ForeThought 5.1 for Windows NT and 9x

ForeThought 4.1.7 for NetWare

Release Notes

Version 5.1/4.1.7

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1.0 General Description of Software Release

These release notes highlight the features and known issues associated with the *ForeThought*® 5.1 release, which adds load-balancing and failover (LB/FO) support on the Windows NT operating system. LB/FO allows multiple adapters installed in a single host to share the outgoing network traffic and provide redundancy in the event of a failure in an adapter.

These release notes also highlight the features and known issues associated with the *ForeThought* 4.1.7 driver, which adds NetWare support for the *HE* adapter. This driver can be installed on the NetWare 4.11 and 5.0 operating systems.

This release no longer supports the DEC Alpha platform. *ForeThought* 5.0.2 was the last driver release to support DEC Alpha.

2.0 For More Information

2.1 Viewing the On-line Manual

The on-line manual included with this release contains complete installation procedures, an ATM, LANE, and Classical IP overview, troubleshooting information, and additional information for using your Marconi adapter. You can read and print the on-line manual using an Acrobat Reader.

The on-line manual is available with the driver files downloaded from the Marconi website or FTP site. You can download a reader from the Adobe website at:

http://www.adobe.com/

2.2 The Marconi Website

For the latest technical documentation and release notes for the Marconi ATM adapters and other Marconi products, visit the Marconi (formerly FORE Systems) technical manual website at:

http://www.fore.com/products/manuals.htm

The website provides manuals in Portable Document Format (PDF). They can be viewed or printed using Adobe Acrobat Version 3.0 Readers.

The Marconi Technical Assistance Center (TAC) website also includes the latest Marconi drivers and technical tips.

3.0 System Requirements

The *ForeThought* 5.1 adapter software requires that *ForeThought* 4.0.x or greater software also run on a switch, *PowerHub* 7000, SunOS workstation, or Solaris workstation in your network, in order to accommodate the LAN Emulation Services. Please contact Marconi Communications for information on upgrading your switch software if necessary.

4.0 Improvements

- The *ForeThought* 5.1 driver for Windows NT now supports load-balancing and failover (LB/FO). LB/FO allows multiple adapters installed in a single host to share the outgoing network traffic and provide redundancy in the event of a failure in an adapter.
- The *ForeThought* 4.1.7 driver for NetWare now supports the *HE* adapter on the Novell NetWare 4.11 and 5.0 operating system.
- The patch version of the *ForeThought* 4.1.7 driver for NetWare fixes a problem that occurred when installing the PCA-200EPC adapter on the Novell NetWare 5.0 operating system with service pack 4. This driver is containined in the `\netware\patch` directory of the adapter software CD.

5.0 Known Issues or Concerns for Windows

5.1 General Issues

- When using IPX/SPX, the Auto-detect frame type may not always work. If it does not, set the frame type manually.
- Note that when you configure an ELAN driver, the LECS configuration applies to all ELAN drivers. All ELAN drivers must use the same LECS, whether you use the well-known address, PVC (0,17), or manually enter the address.
- Due to the default TCP buffer size, you might encounter poor performance during FTP operations. Increasing the TCP buffer size to a large number may improve performance.

5.2 InFOREmation Center Issues

- In the InFOREmation Center utility, depending on connection status, connection information may appear in yellow. If the yellow text is not readable on your machine, please adjust your screen resolution to improve clarity and contrast.
- In the InFOREmation Center Connection List, if a connection is a PVC opened by a WinSock application, the connection is shown as being an VC, rather than a PVC.

5.3 Windows 98 Issues

WARNING!

Be sure to review this section before attempting to upgrade a PC with Marconi drivers installed to Windows 98.

Before upgrading a PC from Windows 95 to Windows 98, you must completely remove the Marconi adapter drivers from the Networking control panel.

If you do not remove the drivers prior to upgrading to Windows 98, the machine will hang and corrupt the ATM setup information, requiring a re-installation of the operating system.

