



Manual Configuration Guide

For WhistleWare™ 3.1



Welcome to the Whistle™ InterJet™, the fastest and easiest way to get your local area network (LAN) connected to the Internet!

This guide shows you how to install and configure the InterJet on your office LAN using the Manual Configuration tool. This tool allows you to quickly configure an InterJet without the need to run the InterJet auto-configuration process, which downloads the configuration information from an account at a Whistle Authorized Internet service provider (ISP). With the tool, you provide the InterJet with all the configuration information it needs, and the InterJet uses the information to configure itself, connect to an ISP on the Internet, and submit a confirmation e-mail to Whistle Communications.

The following steps guide you through the process of collecting the necessary information, installing the InterJet on your LAN, configuring the administrator's computer, and filling out the Manual Configuration tool online form.

Step 1: Collect the Configuration Information

Before you install and configure the InterJet, you will need the following information.

- **Information from your Internet Service Provider (ISP).** Contact your ISP and obtain the configuration information listed in the "ISP Worksheet for InterJet Manual Configuration" on page 30.

Whistle recommends that you mail or fax a copy of the completed worksheet to your ISP so that they can provide you with the necessary information. Whistle also recommends that you mail or fax a copy of the "Addendum: ISP Setup Guide for non-Whistle Authorized ISPs",



which begins on page 27. This section explains the ISP infrastructure requirements for the InterJet to ensure that your account is set up correctly.

- **Whether TCP/IP is installed on your LAN.** If you are currently running TCP/IP on your LAN and do not want to change your current IP addressing scheme, you must assign an IP address to the InterJet. The next section explains how to do this.

If you are *not* running TCP/IP on your LAN, or you do not mind changing your current IP addressing scheme, you can use the InterJet's default settings.

- **ISDN Information.** If you are using the Whistle InterJet with an ISDN connection, obtain the line-provisioning information from your telephone company; this information includes the line number(s), SPID(s), and switch type.

Step 2: Install the InterJet

Follow these steps to install the InterJet on your LAN.

1. Unpack your InterJet and accessories.
2. Plug in the InterJet's power supply and cord.

If you are connecting to the ISP with an analog telephone line, an ISDN line, or a synchronous serial line, connect the line to the InterJet. If you are using the InterJet's external serial port, you must connect an external modem or terminal adapter (TA) to the InterJet; if you are using the InterJet's synchronous serial line, you must connect a CSU/DSU to the InterJet. For illustrations on connecting the InterJet to the ISP service line, see *The InterJet Quick Start* or *The InterJet Installation Guide*.

If you are connecting to the ISP with a cable or DSL modem, you need not connect the line until later in the installation process.

3. Switch on the InterJet unit, using the On/Off switch on the back. After approximately one minute, the InterJet's LCD on the front panel displays the InterJet Setup screen, as shown in Figure 1.



Figure 1

4. Do one of the following:
 - If you *do not* have TCP/IP installed on your network already, use the default settings already on the InterJet. The default LAN interface IP address is 192.168.1.1 with DHCP enabled. Skip to the section, “Step 4: Connect the InterJet to the LAN ” on page 5.
 - If you *already have* TCP/IP installed and want to preserve your network settings, change the IP address on the InterJet, as described in the next section, “ Step 3: Set the InterJet’s IP Address (Optional) ”.

Step 3: Set the InterJet's IP Address (Optional)

1. Press the **Cancel** function key on the front panel until the Main Menu screen is displayed, as shown in Figure 2.

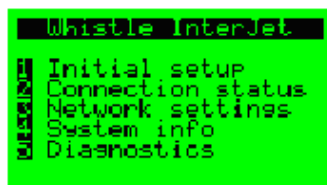


Figure 2

2. Select **Network Settings** by pressing **3** on the keypad. The Network Settings screen appears, as shown in Figure 3.



Figure 3

3. If you already have a DHCP server, press **2** on the keypad to disable DHCP. The **Toggle DHCP** setting changes to **OFF**, as shown in Figure 4.



Figure 4

4. To change the IP address assigned to the InterJet, select **Set IP address** by pressing **1** on the keypad. The LCD will prompt you for the address, as shown in Figure 5.



Figure 5

5. Use the keypad to enter the IP address, then press the **Enter** function key. A default subnet netmask is displayed (based on the IP address), as shown Figure 6.



Figure 6

6. Either accept the default subnet mask or change it using the **up/down** function keys to increase or decrease the number of bits in the netmask. Then press the **Enter** function key.

Step 4: Connect the InterJet to the LAN

After installing the InterJet and optionally changing its IP address, you must connect it to your network. Follow these steps:

1. Connect your administrator's computer to the InterJet. For instructions and illustrations on connecting your model of InterJet to your LAN, see *The InterJet Quick Start* or *The InterJet Installation Guide*.
2. *Optional:* If you want to configure TCP/IP for the InterJet and/or install the Netscape® Communicator™ suite on your administrator's computer, run the InterJet setup software (provided on the installation disks) on the computer. You can choose to skip either the TCP/IP configuration (if you want to preserve your current settings) or the Netscape Communicator installation (if you already have a Web browser).
3. *Optional for models 140/200:* Connect your Perimeter network to the InterJet's Perimeter Ethernet port. If you are using a router or modem with routing capability on the Perimeter network for your Internet connection, assign that device a static IP address, according to the manufacturer's instructions. Then attach the device to the InterJet's Perimeter Ethernet port.

Step 5: Fill Out the Manual Configuration Form

Next, use the online Manual Configuration form to provide the InterJet with the configuration information.

