100 emulation software.
- DB-9 (male) to DB-9 (female) straight-through serial cable for configuring the unit.

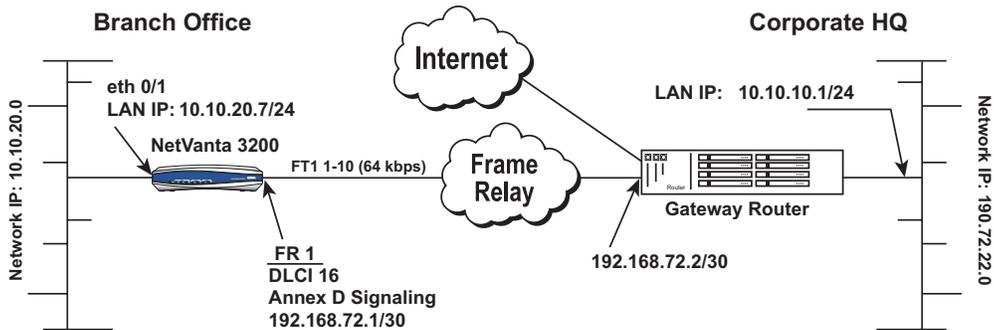


*This quick configuration guide provides step-by-step instructions for configuring your application. The configuration scripts are available on the ADTRAN OS Documentation CD.*

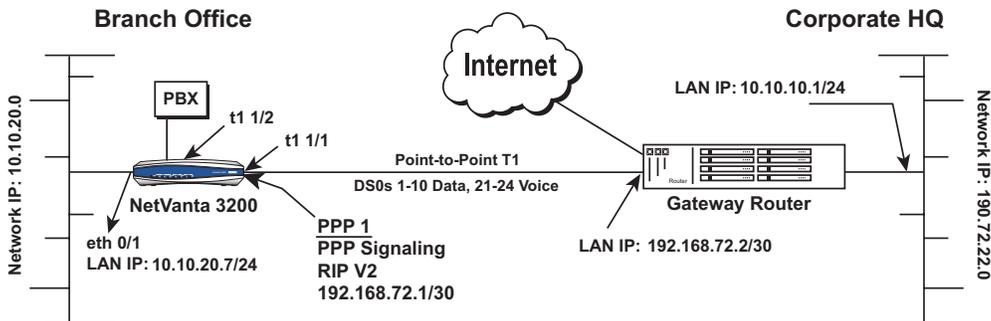
*The configuration parameters used in the example outlined in this document are for instructional purposes only. Please replace all underlined entries (**example**) with your specific parameters to configure your application.*

**Network Diagrams**

**Frame Relay Diagram**



**PPP over Fractional T1 Connection Diagram**



## Configure the Router

The NetVanta may be initially accessed and managed via the DB-9 **CONSOLE** port located on the rear panel of the unit. The default Ethernet port parameters allow the NetVanta to be accessed using a hub and two Ethernet cables (one for the PC and one for the router). The default Ethernet IP address is 10.10.10.1. Refer to *Configure RIP* on page 5 to configure the Telnet session.

## Connect to the Router (Console Port Connection)

1. Connect a VT100 terminal (or PC with VT100 emulation software) to the NetVanta **CONSOLE** port using a DB-9 (male) to DB-9 (female) straight-through serial cable.
2. Configure the COM port with the following parameters:
  - Data Rate: 9600
  - Data Bits: 8
  - Parity Bits: None
  - Stop Bits: 1
  - Flow Control: None
3. Open a VT100 terminal session. (Please refer to the appropriate VT100 terminal software documentation for detailed instructions.)
4. Press the **<Enter>** key.
5. Enter **enable** at the **>** prompt.
6. Enter the password when prompted. The default password is **password**.

## Set the Enable Command Security Mode Password (Optional)

If desired, you can set the Enable Security mode password to a password of your choosing by following the steps below.

