

Getting Started with MRTG

Getting Started-MRTG

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About this Guide

This short guide is intended to get you started so that you have something working in a short space of time. It does not attempt to try and tell you everything about the software. Once you have learned a few basics you will be able to pick up the rest as you go along.

We have tried to supply you with all the software required to begin using the software.

Typographical Conventions

Product names inside the text are in *italics*.

Tips and important points to note are shown in boxes like this:

This is how a tip or point worth noting will appear.

Step by step instructions are numbered and shown in bold type.

Sections that apply to OPENXTRA BASICS+ subscription holders only are introduced by a text box like this:

**THE FOLLOWING SECTION IS APPLICABLE TO OPENXTRA
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Introduction to MRTG

MRTG (Multi Router Traffic Grapher) is a network management application capable of monitoring any SNMP OID (Object ID) on a regular basis. The value of the OID is kept in a database and, over time, graphs show the variation in the values. For efficiency the graphs are produced on demand, using built-in scripts, rather than continuously. The database may be kept on the local machine or on a remote server. The amount of data you can store depends on the configuration settings of your database.

Of course the device being monitored must have support for SNMP enabled, but the information reported is not limited to that needed for network management. There are many examples of specialized uses in other fields. Things such as tide height, air temperature, humidity levels, and so on, can be reported and graphed. All that is required is that the data is held in an SNMP compatible format. This makes MRTG a very flexible and powerful tool way beyond its use as a network management tool alone.

Basic Requirements

The OPENXTRA BASICS package install all the following for you. If you have installed OPENXTRA BASICS you can skip this section. Refer to the getting Started with OPENXTRA BASICS guide for details.

For MRTG to work you need the following components to be installed.

- Perl interpreter for Windows, Version 5.005 or later.
- You will need a Web Server on the local machine.

For a distributed installation the web server should be installed on a remote machine.

- Windows SNMP Services must be enabled on your machine.

- The MRTG package itself, Version 2.9.29 or later.

Installing a Web Server

It is generally useful to make the MRTG pages readable from a browser in a remote machine. To do this requires a Web Server in the local machine. Most Windows systems contain an option to load a Web Server.

If you only want to view the pages locally you do not need to load a Web Server in your machine.

Installing Windows SNMP Services

Step 1 Click Control Panel

Step 2 Double Click on Add or Remove Programs.

Step 3 Click on Add or Remove Windows Components.

Step 4 Select Management and Monitoring Tools.

Step 5 Click Next.

Step 6 Click Finish.

Step 7 Close Add or Remove Programs and Control Panel.

The SNMP Services are now installed.

Installing MRTG

MRTG is installed as part of the OPENXTRA BASICS package.

The OPENXTRA BASICS package installs MRTG for you. If you have already successfully installed OPENXTRA BASICS you can skip this section.

Running MRTG continuously

For checking configurations you may want to run MRTG once from the command line prompt. For serious work you will almost certainly want MRTG to collect data continuously, retrieving data every 5 minutes (or at a preset interval of your choice). There are two ways to do this. Either include MRTG in your Startup Folder so that it runs as soon as you log on, or run MRTG as a Service under Windows so that you can monitor even when the machine is logged off.

Running on Start up

As soon as you log your machine on to the network MRTG will start and begin collecting data. When you log off MRTG will stop.

Checking to see if MRTG is working

At this stage MRTG should be working in the background. To make sure that it is open Task Manager.

Step 1 Press Ctrl, Alt, Delete.

Task Manager appears.

Step 2 Click on Processes.

Step 3 Look for wperl.exe.

If wperl.exe is present then MRTG is running.

If wperl is not present then there has been an error. This will be reported in the Windows Event Log which is where you should look.

Step 1 In Windows click Start, Control Panel, Administrative Tools, Event Viewer.

Step 2 Click on Application.

The usual cause of a failure is an incorrect Community String in SNMP. Check carefully in case it has been

changed from the default value of Public.

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Running as a Service in Windows

In many circumstances, particularly on larger networks, it may be preferable to run MRTG as a Service under Windows. This is more secure as it allows you to log the machine off while continuing to collect data.

To do this you will need a third party program such as FireDaemon which allows you to run MRTG as a service under Windows.

IF YOU ARE A NON-COMMERCIAL USER YOU CAN OBTAIN A
FREE COPY OF FIREDAEMON AND INSTRUCTIONS FOR
USING IT WITH MRTG FROM [www.firedaemon.com/HOWTO/
MRTG/](http://www.firedaemon.com/HOWTO/MRTG/)

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Step 1 Make a configuration file as described above.