1. From the Administrator's computer, launch your browser (Netscape Navigator® 3.x or higher is recommended).
2. Access the Manual Configuration page of the InterJet system software, WhistleWare™, by typing the following in your browser's address/location box and pressing **Enter**:
http://X.Y.Z.W/agent/admin/benchconfig/
where **X.Y.Z.W** is the IP address of your InterJet.
3. To log in to the InterJet, enter the login name **admin** and password **admin**. The Manual Configuration welcome page appears.
4. Read the notes on the page, then click the link to access the Manual Configuration form, as shown in Figure 7.

The screenshot shows a web browser window titled "InterJet Manual Configuration - Edit". The form is divided into several sections:

- Lockdown Status:** A checkbox labeled "Local admin cannot change settings of fields indicated with" is checked.
- Organization Info:** This section contains several text input fields:
 - Company Name: "Jetstar Graphic Design"
 - Contact: (empty)
 - Telephone #: (empty)
 - Email: "admin@jet.com"
 - Fax #: (empty)
 - Address 1: (empty)
 - Address 2: (empty)
 - City: (empty)
 - State/Province: (empty)
 - Country: (empty)
 - Zip/Postal Code: (empty)
- Domain Name Service (DNS):** This section contains several text input fields:
 - InterJet's Domain: (empty)
 - Forwarding NS 1: (empty)
 - Forwarding NS 2: (empty)
 - MX Backup 1: (empty)
 - MX Backup 2: (empty)
 - Secondary NS 1: (empty)
 - Secondary NS 2: (empty)

Each input field has a small yellow icon to its right, indicating a lockdown status. The form is displayed in a Netscape Navigator browser window.

Figure 7

5. Fill out the required fields on the form, using the information you obtained on the “ISP Worksheet for InterJet Manual Configuration.” Descriptions of the fields on the Manual Configuration form are in the following section, “Form Field Descriptions”.

When you are finished filling out the form, you submit the form, as described in Step 6.

Form Field Descriptions

The following are descriptions for all the possible fields that appear on the Manual Configuration form. These descriptions assume you are familiar with TCP/IP and networking.

Lockdown Status

The check box in this section determines whether a certain set of fields in the InterJet's administrative pages are “locked.” When these fields are locked, a user with the appropriate administrative privileges can view the locked field values but cannot edit them. By locking the fields, you can prevent an inadvertent change to the InterJet's configuration.

Fields in this set cannot be locked down selectively; that is, all of the fields are locked and unlocked together. The locked or unlocked fields are identified with icons, as follows:



Field is locked



Field is unlocked

Organization Info

The Organization Info section contains your organization's contact information. You can view (but not edit) the values in these fields in WhistleWare on the Personnel Organization page. Another version of the information is displayed on the Webmaster Contact Information page, where you can edit the values.

Domain Name Service (DNS)

In the following fields, you enter DNS values. You can view and edit these values in WhistleWare on the System Agent's Network General page.

➤ **InterJet's Domain**

This field contains the domain for which the InterJet will be the primary DNS server. The ISP should also run a name server for this domain, so that the rest of the Internet can access the InterJet's external services by name.

If the InterJet has a full-time connection, the ISP's name server can be secondary to the InterJet and get zone transfers from the InterJet.

If the InterJet is not always connected, the ISP's name server should be primary for the local domain and have appropriate DNS resource records for the InterJet's external services—for example, MX records for mail delivery.

➤ **Forwarding NS 1 and Forwarding NS 2**

These fields are optional, depending on the ISP.

These two fields allow you to specify the IP addresses of the ISP's forwarding name servers. If these fields contain values, the InterJet uses the specified name servers as an initial look-up point for domain names outside its domain. If no values are specified, the InterJet uses the root name servers instead.

➤ **MX Backup 1 and MX Backup 2**

These fields are optional and apply only to a full-time connection to the ISP.

These fields contain the fully qualified domain names (FQDN) of the ISP's backup mail servers. (These mail servers correspond to any servers listed on the right-hand side of DNS MX resource records for the InterJet's domain.) For example, the FQDN of a backup mail server might be something like `mail.isp.net` or `smtp.isp.net`. These servers should be set up to accept mail for the InterJet's domain when the InterJet is offline. Mail intended for the InterJet should be delivered via SMTP when these servers process their queues, or when the InterJet uses ETRN or finger to poll them.

➤ **Secondary NS 1 and Secondary NS 2**

These fields are used only for a full-time connection and only if the InterJet's DNS server is primary for its domain. If the InterJet uses dial-on-demand, the backup mail server for ETRN is determined dynamically.

These fields contain the fully qualified domain names (FQDNs) of up to two secondary name servers for the InterJet's domain. It is recommended that the ISP specify at least one secondary name server at the ISP's site for full-time connections.

If a name server is not specified here, it cannot receive zone transfers from the InterJet for publicly known name mappings.

Microsoft Filesharing (SMB)

Use the **Workgroup** field to specify the Microsoft Windows® workgroup name for the InterJet. Windows users can find the InterJet in this workgroup by browsing the Network Neighborhood on their computers. This feature is always enabled. This field can be ignored if the Office network (internal LAN) has no computers with the Windows operating system. If this field is left blank, the InterJet's workgroup setting is not changed.

You can view the value in this field and edit it in WhistleWare on the System Agent's Network General page. On the InterJet unit's LCD, the workgroup is displayed on the Network Settings/Show Sharing Info screen (Main Menu screen 3, option 3 or 4).

Internal LAN Configuration

This section describes the settings for the InterJet's Office network.

- **LAN IP Address.** This field contains the IP address of the InterJet on its Office Ethernet network.

You can view and edit this field on the InterJet's LCD from the Network Settings screen (Main Menu screen 3, option 1). You can also view and edit this field in WhistleWare by going the System Agent's Network View page. This page displays the InterJet's IP address. You can edit the address by selecting the InterJet machine entry and clicking **edit**.

