



## **Eiconcard™ Connections for Windows**

Quickstart

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## Introduction

Eiconcard™ Connections for Windows is a server-based wide area networking (WAN) communications solution for Microsoft Windows 2000, Windows Server 2003, Windows Server 2008, Windows Server 2008 R2, Windows XP, Windows Vista, and Windows 7. Eiconcard Connections for Windows extends the WAN communications and internetworking capabilities offered by Windows.

Support is also available for Microsoft Routing and Remote Access Service (RRAS), which provides advanced routing and remote access services.

## Protocol Support

- X.25
- HDLC (LAPB)
- ISDN (Integrated Services Digital Network)
- SNA over X.25 and SDLC, using Microsoft Host Integration Server
- Point-to-Point Protocol (PPP)
- SNA over Frame Relay, using Microsoft Host Integration Server
- ISO Transport Class 0 and 2
- Frame Relay

For more information on each of these connections, refer to the descriptions and illustrations later in this guide.

## Networked Enterprise Solutions

- IP and IPX multiprotocol routing across legacy WANs
- Remote access to host systems, Internet Service Providers (ISPs), and database servers

## Microsoft Server Products Support

Depending on your needs, you may require one or more of these products:

- *For SNA Link Drivers and SNA over Frame Relay Routing:* Microsoft Host Integration Server
- Exchange Server
- Internet Information Server (IIS)
- Systems Management Server (SMS)
- SQL Server

# Getting Help

All Eiconcard Connections for Windows documentation is provided in the Eiconcard Connections for Windows product folder. By default C:\C4W\_x86 or C:\C4W\_x64.

## Release Notes

Release Notes include important information not included in this and the online guides. Release Notes are provided in the file: README\_S.TXT

Release Notes are located in the Eiconcard Connections for Windows product folder and are copied to the designated installation folder.

## Online Guides

Full documentation about how to configure and use Eiconcard Connections for Windows is provided in the online guide: ECGUIDE.CHM

The online guide is located in the Eiconcard Connections for Windows product folder.

During installation of the Eiconcard Connections software, the appropriate online guide(s) will be copied to the installation folder on your hard disk. See the release notes for details.

## Online Help

When using the Eiconcard Configuration Program to configure your connections, you have access to comprehensive online help. The Help menu in the Eiconcard Configuration Program provides two options:

- **Contents:** Opens the Contents tab of the Eiconcard Configuration Program help file that provides information on how to use the program and help on parameters.
- **How To:** Displays a list of links to topics in the Online Guide that provide step-by-step instructions for the most commonly performed configuration and operation tasks.

## Context-sensitive Help

While using the Eiconcard Configuration Program to configure your connections, you can press "F1" from within any parameter to display its associated help topic, which provides a description, range, and default value for the selected parameter.

Context-sensitive help is provided for the following Eiconcard Connections for Windows components:

<b>Component</b>	<b>File</b>
Eiconcard Configuration Program	ecadmin.chm
Routing Services	econnect.chm
X.25 WAN Miniport	wanmini.chm
Eiconcard System Management Console	eccntral.chm

Except for the Eiconcard Configuration Program, which is installed as part of the Core Services, these help files are installed only if you choose to install the corresponding component.

## Error Messages

If a problem occurs while you are using the Eiconcard Loadable Modules, Eiconcard Relocatable Modules, or Eiconcard Routing Services, a system error may be displayed. For more information and a solution to the error, refer to the topic *Connection to Windows Error Messages* in the Eiconcard Connections for Windows help file (ecguide.chm).

# System Requirements

You must make sure that the computer on which you will install Eiconcard Connections for Windows meets at least the minimum system requirements described below.



**Important:** Typically, an Eiconcard requires less power than most hard disks. However, if you are installing more than one Eiconcard and a number of components (tape drive, CD-ROM drive) are already installed in your system, you should verify that adding multiple Eiconcards will not overload your system. The power requirements for an Eiconcard are listed in its installation guide.

- Standard computer running Microsoft Windows. The computer must meet at least the minimum system requirements for the version of Microsoft Windows that it is running. Support is provided for the 64 bit version of Windows.

Note that the Windows Server family supports both static and dynamic routing. However, Windows 2000 Professional and Windows XP provide only static routing.

- Mouse or compatible pointing device
- 20 MB of available hard-disk space
- An Eiconcard S-Series or C-Series: see [Supported Eiconcards](#) on page 11

Also, depending on the type of connections you want to make, you may need to install some of the software or services listed below.

