



WAN Links
for
Windows NT

Installation and Configuration Guide

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About This Guide

<i>Purpose</i>	<p>This guide provides the following:</p> <ul style="list-style-type: none">• An introduction to WAN Links for Windows NT™• Information you need to prepare for installation and configuration• A description of how to install and configure the WAN Links software
<i>Audience</i>	<p>This manual is intended for Windows NT administrators. It assumes that administrators are familiar with Windows NT administration and networking.</p>
<i>Scope</i>	<p>This manual provides step-by-step instructions for installing and configuring WAN Links software. It does not describe installation of the SyncPort adapter, which is covered in the <i>SyncPort Adapter Hardware Installation Guide</i> (90032600), nor does it describe in any detail how to configure related communications software, such as TCP/IP, that uses WAN Links frame relay and X.25 connections.</p>
<i>Related Documentation</i>	<p>The following related information is also available:</p> <ul style="list-style-type: none">• <i>SyncPort Adapter Hardware Installation Guide</i> (90032600) describes how to install the adapter.• Online help provides additional installation and configuration information.
<i>Terms</i>	<p>B</p> <p>backward explicit congestion notification (BECN)</p> <p>Notification of frame relay network congestion sent by the network to a transmitting device. Though not obligated to do so, the transmitting device can then reduce its output to prevent the network from becoming even more congested and, as a consequence, dropping frames.</p>

C

committed information rate (CIR)

The rate at which the frame relay network agrees to accept data from the user during normal network conditions. The CIR is not a continuous rate but rather an average rate over a specified time, such as one second.

D

data circuit-terminating equipment (DCE)

A network switch—or a device functioning as one—that provides access to the network.

data link connection identifier (DLCI)

An address that identifies the local end of a permanent virtual circuit in a frame relay network.

data terminating equipment (DTE)

A network subscriber's computer or terminal that communicates with a network switch (DCE).

E

excess burst size

The maximum transmission rate by which a frame relay user may exceed the CIR. The network does not guarantee delivery of data sent in excess of the CIR and will not permit rates faster than the CIR and excess burst size combined.

F

forward explicit congestion notification (FECN)

Notification of congestion sent by the frame relay network to a receiving device. FECNs are sent to the receiver so that the receiver will inform the sender of the network congestion. The receiver, however, is not obligated to notify the sender, nor is the sender obligated to throttle back transmission.

L

LAPB

Acronym for Link Access Procedure, Balanced, which is the link-layer protocol for X.25. LAPB defines the procedures for controlling the communication of data across a physical network and detecting and correcting transmission errors.

local management interface (LMI)

A protocol for exchanging management information between a user device and the frame relay network.

P**permanent virtual circuit (PVC)**

Also called permanent virtual connections. A virtual circuit (VC) is a logical communications path between two user devices on a frame relay network. This logical path is in contrast to the dedicated, end-to-end physical circuit used on circuit-switched networks (such as the public telephone network). On networks that use virtual circuits, physical communication paths are shared among many communicating devices. When a virtual circuit is established, the network does not set up an end-to-end, dedicated physical path, but simply allocates sufficient resources (such as buffers) for the call. With permanent virtual circuits (in contrast to switched virtual circuits), the logical communications path is not established at the time of the call, but at network subscription time.

S**switched virtual circuit (SVC)**

A logical communications path that is established at the time of a call. See virtual circuit.

V**virtual circuit**

A virtual circuit (VC) is a logical communications path between two user devices. This logical path is in contrast to the dedicated, end-to-end physical path used on circuit-switched networks (such as the public telephone network). On networks that use virtual circuits, physical communication paths are shared among many communicating devices. When a virtual circuit is established, the network does not set up an end-to-end, dedicated physical path, but simply allocates sufficient resources (such as buffers) for the call.

chapter **1**

Introduction

In this chapter

This chapter introduces WAN Links for Windows NT. It covers the following topics:

- WAN Links Description 1-2
- New Features 1-4
- Requirements, Restrictions and Capacity 1-5

WAN Links Description

Introduction

This section provides the following:

- A product overview that describes the primary benefits of WAN Links
- A feature overview that describes features that apply to the product in general
- A description of key frame relay features
- A description of key X.25 features

Product Overview

WAN Links for Windows NT complies with the Microsoft NDIS 3.0 driver specifications and extends the following:

- The built-in routing of Windows NT to frame relay and X.25 networks as depicted in Figure 1-1. Using WAN Links, a Windows NT system can communicate across frame relay and X.25 networks with remote routers, bridges, and other DTEs, such as other Windows NT systems equipped with WAN Links.
- Windows NT Remote Access Service (RAS) functionality over X.25 networks. Using WAN Links, a Windows NT system can communicate across an X.25 network with remote RAS and point-to-point protocol (PPP) clients that are either directly connected to the network or are using the services of an X.25 packet assembler/disassembler (PAD).

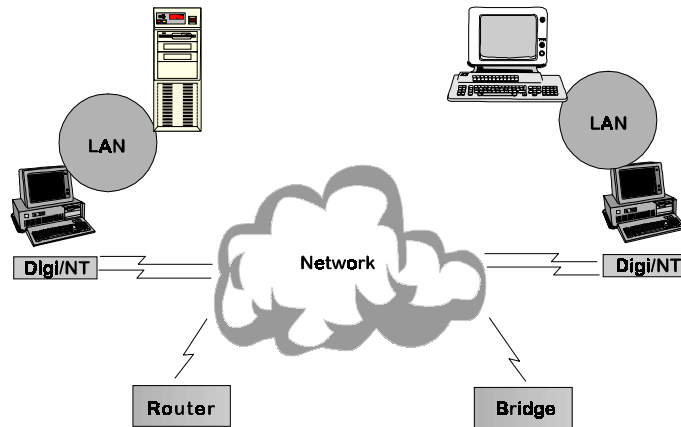


Figure 1-1. Windows NT System with WAN Links

Feature Overview

WAN Links provides the following features:

- Line speeds up to 2.048 Mbps (E1) on both adapter ports
- Support for running both frame relay and X.25 on the same adapter (different ports) and on different adapters in the same system

