



AVG 2011 Anti-Virus for Linux/FreeBSD Edition

User Manual

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Contents

1. Introduction	3
1.1 Features	3
1.2 Prerequisites	3
1.3 Prerequisites for the E-mail Server Edition	3
1.4 Installation Package	4
2. Installation and Launch	5
2.1 Distributions Currently Supported	5
2.1.1 Using rpm, deb packages	5
2.1.2 Using sh archive	5
2.1.3 Using tar.gz archive	5
2.2 The Installation Process	7
2.3 Product Registration	8
2.4 Installed Directory Tree	8
3. On-access Scanner	10
3.1 RedirFS Anti-Virus Filter	10
3.2 Dazuko and DazukoFS Kernel Modules	10
4. Command Line Tools	11
4.1 AVGSCAN Command	11
4.2 AVGUPDATE Command	12
5. Configuration	14
5.1 General Configuration	14
5.2 Logging Configuration	15
5.3 Scheduler Configuration	16
5.4 Update Configuration	18
6. E-mail Scanner	20
6.1 Features	20
6.1.1 Open Source E-mail Servers Supported	20
6.1.2 Other Engines Supported	20
7. Uninstallation	21
8. FAQ and Technical Support	22



1. Introduction

This User Manual is the full documentation describing **AVG 2011 Anti-Virus for Linux/FreeBSD**. It covers all Linux/FreeBSD editions of the AVG product.

1.1. Features

Kernel Features

The **AVG 2011 Anti-Virus for Linux/FreeBSD** kernel provides comprehensive and reliable protection against viruses for Linux powered machines. It offers many features, such as scheduled and on-demand scanning of folders, files, and common archive types for possible virus infection. You can also perform a scheduled or on-demand update of your **AVG** either from the Internet or from local update sources.

Command Line Modules

Powerful standalone command line modules are included in all editions of **AVG 2011 Anti-Virus for Linux/FreeBSD**. You can perform all possible on-demand file system tests and updates using these modules.

E-mail Scanning Features

The incoming and outgoing e-mail messages processed by the supported mail transport agents (MTA) are monitored by constantly running the **AVG** process (memory resident scanning daemon). This means the e-mail spooling queues are protected and scanned regularly by **AVG 2011 E-mail Server Edition for Linux/FreeBSD**. The e-mail scanning performance can be easily controlled and configured using **AVG 2011 Anti-Virus for Linux/FreeBSD** daemon signals and comprehensive configuration file parameters. Spam can be filtered using the integrated antispam engine. Infected e-mails can be moved into quarantine for further processing.

1.2. Prerequisites

AVG 2011 Anti-Virus for Linux/FreeBSD requires library **libc.so.6** or newer (both Linux and FreeBSD platforms).

Newly supported **amd64** architecture requires **lib32** compatible libraries.

1.3. Prerequisites for the E-mail Server Edition

One of the supported open-source (**sendmail**, **qmail**, **exim**, **postfix**) e-mail servers must be installed (see chapter [Features and Supported Mail Servers](#) for details).



1.4. Installation Package

AVG 2011 Anti-Virus for Linux/FreeBSD installation packages are available on the installation CD in the form of *rpm*, *deb*, or *sh* packages for various Linux distributions, or in the form of a precompiled *tar.gz* package for Linux and FreeBSD. You can also download the latest appropriate package version from <http://www.avg.com>, **Download/Programs** section.



2. Installation and Launch

AVG 2011 Anti-Virus for Linux/FreeBSD installation packages are provided as **rpm** or **deb** files, and as **tar.gz** or **sh** archives.

Please note that upgrading the old **AVG for Linux/FreeBSD version 9** to the **new version 2011** is not possible. You will have to uninstall AVG 9 manually (via `/opt/grisoft/avg9/bin/uninstall.sh`) prior to installing AVG 2011.

