



# ***m23 software distribution***

m23 Development Guide  
for m23 rock 15.2

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# Chapter 1

## introduction

Welcome to the m23 development guide. This is a not (yet) finished document because m23 isn't completed yet. You will find useful information about the m23 interna. If you want to develop for m23 this is the right document for you ;).

If you don't know what m23 is, you'll get a short answer. m23 will help you to set up hundreds of clients from one place. m23 can partition and format clients, install an operating system and additional programs. With m23 you can manage your clients and keep them up to date. For more information have a look at the m23 user guide.

This guide is meant for developers and people who want to know how m23 works only.

### 1.1 What you can expect from this document:

- an API reference about all functions used in the m23admin GUI and packages. This will be useful if you want to make changes to m23, build addons or plugins.
- information about serveral tools developed for m23. The little tools called "m23 helpers" make m23 work. Without them m23 can't do its job. You will learn how these tools work and how to use them.

### 1.2 What you can't expect from this document:

- a 100% description of all functionality of m23. m23 is still in development, things are changing rapidly, so don't expect too much actuality.
- correct english ;) But I think it is written in a way most people will be able to understand. Don't expect a poem ;)

Have fun ;)



## Chapter 2

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Version 2, June 1991

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## Chapter 3

# MDK menu system

### 3.1 Introduction

The MDK has got a menu system to make it easier for you to change things and to create your own m23 version, boot CDs etc.. In earlier versions of the MDK there were some widespread scripts without an user interface. The new menus make it easier to find what you are searching for. The menu system should be self-explanatory now.

Some of the things you can do with the MDK menus:

- Create server installation CDs: Build the operating system data file, the m23 programm file, the MDK file and make an installable boot CD from it.
- Create bootimages for the clients: Build netboot images for PXE and Etherboot standard and create bootable client installation CDs.
- Build special Debian packages: These packages are needed to add missing functionalities to the clients.
- Build documentation: Tools for generating the "m23 manual" in different languages and the "Development guide". This includes generation of screenshots, PDF and HTML files. The text is fetched from the online help, source codes and other sources.

### 3.2 Starting the MDK menu system

All you have to do is to run the following command from a console:

```
/mdk/bin/menuStart
```

Hint: If this doesn't work install the **dialog** package, that is needed to draw the menus.



# Chapter 4

## database

### 4.1 overview

m23 stores all information about the clients, their status, pending jobs and hardware infos in a database. This chapter will show you how the m23 database is organized. The m23 database is divided in several tables:

- **clientjobs:** stores waiting and done jobs for each client. If you install a package to a client the information about the install job is stored in this table with the status waiting. When the package is installed the install job will be marked as "done".
- **clientlogs:** Here are stored error and success of the installation procedure. You can see the output of whole installation procedure.
- **clientpackages:** here are stored all packages installed on the clients with status, version and action.
- **clientpreferences:** to make adding a new client more easy you can save preferences for new clients. These preferences are stored here.
- **clients:** information about all clients, ip, ram size, cpu, etc.
- **ftpusers:** will later be used for access to the ftp server on the m23 server.
- **groups:** clients can be organized in groups to manage them more easy.
- **packages:** will be used for storing available packages that can be installed on the clients.
- **plugins:** information about installed plugins.
- **recommendpackages:** here you can store package selections. With a package selection you can install a bundle of software with one click on a client.
- **remotevar:** table to store the remove vars.

### 4.2 the tables

#### 4.2.1 clientjobs

If you install or deinstall software on the client, this (de)install job will be saved in the clientjobs table. The new job is added with the status "waiting" and after succesful finish it will get the status "done". Every job can have severnal parameters, e.g. if you want to format a partition, the format job should know which partition to format. This infomation is stored as the parameter. And of course each job should know the name of the client it is for. To get the jobs in the correct execution order, there are two values: id and priority. Priority has to do with the type of the job, a special job like the "hardware scan" gets the priority 0 and should be executed before all other jobs. With the priority the order of execution is set, lower priorities

are executed earlier. The second value "id" is the order of job creation. Jobs of the same priority will get executed in the order of creation. Remember: priority is mightier than the id value. If the priority is lower the job will be executed earlier while the id might be higher.

