



4PSA Server Assistant 1.3.1
for Plesk 7.x Reloaded
User's Guide

Manual Version 0.81

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Table of Contents

Chapter 1. About 4PSA Server Assistant 1.3.1	4
4PSA Server Assistant 1.3.1 Features.....	4
Chapter 2. The Administrator Module	5
1. Monitored Server Parameters	5
Server Traffic	7
2. Monitored Services Uptime Statistics	7
3. Server Assistant Settings.....	8
4PSA Server Assistant Reports.....	9
Server Parameters Monitoring.....	9
Services Monitoring & Intervention	10
Advanced Settings	11
Interface Settings	12
4. License Management.....	12
Chapter 3. Advanced Configuration	13
Appendix A. Server Compatibility.....	17

Chapter 1. About 4PSA Server Assistant 1.3.1

4PSA Server Assistant 1.3.1 is a server-level application that provides an proactive monitoring system for Plesk 7.x Reloaded servers. The application consists of a single administrator-only module that provides system parameters and services monitoring, emergency intervention and active monitoring functions.

4PSA Server Assistant 1.3.1 Features

- Plesk integrated, restricted to administrator only
- Monitor important server parameters:
 - CPU usage
 - Memory usage
 - Bandwidth usage + Server incoming & outgoing traffic for a given time period
 - Disk usage
 - System load
 - MySQL statistics
 - QMail queue messages
 - Number of processes
 - TCP and SQL socket connections
 - Semaphores and sockets
- Compute daily, weekly, monthly and yearly real-time graphs
- Display minimum, maximum, average and instantaneous server parameters statistics
- Monitor server services: Apache server, MySQL server, PostgreSQL server, QMail server, Plesk admin server, Named server, Spamassassin server, and Mailman server
 - Free disk space
- Automatically restart services when these are down or lacking
- Force services restart setting for increased reliability

- Advanced monitoring techniques to detect exceptions
- Monitor system load in two steps and perform predefined actions
- Email server administrator when events occur
- Log events for easy debugging
- Compute daily, weekly, and monthly per service uptime statistics
- Language packs capabilities

Chapter 2. The Administrator Module

The 4PSA Server Assistant administrator module can be accessed after you login to Plesk 7.x Reloaded using the admin account. In order to open the 4PSA Server Assistant interface click the [4PSA Server Assistant](#) link available in the Custom navigation menu located on the left side of the Plesk interface.

The 4PSA Server Assistant tool bar is available on top of the application's interface. The tool bar provides an easy method for the server administrator to view graphs rendered for the monitored server parameters, view a 4PSA Server Assistant report, view statistics of the monitored server parameters and of the services uptime, enable/disable server parameters and services monitoring, change MRTG configuration settings, manage intervention options, change advanced settings, modify interface settings, and manage 4PSA Server Assistant license.

1. Monitored Server Parameters

4PSA Server Assistant monitors important server parameters in real time and renders graphs for a better understanding of the server evolution. Using these graphs, a skillful administrator can perform system configuration tweaks.

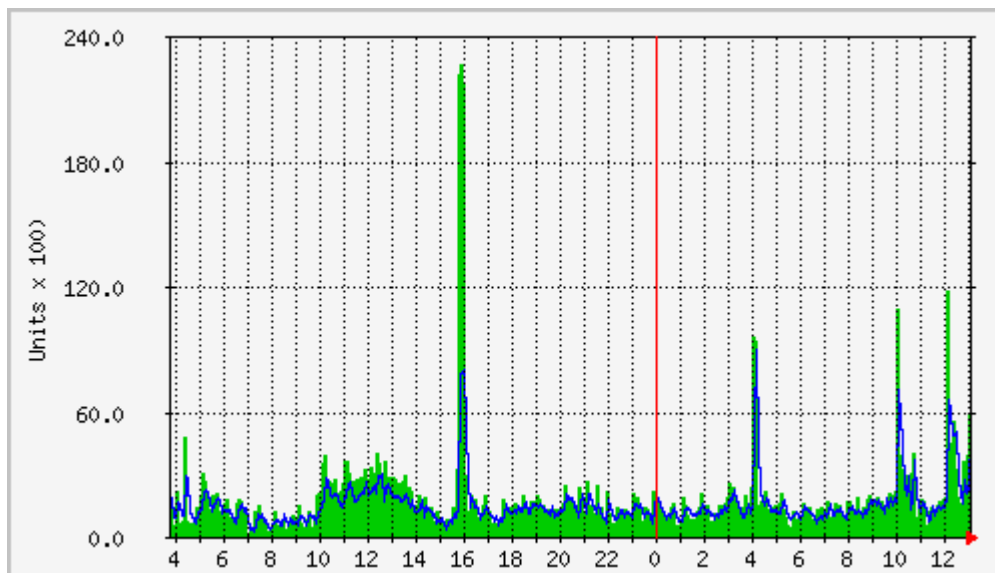
In the Monitored Server Parameters area (click the **Graphs** button available in the tool bar) the server administrator can view the server parameters that are monitored. The following server parameters can be monitored:

- CPU usage
- Memory usage
- Bandwidth usage
- Disk usage
- System load

MySQL statistics
QMail queue
Number of Processes
TCP and SQL Socket Connections
Semaphores and Sockets

The recorded values are plotted on a graph according to the options enabled in the Server Parameters Monitoring area (accessible through the **Settings** button available in the tool bar).

To view the graphs rendered for a monitored parameter click the name of the chosen parameter. A new page will open which will display the Daily, Weekly, Monthly and Yearly graphs.



Example: Daily System Load

Under every graph you can find a table that contains the legend and the instantaneous, average, and maximum values in the upper graph time interval. Although the instantaneous and maximum values can be viewed on the graph quite easily, the average value cannot be guessed from the graph.



Tip

Pay attention to peak values! It is not uncommon to get peak values ten times higher than the average, but when certain values are exceeded you must consider finding out the source of the peak or adding supplementary hardware to the server to handle the load.

Server Traffic

In the Bandwidth Usage area a button is available which gives access to the traffic per interval statistics. Click **Show traffic** and a new page will open where you must select a time period. Enter the starting and the ending periods for the traffic computation and click **Show traffic**. A new page will open where you can see the computed values for:

Total output traffic - The total output traffic of the server in the selected time period

Total input traffic - The total input traffic of the server in the selected time period

Maximum output bandwidth - The maximum output bandwidth of the server in the selected time period and the exact date and time when this was registered

Maximum input bandwidth - The maximum input bandwidth of the server in the selected time period and the exact date and time when this was registered



Note

This is the total server traffic that passed through the monitored server Ethernet interface.

2. Monitored Services Uptime Statistics

In this area (click the **Statistics** button available in the tool bar) the server administrator can view and search service uptime statistics for a selected time period. The monitoring feature is able to check the most important services on server. When an exception occurs (service down, not functional, or poor performance) a predefined action is taken and the system administrator is notified about the problem.

The system is able to perform uptime calculations based on the monitored data. You will know the server services uptime exactly so you will be able to bill customers

based on SLA agreements. These statistics are vital, if you want to relate specific events.

To select the period for which you want the uptime statistics to be rendered choose the Year, Month, and Week starting on details and click **Update**.

In the Results area the uptime statistics for the selected time period will be displayed on Daily, Weekly, and Monthly basis. Six statistics are available:

Apache – Uptime statistics for the Apache server

MySQL – Uptime statistics for the MySQL server

PostgreSQL – Uptime statistics for the PostgreSQL server

Named – Uptime statistics for the Named server

QMail – Uptime statistics for the QMail server

Plesk – Uptime statistics for the Plesk admin server



Note

“-“ will be displayed in the columns corresponding to the services that do not have uptime statistics available.

In order for these statistics to reflect realistic data you must have the service monitoring enabled in Services Monitoring & Intervention area. When a service is not monitored, it is assumed that it is up so that it does not affect the statistics.

3. Server Assistant Settings

In this area (click the **Settings** button available in the tool bar) the server administrator can view a 4PSA Server Assistant report, enable/disable server parameters and services monitoring, change the MRTG configuration settings, modify various settings which control the services monitoring, change intervention options, manage advanced settings, and modify interface settings.



Note

Before running 4PSA Server Assistant for the first time you must adjust these settings.