2.1. Distributions Currently Supported

Distribution	Installation package
Any Linux distributions supporting the rpm packager utility	<code>avg2011lms-{release}-{version}.{platform}.rpm</code>
Any Linux distributions using the Debian packaging system	<code>avg2011lms-{release}-{version}.{platform}.deb</code>
Any standard Linux distribution including those not supporting deb or rpm installations (Slackware, Gentoo etc.); <i>recommended installation package</i>	<code>avg2011lms-{release}-{version}.{platform}.sh</code>
Any Linux distribution including those not supporting deb or rpm installations (Slackware, Gentoo etc.)	<code>avg2011lms-{release}-{version}.{platform}.tar.gz</code>
FreeBSD	<code>avg2011fms-{release}-{version}.{platform}.tar.gz</code>

Package name consist of: **`avg2011{operating system}ms-{release}-{version}.{platform}.{package type}`**. Example: **`avg2011lms-r285-a2582.i386.tar.gz`**

*Please note that apart from the **i386** platform, **amd64** is currently also supported.*

2.1.1. Using rpm, deb packages

The **rpm** and **deb** installation packages extract files directly into installed directory.

For installation from the **rpm** file (Linux only), use the following command in your shell (accessible for example using the **xterm** application within your X window system):



```
rpm -uvh avg-2011.{release}-{version}.{platform}.rpm
```

For installation from the **deb** file (Linux only), use the following command in your shell (accessible for example using the *xterm* application within your X window system):

```
dpkg -i avg-2011.{release}-{version}.{platform}.deb
```

Note: You can also use a package manager such as **YUM**, **aptitude**, **Zipper** etc. for installation from the local source.

After installation, you will need to register your AVG; see chapter [Product registration](#) for details.

2.1.2. Using sh archive

The .sh archive is created by **Makeself 2.1.5**, utility for building self-extractable archives on Unix. For details see homepage at: <http://megastep.org/makeself/>

If you downloaded the .sh archive via a web browser, you have to set the executable rights first:

```
chmod +x avg2011ms-{release}-{version}.{platform}.sh
```

To launch the installation, it is sufficient to run the self-extractable archive as a root:

```
./avg2011ms-{release}-{version}.{platform}.sh
```

This will check the archive integrity and free space on harddisk, extract itself to a temporary directory /tmp, run the install script, and prompt the user to do the following:

- Agree AVG installation,
- Confirm License agreement,
- Confirm detected platform,
- Specify user under which avg should run (the default user is **root**),
- Specify group under which avg should run (the default group is **bin**),
- Confirm creating a new directory **/opt/avg/**,
- Decide whether README should be displayed after installation,
- Enter license number for product registration (this step can be skipped and performed later on, see chapter [Product Registration](#)).

To skip all mentioned questions, and set the defaults during the installation, use:

```
./avg85ms-{release}-{version}.{platform}.sh -- -y
```



2.1.3. Using tar.gz archive

The installation process is identical to using the .sh archive; only some manual steps are required. For installation from the .tar.gz package, use the following commands (in the directory where the package is located) to unpack its contents, change directory and then finally run the install script (as root):

For **Linux**, proceed with these steps:

```
tar xzvf avg2011lms-{release}-{version}.{platform}.tar.gz
cd avg2011lms-{release}-{version}.{platform}
./install.sh
```

For **FreeBSD**, proceed with these steps:

```
tar xzvf avg2011fms-{release}-{version}.{platform}.tar.gz
cd avg2011fms-{release}-{version}.{platform}
./install.sh
```

During installation, you will be prompted to do the following:

- Agree AVG installation,
- Confirm License agreement,
- Confirm detected platform,
- Specify user under which avg should run (the default user is **root**),
- Specify group under which avg should run (the default group is **bin**),
- Confirm creating a new directory **/opt/avg/**,
- Decide whether README should be displayed after installation,
- Enter license number for product registration (this step can be skipped and performed later on, see chapter [Product Registration](#)).