To use IP routing services, you must install:

- TCP/IP Networking Routing Information Protocol (RIP) for dynamic routing

To use IPX routing services, you must already have installed Windows IPX/SPX Protocol options, which include:

- Microsoft NWLink IPX/SPX
- IPX (Internet Packet Exchange) Router
- IPX Routing Information Protocol (RIP) and IPX Service Advertising Protocol (SAP)

To use Eiconcard Network Management Services you must already have configured:

- TCP/IP Protocol options in Windows
- SNMP Service option in Windows

Consult the Windows online help for information on how to install and configure Windows SNMP services.

## Supported Eiconcards

The Eiconcard is the hardware device operated by the Eiconcard Connections for Windows software components.

The type and number of Eiconcards you require depends on the volume of information you need to transmit and the number and types of connections you want to make. The Eiconcard Connections for Windows software can control a maximum of six Eiconcards in the same computer.

The following is a list of Eiconcards supported by Eiconcard Connections for Windows:

Eiconcard Group	Eiconcard Model	Interface
C-Series	Eiconcard C20	V.24
	Eiconcard C21	V.24, ISDN BRI
	Eiconcard C30	V.24
	Eiconcard C31	V.24, ISDN BRI
	Eiconcard C90	V.24
	Eiconcard C91	V.24, ISDN BRI
S-Series	Eiconcard S90	VHSI
	Eiconcard S91	VHSI, ISDN BRI
	Eiconcard S94	2 VHSI

### Interfaces

**HSI:** Supports RS-232 (V.24), V.35, and X.21.

**VHSI:** Supports RS-232 (V.24), V.35, V.36, RS449, EIA530, and X.21. All VHSI interfaces support smart cables to auto-detect the physical interface.

**ISDN BRI:** A multiplexed interface that supports two B-Channels and a D-Channel for signaling.

## Installing the Software

This section explains how to perform a new installation of Eiconcard Connections for Windows. If you are upgrading a previous installation, see [Upgrading a Previous Installation](#) on page 15.

### Before installing

Before you install the Eiconcard Connections for Windows software, you must install at least one Eiconcard into the computer on which you will install the software. You can install as many as six Eiconcards in the same computer (with a maximum of 16 ports used by Routing Services). This enables you to support different types of connections through a single Eiconcard Connections for Windows computer.

**Note:** The computer with the Eiconcard(s) and Eiconcard Connections software is referred to in the documentation as an Eiconcard Connections for Windows computer.

The computer you choose must meet the minimum system requirements described in [System Requirements](#) on page 9. For information on how to install an Eiconcard into a computer, consult the installation guide included with your Eiconcard.

After you have installed the Eiconcard(s), you can install Eiconcard Connections for Windows software components from the Eiconcard Connections for Windows product folder. By default it is C:\C4W\_x86 or C:\C4W\_x64. Before you install the software, it is recommended that you read the Release Notes. See [Getting Help](#) on page 7 for the location of the Release Notes.

After you have installed the Eiconcard Connections for Windows software, information on how to configure and use the software is available in the online guide (ECGUIDE.CHM). See [Online Guides](#) on page 7 for more information.

The Eiconcard Connections for Windows product folder also includes the SNA Link Server Drivers that enable Microsoft Host Integration Server to operate through your Eiconcard to make SNA connections. For information on how to install the SNA Link Server Drivers, refer to the online guides.

Installation of the Eiconcard software is different depending on whether you are running Windows 2000 or any of the other supported Windows operating systems. Refer to the appropriate section below.

### Installing under Windows XP and Later

1. Ensure that you have installed and connected the Eiconcard in your computer as described in the installation guide included with your Eiconcard.
2. Start your computer and log on as Administrator or equivalent. Windows will detect the new hardware and start the 'Found New Hardware Wizard'.
3. Browse to the Eiconcard Connections for Windows product folder. By default C:\C4W\_x86 or C4W\_x64.
4. Click **Next** and follow the instructions that appear on the screen.

If, for any reason, you abort the installation procedure before it has completed, running ECUPDATE will correctly install the latest drivers. To run ECUPDATE, follow the steps below:

1. Click **Start**, and then click **Run**.
2. In the **Run** box, C:\C4W\_x86\ecupdate.exe or C4W\_x64\ecupdate.exe (the default locations for the 32 bit or 64 bit versions of the Eiconcard Connections for Windows product files).
3. Click **OK**. This will update all Eiconcard Connections for Windows files to the latest version.