1. Enter **enable** to enter the Enable Security level.
2. At the password prompt, type **password** (all lowercase).
3. Enter **config terminal** to enter the Global Configuration mode.
4. At the **(config)#** prompt, enter **enable password word** (replace the underlined word with a password of your choosing) to set your own enable password.



*The Enable Security mode passwords are case sensitive.*

## Configure the Ethernet Port Parameters

1. Enter **config terminal** to enter the Global Configuration mode.
2. At the **(config)#** prompt, enter **interface eth 0/1** to access the configuration parameters for the Ethernet port located on the rear panel of the unit.
3. Enter **ip address 10.10.20.7 255.255.255.0** to assign an IP address to the Ethernet port using a 24-bit subnet mask.
4. Enter **no shutdown** to activate the interface to pass data.
5. Enter **exit** to exit the Ethernet interface commands and return to the Global Configuration mode.



*The NetVanta uses a **slot/port** notation for interface identification. All non-modular interfaces built into the base unit (e.g., the Ethernet port) are identified using **0** as the slot number.*

## Configure the Default Gateway

1. At the **(config)#** prompt, enter **ip route 0.0.0.0 0.0.0.0 192.168.72.2** to add 192.168.72.2 to the route table as the default gateway.
2. If configuring the NetVanta for Frame Relay applications, proceed to *Configure the Frame Relay Virtual Interface* on page 3. If using the router in a PPP configuration, skip to *Create the PVC and Assign an IP Address* on page 4.

## Configure the Frame Relay Virtual Interface

The following steps outline configuring a Frame Relay virtual interface (labeled 1) using a single DLCI back to the corporate router (defined as DLCI 16).

1. At the **(config)#** prompt, enter **interface fr 1** to create a Frame Relay virtual interface labeled 1.
2. If the default setting of **ansi** was changed, enter **frame-relay lmi-type ansi** to configure Frame Relay virtual interface 1 to use ANSI (Annex D) signaling.
3. Enter **no shutdown** to activate the virtual interface to pass data.
4. Enter **exit** to return to the Global Configuration mode.
5. The router has a factory default PPP 1 interface. Enter the command **no ppp 1** to remove this interface.

## Create the PVC and Assign an IP Address

1. At the **(config)#** prompt, enter **interface fr 1.16** to create a PVC assigned to Frame Relay virtual interface 1. This activates the configuration parameters for the PVC. Your prompt should now display **(config-fr 1.16)#**.
2. Enter **frame-relay interface-dlci 16** to assign DLCI 16 to this PVC.
3. Enter **ip address 192.168.72.1 255.255.255.252** to assign an IP address of 192.168.72.1 for this PVC using a 24-bit subnet mask.
4. Enter **exit** to return to the Global Configuration mode.
5. If you are configuring the NetVanta for use in a Frame Relay application and have completed the step *Configure the Frame Relay Virtual Interface* on page 3, skip to *Configure the T1 Network Interface* on page 4.



*The default encapsulation is RFC 1490 or IETF. Assure the remote router uses the same encapsulation for Frame Relay.*

## Configure the Virtual PPP Interface

The following steps show how to configure a PPP virtual interface (labeled 1) to the corporate router. Skip to *Configure the T1 Network Interface* on page 4 if you are using Frame Relay.

1. At the **(config)#** prompt, enter **interface ppp 1** to create a PPP virtual interface labeled 1.
2. Enter **no shutdown** to activate the virtual interface to pass data
3. Enter **exit** to return to the Global Configuration mode.

## Configure the IP Parameters

1. At the **(config)#** prompt, enter **interface ppp 1** to activate the PPP interface configuration mode.
2. Enter **ip address 192.168.72.1 255.255.255.252** to assign an IP address to the PPP endpoint using a 24-bit mask.
3. Enter **no shutdown** to activate the PPP interface.
4. Enter **exit** to return to the Global Configuration mode.