To remove the drivers:

1. Display the `Network` control panel by using the following procedure:
   a. Choose the **`Start`** button on the Taskbar.
   b. Choose **`Settings`**.
   c. Choose **`Control Panel`**. The Control Panel appears.
   d. Double-click on the `Network` icon.
2. Select each Marconi adapter driver in the list and click the **`Remove`** button. Repeat for each Marconi driver.

5.4 Windows 95/98/2000 Issues

- Sporadically Windows 95 halts when the system is warm-booted. Power cycle the system to proceed.
- In some circumstances, the Windows 95 plug and play feature does not discover the adapter card and does not automatically install the Marconi ATM driver. This most often occurs in two situations:
  - At some previous time, when the adapter card was discovered by Windows 95 at boot-up and the New Hardware Found dialog box appeared, the `Do not install a driver (Windows will not prompt you again)` option was chosen.
  - Another adapter had been previously installed in the machine.

  In this case, check for an unknown (question-mark) entry for the previously-installed adapter in the Device Manager tab of the System Properties control panel. You can delete the unknown entry using the procedure in the Windows 95 installation chapter of the manual, in the section “Installing the ATM Driver Manually.” After deleting the unknown entry and re-booting, Windows 95 will discover the adapter card and you can install the driver via plug-and-play, as described in the manual.

5.5 Windows NT Issues

- Due to binding constraints in Windows NT, some machines can support only 12 Token Ring ELANs, rather than a total of 16. If your machine is unable to load 16 Token Ring ELANs, reduce the number of ELANs that the machine is attempting to join to 12.
- When using a Marconi adapter in a Windows NT machine acting as a router between a Token Ring ELAN and a legacy Token Ring LAN, note that the legacy Token Ring client workstations must set their default gateway to the address of the Token Ring NIC in the Windows NT machine serving as the router.
- Due to limits with Windows NT Services for Macintosh, you are limited to a combined total of eight ELAN and IP Over ATM drivers when using Windows NT Services for Macintosh.

5.6 Failover Support on Windows NT

Versions of *ForeThought* (such as the *ForeThought* 5.1 Windows NT driver) which support LB/FO (load balance/fail over) options provide this service in accordance with industry-standard ATM specifications for line signaling. In general, the failover support provides a convenient way for a system to survive a catastrophic link failure without user or operator intervention. It may not provide fully transparent failover support in all operating scenarios.

Persons relying on the 'failover' feature to provide network resiliency should understand the failover from the down link to the working link may vary significantly depending on the type of failure and the mandates for timeouts defined by the ATM specifications. Users relying on the “failover” feature should extensively test the combination of operating system, network equipment, application and varying failure conditions to determine the impact of various types of failures on system connectivity.

The full combination of failover scenarios should be tested. This should include:

- Failure of both TX and RX in the pair (i.e., a simple disconnect of both members of the pair simultaneously.)
- Disconnect of the RX member of the pair with TX still active
- Disconnect of the TX member of the pair with RX still active

The last two of the above will simulate a “worse case” failure from a time point of view. The “worse case” occurs in which only one member of the fiber pair has failed with the other remaining up.

In summary, failover may be used to automatically recover from some classes of equipment failure. The exact timing of the recovery and its acceptability for operational purposes must be assessed by testing in the target environment.

6.0 Known Issues or Concerns for NetWare

6.1 Issue When Installing NetWare 5.0 (Novell TID 2948417)

Due to a known problem under investigation by FORE and Novell, installing NetWare 5.0 on a machine with a FORE Systems adapter as the initial NIC results in a failed installation. The installation appears to proceed normally until the GUI portion of the process begins. It will then fail with a "Fatal Error" message. This problem is described under Novell TID 2948417.

The workaround for the problem is to install NetWare using another network adapter which installs correctly as the initial NIC. After installation, replace this adapter with the FORE adapter, installing the adapter and driver using the procedure in the online manual (refer to "Viewing the On-line Manual" on page 1 of these release notes for more information).