- **Netmask.** This field specifies the range of valid IP addresses on the InterJet's Office network. A typical class C network would use a netmask of 255.255.255.0, also expressible as /24, meaning that the netmask is 24 bits long.

You can view and edit this field on the InterJet's LCD from the Network Settings screen (Main Menu screen 3, option 1). You can also view and edit this field in WhistleWare by selecting the Office Ethernet network entry on the System Agent's Network View page and clicking **edit**.

- **Enable DHCP Dynamic Range.** Select this check box to enable DHCP (Dynamic Host Configuration Protocol) for the InterJet's Office network. When enabled, the DHCP server responds to requests from DHCP clients (such as Windows 95 and Macintosh ® systems) by dynamically assigning IP addresses, rather than requiring that static IP addresses be assigned. This is the preferred method.

To set the range of dynamic addresses (relative to the corresponding network address) available under DHCP, enter values in the Dynamic range fields. An InterJet user might want some number of static addresses available for Windows 3.1 systems, printers, and other non-DHCP-capable devices. The default is to use the top half of the available network addresses for dynamic assignment to DHCP clients.

You can enable or disable the DHCP server from the InterJet's LCD Network Settings screen (Main Menu 3, option 2 or 3). You can also modify other DHCP parameters in WhistleWare selecting the Office Ethernet network entry in the System Agent's Network View page and clicking **edit**.

- **Firewall.**
 - **Enable Address Translation.** Set this check box to enable address translation. When enabled, the InterJet maps internal IP addresses to its own WAN IP address when making external connections. This means that the source address on outgoing packets is rewritten so that, from the outside world, it appears as if the entire internal network is a single host, namely the InterJet.

Address translation is necessary when you are using an unroutable internal IP range such as 192.168.1.0/24, although you can also use address translation with a real (routable) IP range.

When address translation is disabled, the InterJet behaves as a normal router, with the source address of outgoing packets unmodi-

fied. You must have a real IP address range for this feature to work correctly; that is, there must be a route to the internal network if address translation is not used.

Note: Even with address translation disabled, the InterJet's packet filtering (firewall) does not allow connections to internal machines to be initiated from the outside (except when allowed for active FTP).

- **Allow active FTP from LAN.** Select the check box to allow active FTP downloads from the Internet to the InterJet's internal LAN. For security reasons, Whistle recommends that this setting be Off by default. It can be enabled by the local administrator if necessary to connect to FTP servers not supporting passive FTP, or if LAN clients are using an FTP application that does not support passive mode.

You can view and edit the address translation and active FTP settings in WhistleWare from the System Agent's Network General page.

Perimeter LAN Configuration

This section includes the settings for the InterJet's Perimeter network, which is available with InterJet models 140 and 200. You can connect a router or modem on the Perimeter network for your Internet connection or connect machines to it to provide public a Web site and FTP service. If you are not setting up a Perimeter network, skip this section.

- **Perimeter IP Address.** This field contains the IP address of the InterJet on its Perimeter network interface (publicly accessible Ethernet). If you leave this field blank, the InterJet does not attempt to configure the InterJet's Perimeter network. If you specify the address, all IP addresses on the Perimeter network *must* be routable, because they are intended for publicly accessible servers.

Note: When the Perimeter network is configured, all of the InterJet's public services (Web, FTP, and SMTP servers, if enabled) are bound to the InterJet's Perimeter IP address, which is normally the same as the WAN IP address. When the Perimeter network is not configured, the public services are bound to the InterJet's WAN IP address.

You can view and edit the values in this field on the InterJet's LCD from the Network Settings screen (Main Menu screen 3, option 2). In addi-

tion, you can view and edit the value in this field in WhistleWare from the System Agent's Network View page by selecting the Perimeter Ethernet network entry and clicking **edit**.

- **Netmask.** This field identifies the range of valid IP addresses on the InterJet's Perimeter network (publicly accessible Ethernet). This network requires few IP addresses because you will likely have fewer public servers than internal clients. If you enable address translation (recommended), the netmask on this network is usually something like 255.255.255.240 (or /28), which provides 13 usable addresses on this network in addition to the network, broadcast, and InterJet addresses. If you do not enable address translation, the set of IP addresses you receive from the ISP must be divided into two equal subsets: one for the Office (internal) network and one for the Perimeter (public) network.

You can view or change the values in this field or the **Perimeter IP address** field on the InterJet's LCD from the Network Settings screen (Main Menu 3, option 2). In addition, you can view and edit the value in this field or the **Perimeter IP address** field from the System Agent's Network View page by selecting the Perimeter Ethernet network entry and clicking **edit**. In addition, you can view and edit the InterJet's Perimeter network IP address in WhistleWare from the Network View page by selecting the InterJet's machine entry and clicking **edit**.

- **Enable DHCP on this net.** Select this check box to enable DHCP (Dynamic Host Configuration Protocol) for the InterJet's Perimeter network. When enabled, the DHCP server responds to requests from DHCP clients (such as Windows 95 and Macintosh systems) by dynamically assigning IP addresses, rather than requiring that static IP addresses be assigned. If you are using the Perimeter network as your default gateway or if you have Web server and other devices that require fixed IP addresses, *do not* enable DHCP.

To set the range of dynamic addresses (relative to the corresponding network address) available under DHCP, type numeric values in the Dynamic range fields. An InterJet user might want some number of static addresses available for Windows 3.1 systems, printers, and other non-DHCP-capable devices. The default is to use the top half of the available network addresses for dynamic assignment to DHCP clients.

