NAME

vnstat.conf − vnStat configuration file

SYNOPSIS

/etc/vnstat.conf

DESCRIPTION

vnstat(1), **vnstati**(1) and **vnstatd**(8) all use the same configuration file for configuration related settings. Some of the settings are common for all three programs. The file consists of keyword-argument pairs, one per line. Empty lines and lines starting with '#' or ';' are interpreted as comments and not processed. Arguments may optionally be enclosed in double quotes (") in order to represent arguments containing spaces. Arguments can be padded with spaces or tabulator characters. A hardcoded default value will be used if a keyword can't be found from the configuration file or if the configured value cannot be parsed or is outside supported value range.

The configuration file is divided into three sections based on the usage of each keyword. The first section contains keywords that are considered common for all commands, the second section is for daemon related keywords and the last section is for image output.

COMMON KEYWORDS

DatabaseDir

Specifies the directory where the database is to be stored. A full path must be given and a leading '/' isn't required.

DayFormat, MonthFormat, TopFormat

Formatting of date in available outputs. Uses the same format as **date**(1). (vnstat and vnstati only)

DefaultDecimals

Number of decimals to use in outputs. Value range: 0..2 (vnstat and vnstati only)

EstimateBarVisible

Show a visual representation of the traffic estimation if **OutputStyle** has been configured with a value of 1 or 2 to make the bar column visible. 1 = enabled, 0 = disabled. (vnstat only, see **EstimateStyle** for vnstati)

EstimateText

Replace default "estimated" text on the estimate line with custom text. Limited to 9 characters. (vnstat and vnstati only)

EstimateVisible

Show a line with traffic estimation for the selected time period or alert as the last line of the output in output modes supporting it. Disabling estimate visibility also disables estimate conditions in **--alert**. 1 = enabled, 0 = disabled. (vnstat and vnstati only)

HourlyDecimals

Number of decimals to use in hourly graph output. Value range: 0..2 (vnstat only)

HourlySectionStyle

Select what kind of spacer is used for separating the numerical sections of the hourly graph output. 0 = none, 1 = '|', 2 = ']['', 3 = '[ ]'. (vnstat only)

Interface

Default interface used when no other interface is specified on the command line. Leave empty for automatic selection. The automatic selection will prioritize the interface with most traffic for outputs doing database queries. Queries not using the database will first check if the database is available and select the interface with most traffic out those that are currently visible in the system. If no database can be read then the first available interface will be used. (vnstat and vnstati only)

InterfaceMatchMethod

Method for matching interface given for a query to an interface in the database.

Method 0 requires the interface name to be a case sensitive exact match. Method 1 extends the previous method by allowing a case sensitive exact match of the interface alias. Method 2 extends the previous method by allowing a case insensitive exact match of the interface alias. Method 3 extends the previous method by allowing a case insensitive match of the beginning of the interface alias.

Methods will be evaluated in the order described above resulting in exact interface matches always taking precedence. If any interface alias matching method results in multiple matches then the interface with the highest total traffic will be used. (vnstat and vnstati only)

InterfaceOrder

Interface order in outputs with multiple interfaces. 0 = alphabetical by name, 1 = alphabetical by alias. If 1 is selected and multiple interfaces don't have aliases then the interface name will be used for defining the order. (vnstat only)

List5Mins, ListHours, ListDays, ListMonths, ListYears, ListTop

Number of entries to show in list outputs unless overridden from the command line. Set to 0 to show all entries available in the database. (vnstat and vnstati)

LiveSpinner

Show spinning animation at the beginning of **-l / --live** output line. 1 = enabled, 0 = disabled. (vnstat only)

Locale Locale setting to be used for prints. This replaces the LC_ALL environment variable. Set to "-" or leave empty in order to use the system default value. (vnstat and vnstati only)

OutputStyle

Modify the content and style of text outputs. 0 = minimal and narrow output for terminal with limited width, 1 = normal output with bar column visible, 2 = same as 1 except rate is visible in summary output, 3 = rate column is visible in all outputs where it is supported. (vnstat and vnstati only)