- Both Windows NT Server and Workstation support
- SNMP support, including the ability to retrieve (*get* functionality) managed objects defined in the following RFCs (request for comments)
 - RFC 1315, *Management Information Base for Frame Relay DTEs*
 - RFC 1317, *Definition of Managed Objects for RS-232-like Hardware Devices*
 - RFC 1381, *SNMP MIB Extension for X.25 LAPB*
 - RFC 1382, *SNMP MIB Extension for X.25 Packet Layer*
- Diagnostics

Key Frame Relay Features

Key frame relay features include the following:

- Both Backward Explicit Congestion Notification (BECN) and Forward Explicit Congestion Notification (FECN) support
- Multiple Committed Information Rate (CIR) transmit options
- Multiple Local Management Interface (LMI) protocols
- Industry-standard, multiprotocol encapsulation as defined in RFC 1490
- Support for all protocols supported by Windows NT

Key X.25 Features

Key X.25 features include the following:

- Compliance with all required features for the 1980, 1984, and 1988 ITU-T X.25 standards
- Support for RAS and PPP connections
- Support for IP connections over permanent virtual circuits
- Management of outgoing and incoming calls and X.25 facilities
- Full tracing and monitoring utilities
- Support for up to 256 virtual circuits per adapter
- Support for switched and permanent virtual circuits

New Features

Introduction

This section provides descriptions of the new features for this release of WAN Links.

New Features

- Support for IP routing over X.25 permanent virtual circuits (PVCs)
- Support for SNA over frame relay connections
- Support for retrieval of SNMP managed objects defined in RFCs 1315, 1317, 1381, and 1382

For a copy of these RFCs, see the following Web addresses:

- RFC 1315: <http://www.cis.ohio-state.edu/htbin/rfc/rfc1315.html>
- RFC 1317: <http://www.cis.ohio-state.edu/htbin/rfc/rfc1317.html>
- RFC 1381: <http://www.cis.ohio-state.edu/htbin/rfc/rfc1381.html>
- RFC 1382: <http://www.cis.ohio-state.edu/htbin/rfc/rfc1382.html>

Requirements, Restrictions and Capacity

Introduction

This section describes the requirements for running WAN Links and the restrictions on its use. It also addresses capacity issues.

Requirements

WAN Links requires an x86-based personal computer

- Equipped with an ISA, PCI, or MicroChannel bus
- Running Microsoft Windows NT 3.51 or 4.0 (Workstation or Server)

Note: Windows NT Server is required to support multiple simultaneous incoming RAS connections.

Restriction

SNMP support does not include *Set* functionality, that is, the capacity to modify managed object parameters from an SNMP manager.

Capacity

The number of SyncPort adapters you can install is limited only by system resources.

chapter **2**

Before You Begin

In This Chapter

This chapter provides information that you need to know before installing and configuring WAN Links. Topics include the following:

- Installation and Configuration Overview2-2
- TCP/IP Considerations2-3
- Navigating through the Configuration2-7

Installation and Configuration Overview

Introduction

This section provides an installation and configuration overview.

Installation and Configuration Steps

Here are the major steps you perform to install and configure WAN Links

1. Record information provided by your service provider. (You will need this information when you configure WAN Links.)
 - For frame relay networks, record the LMI protocol and the maximum frame size the network supports and the following information on each virtual circuit:
 - The DLCI
 - The CIR
 - The higher-layer protocols to run over the virtual circuit
 - The higher-layer addresses, such as IP addresses, associated with each virtual circuit
 - The encapsulation method (as defined in RFC 1490) that should be used to communicate with remote devices
 - For X.25 networks record the following:
 - The DTE addresses for each line
 - The logical channel numbers the network assigns
 - The higher layer addresses associated with each DTE address
 - The default and maximum frame and packet sizes the network supports
 - The X.25 version the network uses (1980, 1984, 1988)
2. Physically Install the adapter(s). See the *SyncPort Adapter Hardware Installation Guide* for information.
3. Install and configure the software. This also includes the following:
 - Installing and configuring higher-layer protocols, such as TCP/IP if required.
 - Installing and configuring Remote Access Service (RAS) if required.

TCP/IP Considerations

Introduction

This discussion deals with using the TCP/IP protocols with PVCs.

PVCs and IP Addresses

Frame relay and X.25 DTEs are connected to the network over logical channels. A pair of logical channels—one local and one remote—and the connections within the network form a virtual circuit. For IP addressing purposes, a virtual circuit is an IP subnetwork. Therefore, when you configure a virtual circuit, the IP addresses for the paired logical channels must have a common network ID. (The host portion of the IP address should be different for each logical channel.) In addition, this network ID should be unique. That is, no other virtual circuit (or any other subnetwork) should use the same network ID. Figure 2-1 uses a frame relay network to illustrate this concept. Each virtual circuit is defined as an IP subnetwork, identified with a network ID (192.10.10. for one VC and 192.10.20. for the other).

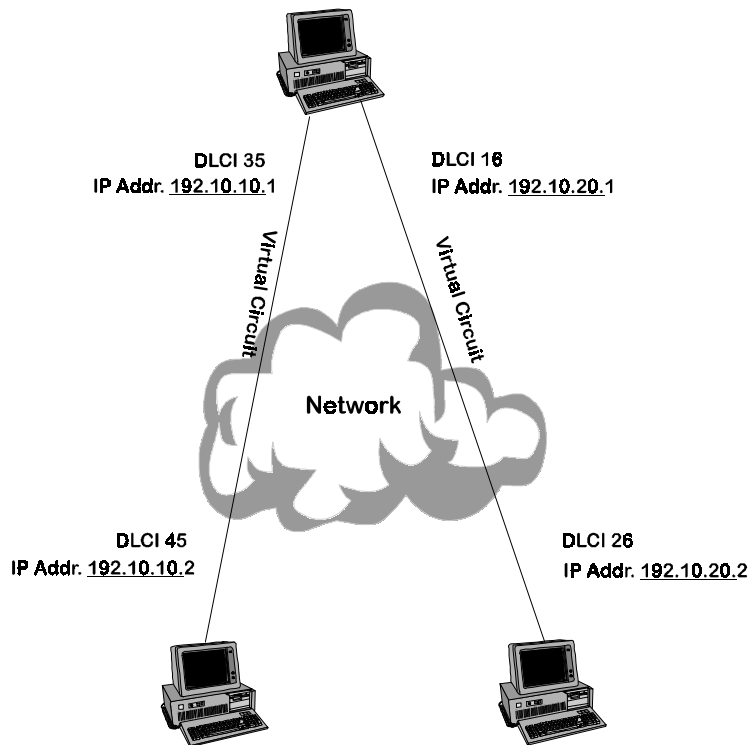


Figure 2-1. Virtual Circuit and IP Address Concepts

***NT Systems as
IP Routers***

Windows NT systems that function as IP routers must be explicitly configured for TCP/IP routing. That is, unless they are configured for IP routing, they will not be able to pass TCP/IP traffic from one network to another.