You can modify other DHCP parameters in WhistleWare by editing the Perimeter Ethernet network entry in the System Agent's Network View page. The Perimeter network DHCP settings are not displayed on the InterJet's LCD.

Internet Connection

This section describes the fields associated with connecting the InterJet to the ISP. The basic settings allow you to specify the type of connection to maintain while more specific fields allow you to configure the connection parameters.

Note: This section of the form displays fields for only those WAN ports that are available on the InterJet being configured.

When to connect

This field allows you to determine the type of connection maintained by the InterJet with the ISP. The available options are as follows:

- **Dial-on-demand.** Dial-on-demand is preferred for analog modem and ISDN connection types because of the cost of using the telephone lines. If you select this option, set the number of minutes for idle timeout. You can view and edit the value in this field in WhistleWare on the System Agent's Connection page.

Note: The dial-on-demand option applies only to InterJets using POTS (plain old telephone system) or ISDN to make the Internet connection; this setting is ignored if the InterJet connects via a synchronous serial line or local gateway.

- **Full-time connection.** Select this option for InterJets that use the synchronous serial or leased-line connection, or if the InterJet is to stay permanently connected over POTS or ISDN.

Connect to the Internet Via

When configuring an InterJet, you must specify how the InterJet is to connect to the ISP. You can specify either local gateway (if you are using a device on the InterJet's Perimeter network for your ISP connection) or one of the InterJet's WAN ports.

- **Local gateway.** Select this option if you are using another device, such as router or modem (cable/xDSL), on the InterJet's Perimeter network or Office network for your Internet connection. Then enter the IP address of the device. If you are using a device that does not have an IP address (such as a bridge), specify the IP address of the ISP's Internet gateway router. If you do not select this option, the InterJet uses the WAN port you specify as the gateway.

Internal Modem (POTS)

These fields appear only if your InterJet has an internal analog modem.

To connect via the “plain old telephone system” (POTS) using the InterJet’s internal analog modem, you must specify the following options. You can view and change the values in WhistleWare by selecting the internal modem port on the System Agent’s Network Ports page and clicking **edit**.

- **Dial Prefix.** Specify a value in this field if you need to dial a number, such as **9**, to reach an outside line with the phone system you are using to connect to the ISP.
- **Phone # to dial.** Specify the telephone number to use when dialing the ISP.
- **Request Local IP.** Specify the InterJet WAN IP address, as needed. The default value, 0.0.0.0, indicates that the WAN IP address should be negotiated (dynamically assigned) when the InterJet connects to the ISP’s Point-to-Point Protocol (PPP) server. If the ISP’s dial-up server requires the InterJet to request a specific address, specify that address here.

Note: Whistle recommends that the requested IP address be the same as the InterJet’s address on the Perimeter network, if the Perimeter network is configured. If it is not the same, the ISP must create an additional record to map the InterJet’s public services (such as WWW and FTP) to the Perimeter IP address.

- **PPP Login.** Specify the login name that the InterJet uses when dialing into the ISP.
- **Password.** Specify the password the InterJet uses with the specified login name.

Serial Port (using POTS modem or ISDN terminal adapter)

These fields appear only if your InterJet has an external serial port.

To connect via an external modem or ISDN terminal adapter, which is attached to the InterJet’s external serial port, you must specify the following options. You can view and change the values in WhistleWare by selecting the external serial port on the System Agent’s Network Ports page and clicking **edit**.

- **Dial Prefix.** Specify a value in this field if you need to dial a number, such as **9**, to reach an outside line with the phone system you are using to connect to the ISP.



- **Phone # to dial.** Specify the telephone number to use when dialing the ISP.
- **PPP Login.** Specify the login name that the InterJet uses when dialing into the ISP.
- **Password.** Specify the password the InterJet uses with the specified login name.
- **Request Local IP.** Specify the InterJet's WAN IP address, as needed. The default value, 0.0.0.0, indicates that the WAN IP address should be negotiated (dynamically assigned) when the InterJet connects to the ISP's PPP server. If the ISP's dial-up server requires the InterJet to request a specific address, specify that address here.



Note: Whistle recommends that the requested IP address be the same as the InterJet's address on the Perimeter network, if the Perimeter network is configured. If it is not the same, the ISP must create an additional record to map the InterJet's public services (such as WWW and FTP) to the Perimeter IP address.

ISDN Configuration (if using an external terminal adapter)

Fill in these fields only if you are using an external ISDN terminal adapter. Do not fill in these fields if you are using an external analog modem.

- 
- **Switch type.** Use this field to set the ISDN switch type.

Note: European switch types do not require line (directory) numbers, SPIDS, or CHAP authentication. The Manual Configuration form hides these fields if a non-U.S. switch type is selected as the factory default. If you change the switch type from a non-U.S. type to a U.S. type, you must click **OK** at the bottom of the form to submit the change. Then access the form again to see the fields.

- **Use 2 B-channels.** Select this box to use both ISDN lines and obtain a connection speed of 128K/sec. If you do not select this check box, the connection speed is 64K/sec.
- **Line 1 Phone #.** Use this field to set the telephone number of the first ISDN line.
- **Line 1 SPID.** Use this field to specify the SPID number for the first ISDN line.
- **Line 2 Phone #.** Use this field to set the telephone number of the second ISDN line.

- **Line 2 SPID.** Use this field to specify the SPID number for the second ISDN line.
- **Calling Method.** Select the appropriate option for your ISDN configuration: **56K Data** or **64K Data** channels, or **56K Voice (Toll saver)** mode. Select **56K Voice** *only* if the ISDN connection is set up for voice only (not data).
- **Use CHAP authentication.** Enable this check box to use CHAP style authentication instead of PAP style authentication.

Internal ISDN (BRI)

These fields appear only if your InterJet has an internal ISDN adapter.