Step 2 Check that the configuration works correctly.

Once you have confirmed that things are working you may have to stop MRTG manually before proceeding.

Step 3 Make sure that your Windows machine is up to date with the latest patches from Microsoft.

For Windows XP perform a Windows Update and install all Critical Updates.

For Windows 2000 (Professional, Server, or Advanced Server) install Service Pack 3, Internet Explorer 6.0,

*perform a Windows Update and install all Critical Updates.
For Windows NT 4.0 (Workstation and Server) install
Service Pack 6a plus any post SP6a hot fixes and Internet
Explorer 6.0*

Step 4 Start the FireDaemon Service Manager from Start, Programs.

Step 5 Click the Create a New Service button (or Ctrl N).

Step 6 Click the Program tab.

Step 7 Complete the screen as shown in the example below.

*Your Directories and Paths may be different from those
shown. Make sure they match the names on your system.*

Screen shot

Step 8 Click the Settings tab.

Step 9 Complete the screen as shown in the example below.

Screen shot

Step 10 Click Install.

The new Service should install and begin working.

Viewing MRTG

The configuration file that MRTG is using was built when you installed OPENXTRA BASICS using the IP address and community string that you specified at the time. To view the statistics graphs follow the steps below.

Step 1 Open Windows Explorer.

Step 2 Go to wwwroot in MRTG.

The default is path is C:\Program Files\OPENXTRA BASICS\MRTG\wwwroot, but your path may be different.

Step 3 Click on the HTML document for the IP address you specified.

Your screen should look something like this.

You should have, Daily, Weekly, Monthly, and Yearly graphs of bytes In and Out of the selected device.

Making a Configuration File by hand

The package as delivered will make a basic configuration file for you. This is just a starter and you may wish to add things later on.

By default MRTG configuration files will monitor Bytes In and Bytes Out for a specified device. However it is possible to monitor any SNMP variable if you know the OID.

To begin you need to have the following information to hand:

- The IP address (or name) of the device you want to monitor
- The SNMP OID of the variable you want to monitor
- The SNMP Community string name (Default is Public)
- If non standard the SNMP Port Number must be specified

Bytes In and Bytes Out do not need an OID, but all other OIDs need to be specified.

Configuration file example

In this example we want to build a basic configuration to monitor In and Out bytes for a device. We do not know the device's IP address, but we know the name, BART.

Step 1 Make a list of the details we know.

- IP address.

We do not know the IP address, but we know the device name, BART.

- SNMP OID of the variable(s).

Bytes In and Bytes Out do not need to be specified.

- SNMP Community string.

Public is used in this case.

Step 2 In Windows click Start, select Command Prompt.

Step 3 Go to the MRTG\bin directory.

By default this is C:\Program Files\OPENXTRA\MRTG\bin, but your path may be different.

Step 4 Type the following commands.

```
perl cfgmaker --ifref=nr public@BART -global
"WorkDir: c:\progra~1\openxt~1 basics\mrtg\wwwroot"
-global "RunAsDaemon: Yes" >mrtgl.cfg
```

Type the whole thing as one line. Make sure that you include spaces exactly as shown above. If you use long file names in Windows you will have to abbreviate them as shown. For example Program Files becomes Progra~1.

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So what do the commands mean?

The aim is to make a configuration file called `mrtg1.cfg` and place it in `c:\program files\OPENXTRA BASICS\mrtg\bin`. The variable, `WorkDir`, defines the directory in which to place the HTML pages for viewing. `Cfgmaker` is the program that builds the configuration file.

`Cfgmaker` looks for the specified machine, `BART` with the Community string `Public`. If it finds that machine then `cfgmaker` probes it for information about the active ports and so on.

The instruction `--ifref=nr` is the default and shows interface references by interface number.

The instruction, `RunAsDaemon: Yes`, ensures that `MRTG` will run continuously.

Running as soon as you log on

Make a shortcut in your Windows Startup Folder with the following entries:

Target:

```
wperl mrtg --logging=eventlog mrtg1.cfg
```

Start in:

```
c:\progra~1\openxt~1\mrtg\bin
```

where `wperl` allows `MRTG` to run in background with no visible console window

`--logging=eventlog` redirects any errors to the Windows Event Log

`mrtg1.cfg` is the name of the configuration file

and `c:\progra~1\openxt~1\mrtg\bin` is the path to `MRTG` (yours may be different).

Now when you log on `MRTG` will begin monitoring.