## Installing under Windows 2000

### For C2x, S90, S91, and S94 (2 MB) Eiconcards

1. Make sure that you have installed and connected the Eiconcard in your computer as described in the installation guide included with your Eiconcard.
2. Start your computer and log on as Administrator or equivalent. Windows 2000 will detect the Eiconcard and automatically install the core driver files appropriate for your Eiconcard group.
3. Click **Start**, and then click **Run**.
4. In the **Run** box, type C:\C4W\_x86\ecupdate.exe or C4W\_x64\ecupdate.exe (the default locations for the 32 bit or 64 bit versions of the Eiconcard Connections for Windows product files).
5. Click **OK**. This will update all Eiconcard Connections for Windows files to the latest version.
6. Install any optional Eiconcard Connections software that you may want to use. It is recommended that you install optional software before you configure your Eiconcard(s).
7. Configure the Eiconcard(s). See the online help for instructions on how to configure your Eiconcard(s).

### For C3x, C9x, S92, S94 (except S94 -2 MB), or V2 Eiconcards

1. Ensure that you have installed and connected the Eiconcard in your computer as described in the installation guide included with your Eiconcard.
2. Start your computer and log on as Administrator or equivalent. Windows 2000 will detect the new hardware and start the 'Found New Hardware Wizard'.
3. In the first panel of the 'Found New Hardware Wizard', click **Next**.
4. Make sure **Search for a suitable driver for my device (recommended)** is selected, and click **Next**.
5. Browse to the Eiconcard Connections for Windows product folder. By default C:\C4W\_x86 or C:\C4W\_x64.
6. Click **Next**. Windows 2000 locates the drivers for your Eiconcard.
7. Click **Next** and follow the instructions that appear on the screen.

If, for any reason, you abort the installation procedure before it has completed, running ECUPDATE will correctly install the latest drivers. To run ECUPDATE, follow the steps below:

1. Click **Start**, and then click **Run**.
2. In the **Run** box, type C:\C4W\_x86\ecupdate.exe or C4W\_x64\ecupdate.exe (the default locations for the 32 bit or 64 bit versions of the Eiconcard Connections for Windows product files).
3. Click **OK**. This will update all Eiconcard Connections for Windows files to the latest version.

## Installing Optional Services

Optional Services software available for Eiconcard Connections for Windows consists of the services listed below. A more complete description of the services, as well as instructions on how to install them, is available in the Online Guide (ECGUIDE.CHM).

**Note:** The majority of optional services are installed by the Eiconcard Connections for Windows installation program. The exception is the SNA Link drivers, which are installed through Microsoft Host Integration Server.

- **Routing Services:** Interconnects IP and IPX LANs as well as devices using SNA over Frame Relay. Routing Services is automatically installed as soon as any Router connections are configured.
- **X.25 PAD:** Provides a means for remote users to connect via the computer's virtual COM port and a terminal emulation program. The X.25 PAD is installed using the Add/Remove Hardware wizard in the Windows Control Panel. Consult the Eiconcard Connections Online Guide for instructions.
- **LANPAD:** Used in conjunction with the X.25 PAD. LANPAD is installed automatically when you install X.25 PAD.
- **X.25 WAN Miniport:** Used in conjunction with RAS to make X.25 connections. The X.25 WAN Miniport is installed using the Add/Remove Hardware wizard in the Windows Control Panel. Consult the Eiconcard Connections Online Guide for instructions.
- **ISDN WAN Miniport:** Used in conjunction with RAS to make ISDN connections. The ISDN WAN Miniport is installed using the Add/Remove Hardware wizard in the Windows Control Panel. Consult the Eiconcard Connections Online Guide for instructions.
- **Eiconcard Network Management Services:** Required if you want to access the Eiconcard MIB from a third-party SNMP console. Eiconcard Network Management Services is installed through the Windows Device Manager: click the Eiconcard and then click the Config tab.
- **SNA Link Drivers:** Eiconcard SNA Link Drivers are for use with Microsoft Host Integration Server. For information on how to install and configure the Link Drivers, consult the "Host Integration Server Link Drivers" topics in the Online Guide.

**Note:** For Windows 7 and Windows Server 2008 R2, the Hardware wizard can be accessed by right-clicking on an installed Eiconcard in Device Manager and selecting Properties. Click on the Config tab and then the Add button to open the Hardware Wizard.

# Upgrading a Previous Installation

## Upgrading from Eiconcard Connections for Windows 2000

If you are currently running Eiconcard Connections for Windows 2000, you can upgrade directly from the Eiconcard Connections for Windows product folder. Simply run the *ecupdate.exe* file by default located in C:\C4W\_x86 or C:\C4W\_x64.

