



FaultLine™

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Requirements

Software: Microsoft® Windows Vista®, Windows® XP,
or Windows® 2000

Guidelines for Optimum Performance

- Windows XP Professional
- 2 GB of System Memory
- Dual 2-GHz CPUs/CPU Cores
- 1x PCI-Express network interface card such as a Broadcom NetXtreme Gigabit NIC or an Intel Pro/1000 PT Desktop NIC.

- The default Windows configuration for many network interface cards is not optimized to capture Ethernet frames on a highly utilized network. Significant performance gains can be achieved by enabling the performance options-- usually located under the *Advanced* tab in the *Adapter Properties* screen, accessed via the Control Panel.
- See the FaultLine online Help section for a step-by-step description of the process for optimizing the Intel Pro/1000 PT Desktop NIC.

Installation

To install the FaultLine software:

1. Insert the FaultLine CD into your CD drive.
 - The installation procedure should start automatically.
 - If it does not start automatically, click on the taskbar Start icon.
 - Select “Start Search” for Windows Vista or “Run” for Windows XP or Windows 2000.
 - Type *D:\FaultLine_v1.0.exe* (use the drive letter appropriate for your PC).
2. Follow the on-screen prompts to complete the installation.

Quick Start

It is easy to quickly begin making measurements on your MPEG2-TS video network with the FaultLine software.

I. Connect to the Network

Here are some things you should do to provide a connection point for FaultLine to monitor.

1. On the device you want to monitor:
 - Configure a monitor port (mirror port) or,
 - Install a splitter or a tap (splitters are optical taps).
2. Using a CAT5e or better Ethernet cable, connect the PC’s NIC (Network Interface Card) to the monitor port or splitter.

II. Check that your NIC has a valid IP address.

For help in verifying the NIC has a valid IP address see the section *How to Troubleshoot No Signal at the Connection* later in this Quick Start guide.

III. Run FaultLine for the First Time.

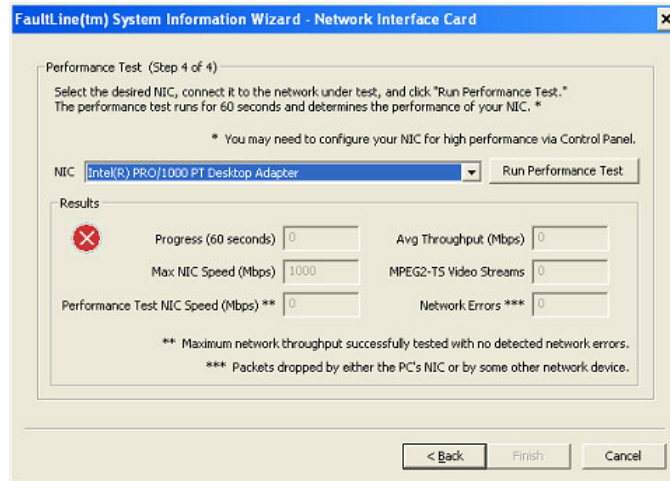
1. Run FaultLine. For Windows XP: Click on *Start* → *Certus Digital FaultLine* → *FaultLine*.
2. The first time FaultLine runs, the **System Information Wizard** will automatically run. The System Information Wizard reports on the PC's operating system, RAM, processor type and speed, and Network Interface Card (NIC) to ensure the PC has enough performance to monitor a highly utilized Ethernet network.

Note: The PC performance required is dependent upon the number of MPEG2-TS streams and the aggregate utilization on the network. Even if the PC does not have the recommended capability, the performance may be sufficient depending upon the number of active video streams.

3. Progress through the Operating System, Processor Speed and CPUs, and System Memory screens by pressing the *Next* button. You may press *Cancel* at any time to exit the Wizard and run the main FaultLine application.

Note: The Wizard will continue to run each time FaultLine is started until the Wizard completes successfully.