Check the **Enable IP Routing** box in the TCP/IP configuration if you want IP routing enabled on this NT system. For more information, see the Windows NT documentation.

***Tips on Minimizing
Static Routes***

Although Windows NT 3.51 and Windows NT 4.0 support the routing information protocol (RIP), Digi does not recommend using RIP over most wide area networks because the bandwidth RIP update packets consume can be considerable. The exception to this recommendation is if your network configuration changes frequently.

Static routes, however, can be difficult to maintain. The configuration examples that follow offer tips on ways to ensure proper routing while minimizing static route creation.

***IP Routing Example:
NT Routers
Connecting Two
Small LANs***

In this example (see Figure 2-2), hosts are configured to use their local NT routers as default gateways and NT routers are configured to do one of the following:

- Use static routes to the other network.

To create static routes, use the Windows NT **route** utility. See the Windows NT documentation for more information.

- Designate each other as default gateways.

If you use this option, configure the hosts to use a small Life (time-to-live or TTL) value to prevent packets with IP addresses that neither NT router recognizes from being repeatedly passed back and forth across the network.

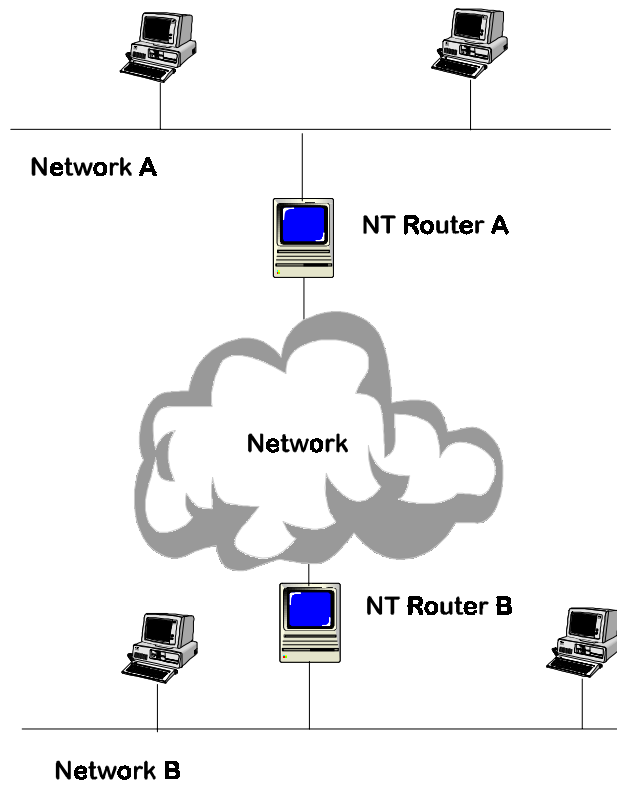


Figure 2-2. NT Routers Connecting Two LANs

***IP Routing Example:
LANs Connected
through an NT Router
to the Internet***

In the configuration depicted in Figure 2-3, NT routers A and B have static routes to each other and point to C as a default gateway. NT router C maintains static routes to A and B.

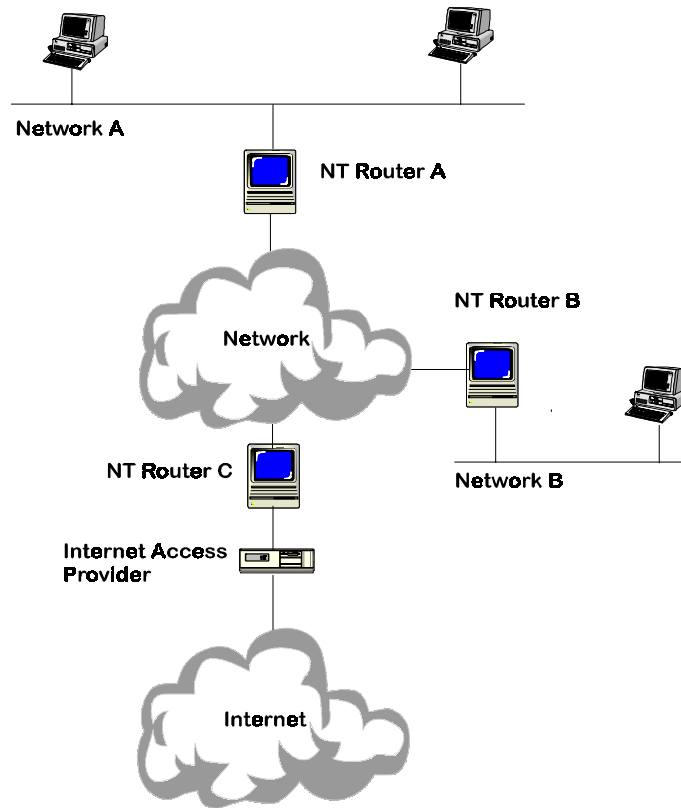


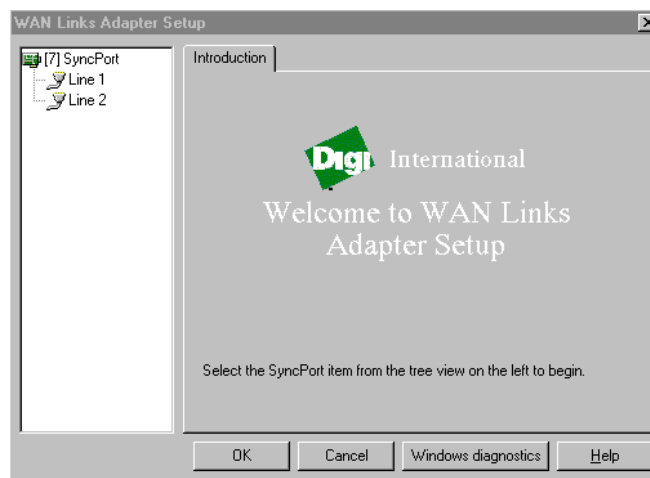
Figure 2-3. LANs Connected through the NT Router to the Internet