## Upgrading from Eiconcard Connections for Windows NT

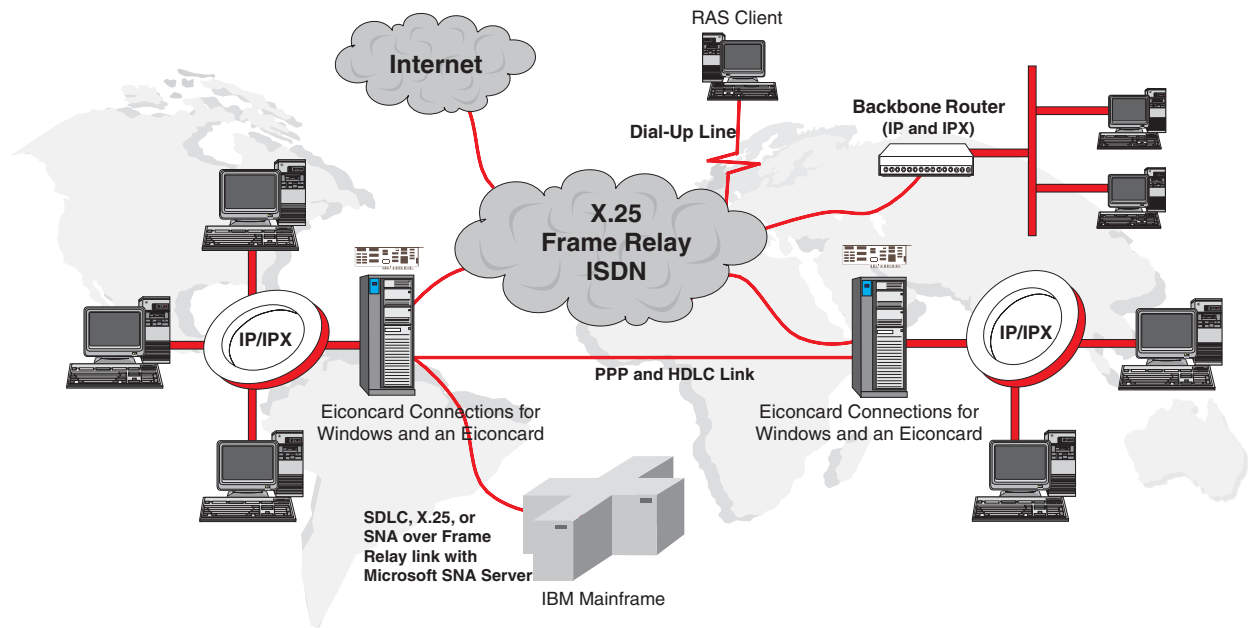
If you are currently running Eiconcard Connections for Windows NT on a Windows NT 4.0 computer, you cannot upgrade to Eiconcard Connections for Windows since it must be installed on a Windows 2000, Windows Server 2003, Windows Server 2008 R2, Windows XP, Windows Vista, or Windows 7 computer.

However, if you are using S-Series or C-Series Eiconcards, it is possible to export the configuration file from your Eiconcard Connections for Windows NT (V3R4b and later) computer to a new installation of Eiconcard Connections for Windows.

Export the configuration from the Eiconcard Connections for Windows NT computer using the Export option on the File menu in the Eiconcard Configuration Program. You can then import the configuration file on the Eiconcard Connections for Windows computer using the Eiconcard Command Line Interface (ECCLI). Please refer to the ECCLI Command Line Reference Guide. Once Eiconcard Connections for Windows has been installed, this guide is available from the Start button menu and in C:\Windows\System32\Eicon.

# Overview

Eiconcard Connections for Windows extends wide-area networking (WAN) capabilities for Microsoft Windows, and Routing and Remote Access Service (RRAS) applications.



**Routing Services is used to interconnect IP and IPX LANs and to provide access to the Internet. The PAD or X.25 WAN Miniport, used in conjunction with Microsoft RAS, provides remote dial-in users with access to corporate LAN resources. Drivers for Microsoft Host Integration Server provide WAN support and extend Host Integration Server's ability to connect to SNA hosts around the world.**

## Technical Highlights

### Routing Services

Eiconcard Networks Routing Services extends Microsoft Routing and Remote Access Service (RRAS) for use with the Eiconcard Routing Services (LAN emulation), X.25 and ISDN WAN Miniport Eiconcard drivers.