QueryMode

Default query mode when no parameters are given. 0 = summary, 1 = days, 2 = months, 3 = top, 4 = single summary, 5 = short, 6 = years, 7 = hours graph, 8 = xml, 9 = one line, 10 = json, 11 = hours and 12 = 5 minute. (vnstat only)

RateUnit

Select which unit is used when traffic rate is visible. 0 = bytes, 1 = bits. (vnstat and vnstati only)

RateUnitMode

Select used prefix when traffic rate is shown in bits per second. IEC binary prefixes are calculated with powers of 1024. SI decimal prefixes are calculated with powers of 1000. 0 = IEC binary prefixes (Kibit/s...), 1 = SI decimal prefixes (kbit/s...). (vnstat and vnstati only)

RXCharacter, TXCharacter

Character used for representing the percentual share of received and transmitted traffic in list mode outputs. (vnstat only)

RXHourCharacter, TXHourCharacter

Character used for representing the percentual share of received and transmitted traffic in hourly graph output. (vnstat only)

Sampletime

Defines how many seconds the **-tr** option will sample traffic. Value range: 2..600 (vnstat only)

UnitMode

Select how units are prefixed. IEC and JEDEC binary prefixes are calculated with powers of 1024. SI decimal prefixes are calculated with powers of 1000. 0 = IEC standard prefixes (B/KiB/MiB/GiB...), 1 = old style (JEDEC) binary prefixes (B/KB/MB/GB...), 2 = SI decimals prefixes (B/kB/MB/GB...) (vnstat and vnstati only)

DAEMON RELATED KEYWORDS

5MinuteHours

Data retention duration for the 5 minute resolution entries. The configuration defines for how many past hours entries will be stored. Set to -1 for unlimited entries or to 0 to disable the data collection of this resolution.

64bitInterfaceCounters

Select interface counter handling. Set to 1 for defining that all interfaces use 64-bit counters on the kernel side and 0 for defining 32-bit counter. Set to -1 for using the old style logic used in earlier versions where counter values within 32-bits are assumed to be 32-bit and anything larger is assumed to be a 64-bit counter. This may produce false results if a 64-bit counter is reset within the 32-bits. Set to -2 for using automatic detection based on available kernel datastructures.

AlwaysAddNewInterfaces

Enable or disable automatic creation of new database entries for interfaces not currently in the database even if the database file already exists when the daemon is started. New database entries will also get created for new interfaces seen while the daemon is running. Pseudo interfaces lo, lo0 and sit0 are always excluded from getting added. 1 = enabled, 0 = disabled.

BandwidthDetection

Try to automatically detect **MaxBandwidth** value for each monitored interface. Mostly only ethernet interfaces support this feature. **MaxBandwidth** will be used as fallback value if detection fails. Any interface specific **MaxBW** configuration will disable the detection for the specified interface. In Linux, the detection is disabled for tun interfaces due to the Linux kernel always reporting 10 Mbit regardless of the used real interface. 1 = enabled, 0 = disabled.

BandwidthDetectionInterval

How often in minutes interface specific detection of **MaxBandwidth** is done for detecting possible changes when **BandwidthDetection** is enabled. Can be disabled by setting to 0. Value range: 0..30

BootVariation
Time in seconds how much the boot time reported by system kernel can variate between updates. Value range: 0..300

CheckDiskSpace
Enable or disable the availability check of at least some free disk space before a database write. 1 = enabled, 0 = disabled.

CreateDirs
Enable or disable the creation of directories when a configured path doesn't exist. This includes **DatabaseDir** , **LogFile** and **PidFile** directories. The **LogFile** directory will be created only when **UseLogging** has been set to 1. The **PidFile** directory will be created only if the daemon is started as a background process. The daemon process will try to create the directory using permissions of the user used to start the process.

DaemonGroup
Specify the group to which the daemon process should switch during startup. The group can either be the name of the group or a numerical group id. Leave empty to disable group switching. This option can only be used when the process is started as root.

DaemonUser
Specify the user to which the daemon process should switch during startup. The user can either be the login of the user or a numerical user id. Leave empty to disable user switching. This option can only be used when the process is started as root.

DailyDays
Data retention duration for the one day resolution entries. The configuration defines for how many past days entries will be stored. Set to -1 for unlimited entries or to 0 to disable the data collection of this resolution.