4PSA Server Assistant Reports

The **Product version** field displays the version of the 4PSA Server Assistant installed on the server.

Server Parameters Monitoring

In this area the server administrator can set the server parameters that will be monitored.



Please keep in mind that a monitoring application is designed to keep track of the most important system parameters, but it should not put additional load on the server.

CPU usage - When enabled, 4PSA Server Assistant will monitor the CPU usage.

Memory usage - When enabled, 4PSA Server Assistant will monitor the memory usage.

Bandwidth usage - When enabled, 4PSA Server Assistant will monitor the bandwidth usage.

Disk usage - When enabled, 4PSA Server Assistant will monitor the disk usage.

System load - When enabled, 4PSA Server Assistant will monitor the system load.

MySQL statistics - When enabled, 4PSA Server Assistant will monitor the MySQL statistics.

QMail queue - When enabled, 4PSA Server Assistant will monitor the Qmail queue.

Number of Processes - When enabled, 4PSA Server Assistant will monitor the number of processes.

TCP and SQL Socket Connections - When enabled, 4PSA Server Assistant will monitor the TCP and SQL socket connections.

Semaphores and Sockets - When enabled, 4PSA Server Assistant will monitor the semaphores and sockets statistics.



Note

If you are not interested to monitor a parameter, you may want to disable the monitoring by unchecking the corresponding checkbox.

The server administrator can also modify the settings used to generate the graphic images. These graphs can be viewed on the Monitored Server Parameters area (click the **Graphs** button available in the tool bar) when you click the name of the monitored parameter. The following settings can be adjusted:

Daily Graph - Enable it to generate the daily graph. The plotting interval (resolution) for the daily graph is five minutes.

Weekly Graph - Enable it to generate the weekly graph. The plotting interval (resolution) for the weekly graph is thirty minutes.

Monthly Graph - Enable it to generate the monthly graph. The plotting interval (resolution) for the monthly graph is two hours.

Yearly Graph - Enable it to generate the yearly graph. The plotting interval (resolution) for the yearly graph is one day.

Update values and graphs every X minutes - Set the monitoring interval. We recommend that you leave the value at 5 minutes for the best results.

Services Monitoring & Intervention

4PSA Server Assistant is able to monitor system services and react when a particular service does not perform as supposed. In order to set the most important monitoring settings you have to adjust the settings which are explained below.

Monitor Apache service - When enabled, 4PSA Server Assistant will monitor the apache server. Action performed when Apache does not respond: restart.

Monitor Plesk service - When enabled, 4PSA Server Assistant will monitor the Plesk admin server. Action performed when Plesk does not respond: restart.

Monitor MySQL service - When enabled, 4PSA Server Assistant will monitor the MySQL server. Action performed when MySQL does not respond: restart.

Monitor PostgreSQL service - When enabled, 4PSA Server Assistant will monitor the PostgreSQL server. Action performed when PostgreSQL does not respond: restart.

Monitor QMail service - When enabled, 4PSA Server Assistant will monitor the QMail server. Action performed when QMail does not respond: restart.

Monitor Named service - When enabled, 4PSA Server Assistant will monitor the Named server. Action performed when Named does not respond: restart.

Monitor Spamd service - When enabled, 4PSA Server Assistant will monitor the Spamd server. Action performed when Spamd does not respond: restart.

Monitor Mailman service - When enabled, 4PSA Server Assistant will monitor the Mailman server. Action performed when Mailman does not respond: restart.



Note

Mailman can not be monitored under FreeBSD as it's a cron scheduled service.

Monitor Apache URL - When enabled, 4PSA Server Assistant will monitor the Apache URL specified in the field below.

Apache Test URL - This is the Apache URL that will be monitored, when **Monitor Apache URL** option is enabled.

Monitor system load - When enabled, 4PSA Server Assistant will monitor the system load. When the system load warning level and/or critical level are reached a predefined action will be performed. The default action is the Plesk restart, but the server administrator can specify any action in the `services.cfg` file. Further details can be found in Chapter 3.

Monitor disk usage - When enabled, 4PSA Server Assistant will monitor the disk usage on all partitions.



Note

Services monitoring has to be enabled for the uptime statistics to function correctly.