Routing Services supports these features:

- Multiprotocol routing: TCP/IP and IPX/SPX communications over X.25 packet-switched networks (SVCs and PVCs for remote Eiconcard routers, SVCs for remote third-party routers), HDLC(LAPB), Frame Relay networks, leased or dial-up lines using PPP
- Frame Relay, PPP, X.25, HDLC(LAPB), over dial-up interfaces such as ISDN
- Dial-on-demand for ISDN, Frame Relay, PPP, and X.25
- SNA over Frame Relay connectivity with Host Integration Server

Encapsulation support (RFC 1490): IBM Boundary Network Node (BNN) and IBM Boundary Access Node (BAN)

- Up to 32 simultaneous router connections

- RFCs (Request for Comments): 1058, 1122, 1293, 1332, 1334, 1356, 1490, 1552, 1583, 1618, 1661, 1717, 1723, 1962, 1967, 1974, 2118, 2125
- ISDN WAN Miniport connectivity
- Up to 2:1 software-based data compression
- Real-time tracing utilities
- Dynamic PPP connections
- Dynamic X.25 connections
- Dial backup on the Eiconcard with/without mixed protocols
- Inter-operates with RFC-compliant routers including Bay Networks, Cisco, Ascend
- Advanced IP filtering for basic firewall capabilities
- Datagrams and broadcast datagrams
- RFC 1122: TCP Spoofing
- IP over HDLC (LAPB)

### **Frame Relay Support**

- Local Management Interface 1.0 (LMI), Annex D, and Annex A Link Management (Auto LMI feature automatically detects LMI type of remote)
- Data compression: Bay Networks, FRF.9
- Congestion control (FECN, BECN, and DEbit)
- Priority Low filter
- Dynamic Data Link Control Identifier (DLCI) discovery
- RFC 1490: Multiprotocol Interconnect over Frame Relay

### **PPP Support**

- Data compression: Stacker, Microsoft, Bay Networks
- Dynamic PPP: Configure PPP Profile
- RFC 1332: Internet Protocol Control Protocol (IPCP) (partial)
- RFC 1552: Internetwork Packet Exchange Control Protocol (IPXCP) partial
- RFC 1334: PAP (Password Authentication Protocol) and CHAP (Challenge Handshake Authentication Protocol)
- RFC 1661: PPP
- RFC 1618: PPP over ISDN
- RFC 1717: Multilink PPP
- RFC 2125: Bandwidth Allocation Control Protocol (BACP)

## **X.25 Support**

- CCITT/ITU X.25, X.32, and X.121 (1984, 1988)
- X.32 for Transpac (France) and X.32 for Ericsson ERIPAX
- Microsoft Server Exchange
- Management of outgoing and incoming calls and all X.25 facilities
- Operates in terminal mode (DTE) and host mode (DCE)
- Data compression: Eiconcard Stacker, Bay Networks, Cisco

## **X.3 PAD Support**

- Full CCITT/ITU X.3, X.28, and X.29 (1988)
- Windows serial driver
- 7 pre-defined PAD profiles
- Configurable profiles
- Incoming/Outgoing connection type
- 254 port support