Navigating through the Configuration

Quick Tips

The WAN Links configuration is easy to navigate. Just keep the following in mind:

- The left-hand pane—called the contents pane—displays configurable items, and the right-hand pane—called the properties pane—displays configuration parameters associated with each item.
- Selecting an item in the contents pane displays parameters for that item in the properties pane. Clicking a Line, for example, displays parameters associated with that line.
- Double clicking an item expands or contracts subordinate items.
- Tabs in the properties pane provide access to specific configuration parameters.



chapter **3** **Installation and Configuration**

In This Chapter

This chapter describes WAN Links installation and configuration. It discusses the following topics:

- Installation and Configuration Considerations 3-2
- Main Installation and Configuration Procedure 3-4
- Installing or Updating WAN Links on Windows NT 3.51 . . . 3-6
- Installing or Updating WAN Links on Windows NT 4.0 . . . 3-9
- Configuring a Line for Frame Relay 3-12
- Configuring a Line for X.25 3-16

Note: Use the online help for descriptions of configuration fields.

Installation and Configuration Considerations

Introduction

This section provides information you should know before you install and configure WAN Links software.

WAN Links Release Level Considerations

The following are restrictions regarding installing a previous version of WAN Links once you have installed WAN Links 2.0.

- **Caution:** Do not attempt to install a previous version of WAN Links on a system that has been upgraded to WAN Links 2.0. Problems with your operating system can occur. If you want to revert to the previous release, you must first remove the current one.
- To avoid accidentally installing the previous release of WAN Links, do **not** use the Windows NT Network Adapter List to install WAN Links. Always use the Digi diskettes.

Moving SyncPort Adapters

WAN Links stores slot information for each installed adapter. If you physically move an adapter from its slot, WAN Links may not be able to locate it. This is true if you move

- A SyncPort ISA adapter to a slot on a different bus
- SyncPort PCI or MicroChannel adapters to slots on the same bus or a different bus

If system requirements force you to move a PCI or Microchannel adapter or to move an ISA adapter to a different bus, do the following:

1. Remove the WAN Links software.
2. Move the adapter.
3. Reinstall WAN Links software.

Identifying an Adapter

On systems with more than one SyncPort PCI or MicroChannel adapter, it may be difficult to determine which adapter you are configuring. Consequently, Digi recommends that you complete installation and configuration tasks for one adapter at a time. That is, do the following:

1. Install an adapter in the machine.
2. Install and configure the software for the adapter.
3. Restart or shutdown the system.
4. Repeat these steps for each adapter.

***RFC 1490
Encapsulation***

WAN Links Frame Relay supports industry-standard encapsulation defined in RFC 1490. Ensure that routers, bridges, and other devices with which WAN Links Frame Relay communicates use RFC 1490 encapsulation as well. (Some may be configured to use proprietary encapsulation.)

***SNA over Frame
Relay PVCs***

Here are some tips on configuring SNA over frame relay PVCs:

WAN Links Configuration

- Ensure that the Network Address on this side of a virtual circuit is not the same as the Network Address on the other side.
- Configure Bridged or Bridged w/ fcs as the encapsulation method. The encapsulation method used on this side of the PVC must be identical to one used on the other side.

SNA Server Configuration

- Install the DLC 802.2 protocol and ensure that the DLCI appears in the Adapter field of the DLC 802.2 Link Service Setup configuration.
- Use a different service access point (SAP) on each end of the frame relay connection and ensure that the SAP is a multiple of 4.
- Configure the remote system's Network Address and SAP in the DLC 802.2 Setup.
- Digi recommends that you adjust the Response Timeout, Receive Ack Timeout, and Inactivity Timer to values appropriate for wide area networking and the line speed of your frame relay line.

Main Installation and Configuration Procedure

Introduction

This procedure provides a high-level description of the tasks you perform to install and configure WAN Links. It sends you to other procedures provided in this chapter to complete detailed installation and configuration steps. Once you perform these detailed steps, return to this procedure for further instructions.

Before You Begin

This process assumes that you have

- Logged in as administrator
- Physically installed the adapter in the system
- Installed Windows NT networking

Procedure

1. Install or update the WAN Links software. Install WAN Links software if the system does **not** have the previous WAN Links release installed already. Update WAN Links if it does. See one of the following:
 - “Installing or Updating WAN Links on Windows NT 3.51” on page 3-6.
 - “Installing or Updating WAN Links on Windows NT 4.0” on page 3-9.
2. Configure the adapter. This step is not necessary if any of the following are true:
 - You updated the software and you do **not** want to change the adapter’s I/O base address, memory base address, and IRQ.
 - You are using a PCI or MicroChannel SyncPort.
 - You used automatic ISA adapter detection during the installation and you do **not** want to change the I/O base address, memory base address, and IRQ assigned through automatic detection.
3. Configure a protocol (frame relay or X.25) for Line 1 and Line 2. (You do not have to configure lines you will not use.) You can configure both lines with the same protocol or Line 1 with one protocol and Line 2 with the other. See the following:
 - “Configuring a Line for Frame Relay” on page 3-12.
 - “Configuring a Line for X.25” on page 3-16.
4. Press the OK button at the bottom of the WAN Links Adapter Setup window when you finish configuring both lines.
5. If you plan to use RAS connections over X.25 lines, you must
 - Install RAS (if you have not done so already).
 - Configure RAS ports for X.25 access.
 - Configure RAS user profiles to grant dial-in access.

Note: To configure the adapter, use the WAN Links Adapter Properties page. To access the Adapter Properties page, click the SyncPort item.