To connect via InterJet's internal ISDN adapter, you must specify the following options. You can view and change the values in WhistleWare by selecting the internal ISDN port on the System Agent's Network Ports page and clicking **edit**.

- **Dial Prefix.** Specify a value in this field if you need to dial a number, such as **9**, to reach an outside line with the phone system you are using to connect to the ISP.
- **ISDN # to dial.** Specify the telephone number to use when dialing the ISP.
- **PPP Login.** Specify the login name that the InterJet uses when dialing into the ISP.
- **Password.** Specify the password the InterJet uses with the specified login name.
- **Request Local IP.** Specify the InterJet WAN IP address, as needed. The default value, 0.0.0.0, indicates that the WAN IP address should be negotiated (dynamically assigned) when the InterJet connects to the ISP's PPP server. If the ISP's dial-up server requires the InterJet to request a specific address, specify that address here.

Note: Whistle recommends that the requested IP address be the same as the InterJet's address on the Perimeter network, if the Perimeter network is configured. If it is not the same, the ISP must create an additional record to map the InterJet's public services (such as WWW and FTP) to the Perimeter IP address.

- **Switch type.** Use this field to set the ISDN switch type.

Note: European switch types do not require line (directory) numbers or SPIDs. The Manual Configuration form hides these fields if a non-U.S. switch type is selected as the factory default. If you change the switch

type from a non-U.S. type to a U.S. type, you must click **OK** at the bottom of the form to submit the change. Then access the form again to see the fields.

- **Use 2 B-channels.** Select this check box to use both ISDN lines and obtain a connection speed of up to 128K/sec. The InterJet automatically switches between one or two channels depending on the amount of data being transferred. If you do not select this check box, one line is used, and the connection speed is 64K/sec.
- **Line 1 Phone #.** Use this field to set the telephone number of the first ISDN line.
- **Line 1 SPID.** Use this field to specify the SPID number for the first ISDN line.
- **Line 2 Phone #.** Use this field to set the telephone number of the second ISDN line.
- **Line 2 SPID.** Use this field to specify the SPID number for the second ISDN line.
- **Calling Method.** Select the appropriate option for your ISDN connection: **56K Data** or **64K Data** channels, or **56K Voice (Toll saver)** mode. Select **56K Voice** *only* if the ISDN connection is set up for voice only (not data).

Connect via Synchronous (CSU/DSU)

These fields appear only if your InterJet has a synchronous serial port.

To connect using a synchronous serial connection, you must specify the following options. You can view and change the values in these fields in WhistleWare by selecting the synchronous port from the System Agent's Network Ports page and clicking **edit**.

- **Protocol.** Select the synchronous protocol to be used: Raw Synchronous, Cisco HDLC, or Frame Relay. Your selection depends on the protocol supported by the ISP's back-end synchronous equipment. If you select Frame Relay, enter a single **DLCI** to be used for the connection. The InterJet automatically determines the appropriate LMI.
- **Local IP.** Enter the local IP address to be used for the synchronous connection. The InterJet's local IP address must be routable from the Internet. It is used as the source address for all outgoing traffic from the InterJet itself and from LAN client machines (when address translation is enabled). If PPP mode is enabled, this address is used in IPCP negotiation.



Note: Whistle recommends that the local IP address be the same as the InterJet's address on the Perimeter network, if the Perimeter network is configured. If it is not the same, the ISP must create an additional record to map the InterJet's public services (such as WWW and FTP) to the Perimeter IP address.

- **Remote IP.** Enter the remote IP address to be used for the synchronous connection. If PPP mode is enabled, this address is used in IPCP negotiation.
- **Options.** Select a type of encapsulation to be used over the Frame Relay or Raw Synchronous connection. Generally, RFC 1490 encapsulation is used with the Frame Relay protocol. It does not apply to the Raw Synchronous or Cisco HDLC protocols. PPP encapsulation can be used over a Raw Synchronous connection and can be used alone over a Frame Relay connection or over RFC 1490. It does not apply to Cisco HDLC.

If you select PPP mode and authentication is required, enter values in the **PPP Login** and **Password** fields. Otherwise, leave those fields blank.

- **PPP Login.** If required, specify the login name the InterJet uses when dialing into the ISP.
- **Password.** If required, specify the password the InterJet uses with the specified login name.

Mail Processing

This section includes options for processing incoming and outgoing mail. You can view and edit the fields in this section in WhistleWare by going to the Mail Agent's Options page.

- **Outgoing: Send outgoing mail at least every . . .** Specify how often the InterJet will send outgoing mail. When this interval elapses, the InterJet attempts to send any outgoing mail waiting in its queues. If the InterJet is set up for a dial-on-demand connection and no mail is waiting in the outgoing queue, the InterJet will not attempt to connect this time and will wait until the next interval. Typical outgoing intervals for a full-time connection are between 10 and 30 minutes. A typical outgoing interval for a dial-on-demand connection is 30 minutes.

All outgoing mail is batched and sent whenever the WAN link comes up or the interval time has expired, whichever comes first.

Incoming interval. Specify how often the InterJet will check for incoming mail. The InterJet will check the ISP's external mail servers (MX backups) for incoming mail every time the link comes up or the interval expires, whichever comes first. (The method used to trigger incoming mail delivery is specified by the mail-check method.) Typical incoming mail intervals for a full-time connection are between 1 and 4 hours. A typical incoming interval for a dial-on-demand connection is 4 hours.

Keep in mind that InterJet will always accept incoming mail sent directly to the InterJet whenever it is connected. The InterJet needs to check the ISP's external mail servers only after being disconnected, because any mail sent to InterJet's domain will have been queued on the ISP's servers.