Advanced Settings

In this area the server administrator can manage 4PSA Server Assistant reactions in different situations.

Force services restart - When enabled, 4PSA Server Assistant will force the restart of the monitored services. This is useful when the rc scripts can no longer control the service.

System load warning level - When the system load warning level is reached, a predefined action is taken. This action can be defined using the `waction` field in the

configuration file. A common value for this is 20. Further details can be found in Chapter 3.

System load critical level - When the system load critical level is reached, a predefined action is taken. This action can be defined using the `caction` field in the configuration file. A common value for this is 35. Further details can be found in Chapter 3.

Free disk space warning level - This option is related to the previous one. When the free disk space on a partition is below this value an email is sent to the server administrator at the address specified in **Send email alerts to** field.

Maximum number of restart attempts # daily - When a service is found down or lacking, the service is restarted. However, it is not advisable to keep trying to restart a service for too many times because problems could escalate. This option sets the maximum number of service restarts per day. It is a common value for all services, but restarts are independently monitored. If you only want to monitor the services, you can set this option at 0. Please note that no action will be taken regardless of the monitored service state.

Send email alerts to - When a system action is taken, a notification email is dispatched to this email address. If you do not want to receive email alerts, you must leave this field blank.

Maximum number of email alerts # daily - To prevent the server from spamming you it is possible to set a maximum daily limit for the notification emails.

Interface Settings

In this area the server administrator can choose the interface settings.

Custom button title - The name of the custom button in the left panel. The server administrator can change the default 4PSA Server Assistant with a more descriptive name for his clients.

Context help - The 4PSA Server Assistant application description that will appear in the left navigation panel.

Language - Allows the server administrator to select the language that will be used by 4PSA Server Assistant interface.

4. License Management

In this area the server administrator can manage the 4PSA Server Assistant license. In order for 4PSA Server Assistant to work correctly, a valid license key must be loaded. The license key must be generated by 4PSA based on the server IP and Plesk version installed on the server.

License key - The license key number. This is the key currently loaded on the server.

License key status - The status of the currently loaded license key.

Your server IP - The main IP address of the server. This is the IP for which the license key must be issued in order to work on this server. If the license is issued for another IP, it will not work.

License file - The administrator can use this form in order to upload the license key to the server. The license key can also be executed in command line using the command: `sh keyno.sh`. If you can access other pages in 4PSA Server Assistant there is no reason why you should upload a new key.

Chapter 3. Advanced Configuration

The server administrator can change more service monitoring options of 4PSA Server Assistant from the command line using the configuration file available at `/usr/local/sassistant/services.cfg`. Some of the directives explained below can be modified using the 4PSA Server Assistant browser interface, others which require better understanding can only be modified from the shell.

You can find below a commented sample of `services.cfg`. When 4PSA Server Assistant is installed for the first time, no service is monitored. You can modify the service monitoring settings from the 4PSA Server Assistant Settings area (accessible through the **Settings** button available in the tool bar), but for more advanced usage it is recommended to check the `services.cfg` file also.

```
# Maximum number of service restarts per day, can be modified from
the online interface
max_restart      15

# Maximum number of sent alert emails per day, can be modified from
the online interface
max_email      15

# Init scripts directory, default setting ok for most environments,
can not be modified from online interface. MUST INCLUDE TRAILING /
init_path      /etc/init.d/
```

```

# Parameter passed to init scripts, can not be modified from the
online interface
init_param restart

# Server administrator email, leave blank for no alerts, can be
modified from online interface
alert_email monitor@4psa.com
# Force services restart, can be modified from online interface
force_restart 0

# Load levels monitoring
#<--Start of Load Monitoring Settings-->

# Monitor load level, can be modified from online interface
load_mon 0

# Load log directory cannot be modified from online interface.
LEAVE UNCHANGED!
load_log /usr/local/sassistant/log/load.log

# Load warning level, can be modified from online interface
warning 25

# Action to perform when the warning level is reached, can not be
modified from online interface
waction /etc/init.d/psa restart

# Load critical level, can be modified from online interface
critical 50

# Action to perform when critical load level is reached, can be
modified from online interface
caction /etc/init.d/psa restart

#<--End of Load Monitoring Settings-->
# Apache monitoring options
#<--Start of Apache Monitoring Settings-->