- id: the id of the job
- client: name of the client, the job is for.
- package: name of the package
- priority: the priority of the package
- status: status of the job: waiting, done
- params: the parameters for the job

### 4.2.2 clientlogs

clientslogs saves the information about the installation of clients. The input is generated by the log2db tool and PHP scripts.

- client: name of the client, the log information is saved for.
- logtime: time the log event was.
- status: contains the logged information.

### 4.2.3 clientpackages

- clientname: name of the client, the package is installed on
- package: name of the package
- version: version of the package
- status: is status status and can be "install ok installed", "deinstall ok config-files" and every other status, debian packages can have.
- action: action tells what should be done with the package. Possible actions can be: none, remove and reinstall.

### 4.2.4 clientpreferences

A preference can store multiple variables with its values, all of these variables are stored with the same preference name.

- name: name of the preference
- var: name of preference variable
- value: value for the variable

### 4.2.5 clients

The clients table stores information about hardware, the network settings, the username, email, etc. .

- client: the name of the client
- office: here you can leave information about the place where the client stands.
- name: name of the user
- familyname: familyname of the user

- eMail: eMail address for the user
- mac: mac address of the network card
- ip: ip address
- netmask: netmask for the ip
- gateway: gateway address
- dns1: ip address of the first domain name server
- dns2: ip address of the second domain name server
- groupname: name of the group the client is in
- firstpw: the password for the first login
- rootPassword: root password
- memory: size of the installed memory in MB
- hd: size of harddisk in MB
- partitions: data about the partitions
- cpu: type of cpu
- MHz: speed of the cpu
- netcards: product names of the installed network cards
- graphiccard: information about the graphic card
- soundcard: name of the sound card
- isa: information about ISA components
- dmi: DMI information
- dhcpBootimage: name of the currently used bootimage
- installdate: date the clients first was set up
- lastmodify: date the client was last modified
- status: actual status of the client. 0: client has not finished the hardware detection sequence. 1: client has finished hardware detection and waits for partition/format job 2: the client is partitioned and formatted and has installed the base system.

#### 4.2.6 ftpusers

This table can store information about ftpusers with their permissions.

- Password: password for the user
- Uid: user ID
- Gid: group ID
- Dir: directory for the user
- QuotaFiles: quota for the amount of files.
- QuotaSize: quota for the whole size of all files
- ULRatio / DLRatio: ratio for upload to download, you have to set both values

- ULBandwidth: max speed for upload
- DLBandwidth: max speed for download
- User: name of the FTP user

#### 4.2.7 groups

With groups you will be able to organize your clients more efficient. You can add a client to a group and install software on all clients of a group without selecting each of the clients. It just saves some clicks ;)

- groupname: name for the group

#### 4.2.8 plugins

With plugins you can enrich your m23 admin console with additional functionalities. Plugins are a bundle of PHP/Bash and other files showing one or more dialogs in the m23 admin, that are designed for a special purpose. E.g. you can write a backup plugin that lets you backup all m23 clients. For more information about plugins see the "How to develop plugins for m23?" chapter.

- name: name of the plugin
- author: who had done it?
- version: version number
- updateurl: where to get the update file. An update file contains information about the new plugin and the plugin data itself.
- clientRequires: packages that have to be installed on the client before you can use the plugin. E.g. if you install a backup plugin there should be installed the backup software on the client.
- deinstall: here is stored the uninstall script, this is normally a Bash script.
- files: the file names included in the plugin, this is saved for clean uninstall.
- installdate: when was it installed?

#### 4.2.9 recommendpackages

In the recommendpackages table are stored package selections for reuse at a later moment. E.g. you may save a selection containing OpenOffice, Mozilla and Gimp for office usage. Now you can install these three packages with the selection and don't have to install each of them.

- name: name of your selection (e.g. office)
- package: the name of the package in the selection (e.g. openoffice.org)
- version: may be used later if we have to select between different versions of a package.
- priority: the priority of a package selects when to install the package among other packages in the whole installation process. Packages with lower numbers are installed earlier.
- params: special parameters for the package.