To skip all mentioned questions, and set the defaults during the installation, use:

```
./install.sh -y
```

2.2. The Installation Process

The installation process will automatically determine all features of your system and will perform the proper installation of **AVG 2011 Anti-Virus for Linux/FreeBSD** on your computer. Perform installation from the packages mentioned in the table above to install the **AVG 2011 Anti-Virus for Linux/FreeBSD** command line modules - besides the e-mail scanning daemons (see chapter [AVGSCAN Command](#) for detailed



information on this topic).

2.3. Product Registration

After the installation process you need to register your **AVG 2011 Anti-Virus for Linux/FreeBSD** unless it has been registered already during the installation process; this applies to special packages for **AVG 2011 Anti-Virus for Linux/FreeBSD** vendor partners. The registration can be performed by launching the following command in your shell (see chapter [AVGSCAN Command](#) for more details):

```
sudo avgctl --register <your license number>
```

2.4. Installed Directory Tree

The program files of the AVG 2011 Anti-Virus for Linux/FreeBSD are installed into the `/opt/avg/avg8` directory. Symbolic links are created into `/usr/bin` on linux or `/usr/local/bin` on FreeBSD, leading to the `/opt/avg/avg10` directory subtree.

Symbolic links for init script are installed in various system directories:

- RedHat, Mandriva, Debian, Ubuntu, Gentoo: `/etc/init.d/avgd`
- Slackware: `/etc/rc.d/rc.avgd`
- FreeBSD: `/usr/local/etc/rc.d/avgd.sh`

Note: The default user is **root**, and the default group is **bin** (not **avg** as in version 9). For running most commands (except [AVGSCAN](#)), you need to have superuser rights.

Note: For running a binary directly, use the symlink to command line:

```
sudo avgctl --start
```

This will run the `AVG8INSTDIR/bin/avgwrapper.sh` script via the symbolic link `avgctl` in `/usr/bin/`. The script will export environment variables, and run the binary specified by the symlink name.

The structure and contents of `/opt/avg/avg10` are as follows:

/opt

└-- **avg**

└-- **avg10**

└-- **bin** binaries (daemons and utilities), `avgwrapper.sh` script, `uninstall.sh` script (only for `sh` or `tar.gz` package)

└-- **cfg** binary configuration files



```
|-- doc README, license
|-- etc text configuration files
|  |-- init.d init scripts
|-- lib AVG libraries
|-- log logging directory
|-- man man pages
|  |-- man1
|  |-- man5
|-- update temporary directories containing update data (cft and bin
differences files), backup of the data etc.
  |-- var
      |-- antispam antispam and SpamCatcher configuration (blacklist, whitelist),
spam definitions
      |-- data license (snu), virus definitions (avi)
      |-- run pid and pipe files (only present if avgd is running), dump files (if AVG
crashed previously)
```



3. On-access Scanner

In order to enable the on-access scanning using the **AVG 2011 Anti-Virus for Linux/FreeBSD** engine, you need to have at least one of the following installed on your computer:

- **RedirFS Anti-Virus Filter** is a preferred solution for Linux/GNU OS running Linux kernel version 2.6.25 and higher. On how to obtain and install these, refer to the following chapter.
- **Dazuko kernel module** can be used for FreeBSD and Linux/GNU running Linux kernel 2.2, 2.4, and 2.6.
- **DazukoFS kernel module**, a newer version of Dazuko which will be discontinued; the future development is aimed to DazukoFS only.

3.1. RedirFS Anti-Virus Filter

Redirecting FileSystem (RedirFS) project aims to be general, fast, flexible open source framework allowing to redirect native filesystem calls in the VFS layer. It is implemented as a LKM (Linux Kernel Module), and provides well defined interface for other LKMs which are called Filters. The latest version of RedirFS Anti-Virus Filter can be downloaded from <http://www.redirfs.org>.

Installation of RedirFS Anti-Virus Filter is currently only possible from source code: Since there is no general source code package for Anti-Virus Filter, redirfs, libraries and user-space utilities, it is necessary to download and install each component separately. (This is because not all components need to be installed.) For detailed instructions, please refer to INSTALL and README files shipped within each install tar. gz file, or see <http://www.redirfs.org>.