```

```

# Monitor apache 1 for yes, 0 for no, can be modified from online
interface
apache_mon      0

# Use URL monitoring 1 for yes, 0 for no, can be modified from
online interface
apache_url 0

# URL monitoring test file, can be modified from online interface
apache_test

#clean semaphores array on restart, can not be modified from online
interface
sem_clean  0

# Apache log directory cannot be modified from online interface.
LEAVE UNCHANGED!
apache_log /usr/local/sassistant/log/apache.log

#<--End of Apache Monitoring Settings-->

# Plesk monitoring options, can be modified from online interface
plesk_mon  0

# Plesk log directory cannot be modified from online interface.
LEAVE UNCHANGED!
plesk_log  /usr/local/sassistant/log/plesk.log

# MySQL monitoring options, can be modified from online interface
mysql_mon  0

# Mysql log directory cannot be modified from online interface.
LEAVE UNCHANGED!
mysql_log  /usr/local/sassistant/log/mysql.log

# QMail monitoring options, can be modified from online interface
qmail_mon  0

# Qmail log directory cannot be modified from online interface.
LEAVE UNCHANGED!
qmail_log  /usr/local/sassistant/log/qmail.log

```

```
# Named monitoring options, can be modified from online interface
named_mon 0

# Named log directory cannot be modified from online interface.
LEAVE UNCHANGED!
named_log /usr/local/sassistant/log/named.log

# PostgreSQL monitoring options, can be modified from online
interface
postgres_mon 0

# Postgresql log directory cannot be modified from online
interface. LEAVE UNCHANGED!
postgres_log /usr/local/sassistant/log/postgres.log

# Spamassassin monitoring options, can be modified from online
interface
spamd_mon 0

# Spamassassin log directory cannot be modified from online
interface. LEAVE UNCHANGED!
spamd_log /usr/local/sassistant/log/spamd.log

# Mailman monitoring options, can be modified from online interface
mailman_mon 0

# Mailman log directory cannot be modified from online interface.
LEAVE UNCHANGED!
mailman_log /usr/local/sassistant/log/mailman.log

# Disk space monitoring, can be modified from online interface
disk_mon 1

#Disk usage log directory cannot be modified from online interface.
LEAVE UNCHANGED!
load_log /usr/local/sassistant/log/disk.log

# The free disk limit value in megabytes
duwarning 1000
```

```
#Exclude this partitions for disk space monitoring. Cannot be
modified from online interface
exclude_partitions /boot
```

Appendix A. Server Compatibility

4PSA Server Assistant for Plesk 7.x Reloaded is compatible with Plesk 7.x Reloaded installations only. You have to download the build based on the operating system installed on your machine.

The file `server_assistant_buildRedHat7xXXX_Plesk7x.tar.gz` provides compatibility with the following operating systems:

- RedHat Linux 7.3
- RedHat Enterprise Linux 2.1

The file `server_assistant_buildRedHat9xXXX_Plesk7x.tar.gz` provides compatibility with the following operating systems:

- RedHat Linux 9
- RedHat Enterprise Linux 3.0
- RedHat Enterprise Linux 4.0
- Fedora Linux Core 1
- Fedora Linux Core 2
- Fedora Linux Core 3

The file `server_assistant_buildFreeBSD4XXX_Plesk7x.tar.gz` provides compatibility with the following operating systems:

- FreeBSD 4.8
- FreeBSD 4.9

The file `server_assistant_buildFreeBSD5XXX_Plesk7x.tar.gz` provides compatibility with the following operating systems:

- FreeBSD 5.2.1
- FreeBSD 5.3

The file `server_assistant_buildSuseXXX_Plesk7x.tar.gz` provides compatibility with the following operating systems:

- Suse Linux 9
- Suse Linux 9.1

The file `server_assistant_buildMandrakeXXX_Plesk7x.tar.gz` provides compatibility with the following operating systems:

- Mandrake 10

The file `server_assistant_buildDebianXXX_Plesk7x.tar.gz` provides compatibility with the following operating systems:

- Debian 3.1