## Configure the T1 Network Interface

The following steps demonstrate configuring a T1 network interface with DS0s 1 through 10 for data.

1. At the **(config)#** prompt, enter **interface t1 1/1** to activate the interface configuration mode for the T1 network interface.
2. Enter **clock source line** to configure the router to recover clocking from the T1 network connection.
3. If two routers are configured on a private T1 (PPP mode), set one router to **clock source line** and the other to **clock source internal**. For Frame Relay, set both ends to **clock source line**.

## Create the T1 Interface TDM Group

1. Enter **tdm-group 1 timeslots 1-10** to create a TDM group for DS0s 1 through 10 (the data DS0s) on the T1 network connection (t1 1/1).
2. Enter **no shutdown** to activate the T1 interface.
3. Enter **exit** to return to the Global Configuration mode.



*The NetVanta 3000 Series Routers automatically map DS0s 1 through 24 from the network connection of a T1/FT1 + DSX-1 NIM to the DSX-1 port. Creating a TDM group removes the specified DS0s from the DSX-1 map. All remaining DS0s not included in the TDM group will be passed from the network port (t1 1/1) to the DSX-1 port (t1 1/2).*

## Create the Cross-Connect

1. At the **(config)#** prompt, enter **cross-connect 1 T1 1/1 frame-relay 1** to connect the DDS network connection (dds 1/1) to the virtual Frame Relay interface (fr 1.16).

**Alternately,**

2. Enter **cross-connect 1 T1 1/1 ppp 1** to connect the DDS network connection (dds 1/1) to the virtual PPP interface (ppp 1).

## Configure the DSX-1 Interface (Optional)

1. Enter **interface t1 1/2** to activate the interface configuration mode for the DSX-1 interface.
2. Enter **signaling mode robbed-bit** to verify the DSX-1 interface is configured for voice (robbed-bit) signaling.
3. Enter **no shutdown** to activate the DSX-1 interface.
4. Enter **exit** to return to the Global Configuration mode.



*The default t1 1/2 signaling is robbed bit and does not need to be set. To use PRI, set signaling = None.*

## Configure RIP

1. At the **(config)#** prompt, enter **router rip** to activate the router configuration mode. Your prompt should now display **(config-rip)#**.
2. Enter **version 2** to globally define RIP version 2 on all interfaces.
3. Enter **network 10.10.10.1 255.255.255.0** to activate RIP on the virtual interface and **network 10.10.20.0 255.255.255.0** for the Ethernet interface (eth 0/1).
4. Enter **exit** to return to the Global Configuration mode.



*The RIP configuration will only apply to interfaces with IP addresses on the networks listed using the **network** command.*

## Configure a Telnet Session

The following steps show how to access the Telnet configuration parameters and change the password. The default password for initializing a Telnet session is **password** (all lowercase). For security purposes, change the password to something unique. For this example, replace the underlined **word** with a password of your choosing. To configure more than one Telnet session, repeat Steps 2 and 3 below, using incrementing labels. The NetVanta supports five Telnet sessions (0 through 4).

1. Verify that the prompt of your unit displays **(config)#**.
2. Enter **line telnet 0 4** to change the configuration parameters for the Telnet session.
3. Enter **password word** to change the login password for the Telnet session.
4. Enter **exit** to return to the Global Configuration mode.



*An Enable Security mode password must be defined before configured Telnet sessions are activated.*

## Save the Configuration

1. Verify that the prompt of your unit displays **(config)#**.
2. Enter **exit** to leave configuration mode.
3. Enter **copy running-config startup-config** to save the current configuration to memory. This command may be abbreviated as **copy run start**.
4. Enter **exit** to close the configuration session.

## Complete the Installation

The NetVanta is now configured and operational. Complete the installation by connecting the appropriate cables to the T1 and Ethernet networks. Please refer to the *NetVanta 3000 Series Routers Hardware Installation Guide* for more details on pinouts and cabling.