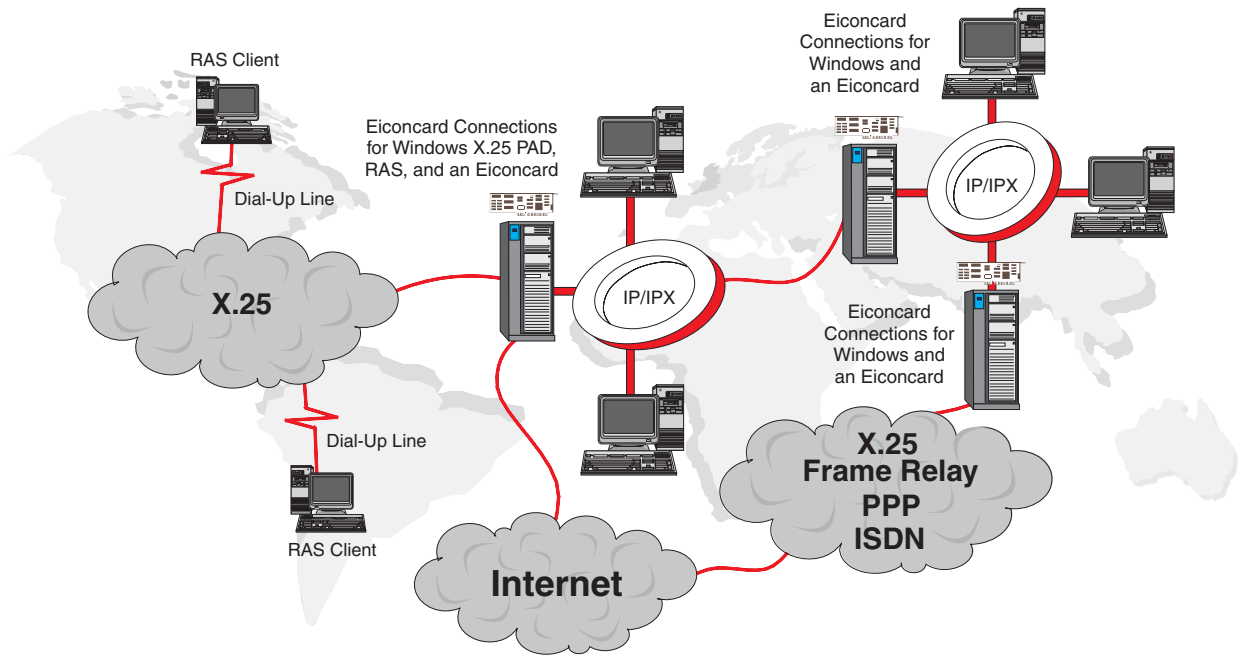
## **SNA Link Service**

- Multidrop support
- Leased and dialup line
- Automatic dialup access
- SDLC and X.25/QLLC

## **Internet/Intranet Access**

Eiconcard Connections for Windows provides convenient Internet/Intranet access to both local and remote users. Routing Services allows users to access the Internet/Intranet whether they be in the office or on the road. Corporate LAN users can access the Internet/Intranet over a variety of WAN protocols including ISDN, Frame Relay, PPP, X.25, or HDLC.

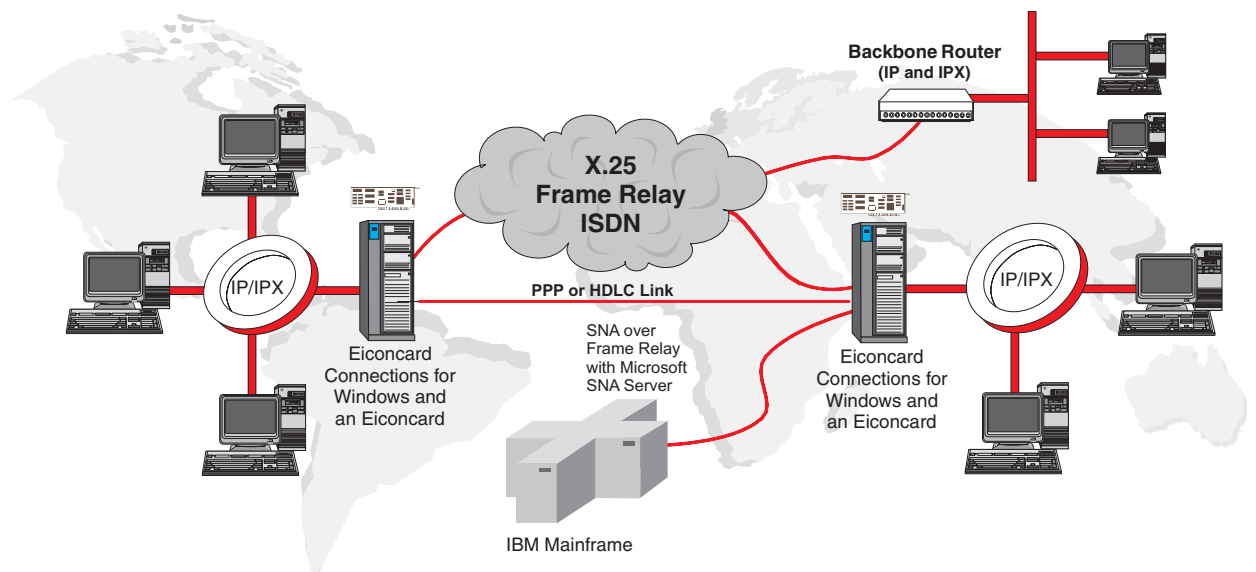
Also, by installing Routing Services and RAS on the LAN and connecting these applications to an X.25 service provider, mobile users can dial the local asynchronous access point of the X.25 network using their regular modem and access the same services they have in the office, including the Internet.