- **Method.** The InterJet provides a choice of methods to use when checking for queued mail at the ISP. As soon as a link comes up, the InterJet uses the chosen method to initiate the exchange of mail. The method you choose depends on how the ISP operates its mail queues.
 - **Send SMTP ETRN command to MX-backups.** The InterJet sends an SMTP ETRN command to the ISP's mail server, causing it to empty the queue of any mail for the InterJet's domain. ETRN is supported by mail servers running Sendmail 8.8 and later. (See RFC 1985.)
 - **Stay connected at least.** If you select this option, specify the minimum number of minutes the InterJet should stay online to receive mail from an ISP's server. Because the ISP's mail server pushes mail down to the InterJet with this type of connection, the connection time should be larger than the ISP's server's mail processing interval. For example, if the ISP's mail server attempts to deliver mail from its queue every 15 minutes, you might have the InterJet stay online for 20 minutes to guarantee that it is available when the delivery occurs. Use this method if the ISP's server does not support ETRN.
 - **Finger account.** The InterJet fingers the specified account to trigger mail-queue processing for the domain. This method requires a modified finger daemon running on the ISP's server to trigger mail-queue processing. This method can achieve the same results as ETRN, but is non-standard and thus less recommended.
 - **Fetch mail from POP/IMAP mailbox.** The InterJet will retrieve mail from the specified POP or IMAP mailbox on the ISP's mail server. Specify the **password** required to access the indicated mailbox. This option requires that the ISP is a certified dynamic IP partner and has set up its mail server and MX records such that all mail for the

InterJet's domain gets delivered to the specified mailbox for the InterJet to pick up in this fashion. For a current list of certified dynamic IP partners, check the Whistle Communications Web site (www.whistle.com).

Web Mirroring (external hosting of public Web site)

This section includes the fields related to mirroring (copying) the InterJet's publicly accessible files onto the ISP's servers. You can view and edit the values in these fields in WhistleWare by going to the Webmaster Agent's Setup page.

- **Mirror to.** Specify the fully qualified domain name (or IP address) of the server to which the InterJet should copy its public Web site via FTP. Any attempts to access the InterJet's public Web site are forwarded to this server. The domain name in this field must be resolvable by the InterJet itself. If this field is left blank, mirroring information will not be configured on the InterJet.



Note: When mirroring the InterJet's Web site, you should also set the **www resolves to** field in the Server Names section to the machine you specified in this field. By doing this, you ensure that references to **www.<InterJet_domain>.com** resolve to the mirror site and not to the InterJet.

- **Login.** Specify the login name the InterJet should use when using FTP to send Web pages to the server specified in the **Mirror to** field.
- **Password.** Specify the password the InterJet should use when using FTP to send Web pages to the server. This password must correspond to the login name used in the **Login** field.
- **Path.** Specify an additional path (relative to the home or root directory) of the ISP's server if the Web pages should be mirrored to a location other than the home directory.

Server Names

In this section, you specify the default mappings for the **www** and **ftp** machine names. You can view and set these mappings by editing the appropriate machine entries on the System Agent's Network View page.

- **InterJet's public name.** If desired, specify the primary DNS name for the InterJet's publicly accessible interface (the default name is **public**). This name maps to the InterJet's Perimeter network IP address, if there is one, or the InterJet's WAN IP address. This name cannot be the same as any other DNS name assigned to the InterJet.
- **'www' resolves to.** Use the radio buttons to specify which computer (if any) the name **www.<InterJet_domain>.com** should resolve to, so that LAN and Internet clients can find your public Web pages using that name. The InterJet creates a DNS entry with this name for the machine you specify.

Note: The ISP's name server should also have a DNS entry for this name, unless the name server is secondary to the InterJet's domain (that is, the InterJet is connected full-time and the ISP's server gets zone transfers from it).

- **Nothing.** No DNS mapping is created on the InterJet for the name **www**.
 - **InterJet's external IP address.** Select this option if the your public Web site will be hosted on the InterJet itself. The name **www.<your domain>** is resolves to the InterJet's external IP address. This external address is the same as the Perimeter Ethernet address or, if the InterJet does not have a Perimeter Ethernet port, it is the InterJet's WAN address.
 - **External Web Host.** Select this option if the InterJet user's public Web site will be hosted on a computer other than the InterJet (on the ISP's backbone, for example, or on the InterJet's Perimeter network). If you select this option, you must specify the name (or IP address) of the external Web host. If mirroring is configured, this name or address will generally be the same as the **Mirror to** server. For a public Web server on the Perimeter network, you must specify the server by its IP address on the Perimeter network.
- **'ftp' resolves to.** Use the radio buttons to specify which computer (if any) the name **ftp.<InterJet-domain>.com** should resolve to, so that LAN and Internet clients can find the organization's public FTP server using that name. The InterJet will create a DNS entry with this name for the machine you specify.
 - **Nothing.** No DNS mapping is created on the InterJet for the name **ftp**.
 - **InterJet's external IP address.** Select this option if the InterJet user's public FTP site will be hosted on the InterJet itself.

- **External FTP Host.** Select this option if the InterJet user's public FTP site will be hosted on a computer other than the InterJet (on the ISP's backbone, for example, or on the InterJet's Perimeter network). If you select this option, you must specify the name (or IP address) of the external FTP host. For a public FTP server on the Perimeter network, you must specify the server by its IP address on the Perimeter network.

Note: If the FTP server is not the same as the Web server, the external FTP server will need to be maintained and administered manually.



Time

In this section, you set the InterJet's time clock. You can edit these values in WhistleWare by going to the System Agent's Network General page.