3.2. Dazuko and DazukoFS Kernel Modules

The latest version of DAZUKO or DazukoFS (referring to as DAZUKO only in the following text) can be downloaded from <http://www.dazuko.org>. It is recommended to download the latest version available, especially if you are running the kernel of major version 2.6. If you run the kernel of higher version, it is recommended to use the **RedirFS Anti-Virus Filter** instead. To install the DAZUKO kernel module, follow the instructions provided on DAZUKO homepage (*Installation_HOWTO*).

Once the DAZUKO module is installed and inserted, the **AVG 2011 Anti-Virus for Linux/FreeBSD** daemons responsible for the on-access scanning will be fully functional.



4. Command Line Tools

All command-line utilities are run by symbolic links (in /usr/bin) to **avgwrapper.sh** script. The script exports the necessary environment variables, and runs the respective binary. Binaries should be used under the user the AVG product is installed under (default "root").

Any action launched via command-line can be aborted by CTRL+c, however, this will not work if a component executes a critical action (breaking a critical action is NOT recommended), e.g. during update when setting new configuration.

Please note that any multistring values must be put into quotation marks.

Common parameters:

- h, --help Display help.
- v, --version Display version.

4.1. AVGSCAN Command

The **avgscan** binary is intended to perform various on-demand tests via **avgd** daemon. Its performance is comprehensively controlled by the command line parameters. All scans are run multi-thread and independent, therefore it is possible to run more than one scan at a time; however scanning performance will not be increased this way.

Note: *If there is no shared memory available, memory usage will increase with each parallel running scan process. It is HIGHLY recommended that shared memory is enabled on the system, especially for server installation. Enabling shared memory (on both Linux and FreeBSD):*

```
sysctl kernel.shmmax=<shared memory size>
```

Options:

- x, --exclude=<path> Exclude path from scan. Multiple --exclude options can be specified.
- e, --ext=<extension> Scan files with specified extension. Multiple --ext options can be specified. Cannot be used with --noext.
- n, --noext=<extension> Exclude files with specified extension. Multiple --noext options can be specified. Cannot be used with --ext.
- ignerrors Do not report object scan errors.
- H, --heur Use heuristic analysis for scanning.
- p, --pup Scan for potentially unwanted programs.



-c, --coo	Scan cookies.
-i, --hidext	Recognize hidden extensions.
-m, --macrow	Report documents with macros.
-o, --repok	Report also clean files.
-w, --pwdw	Report password protected files.
-b, --arcbomsw	Report archive bombs.
-M, --media	Scan media files.
-B, --boot-sector	Scan boot sector.
-r, --report=<filename>	Save scan report to specified file.
-a, --arc	Scan inside archives.
-d, --debug	Verbose mode. Multiple -d options increase verbosity. Maximum value is 3.

4.2. AVGUPDATE Command

Anti-virus systems can guarantee reliable protection only if they are updated regularly. **AVG 2011 Anti-Virus for Linux/FreeBSD** provides a reliable and fast update service with quick response times via *avgupd* daemon.

Options:

-b, --no-backup	Do not backup old files.
-a, --no-daemons	Do not restart any AVG daemon processes.
-download	Only download and check update files to a folder specified by --path option.
-n, --no-progress	Do not display progress information.
--path="xy"	Update folder (used if the update source is a folder, or with -d option). Quotation marks are obligatory.
-p, --priority NUM	NUM represents the type of update: <ul style="list-style-type: none">• 2 - Virus update• 3 - Program update• 4 - Optional update (default)



- `--source=[inet/
folder]` `inet` - Update from the Internet or network (default).
 `folder` - Update from folder.
- `--url="xy"` Update URL (used only if the update source is `inet`). If not specified, the pre-set value from config will be used. Quotation marks are obligatory.
- `-s, --antispam` Enable Anti-Spam update.