**Access to the Internet/Intranet over ISDN, Frame Relay, PPP, X.25 or HDLC.**

## Routing Services

Eiconcard Connections for Windows allows branch offices to link together and transparently share information. Routing Services works with the Microsoft TCP/IP and IPX/SPX protocol stacks. Routing Services provides local and remote applications with LAN interconnection over leased lines and dial-up connections, including ISDN, using X.25, HDLC, Frame Relay, SNA over Frame Relay, or PPP.

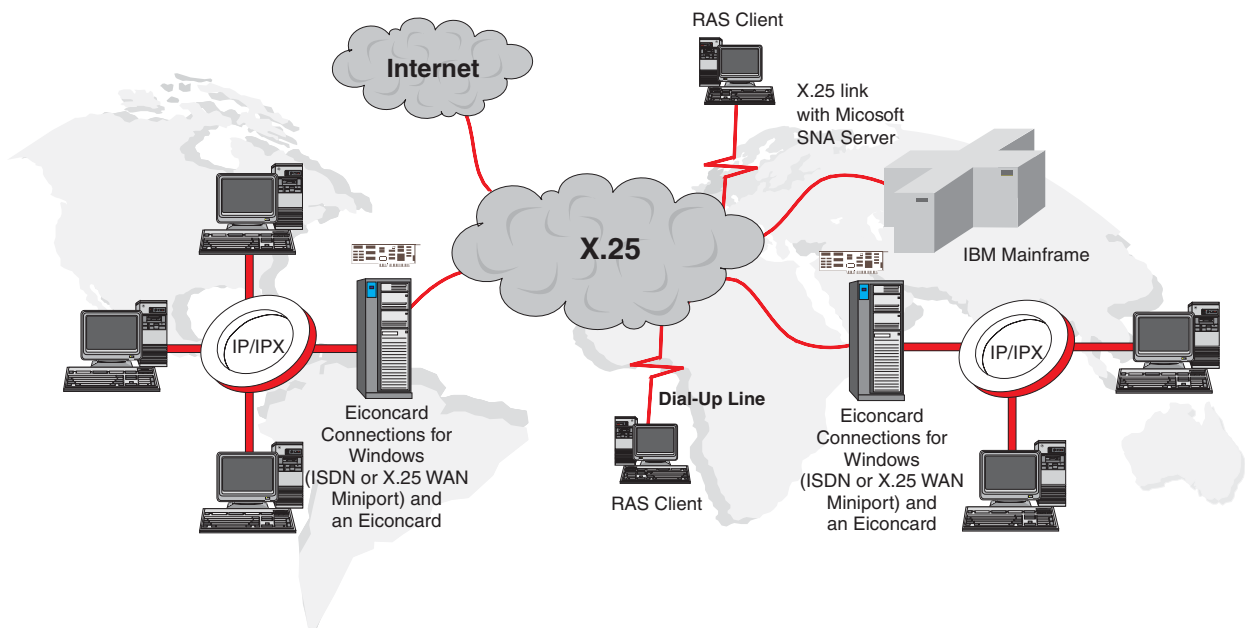


**Routing Services extends the routing ability of Microsoft Windows allowing it to operate over various WAN links such as ISDN, Frame Relay, PPP, X.25, HDLC, and SNA over Frame Relay.**

Eiconcard Connections for Windows router interoperability allows customers to access the network backbone comprised of different vendors' products (Bay Networks, Cisco, Ascend). Routing Services also fully supports Microsoft's Routing Information Protocol (RIP) and Open Shortest Path First (OSPF) for "dynamic routing". Refer to the "Routing Services" topics in the Eiconcard Connections for Windows Online Guide (ECGUIDE.CHM).

## ISDN or X.25 WAN Miniport and Microsoft RRAS

You can use the Eiconcard Connections for Windows ISDN or X.25 WAN Miniport in conjunction with Microsoft Routing and Remote Access Service (RRAS) to enable remote dial-in access and connect over X.25 links to information on your corporate network. This provides the remote user with access to client-server applications such as SQL Server, connections through Host Integration Server to an IBM mainframe, or connections to the Internet.