- **NTP Server 1 and NTP Server 2.** Specify the NTP (Network Time Protocol) servers the InterJet should poll to keep its clock synchronized. Whistle recommends that these fields specify NTP servers on the ISP's backbone, but if the ISP has none, there are many public servers available on the Internet. Information about NTP and using public servers can be found at <http://www.eecis.udel.edu/~ntp>.

If this option is not configured, the InterJet clock can drift over time. Because the InterJet is also an NTP server on the LAN, this can affect any clients that synchronize their clocks from the InterJet.

- **Time Zone.** NTP specifies the current time in Greenwich mean time. The InterJet uses the time zone to translate to local time and compensate for local observance of daylight savings time, if applicable. Select a city in the same time zone as the InterJet.

Service Provider Info

The values you specify in the following fields appear on the ISP Agent's Information page. You cannot edit them using the System Agent.

- **ISP name.** Enter the ISP name.
- **Acct Info URL.** Specify a URL from which the InterJet administrator can get information about the InterJet account. This URL should be of the form:

`http://server.isp.net/services`

- **Support URL.** Specify a URL from which the InterJet administrator can get information about the ISP's technical support services. This URL should be of the form:

`http://server.isp.net/support`

The values you specify in the following fields appear on the System Agent's Upgrade page. You can edit the values on this page.

- **Upgrade Server.** The InterJet is capable of downloading new system software on the Internet, either directly from Whistle or from the server and path that you specify. Whistle recommends that the ISP have copies of Whistle's latest software releases available for InterJet users to download. If the ISP will make software upgrades available from its site, specify the upgrade server as something like `ftp.isp.net`. This server must have anonymous FTP enabled to facilitate downloading of new systems. The path indicates which directory on the server contains the upgrade images. To allow software upgrades directly from Whistle, the ISP should specify the server as `ftp.whistle.com` and the path as `/interjet`.
- **Upgrade Path.** If the ISP will make software upgrades available from its site, specify the path on the server that points to the upgrade images. To allow software upgrades directly from Whistle, specify the server as `ftp.whistle.com` and the path as `/interjet`.

Step 6: Submit the Manual Configuration Form

When you are finished filling out the Manual Configuration tool form, click the **OK** button at the bottom of the form. A confirmation page is displayed, and then the InterJet processes the form. After approximately one minute, the InterJet's Agent Home page is displayed (shown in Figure 8 on page 24). Proceed to the next steps.

Step 7: Test the Connection

After you have submitted the Manual Configuration form, the InterJet's Agent Home page appears, as shown in Figure 8. If the Agent Home page is not displayed, launch your browser and type `interjet` in your browser's address/location box and press **ENTER**.



Figure 8

You should now be able to access Web pages on the Internet. Type **http://www.whistle.com** (or your favorite Web site's URL) in your browser's address/location box and press **ENTER**. After the connection to your ISP is established you should see the Web page.

If you are not able to access the Web pages, perform the following diagnostic test.

1. Return to the Agent Home page by clicking the **Agent Home** button in the upper left-hand corner.
2. Select the **System Agent**.
3. Click on the **network** button. The Network View page appears, as shown in Figure 9.

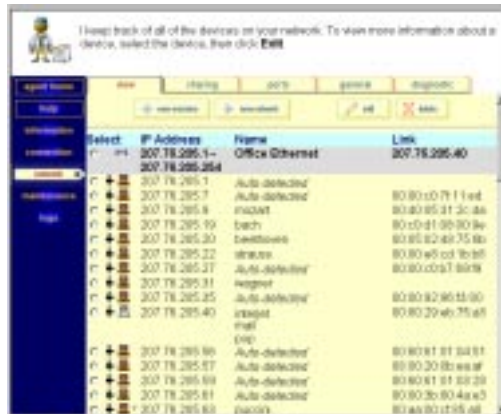


Figure 9

- Click the **diagnostic** tab at the top of the page. The Network Diagnostics page appears, as shown in Figure 10.



Figure 10

- In the **Ping** section, enter the name of your ISP's Web site or your ISP's forwarding name server in the **Address** box.
- Click **ping**.
- If the ping packets return, type **http://www.whistle.com** or your favorite Web site's URL in your browser's address/location box and click ENTER.

8. If you are unsuccessful getting a WAN connection, refer to “Appendix A: Troubleshooting Your InterJet” in *The InterJet Administrator's Guide*.

Step 8: Connect Other Machines on Your Network to the InterJet

This step is not necessary if you have already connected your InterJet to your entire network. Run the InterJet setup software on all of the other computers on your network. For details, see *The InterJet Quick Start* or *The InterJet Installation Guide*.

Step 9: Create New User Accounts

Create accounts for users in your organization. For instructions, see *The InterJet Administrator's Guide* or the online Help.

Step 10: Set Up Your Web Site

You can use the InterJet's built-in Web templates to create both a public and internal Web site. Or you can publish your existing Web site. For instructions, see *The InterJet Administrator's Guide* or the online Help.

Addendum: ISP Setup Guide for non-Whistle Authorized ISPs

The InterJet is an integrated hardware/software device that combines an Internet and intranet Web server, e-mail server, router, and firewall into one easy-to-use solution for small businesses. To ensure proper functionality of the InterJet, the ISP must meet several infrastructure requirements, as described below.

Mail

Most customers use the InterJet in a dial-on-demand mode, where the InterJet will be connected to the Internet only intermittently. This mode requires that the ISP store mail for the InterJet's domain. The InterJet supports three SMTP mail retrieval methods: ETRN, "stay connected," and finger. At this time, the InterJet requires a static IP address. It does not function as a POP mail client. For more information about the SMTP requirement, see "Why SMTP Mail Delivery?" on page 29.

