

Package RRDTOOL - Collect Data And Display Graphs About It Version 3.10.1

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1. Documentation For Package RRDTOOL

1.1. RRDTOOL - Collect Data And Display Graphs About It

1.1.1. Description

The package RRDTOOL collects system data and stores it in rrd-databases by the help of the 'collected' daemon. In the web interface of the fli4l router graphics for download or display are generated from it by rrdtool.

For example, the following data is recorded and displayed:

- Under System Status
 - CPU load
 - System load
 - System uptime
 - RAM usage
 - Number of processes
- Under Harddisk Status
 - Partition usage of the root partition
 - Usage of the partition /boot
 - Usage of the partition /data (if existing)
 - Usage of the partition /opt (if existing)
- Under Network Status
 - For each network interface amount of data sent and received
- Under Interrupts
 - The number of interrupts
- Under Active Connections
 - The number of connections

Optionally, also the acquisition and display of temperatures and voltages of the motherboard, WLAN informations, the values from an APC UPS, PING values of hosts or VPN endpoints a.s.o. is possible, depending on the configuration or the installed packages.

1.1.2. Hint concerning RRDTOOL versions

RRD database files that were created with the old version of rrdtool can not be used with the current version. The daemon uses a different data format and thus the files are incompatible.

1.1.3. Hint concerning the use of RRDTOOL on different architectures

If fli4l's processor architecture is switched (eg from 32 bit to 64 bit) the rrdtool database files have to be converted manually by the user. Direct conversion is not possible.

The old database has to be exported to XML files and imported then to the new architecture instead. It is important to do the XML export while the old architecture is still in use.

A german HowTo article on this topic can be found at <https://ssl.networks.org/wiki/display/f/rrdtool-Datenbanken>.

1.1.4. Configuration Of the Package RRDTOOL

The configuration is done by adapting the file `Path/fli4l-3.10.1/<config>/rrdtool.txt` to your own needs, as with all FLI4L packages.

OPT_RRDTOOL The setting 'no' deactivates OPT_RRDTOOL completely. No changes to your `rootfs.img` resp. `opt.img` are made. Furthermore, OPT_RRDTOOL will never overwrite other parts of the fli4l installation.

To activate OPT_RRDTOOL set the variable OPT_RRDTOOL to 'yes'.

RRDTOOL_DB_PATH Default Setting: `RRDTOOL_DB_PATH='/data/rrdtool/db'`

Path to RRDTOOL's database files. These files should always be located on a persistent disk. It is no a problem to store the data on a CompactFlash card as appropriate caching mechanisms are used in the package RRDTOOL to minimize the number of disk accesses. When using OPT_QOS please ensure to use ext2/ext3/ext4 as file system in the path's target because only these support the characters used in the file name.

RRDTOOL_CACHETIME This optional configuration parameter can set after how many seconds cached values will be written to the RRD database by the rrdcached daemon. With smaller values, the cache file will be smaller in the ramdisk which is recommended for routers with a rather small amount of RAM, but the disk will be accessed more often then. Without activation of the variable, this is done after 3600 seconds or on shutdown of fli4l.

The following values are possible:

- 3600
- 1800
- 1200
- 900
- 600
- 450
- 300

RRDTOOL_NET Setting this variable to 'yes' activates the network plugin of collectd. This makes it possible to transfer the data detected/collected by collectd to another computer on the network with active collectd-plugin running in server mode.

RRDTOOL_NET_HOST FQDN or IP address of the computer running collectd with network plugin in server mode.

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RRDTOOL_NET_PORT This optional variable configures the port on which the server is listening to incoming connections.

RRDTOOL_UNIXSOCK Setting this to 'yes' activates the unixsock plugin of collectd. On this socket other data collecting services/processes can transfer data to collectd.

RRDTOOL_PING_N Specifies the number of hosts where network ping times should be determined.

RRDTOOL_PING_x Defines the host for which network ping times should be determined. Can be set as a FQDN or an IP address.

RRDTOOL_PING_x_LABEL Optionally defines a different description (label) for the ping target.

RRDTOOL_PING_x_GRPNR Assigns this ping target to the group defined in **RRDTOOL_PINGGROUP_x_LABEL** by the number of the index.

RRDTOOL_PINGGROUP_N Number of ping target groups. Each group defined will be displayed on a separate tab in the web interface.

RRDTOOL_PINGGROUP_x_LABEL Name of the ping target group.

RRDTOOL_APCUPS Activates resp. deactivates the collecting of data from an APC-USV. For data collection the apcupsd daemon has to be active on a host reachable via network.

RRDTOOL_APCUPS_HOST Host on which the apcupsd daemon is running.

RRDTOOL_APCUPS_PORT Network port on which the apcupsd daemon can be accessed. Normally this is port 3351.

RRDTOOL_PEERPING_N Sets the number of Peer-Ping targets. A Peer-Ping target is i.e. the target of a VPN tunnel.

RRDTOOL_PEERPING_x Defines the Peer-Ping target.
Possible targets are for example tun0, tun1, pppoe, a.s.o. Alias- resp. circuit names can be used as well.

RRDTOOL_PEERPING_x_LABEL Optionally defines a different description (label) for the ping target.

RRDTOOL_OWFS Activates resp. deactivates the collecting and graphical display of data generated from package OW.

RRDTOOL_OWFS_HOST Host the OWFS service is running on. Usually this is the router itself. Thus the value '127.0.0.1' has to be entered.

RRDTOOL_OWFS_PORT Network port on which the OWFS service is reachable. Usually this is port 4304.

A. Appendix For Package RRDTOOL

A.1. Appendix For Package RRDTOOL

A.1.1. URL Of The Software Used

COLLECTD:

<http://www.collectd.org/> <http://oss.oetiker.ch/rrdtool>

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