See the Windows NT documentation for more information.

6. Press the **Close** button in **Network Settings** and then follow the Windows NT prompts.
7. Repeat these steps for each SyncPort adapter.

What Next

If you plan to bridge SNA traffic over frame relay, see “SNA over Frame Relay PVCs” on page 3-3 for additional configuration information. Otherwise WAN Links is ready to use.

Installing or Updating WAN Links on Windows NT 3.51

Introduction

The two procedures provided in this section describe how to install and how to update WAN Links software on a Windows NT 3.51 system.

- Use the install procedure if the system does **not** have the previous WAN Links release installed.
- Use the update procedure if the system **has** the previous WAN Links release installed.

Starting Point

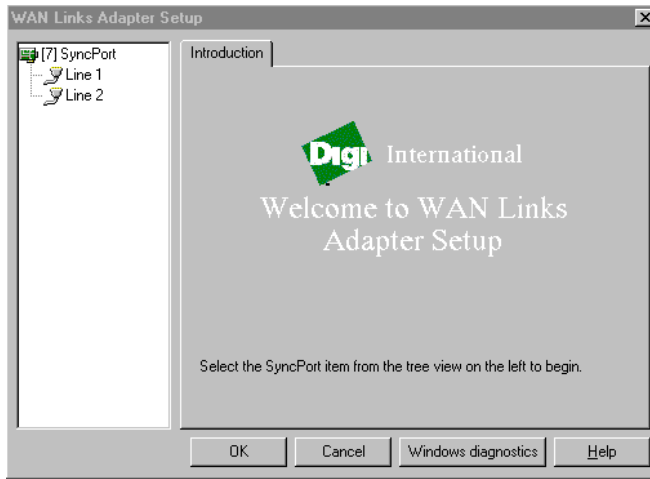
These procedures assume that you have

- Logged in as administrator
- Read the Installation and Configuration Overview
- Installed Windows NT networking
- Physically installed the adapter
- Brought the Main Group into view

Windows NT 3.51 Installation Procedure

1. Select Control Panel.
2. Select Network.
3. Press the Add Adapter button.
4. Select the following:
<other> Requires disk from manufacturer on the Add Network Adapter page and then click the Continue button.
5. Insert WAN Links disk 1 in the drive.
6. Follow the instructions on the Insert Disk page and then press the OK button.
7. Select Digi SyncPort Adapter and press the OK button.
8. If your system has more than one bus, specify a bus location and number on the Bus Location dialog.
9. If you are using an ISA adapter, do one of the following on the ISA Adapter Detection dialog:
 - Select **Yes** if you want WAN Links to assign an appropriate I/O base address, memory base address, and IRQ. You can change these assignments later if you want.
 - Select **No** if you do **not** want WAN Links to assign system resources automatically. If you select **No**, configure these values on the Adapter Properties page.
10. Specify a directory into which the WAN Links software should be installed and then press the OK button.

The WAN Links Adapter Setup dialog appears.



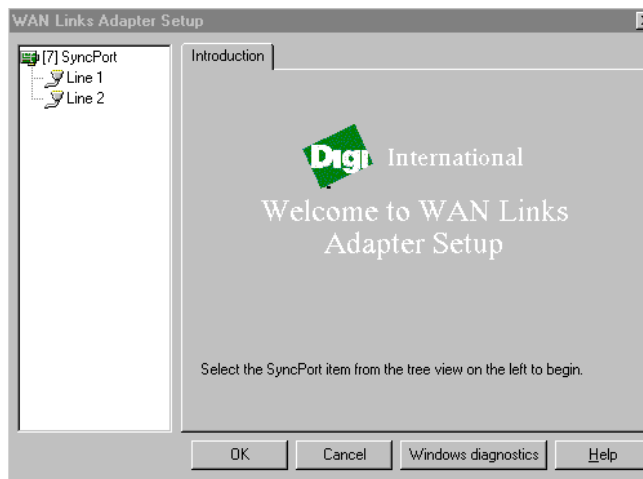
What Next

The installation is complete. You must now configure WAN Links using the WAN Links Adapter Setup. For more information, return to step 2 (page 3-4) of the “Main Installation and Configuration Procedure.”

***Windows NT 3.51
Update Procedure***

1. Select Control Panel.
2. Select Network.
3. Select a Digi SyncPort Adapter and press the Update button.
4. Insert Digi WAN Links disk 1 in the drive.
5. Specify a path to the WAN Links software and press Continue.
6. Select Digi SyncPort Adapter and press the OK button.
7. Specify a directory into which the WAN Links software should be installed and then press the OK button. The WAN Links Adapter Setup page appears.

Note: The update procedure updates WAN Links for all SyncPort adapters.



What Next

The update is complete. To use the old WAN Links configuration without changes, go to step 4 (page 3-4) of the “Main Installation and Configuration Procedure.” To take advantage of new features, such as SNA over frame relay or IP routing over X.25, go to step 2 (page 3-4). **Note:** SNMP support does not require configuration.

Installing or Updating WAN Links on Windows NT 4.0

Introduction

Use one of these procedures if your SyncPort adapter resides on a Windows NT 4.0 system. Use the install procedure if the system does **not** have the previous WAN Links release installed. Use the update procedure if the system has the previous WAN Links release installed already.