- **ETRN.** The easiest method of mail retrieval for the InterJet is ETRN (RFC 1985), supported by Sendmail (8.8.X or later) and the Microsoft Exchange server. The InterJet sends an SMTP ETRN command to the remote mail server, causing it to open a separate SMTP connection and send any mail for the InterJet's domain to the InterJet.
- **Stay connected.** If this method is used, you must specify the minimum number of minutes that the InterJet should stay online to receive mail from the ISP mail server. For example, if your mail server attempts to deliver mail from its queue every 15 minutes, you might have the InterJet stay online for 20 minutes at a time to guarantee that it is available for delivery. Use this method if your server does not support ETRN.
- **Finger account.** If this method is used, the InterJet fingers the specified account to trigger a queue run for the domain. This run requires a modified finger daemon running on the server to trigger mail queue processing. This method can achieve the same results as ETRN, but is non-standard and thus less recommended.

Web Publishing

The InterJet is a Web server and is capable of hosting Web services for the customer's domain. Alternatively, it allows customers to create and store their Web sites on the InterJet, but mirror (or copy automatically) the site to an ISP server for publishing to the Internet. This mirroring requires the ISP to setup a Web hosting account for the InterJet.

DNS

The InterJet must have a published domain name. Because the InterJet is an SMTP mail server, both an address (A record) and a mail exchanger (MX record) entry must be made in the DNS server. Whistle recommends two MX entries, with the primary entry pointing to the InterJet so that it can receive mail via SMTP relay when it is connected. The secondary mail exchanger is the ISP's mail server. The DNS records should appear as follows:

```
interjet.com IN  A      xxx.xxx.xxx.xxx (InterJet's IP)
              IN  MX    10  interjet.com.
              IN  MX    20  mail.isp.com.
```

If the InterJet is hosting the external Web pages for the customer's domain, the ISP must also publish an address record for the **www** entry. The DNS records should appear as follows:

```
interjet.com IN  A      xxx.xxx.xxx.xxx (InterJet's IP)
              IN  MX    10  interjet.com.
              IN  MX    20  mail.isp.com.
www          IN  A      xxx.xxx.xxx.xxx (InterJet's IP)
```

If the ISP is hosting Web pages for the InterJet customer, the ISP must also publish an address record for the **www** entry. The DNS records should appear as follows:

```
interjet.com IN  A      xxx.xxx.xxx.xxx (InterJet's IP)
              IN  MX    10  interjet.com.
              IN  MX    20  mail.isp.com.
www          IN  A      yyy.yyy.yyy.yyy (ISP Web hosting machine)
```

Routing

The InterJet does not answer ARP requests or broadcast RIP across its WAN interface. The ISP must proxy ARP for the InterJet or publish static routes for the InterJet and machines connected to the InterJet that must be accessible from the Internet.

Why SMTP Mail Delivery?

The InterJet requires that all mail is sent to it using SMTP for the following reasons:

- It provides a robust and reliable mail service.
- It defines a standard mail service configuration, which is typically used and understood by all ISPs.
- It is a standard means of delivering an entire company's domain e-mail from the ISP to a local e-mail server.

With SMTP mail, Whistle can ensure that your e-mail service is standards compliant and will function properly. When the SMTP method is used, mail is stored in a queue (not in a mailbox) at the ISP when the InterJet is off-line. Mail held in this queue retains all of its original sender and recipient information, which ensures proper mail delivery once the InterJet receives the mail. When the InterJet connects to the ISP mail server, it issues an ETRN command which initiates the ISP mail server to run its queue and send all of the mail to the InterJet. The InterJet then receives all of the mail and distributes it to the appropriate local user mailboxes.

Whistle is currently working with limited ISP partners to allow the InterJet to retrieve an entire company's domain e-mail from a single POP mailbox and have it appropriately distributed to user mailboxes on the InterJet. This method of e-mail retrieval allows the InterJet to operate with a dynamic IP address, but requires a specific configuration of the ISP mail servers and infrastructure. Without this specific server configuration and coordination with the ISP, there is the potential that some or all messages will be misdirected or lost due to the loss of critical routing or delivery information. Therefore, the POP method is supported only with certified dynamic IP ISP partners. Please check the Whistle Communications Web site (www.whistle.com) in the near future for a listing of certified dynamic IP ISP partners.

ISP Worksheet for InterJet Manual Configuration

Domain Name Service (DNS)	
Domain Name:	
Forwarding NS1:	
Forwarding NS2:	
Internet Connection	
☐ Local Gateway (existing router or cable/xDSL modem)	IP address:
☐ POTS (analog modem)	
POTS# to dial:	
PPP Login:	
Request Local IP:	
☐ ISDN (BRI)	
ISDN# to dial:	
PPP Login:	
Request Local IP:	
Switch Type:	
☐ Use 2 B-channels	
Line 1 Phone #:	
Line 2 Phone #:	
Line 1 SPID:	
Line 2 SPID:	
Calling Method (check one):	☐ 64K Data ☐ 56K Data ☐ 56K Voice (Toll saver)
☐ Synchronous (external CSU/DSU)	
Protocol (check one):	☐ Raw Synchronous ☐ Cisco HDLC ☐ Frame Relay, DLCI: 16
Options:	☐ rfc 1490 ☐ PPP mode
Local IP:	
Remote IP:	
	(if auth is required)
Local IP:	
Remote IP:	
Perimeter Network (InterJet Models 140 and 200 only)	
Network IP address:	
Netmask width:	
Mail Retrieval (check one):	
☐ Send SMTP ETRN to the MX-backups (supported by sendmail 8.8.X or later)	
☐ Finger Account	(usually of the form ij77128@some.isp.net)
☐ Stay connected at least	minutes.
Time	
NTP Server:	