5. Configuration

For common configuration of **AVG 2011 Anti-Virus for Linux/FreeBSD**, there are no configuration files. Instead, configuration is managed by a configuration subsystem which consists of:

- libavgcfg.so library (placed in /opt/avg/avg10/lib/)
- dfncfg.dat containing default configuration (placed in /opt/avg/avg10/cfg)
- .cfg files containing values differing from default configuration (placed in /opt/avg/avg10/cfg)
- **avgcfgctl** utility designed to manage configuration items (placed in /opt/avg/avg10/bin)

5.1. General Configuration

The command line utility designed to easily manage **AVG 2011 Anti-Virus for Linux/FreeBSD** configuration is **avgcfgctl**. This utility supports the following operations:

a) Display configuration values

This is a default action. If no parameter is specified, the complete AVG configuration will be displayed. Examples:

- **avgcfgctl Oad.logging.public.verbosity** displays only one configuration item
- **avgcfgctl Oad.logging** displays whole configuration of OAD logging
- **avgcfgctl logging.public.verbosity** displays specified value for all loggers
- **avgcfgctl logging** displays complete logging configuration for all loggers

By default, all configuration items are displayed to stdout. For exporting configuration to a specified file, use -f option.

b) Set configuration values

If -w option specified, the values will be set instead of being displayed. New configuration values may be specified via commandline, or in a file specified by -f option. Syntax of these commands is as follows:

- **avgcfgctl Oad.logging.public.verbosity=ALL** will set OAD public logger verbosity to value ALL
- **avgcfgctl logging.public.verbosity=ALL** will set verbosity of all public loggers to value ALL



Setting new configuration values will not trigger any immediate action in AVG components; to use the new configuration as soon as possible, use `-n` option which will notify all interested AVG components of the configuration change. The component then takes respective action.

c) Check valid values

Please note that only a passed value is checked. If you enter any undocumented value, it will be accepted, however the corresponding feature will malfunction!

5.2. Logging Configuration

This chapter describes available loggers and their configuration items. All log files are stored in `/opt/avg/avg10/log`; mentioned filenames are referred to as names of the file only, without path specification.

AVG log messages can be stored in four ways, plus any combination of them:

1. **Console**: The messages are sent to `stderr`.
2. **Syslog**: The messages are sent to `syslog`.
3. **File**: The messages are sent to a file. All messages will be stored in the file (unlimited size).
4. **Rolling file**: The messages are sent to a rolling file. Filesize is limited; if the size is reached, current file is closed and stored, and a new file is created. Number of stored files is also configurable.

Currently there are 10 dedicated loggers. Each AVG component has its own logger; one logger is common for all command-line utilities. Loggers names for use with `avgcftl` utility are as follows:

1. **Update** logger, used by AVG update
2. **WD** logger, used by WatchDog
3. **Sched** logger, used by Scheduler
4. **Avid** logger, used by `AviDaemon`
5. **Tcpd** logger, used by Mail server
6. **Scand** logger, used by scanning engine
7. **Aspam** logger, used by antispam engine
8. **Oad** logger, used by on-access daemon
9. **Cli** logger, used by all command-line utilities



Configuration items of all loggers will be now listed. The '*' symbol has to be replaced by 'private' or 'public' thus configuring private or public loggers. Private loggers are encrypted AVG loggers, so there is no reason to set consolelog or syslog items to true.

- **logging.*.verbosity** (STRING) specifies verbosity of the logger. Available values are ERR, WARN, INFO, DEBUG, DETAIL, ALL.
- **logging.*.consolelog** (BOOL) specifies whether logs go to console.
- **logging.*.syslog** (BOOL) specifies whether logs go to syslog.
- **logging.*.filelog** (BOOL) specifies whether logs go to file.
- **logging.*.filename** (STRING) specifies name of the logging file.
- **logging.*.rollog** (BOOL) specifies whether private logs go to rolling file.
- **logging.*.rolname** (STRING) specifies name of the rolling file.
- **logging.*.rolcount** (DWORD) specifies maximum number of rolling files.
- **logging.*.rolsize** (FILESIZE) specifies maximum size of a rolling file.

