

# PingGraph MultiMonitor 2007 v1.6

Manual revision 2

## Features

- Up to 20 independent monitors running on separate threads
- Multiprotocol support: ICMP and HTTP
- Remote Agent support
- Drawing of graph lines indicating real-time status of devices or web services
- Two input sources: Program settings and dynamic Sensor File
- Most attributes of program GUI are editable

## Requirements

- P3, P4 or Better Computer
- 1.5GHz CPU
- 256 MB RAM Min
- Windows 2000 or better
- NET 2.0 Framework installed (free from MS)
- Display capable of 1280x1024 for full screen view of all monitors

## Installation

Unpack Monitor files to any folder on any drive with write access. Unpack Agent files to a remote station. No installation needed.

The Agent uses similar routines to gather data - input files used for Monitor can be used for Agent as well. Press or click the "?" button on the top-right side of the program window to access Properties. Right clicking any of the monitor windows will pop a menu.

## Configuration of Monitor

Both, the Monitor and Agent support sensor types of ICMP and HTTP. The Monitor also supports AGENT type, all selectable either in program properties or dynamic Sensor File. The Sensor file is your typical input format, comma separated, editable at runtime in notepad or dynamically updated from your servers or web services.

## Monitor Properties - General Tab

- **Show Labels** -- If this box is checked the LABEL value of each monitor will be shown. If unchecked the URL, IP or DNS name of the server/device/service will be shown.
- **Start in Full Screen** -- the program will start in the full screen mode.
- **Test Interval** -- How frequently (in milliseconds) the monitor sends its query for each sensor.
- **Allowed failures** -- How many times should a ping/inquiry fail before failed/timeout message is displayed.
- **Randomization** -- If monitoring local devices or HTTP it may be needed to make the graph line look "live" since it may be "flat". Personal preference. Values in this combo allow different degrees of randomization.

- **Save Log File** – Checking this box allow the program to log changes (failure, error, restore) to a file. There is no limit imposed on the file therefore large files can occur on unstable networks. Use only for troubleshooting. This file is comma delimited and viewable not only in text editor but in Excel as well. Each sensor you wish to log must have the Log option checked in Sensors tab.
- **Log Spikes** – This option allows logging of each failure. Huge log files will result therefore we recommend that it remains disabled unless troubleshooting a specific sensor.
- **Failure Log File** – File path of the Log file. Can be a filename only (to place log in program directory) or a full Path.
- **Failure Threshold** – How many consecutive failures before an entry is written to a Log file.
- **Sensor File** -- File path of the servers/devices/services Sensor file. Can be a filename only (located program directory) or a full Path. Please see “Sensor File for Monitor and/or Agent” section of this manual for more info. Program Settings data is overridden by data imported from this file. When running multiple instances of the PingGraph use different filenames.
- **Reload Interval** -- How frequently (in milliseconds) the program reloads the Sensor file. Too frequent reloads will impact system and application performance.
- **Remote Agent File** -- File path of the file written by Agent. Can be a filename only (located in program directory) or a full Path. This file will contain numbers only in 20 lines. Each line represents separate sensor, i.e. a number in line 13 will correspond to monitor #13 (has to be set to AGENT in Protocol column in Monitor application to be retrieved).
- **Reload Interval** -- How frequently (in milliseconds) the program reloads its Agent file. Too frequent reloads will impact system and application performance. This value has to be somewhat synchronized with Write Interval in the Agent Properties.

#### Monitor Properties – Protocols Tab

- **No fragmentation** -- Fragmented packets are not allowed as valid reply.
- **\*Native WIN32 Ping** -- Use API ping instead of .NET routine.
- **Ping Timeout** -- How long before ping times out. Too small value will result in erratic graphs.
- **Ping TTL** -- Time to live allowed for this monitor. Windows default is 128.
- **\*HTTP Timeout** -- How long before "ERROR" message is displayed (i.e. in case of 404 error)

#### Monitor Properties - Sensors Tab

- **HOST/IP/URL Address** -- this is where IP, Hostname , Server, Service or URL is entered for each sensor.
- **Label** -- lower label describing monitor. If "Show Labels" is unchecked this value will be ignored and the IP, Hostname or URL will be shown instead.
- **Protocol** -- protocol type for the monitor. It can be ICMP for Ping and HTTP for Web. Also AGENT can be selected to read a particular sensor data from Agent file. See Agent setup section.
- **Log** – check for each sensor you wish to log to a text file (excel-csv compatible, comma delimited). “Write Log File” setting in General tab must be enabled for the data to be written to file.
- **Rand** – Use randomization for the sensor. This will prevent “flat” lines. Randomization value is selected in General tab.