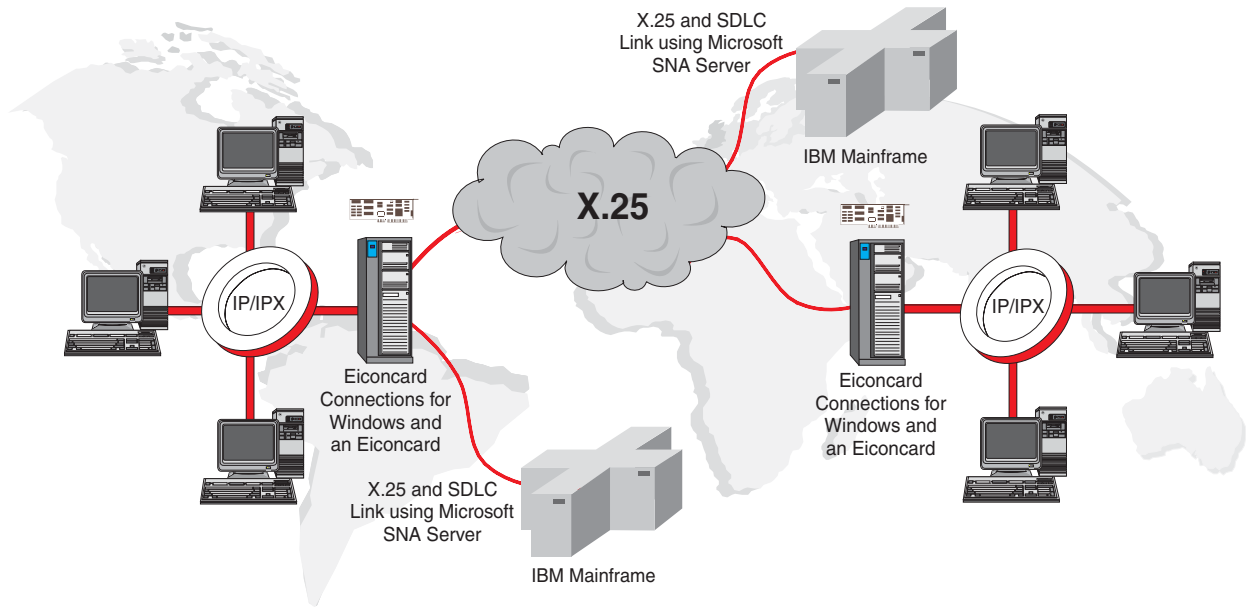


**Remote dial-in users, connecting through Microsoft RRAS have access to all corporate network resources.**

For more information about using Eiconcard Connections for Windows with Microsoft RRAS, see the ISDN or X.25 WAN Miniport topics in the Eiconcard Connections for Windows Online Guide (ECGUIDE.CHM).

## Eiconcard Connections for Windows and Microsoft Host Integration Server

Eiconcard Connections for Windows, in conjunction with Microsoft Host Integration Server, enables connection to SNA hosts over WAN links. Local users and remote users connecting through Microsoft Routing and Remote Access Service (RRAS) can connect to SNA hosts across the city or around the world.



**Eiconcard Connections for Windows extends Microsoft Host Integration Server to connect over WAN links.**

For information on using Eiconcard Connections for Windows with Microsoft Host Integration Server, refer to the "Host Integration Server Link Drivers" topic in the Eiconcard Connections for Windows Online Guide (ECGUIDE.CHM).

## Dialogic Corporation Customer Services

Dialogic Customer Services personnel are committed to providing the best possible technical support to all Dialogic customers.

For customer services, contact your Dialogic supplier.

For technical support, consult the Dialogic Support HelpWeb:

[www.dialogic.com/support](http://www.dialogic.com/support)

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## APPENDIX A

### Services and Devices

Eiconcard Connections for Windows installs a number of services and device drivers. All of them can be controlled through the respective Services or Drivers applet in Computer Management. They can also be controlled with the NET STOP and NET START commands. See the Microsoft Windows System Guide for information on using the Services and Drivers applets as well as how to use the NET START and NET STOP commands.

The core functions of Eiconcard Connections for Windows are installed as the "EICONCARDS" service and the Eiconcard device driver, "ECNB." The Eiconcard service and the Eiconcard driver can be started, stopped, and their startup method configured with the Services or Devices applet through Computer Management. We recommend that you leave the startup methods at their defaults to ensure proper functioning of Eiconcard Connections for Windows.

To use the NET STOP and NET START commands with the Eiconcards service and Eiconcard device driver, use the EICONCARDS and ECNB commands respectively. The first command starts the Eiconcard driver and the second command starts the Eiconcard service.

NET START ECNB

NET START EICONCARDS

For information on the services and device drivers for Routing Services, see Routing Connection Configuration, in the Online Guide (ECGUIDE.CHM).

For information on the device driver for X.25 PAD, see X.25 PAD, in the Online Guide.