DatabaseSynchronous
Change the setting of the SQLite "synchronous" flag which controls how much care is taken to ensure disk writes have fully completed when writing data to the database before continuing other actions. Higher values take extra steps to ensure data safety at the cost of slower performance. A value of 0 will result in all handling being left to the filesystem itself. Set to -1 to select the default value according to database mode controlled by **DatabaseWriteAheadLogging** setting. See SQLite documentation for more details regarding values from 1 to 3. Value range: -1..3

DatabaseWriteAheadLogging
Enable or disable SQLite Write-Ahead Logging mode for the database. See SQLite documentation for more details and note that support for read-only operations isn't available in older SQLite versions. 1 = enabled, 0 = disabled.

HourlyDays
Data retention duration for the one hour resolution entries. The configuration defines for how many past days entries will be stored. Set to -1 for unlimited entries or to 0 to disable the data collection of this resolution.

LogFile
Specify log file path and name to be used if UseLogging is set to 1.

MaxBandwidth
Maximum bandwidth for all interfaces. If the interface specific traffic exceeds the given value then the data is assumed to be invalid and rejected. Set to 0 in order to disable the feature. Value range: 0..50000

MaxBW
Same as **MaxBandwidth** but can be used for setting individual limits for selected interfaces. The name of the interface is specified directly after the MaxBW keyword without spaces. For example MaxBWeth0 for eth0 and MaxBWppp0 for ppp0. **BandwidthDetection** is disabled on an interface specific level for each **MaxBW** configuration. Value range: 0..50000

MonthlyMonths
Data retention duration for the one month resolution entries. The configuration defines for how many past months entries will be stored. Set to -1 for unlimited entries or to 0 to disable the data collection of this resolution.

MonthRotate
Day of month that months are expected to change. Usually set to 1 but can be set to alternative values for example for tracking monthly billed traffic where the billing period doesn't start on the first day. For example, if set to 7, days of February up to and including the 6th will count for January. Changing this option will not cause existing data to be recalculated. Value range: 1..28

MonthRotateAffectsYears
Enable or disable **MonthRotate** also affecting yearly data. Applicable only when **MonthRotate** has a value greater than one. 1 = enabled, 0 = disabled.

OfflineSaveInterval
How often in minutes cached interface data is saved to file when all monitored interfaces are offline. Value range: **SaveInterval**..60

PidFile Specify pid file path and name to be used. The file is created only if the daemon is started as a background process.

PollInterval
How often in seconds interfaces are checked for status changes. Value range: 2..60

RescanDatabaseOnSave
Automatically discover added interfaces from the database and start monitoring. The rescan is done every **SaveInterval** or **OfflineSaveInterval** minutes depending on the current activity state. 1 = enabled, 0 = disabled.

SaveInterval
How often in minutes cached interface data is saved to file. Value range: (**UpdateInterval** / 60)..60

SaveOnStatusChange
Enable or disable the additional saving to file of cached interface data when the availability of an interface changes, i.e., when an interface goes offline or comes online. 1 = enabled, 0 = disabled.

TimeSyncWait
How many minutes to wait during daemon startup for system clock to sync if most recent database update appears to be in the future. This may be needed in systems without a real-time clock (RTC) which require some time after boot to query and set the correct time. 0 = wait disabled. Value range: 0..60

TopDayEntries
Data retention duration for the top day entries. The configuration defines how many of the past top day entries will be stored. Set to -1 for unlimited entries or to 0 to disable the data collection of this resolution.

TrafficlessEntries
Create database entries even when there is no traffic during the entry's time period. 1 = enabled, 0 = disabled.

UpdateFileOwner
Enable or disable the update of file ownership during daemon process startup. During daemon startup, only database, log and pid files will be modified if the user or group change feature (**DaemonUser** or **DaemonGroup**) is enabled and the files don't match the requested user or group. During manual database creation, this option will cause file ownership to be inherited from the database directory if the directory already exists. This option only has effect when the process is started as root or via sudo.