Starting Point

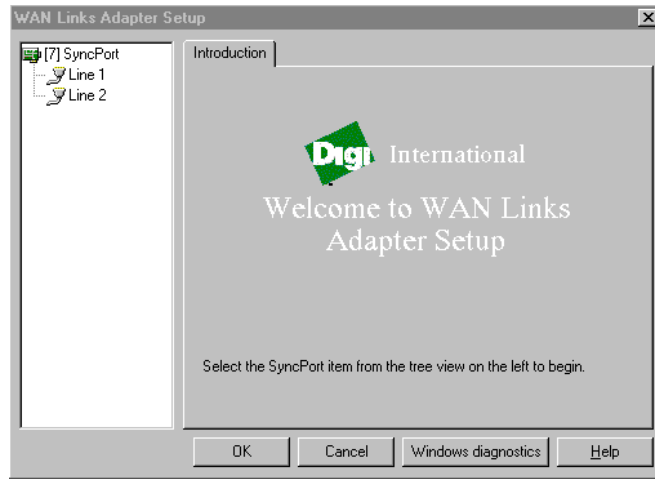
These procedures assume that you have

- Logged in as administrator
- Installed Windows NT networking
- Installed the adapter

Windows NT 4.0 Installation Procedure

1. From the Start menu, select Settings and then Control Panel.
2. Select Network.
3. Select the Adapters tab.
4. Press the Add button.
5. Press the Have Disk... button.
6. Insert Digi WAN Links disk 1 in the disk drive.
7. Follow the instructions on the Insert Disk page and then press the OK button.
8. Select Digi SyncPort Adapter and press the OK button.
9. If your system has more than one bus, specify a bus location and number on the Digi SyncPort Adapter Bus Location page and then press the OK button.
10. If you are using an ISA adapter, do one of the following on the ISA Adapter Detection dialog:
 - Select Yes if you want WAN Links to assign an appropriate I/O base address, memory base address, and IRQ. You can change these assignments later if you want.
 - Select No if you do not want WAN Links to assign system resources automatically. If you select No, configure these values on the Adapter Properties page.
11. Specify a directory into which the WAN Links software should be installed and then press the OK button.

After the software is installed, the WAN Links Adapter Setup dialog appears.



What Next

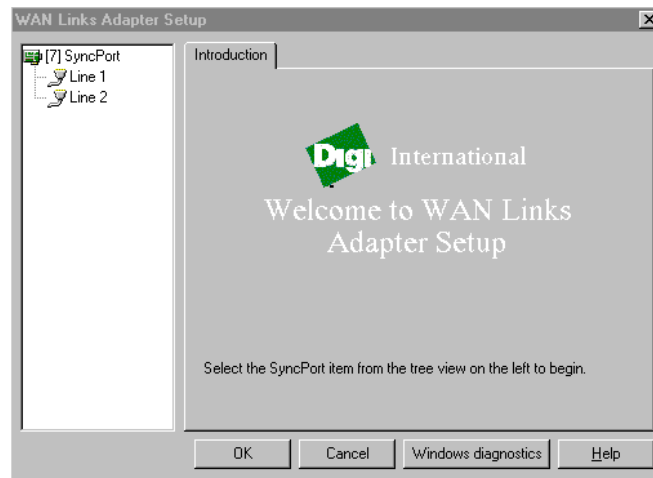
The installation is complete. You must now configure WAN Links using the WAN Links Adapter Setup. For more information, return to step 2 (page 3-4) of the “Main Installation and Configuration Procedure.”

***Windows NT 4.0
Update Procedure***

1. From the Start menu, select Settings and then Control Panel.
2. Select Network.
3. Select the Adapter tab.
4. Select the Digi SyncPort Adapter and press the Update button.
5. Specify a path to the WAN Links update software and then press Continue.
6. Insert Digi WAN Links disk 1 in the disk drive.
7. Select Digi SyncPort Adapter and press the OK button.
8. Specify a directory into which the WAN Links software should be installed and then press the OK button (on the WAN Links Installation page).

After the software is updated, the WAN Links Adapter Setup page appears.

Note: The update procedure updates WAN Links for all SyncPort adapters.



What Next

The update is complete. To use the old WAN Links configuration without changes, go to step 4 (page 3-4) of the “Main Installation and Configuration Procedure.” To take advantage of new features, such as SNA over frame relay or IP routing over X.25, go to step 2 (page 3-4). **Note:** SNMP support does not require configuration.

Configuring a Line for Frame Relay

Introduction

Use this procedure to configure a line with frame relay software. Use context-sensitive online help for information on configuration fields.

Starting Point

This procedure assumes that you have

- Installed the WAN Links software
- Brought the WAN Links Adapter Setup page into view

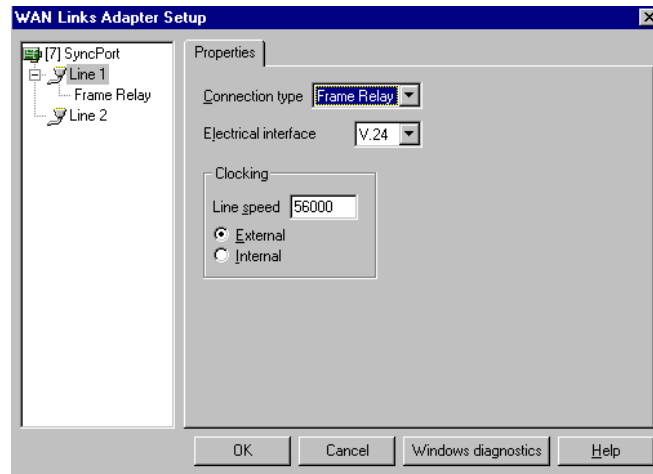
Procedure

1. Select the line to configure.

To select a line, click a Line in the Contents pane.

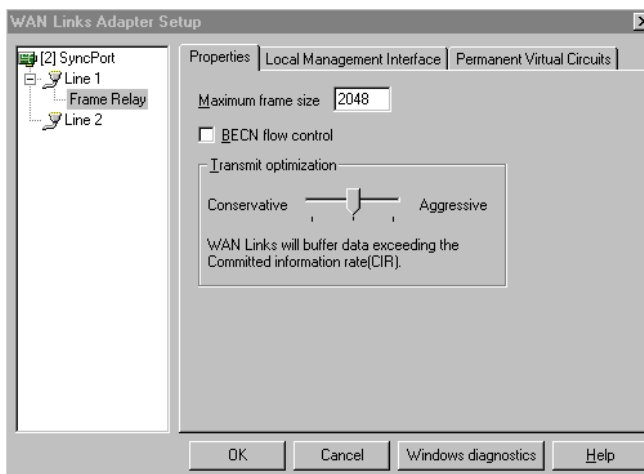
2. Configure line properties on the Line Properties page.

Once you specify a Connection type on the Line Properties page, additional configuration fields appear.