5.3. Scheduler Configuration

Currently there are the following schedulable tasks:

1. **GlobalScan** task for a scheduled scan of selected areas.
2. **UpdateVir** task for scheduled update with priority 2. (virus update)
3. **UpdateAspam** task for scheduled update of antispam rules.
4. **UpdateProgram** task for scheduled update with priority 2. (program update)
5. **DailyPrevalence** task for daily operation of XPL prevalence reporting.
6. **EventPrevalence** task for an event operation of XPL prevalence reporting.

All mentioned tasks have the following configuration items:

- **sched.Task.Disabled** (BOOL) specifies whether a task is disabled.
- **sched.Task.StartType** (DWORD) specifies start type of a task. Can contain the following values:
 - 0 - starts the task only once at sched.Times.StartTime.
 - 1 - starts the task repeatedly, every sched.Repeat.Interval units from sched.Repeat.BaseTime.



2 - starts the task every day at `sched.Times.StartTime`.

3 - starts the task every week on `sched.Times.DayOfWeek`, at `sched.Times.StartTime`.

4 - starts the task at system startup, specifically, at AVG startup only (not after restore from hibernation etc.).

5 - starts the task every month on `sched.Times.DayOfMoth` day, at `sched.Times.StartTime`.

6 - starts the task only on selected days, `sched.Times.SelectedDays`, at `sched.Times.StartTime`.

- **sched.Task.MissedStartAction** (DWORD) specifies what to do if the start time of a task is missed. May contain value 0 meaning that missed start should be ignored; value 1 will start the missed task.
- **sched.Times.StartTime** (DATE) specifies start time for some StartTypes.
- **sched.Times.DayOfWeek** (DWORD) specifies a day of the week when a task should start. May contain values from 0 to 6 (0 for Sunday, 6 for Saturday).
- **sched.Times.DayOfMonth** (DWORD) specifies a day of the month when a task should start.
- **sched.Times.GracePeriod** (DWORD) specifies how long after system startup will a task be launched (in seconds).
- **sched.Times.SelectedDays** (DWORD) specifies selected days of the week on which a task should start, as a mathematical addition of following values: 1 - Sunday, 2 - Monday, 4 - Tuesday, 8 - Wednesday, 16 - Thursday, 32 - Friday, 64 - Saturday.
- **sched.Repeat.Type** (DWORD) specifies units for Repeat.Interval. May contain 0, selecting minutes as unit for Repeat.Interval. Value 1 means hours.
- **sched.Repeat.Interval** (DWORD) specifies amount of units specified by Repeat.Type.
- **sched.Repeat.BaseTime** (DATE) specifies base time from which the Repeat.Interval will count.

Note: The (DATE) type values are in format YYYY-MM-DD/hh-mm-ss.

There are three additional configuration items:

- **sched.Task.ScanAfterUpdate** (BOOL) specifies whether a scan should start after virus database update.
- **sched.Update.Source** (STRING) specifies whether update tasks should



update from Internet (value "inet"), or a folder (value "folder").

- **sched.Update.Path** (STRING) specifies path to the update folder if Update. Source is set to folder.

These items appear in each task configuration, however, are only used where applicable.

Note: Special rules for FREE license users: FREE license users cannot schedule **UpdateAspam**, and can only schedule **UpdateProgram** and **UpdateVir** to be performed once a day.

5.4. Update Configuration

These configuration items are used by all scheduled updates, and also as defaults for on-demand update (can be rewritten by command-line options). Update configuration contains the following items (default settings listed where applicable):