#### 4.2.10 remotevar

With remote variables you can store values server side. The variables are stored for a special ip.

- ip: the ip address the variable is stored for.
- var: name of the variable
- value: the value for the variable
- addtime: the time the value was changed / added

# Chapter 5

## HowTos

### 5.1 Using new Debian/Ubuntu releases with m23

To fully support a new Debian/Ubuntu release a few steps are needed. The following guide shows a generic approach to not miss an important step. The total time and difficulty of a new release depends on the changes the distribution made between the last release supported by m23 and new release and if there are new desktops etc. that should be supported.

#### 5.1.1 Test and development

- Build a compressed root file system for the new release via `/mdk/m23helper/compressedDebootstrap` and put it (for testing) into the directory `/m23/data+scripts/packages/baseSys` on the m23 server.
- Create an empty file (touch) with the release name of the new distribution release under `/m23/data+scripts/distr/debian/d`
- Add the new release to the list in `DISTR_releaseVersionTranslator`.
- Search all occurrences with the release name of the old version in the PHP files to get hints for finding places where new hacks or adaptations need to be made.
- Check, if all desired desktop environments are present in the file `/m23/inc/distr/<distribution>/info.txt` and add missing desktops.
- Write a new package source list (based on a previous release) in the m23 webinterface and choose the release with the name of the previously touched file name. Hook all desktops that should be deployed with this release.
- Make a base client install, see errors and fix them ;-)
- Develop missing desktop installation scripts under `/m23/inc/distr/<distribution>/packages/m23<desktop>Install.php`.
- Then make an installation/test/fix run with all desktop environments that should be supported by the release.

#### 5.1.2 Building the packages

- Generate the package template files with `/mdk/m23helper/getDebianTemplates` and run `/mdk/m23helper/template2conf` in the directory containing the template files. Afterwards move the `*OptionPage.php` files from the subdirectory "out" to `/m23/data+scripts/m23admin/packages/<distribution>/<release>/`.
- Add the sources list name in `/mdk/bin/exportDBsourceslist.php`.
- Build new packages via the MDK.

## 5.2 Releasing a new m23 version

### 5.2.1 Switch to relase

- Run `/mdk/bin/menuStart ⇒ fork ⇒ moveDevel2Release`

### 5.2.2 Documentation

- Translate all new and changed texts (`/m23/inc/help/*` and `/m23/inc/i18n/*`)
- Check for missing I18N variables. Run `/mdk/doc/manual/bin/checkForMissingi18n.sh`
- Manual
  - Check, if all parts seem to be there. Run: `/mdk/doc/manual/bin/checkForMissingHlp.sh`
  - Check, if all HTML entities are in the HTML to LaTeX translation index. Run: `/mdk/doc/manual/bin/checkForMissingHT`
  - Check, if there are all screenshots present. Run: `/mdk/doc/manual/bin/checkMissingScreenshots.sh`
  - Generate and update the screenshots
  - Run `/mdk/bin/menuStart ⇒ doc ⇒ manualChoosethelanguage ⇒ lang.Chooseall`
- Generate the tex files: `⇒ textOptimisethePNGs. ⇒ optimisePNGs`
- Generate PDF and HTML version of the manual: `⇒ pdf – htmlUpload ⇒ upload`
- Go back
  - Development guide
    - Add (maybe existing new) LaTeX files
    - Build the development guide: `⇒ devguideGenerateit ⇒ generate`
  - Upload: `⇒ upload`

### 5.2.3 Building the files

- Debian packages
  - `/mdk/bin/menuStart ⇒ debs ⇒ buildUploadthepackages, if all seemstoberight ⇒ directuplinst`
- Server installation ISO
  - `/mdk/bin/menuStart ⇒ serverISO ⇒ iso.Exitafterbuilding.Upload : cd/mdk/server; ./upiso.file`
- VirtualBox appliance
  - Create a new VM (Linux/Debian, 384 MB Ram, growing VDI 16GB HDD)
  - Change the Network card to Network bridge
  - Start the VM and "insert" the ISO into the virtual CD drive
  - Select "English".
  - Use "m23s" as server name, "test" as password and local network settings.
  - Choose the automatic partitioning and formatting.
  - Call `/mdk/bin/prepareOSForCompression` after reboot.
  - Shutdown the VM
  - Export it and compress the exported files.
- - Write a SD card with Raspbian.
  - Configure `/etc/network/interfaces` to static IP for eth0.
  - Boot the Raspberry Pi.