#### Monitor Properties - GUI Tab

- This is where colors and text of the GUI can be edited. Upper label is on top-right above each monitor and shows the response time in ms. Lower label is the sensor name/url or its assigned Label value.

PROGRAM RESTART IS NEEDED for some setting changes to take effect.

### Configuration of Agent

There are common settings for both the Monitor and Agent. These however pertain exclusively to the Agent:

- **Agent Write Interval** – how frequently the agent will write its file to be retrieved by the Monitor. This needs to be somewhat synchronized with the Agent file Reload Interval in Monitor.
- **Agent File Path** – This is the filename and location that the Agent will write. Preferably a share on your network where the Monitor resides with write privileges. Can be in either \\10.10.10.10\share\pg\_agent.txt or C:\PGData\pg\_agent.txt. Use “Test Write” button to see if a file can be written to the location you have specified. For new shares please make sure you login to first from Windows Explorer. Once directory access error is generated the program must be restarted.

The “Show Live” button on main dialog will show current results being written to file. Please refer to “Sensor Result Values” in this manual to compare. Please see error tables in this manual as well for values to return if you want to write/use your own agent.

### Sensor File for Monitor and/or Agent

The first 20 lines of the Sensor file will be read and assigned accordingly, i.e. line 5 of this file will be assigned to Monitor #5. Any text pass line #20 will be ignored.

Format of this file is the following:

*SERVER, LABEL, PROTOCOL*

Where SERVER is an IP address or DNS name of a server or interface for ICMP, or an URL of a web service containing ID# of a device/service if needed. . This value is ignored when AGENT is selected in protocols.

LABEL is how you want to label this monitor - if "Use Labels" is unchecked in Properties the server/url address will be shown instead. PROTOCOL is one of the currently supported: ICMP, HTTP or AGENT .

Case and trailing spaces are ignored.

For example; to graph the ping results of a connection to internet you may want to ping yahoo.com, specify:

*YAHOO.COM, My ISP Access, ICMP*

For web device monitoring you will need to write an ASP or PHP script checking device status and returning a number between 10 and 120 or -1 if not accessible. For a HTTP sensor select "Randomization" setting, i.e. 25. This will create a ‘wiggly’ line instead of a static ‘flatline’. Select 0 for no randomization. For example to monitor a pda #1 alive status:

*http://71.11.22.33/devicemonitor.aspx?id=1,PDA01,http*

To show data retrieved for host REMHOST via Agent use the following:

*REMHOST, My Remote PC, AGENT*

Since the Agent is providing results, the host name is being ignored.

If you do not wish to create or dynamically update a text file these monitors can be set up in properties.

### Sensor Result Values

- -4: Stale Error = old data.
- -3: Protocol Error = wrong/misspelled protocol.
- -2: Error = general error. Program process failure, wrong or misspelled hostname, IP, etc.
- -1: Timeout = no valid response in specified time frame.
- 0-5000: Valid response times (ms). Values over 400 drawn on the very top of a monitor.
- 99999: Sensor disabled. In versions prior to 1.6 program restart is needed or Error (-2) will be shown on the monitor due to a thread still running. Version 1.6 allows thread restart.

Some values may not be applicable to certain sensor type

### Monitor Errors - ICMP

Display	Value	Explanation
Timeout	-1	Timeout was returned, the host is offline or not responding to ICMP
Error	-2	The host is either mistyped or unreachable
Protocol	-3	Protocol name was misspelled or wrong protocol selected

### Monitor Errors - HTTP

Display	Value	Explanation
Timeout	-1	Value of -1 was returned by your script
Error	-2	The URL is either mistyped or doesn't return numeric values
Protocol	-3	Protocol name was misspelled or wrong protocol selected

### Monitor Errors - AGENT

Display	Value	Explanation
Timeout	-1	Timeout (value of -1) was returned by Agent
Error	-2	Value of -2 was returned form Agent = host mistyped or unreachable
Protocol	-3	Protocol name was misspelled or wrong protocol selected
Stale	-4	Data received from agent has not been refreshed in # of allowed failures * 2. Make sure the share is accessible. Increase write interval at Agent or lower reload interval at monitor.

### Support

Please email us at [support@eftechusa.com](mailto:support@eftechusa.com) or post in the forums at [www.eftechusa.com](http://www.eftechusa.com)

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*\*Not implemented*