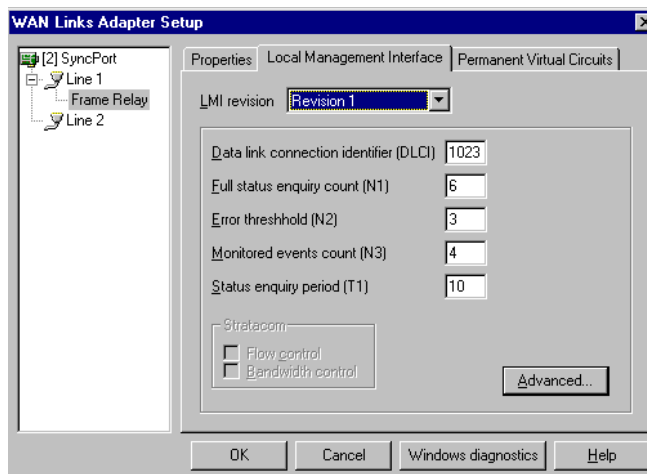


3. Configure general frame relay properties on the Frame Relay Properties page.

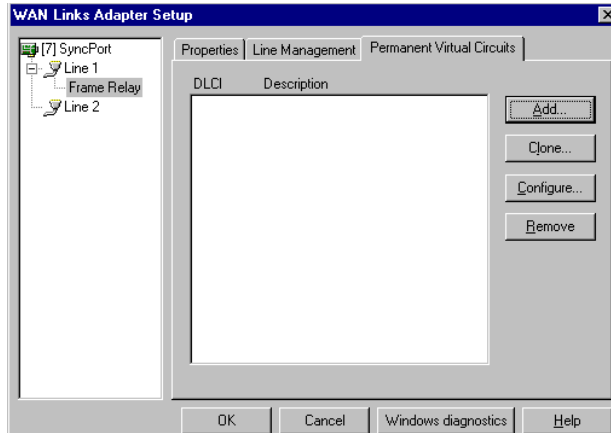
To access the Frame Relay Properties page, click the Frame Relay item in the Contents pane.



4. Configure LMI attributes on the Local Management Interface tab.

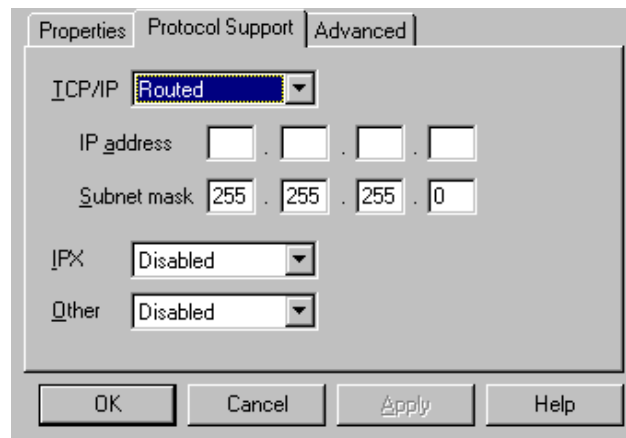


5. Add and configure permanent virtual circuits. This requires the following steps:
 - a. Add a PVC and then configure a DLCI, CIR, and description on the PVC Properties page. To access this page, select the Permanent Virtual Circuits tab and then press the Add button.



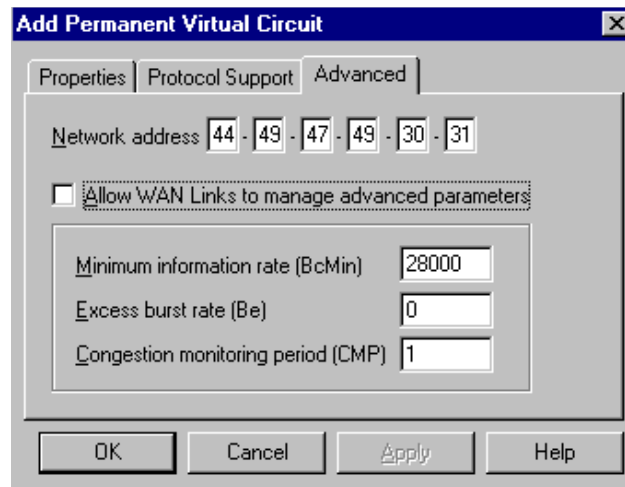
- b. Configure higher-layer protocols for each DLCI on the Protocol Support page. To access this page, select the Protocol Support tab.

Note: For IP routing over this PVC, specify Routed in the TCP/IP field and then supply an IP address and subnet mask. For SNA over this PVC, specify Bridged or Bridges w /fcs in the Other field. See the online help for more information.



- c. If required, configure a network address and advanced frame relay parameters on the Advanced page.

Note: For SNA over this PVC, ensure that this end of the connection does **not** use the same Network address as the other end of the connection (the peer system). See the online help for more information.



What Next

Return to “Main Installation and Configuration Procedure” on page 3-4 for information on how to complete the installation and configuration.

Configuring a Line for X.25

Introduction

This procedure describes how to configure a line with the X.25 protocol. These steps along with the defaults Digi supplies for other X.25 and LAPB parameters produce a highly workable configuration for most systems on most networks. If, however, you want to change some defaults, simply page through the configuration and make changes as required. For descriptions of all configuration parameters, see the online help.

Before You Begin

This procedure assumes that you have

- Installed the WAN Links software
- Brought the WAN Links Adapter Setup page into view

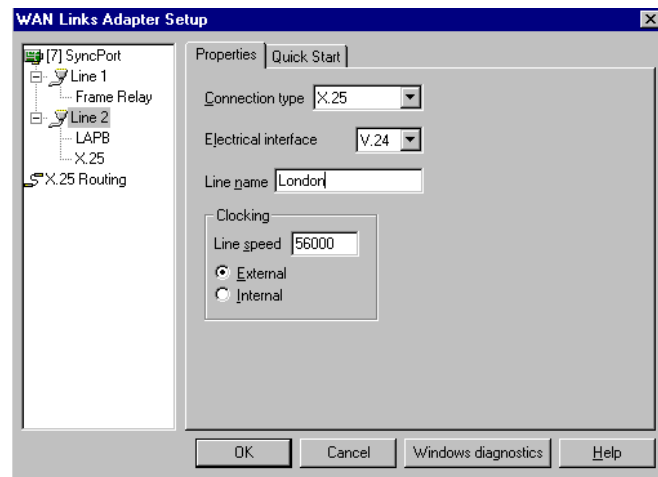
Procedure

1. Select the line to configure.

To select a line, click a Line item in the Contents pane.