The problem only occurs when installing NetWare 5.0.

To view information on this problem in the Novell Knowledgebase, go to the Novell support website at:

http://support.novell.com

Select **Knowledgebase** at the top of the page, then enter **2948417** in Field 3.

This issue is anticipated to be resolved in the next release of the NetWare driver.

6.2 Increased Minimum Packet Receive Buffers for HE Adapters

When using the *HE* adapter, you must set the Minimum Packet Receive Buffers Value parameter to a higher value than that used for the PCA adapter. This parameter is set through the following NetWare start-up parameter in the server's `STARTUP.NCF` file:

`set minimum packet receive buffers=<`*`n`*`>`

In this parameter, you must enter a value for the variable *<n>* depending on the type and number of adapters you have installed. For HE adapters, enter 3000 for your first adapter card, and include an additional 1000 for each additional physical HE adapter you have installed in the machine.

For PCA adapters, enter 1500 for your first adapter card, and include an additional 100 for each additional physical PCA adapter you have installed in the machine.

7.0 Hardware Compatibility and Installation Issues

7.1 Miscellaneous Hardware Issues

- Based on typical customer configurations, Marconi has verified the functionality of up to four concurrently running adapters on industry standard systems. Individual machine variances may extend or limit the total number of adapters practical for specific configurations.
- As indicated in the manual, be sure to install the Marconi adapters in a Bus Master slot.
- Marconi recommends that the HE 622 adapter be installed in the primary PCI bus rather than a secondary PCI bus to prevent possible UNI connectivity problems.
- When using these drivers with the PCA-200EPC adapter in some laptop computers and docking stations, you may receive the error "docking station failed request" when undocking from the docking station. You must shutdown and reboot the system.

7.2 IBM 320 Compatibility Issues

Depending on the BIOS version you are using, the Marconi adapters might not run on the IBM 320. If you encounter this problem with an LE or PCA adapter, please install the latest BIOS for this machine, dated 6/19/96 or later. This BIOS is available from IBM's web site as the file `320BIOSE.EXE`, where it is listed as:

```
PC Server PCI/EISA BIOS 16T3B     (313191 bytes, 07-15-96)
```

After expanding `320biose.exe` the BIOSLEVL file should contain:

```
BIOS Code version:     M54Pe_16T3B dated: 06/19/96
```

7.3 HP Vectra Compatibility Issues

If you encounter problems when running the Marconi drivers on an HP Vectra machine, turn off the Ethernet controller.

8.0 Contacting Technical Support

In the U.S.A., customers can reach Marconi Communications' Technical Assistance Center (TAC) using any one of the following methods:

1. Select the "Support" link from Marconi's (formerly FORE Systems) World Wide Web page:

   http://www.fore.com/

2. Send questions, via e-mail, to:

   support@fore.com

3. Telephone questions to "support" at:

   800-671-3673 or 724-742-6999

4. FAX questions to "support" at:

   724-742-7900

Technical support for customers outside the United States should be handled through the local distributor or via telephone at the following number:

+1 724-742-6999

No matter which method is used to reach the TAC, customers should be ready to provide the following:

- A support contract ID number
- The serial number of each product in question
- All relevant information describing the problem or question

8.1 Using TACTics Online

If you have an active ForeMan Support Agreement you can now submit, update, and track your cases electronically via TACTics Online. The latest software updates are also available to download via TACTics Online. TACtics Online provides Marconi's Customers and Channel Partners with real time support on the World Wide Web.

To submit cases or view details of your existing cases, as well as access the other features within TACtics Online, go to:

http://www.fore.com/

Select **Services and Support** and follow the link for TACtics Online. If you have registered for an account please enter the account name and password. If you need to obtain an account select **Create User Account** from the TACtics Online login page. Once you are logged in select the feature that you would like to access.