UpdateInterval
How often in seconds the interface data is updated. Value range: **PollInterval**..300

UseLogging
Enable or disable logging. This option is ignored when the daemon is started with **-n, --nodaemon** which results in all log output being shown in terminal the daemon process is using. 0 = disabled, 1 = logfile and 2 = syslog.

UseUTC
Enable or disable using UTC as timezone in the database for all entries. When enabled, all entries added to the database will use UTC regardless of the configured system timezone. When disabled, the configured system timezone will be used. Changing this setting will not result in already existing data to be modified. 1 = enabled, 0 = disabled.

VacuumOnHUPSignal
Enable or disable the execution of SQLite VACUUM command after the daemon has received a HUP signal. When enabled, the database file is rebuilt and repacked into a minimal amount of disk space. The difference in size can be notable especially if data retention durations have been reduced or previously monitored interfaces removed from the database. 1 = enabled, 0 = disabled.

VacuumOnStartup
Enable or disable the execution of SQLite VACUUM command during daemon startup. When enabled, the database file is rebuilt and repacked into a minimal amount of disk space. The difference in size can be notable especially if data retention durations have been reduced or previously monitored interfaces removed from the database. 1 = enabled, 0 = disabled.

YearlyYears
Data retention duration for the one year resolution entries. The configuration defines for how many past years entries will be stored. Set to -1 for unlimited entries or to 0 to disable the data collection of this resolution.

IMAGE OUTPUT RELATED KEYWORDS

5MinuteGraphResultCount
Number of 5 minute periods to be included in the 5 minute resolution graph. The value affects the width of the graph. Value range: 288..2000

5MinuteGraphHeight
Height of 5 minute resolution graph in pixels. Value range: 150..2000

BarColumnShowsRate
The bar column represents traffic rate in list outputs when enabled. Requires also that **OutputStyle** has been configured to show the traffic rate column by using the value 3. Enabling this option will automatically cause **EstimateStyle** to have the value 0. Visually this option affects only the color legend text and the last line on the list if that line represents the currently ongoing time period. 1 = enabled, 0 = disabled.

CBackground
Background color.

CEdge Edge color, if visible.

CHeader
Header background color.

CHeaderTitle
Header title text color.

CHeaderDate
Header date text color.

CLine Line color.

CLineL
Lighter version of line color. Set to '-' in order to use a calculated value based on **CLine**.

CPercentileLine
95th percentile line color. Used only in 95th percentile graph.

CRx Color for received data.

CRxD Darker version of received data color. Set to '-' in order to use a calculated value based on **CRx**.

CText Common text color.

CTotal Color for total data, sum of received and transmitted data. Used only in 95th percentile graph.

CTx Color for transmitted data.

CTxD Darker version of transmitted data color. Set to '-' in order to use a calculated value based on **CTx**.

EstimateStyle
Show a visual representation of the traffic estimation. 0 = not shown, 1 = continuation of existing bar, 2 = separate bar.

HeaderFormat
Formatting of date in header. Uses the same format as **date**(1).

HourlyGraphMode
Select the output mode of the hourly graph. 0 = 24 hour sliding window, 1 = graph begins from midnight.

HourlyRate
Show hours with rate instead of transferred amount. 1 = enabled, 0 = disabled.

ImageScale
Scale output to given percent. Value range: 50..500

LargeFonts
Increase the size of used fonts. 1 = enabled, 0 = disabled.

LineSpacingAdjustment
Adjust line spacing in list format outputs. Positive values increase the space between lines while negative values reduce it. Value range: -5..10

SummaryGraph
Select which graph style output is shown next to the summary data in the horizontal and vertical summary outputs. 0 = hours, 1 = 5 minutes.

SummaryRate
Show rate in summary output if available. 1 = enabled, 0 = disabled.

TransparentBg
Set background color as transparent. 1 = enabled, 0 = disabled.

FILES

/etc/vnstat.conf
Config file that will be used unless *$HOME/.vnstatrc* exists or alternative value is given as command line parameter.

RESTRICTIONS

Using long date output formats may cause misalignment in shown columns if the length of the date exceeds the fixed size allocation.

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SEE ALSO

vnstat(1), **vnstati**(1), **vnstatd**(8), **units**(7)