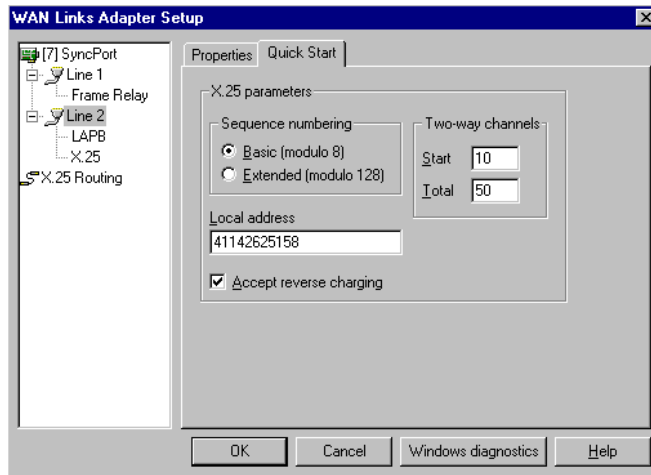
2. Configure line properties on the Line Properties page.

Once you specify a Connection type on the Line Properties page, additional configuration fields appear.



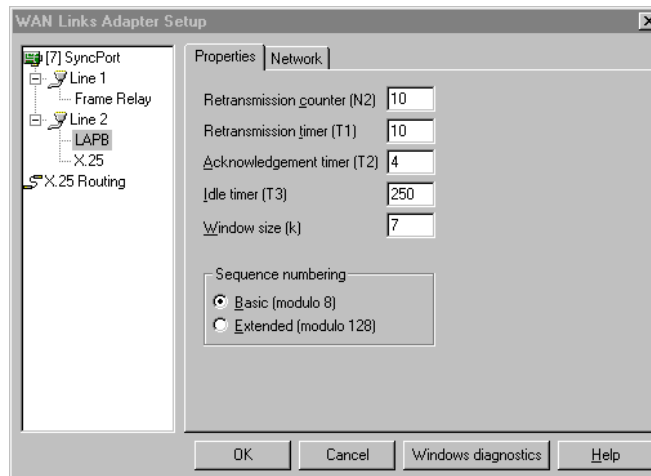
3. Configure Quick Start properties.

To access the Quick Start Properties page, select the Quick Start tab.



4. Review LAPB properties and change as required (usually optional).

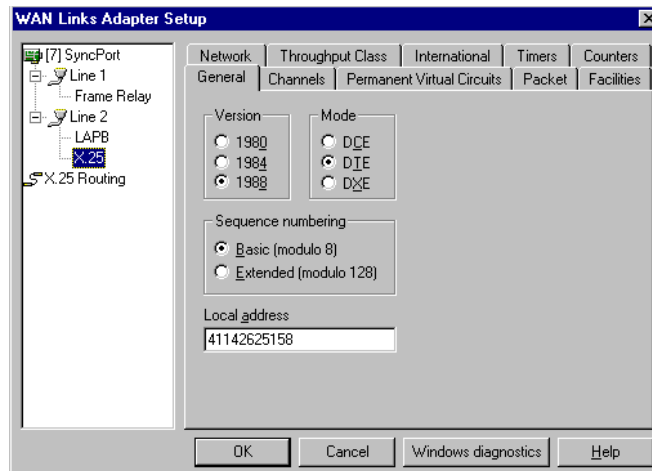
To access LAPB Properties pages, click the LAPB item in the Contents pane and then select the tabs at the top of the page.



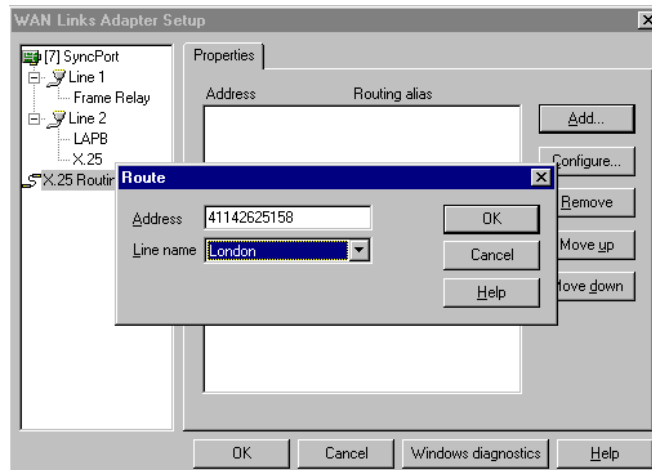
5. Review X.25 properties and change as required.

To access X.25 Properties pages, click the X.25 item in the contents pane and then select the tabs at the top of the page.

Note: To configure IP routing over PVCs, use the Channels page to configure a range of PVCs and the Permanent Virtual Circuits page to configure PVC attributes.



Note: To configure SVCs, use the Quick Start page or the Channels page to define channel types and ranges and the X.25 Routing Table to configure how WAN Links routes outbound calls. The routing table enables WAN Links to determine which SyncPort adapter and line to use to route outbound calls.



What Next

Return to “Main Installation and Configuration Procedure” on page 3-4 for information on how to complete the tasks required to install and configure WAN Links.

chapter 4

Starting WAN Links Diagnostics

In This Chapter

This chapter introduces WAN Links Diagnostics and shows you how to start this program. See the online help for additional information on the diagnostic program.

Introducing Diagnostics

WAN Links Diagnostics provides tools required to monitor and troubleshoot WAN Links frame relay and X.25 connections. Features include line monitoring and tracing.

Starting Diagnostics

To start WAN Links Diagnostics, do the following:

- On Windows NT 3.51, double-click the WAN Links Diagnostic icon. (If defaults were used during installation, this icon is in the WAN Links group.)
- On Windows NT 4.0, select WAN Links Diagnostics from the Start menu. (If defaults were used during installation, this icon is in the WAN Links group.)

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