- **Default.update.Inet.UpdateServerURL=|+http://update.avg.com/softw/10/update/|+http://backup.avg.cz/softw/10/update/|** specifies a list of available update servers. Each URL must begin with a plus sign; if the sign is missing, the URL will not be used. This allows disabling some of the defined servers without the need to delete them.
- **Default.update.Inet.UpdateServerName=|update primary server|update backup server|** specifies hint names for Inet.UpdateServerURL.
- **Default.update.Inet.disconnect_speed_limit=500**; if download speed goes below this value in B/s for a specified time, download is aborted.
- **Default.update.Inet.disconnect_time_limit=300**; if download goes below specified speed for time specified by this value, download is aborted.
- **Default.update.Options.Proxy.Mode=0** specifies proxy mode. May contain the following values:
 - 0 - do not use proxy.
 - 1 - use proxy.
 - 2 - try connection using proxy, and if it fails, connect directly.
- **Default.update.Options.Proxy.Server** (STRING) specifies proxy server.
- **Default.update.Options.Proxy.Port=3128** specifies proxy port.
- **Default.update.Options.Proxy.UseLogin=false** specifies whether login to proxy is needed.
- **Default.update.Options.Proxy.Login** (STRING) specifies login name.



- **Default.update.Options.Proxy.Password** (STRING) specifies login password.
- **Default.update.Options.Proxy.AuthenticationType=0** specifies proxy authentication type. May contain the following values:

0 - Any

1 - Basic

The following options specify Antispam proxy settings:

- **Default.aspam.proxy_authtype=auto** specifies HTTP proxy authentication.
- **Default.aspam.proxy_host** (STRING) specifies HTTPS proxy host name and port number.
- **Default.aspam.proxy_userpwd** (STRING) specifies HTTPS proxy username and password.

Note: The *MULTISTRING* type items are in format "*|string1|string2|string3|*", and must be put into the quotation marks.



6. E-mail Scanner

Connection of AVG to open sourced MTA's is described in the following chapters. However, if required/preferred, AVG can be connected to MTAs via third party interfaces.

E-mail server configuration is done via **avgtcpd** utility.

6.1. Features

- spam detection and filtering
- actions in case of virus detection
- e-mail certification
- subject certification of infected e-mails/spam
- e-mail notification in case of virus detection

6.1.1. Open Source E-mail Servers Supported

- **sendmail** – the traditional **sendmail** mail transport agent (MTA, Linux synonym for lightweight e-mail server) is included in most modern Linux distributions. The latest version is also available for free at <http://www.sendmail.org>.
- **qmail** – the latest version is available for free at <http://cr.yp.to/qmail.html>; an extensive description of download, installation, and maintenance issues related to **qmail** is also provided at <http://www.lifewithqmail.org>.
- **postfix** – the postfix MTA is a popular alternative to the widely used **sendmail** e-mail server; the latest version is available for free at <http://www.postfix.org/>.
- **exim** – this MTA can be also used as replacement for the common **sendmail** e-mail server, although its configuration and maintenance principles differ; the latest version of the **exim** e-mail server is available for free at <http://www.exim.org>.

6.1.2. Other Engines Supported

- **AMaViS** – A Mail Virus Scanner, information and installation instructions available at <http://www.amavis.org/>



7. Uninstallation

How to uninstall **AVG 2011 Anti-Virus for Linux/FreeBSD**:

The ***uninstall.sh*** script is created in a temporary and `/opt/avg/avg8/bin` directory during installation process from a *sh* or *tar.gz* archive. It contains a list of created files, directories, and symlinks. It also contains uninstallation runlevel services which depend on the operating system detected during installation.

For **sh** and **tar.gz**, run:

```
sudo /opt/avg/avg10/bin/uninstall.sh
```

For **rpm**, run:

```
rpm -e avg-2011.{release}-{version}.{platform}.rpm
```

For **deb**, run:

```
sudo dpkg -r avg-2011.{release}-{version}.{platform}.deb
```



8. FAQ and Technical Support

The FAQ section of the **AVG Technologies** website (<http://www.avg.com>) provides answers to most issues that you may encounter while using **AVG 2011 Anti-Virus for Linux/FreeBSD**.

If you do not find the solution of your problem in the **FAQ section** or **documentation**, contact the **AVG** technical support department via e-mail at technicalsupport@avg.com.

Providing the following information in the e-mail will help our technical support to give you a quick and comprehensive response:

- version of your **AVG 2011 Anti-Virus for Linux/FreeBSD**
- your distribution of Linux (or other UNIX based system version)
- your **AVG** license number