- The Network Interface Card section of the Wizard runs a 60-second performance test to verify that the NIC can monitor the network traffic without dropping frames. Use the selection box to choose the NIC that corresponds to NIC you connected in **Part I** and press the *Run Performance Test* button.

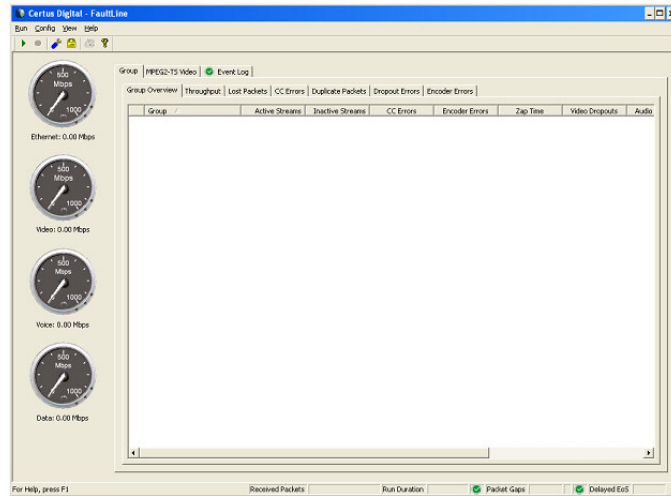


For this test to start successfully the NIC must have a valid IP address (see the section *How to Troubleshoot No Signal at the Connection* later in this Quick Start guide) AND there must be MPEG2-TS traffic on the network.

This test completes successfully if there are zero Network Errors detected. For the purpose of this test a Network Error is defined as any dropped packet. The FaultLine software cannot detect the difference between a packet dropped by the network or a packet dropped by a poorly performing NIC.

If Network Errors are detected, refer to the “Optimize the NIC” sections in FaultLine’s online Help section. In the future, you may select “Run System Information Wizard” at any time from the Help menu to re-characterize the operating performance for your NIC and PC.

5. Once the System Information Wizard completes successfully you will see the FaultLine main screen.

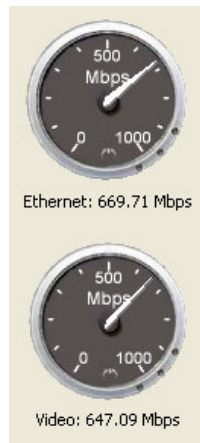


IV. Start Testing

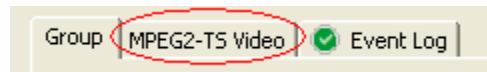
1. Start a measurement run by clicking on the green play button or choosing *Run* → *Start* from the menu bar.



2. Verify that the main gauges show non-zero throughput values for both Ethernet and Video. If gauges read zero then no video traffic is present.



3. Choose the measurement view tab “*MPEG2-TS Video*” to get a quick overview of the video streams and their status.



Documentation

For full documentation, press the F1 key while running FaultLine. Or, select “Help Topics” from the Help menu dropdown list. If you are new to FaultLine, read the Help Topic “Quick Start.”

How to Troubleshoot No Signal at the Connection

If FaultLine is not receiving any data at the NIC connection, check the following items:

- 1. Verify that the link pulse LED is lit on the PC's Ethernet port and the network device's Ethernet port.**
- 2. Verify the NIC has a valid IP address.**
 - Check that the NIC on the FaultLine PC has a valid IP address. If the IP address of the NIC is not valid, FaultLine will not receive network data. If you do not have a DHCP server on the segment you are testing or you are not connected to bi-directional port, you should assign a valid static IP address.
 - If you configure the NIC to use DHCP and there is no DHCP server available on the network Windows gives the NIC a privately assigned 169.254.xxx.xxx address. If you see a "169.254.xxx.xxx" address, you are not correctly hooked up to the network.
- 3. Verify the switch is correctly configured.**
 - If you are directly attached to a switch it is possible that video traffic is not being routed to your switch port. Consult your switch documentation on how to set up a monitor port.

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