- Log into it via SSH (user: pi, password: raspberry)
- Run "sudo rpi-config".
- Call in the menu "Expand Filesystem", set "Memory split" to 16 MB, call "Update".
- Reboot.
- Enable root access (set password to test): "sudo passwd"
- Log out and log into it via SSH (user: root, password: test)
- Remove the user pi: `userdel -r -f pi`
- Add "192.168.1.77 m23debs" to /etc/hosts
- Create "/etc/apt/sources.list.d/m23debs.list" with the contents "deb http://m23debs ./"
- Update the package index: `apt-get update`
- Install the m23 server: `apt-get install m23`
- Choose yes on all options and use "test" for all passwords.
- After the failure edit /etc/default/tftpd-hpa: Adjust `TFTP_OPTIONS = "-4--secure"` *Continue the installation*  
`apt - getinstall -f`
- Run /mdk/m23helper/Raspbian-RemoveUnneededPackages.sh
- /mdk/bin/prepareOSForCompression.

#### 5.2.4 CMS

- Write an article
- Create new link files and move the old to the old directories.
- Check in into Bazaar
- Upload the files.

#### 5.2.5 Announcement

- Prepare the newsletter with /mdk/doc/newsletterGenerator2.sh and send it.

### 5.3 How to translate m23?

m23 uses a system to make translation to other languages easy. All language specific text is stored in files. One big file (m23base.php) contains the text shown in the m23admin menus, messages, on buttons, ... . The help texts are stored in single files containing a topic each. To make your translation available, you have to give the new language a name and store it in a lang file.

#### 5.3.1 make directories

You should think about a good abbreviation for the language. All m23 languages have a short 2 letter name that is used for directory name (e.g. de=german, en=english, fr=french).

Make the directories:

```
/m23/inc/i18n/<your language short name>
/m23/inc/help/<your language short name>
```

if you use a console to create the directories it may look like this:

```
mkdir /m23/inc/i18n/de
mkdir /m23/inc/help/de
```

### 5.3.2 generate the language file

To give your language a name and make it available to m23 create a *language.info* file.

The language.info has to contain the following lines:

```
language: <the full name of your language>
shortlanguage: <the short 2 letter name of the language>
```

m23 uses the word for the language that is used in the origin country. e.g. Deutsch and not German, Francais and not French.

Your language.info may look like this:

```
language:Deutsch
shortlanguage:de
```

### 5.3.3 translating the messages

Simply copy the m23base.php file from your preferredly understood language to the directory of your translation. e.g. if you want to translate the english version to german: copy /m23/inc/i18n/en/m23base.php to /m23/inc/i18n/de/m23base.php.

Now translate the text between the ' ' 's. e.g.

```
$I18N_help="Help";
```

becomes

```
$I18N_help="Hilfe";
```

Please don't delete any other text and make changes only between the ' ' ' letters. Don't translate something like \$I18N\_help to \$I18N\_hilfe. If you do so, m23 can't find it and will leave the place, the text should be appear empty. For your information: m23 stores the texts as variables that are inserted at the right places in the m23admin interface.

### 5.3.4 translating the help texts

Copy all \*.hlp from the /m23/inc/help/<lang> directory to your new help directory. e.g. : copy /m23/inc/help/en/\*.hlp to /m23/inc/help/de/. Translate the text in each file. If you want, you can use HTML characters. e.g. "<" are used in french texts, these characters are interpreted by HTML as begin of tag. You have to replace these characters with the HTML equivalent: "<" becomes "&lt;&lt;".

## 5.4 how to access mysql databases with C++?

### 5.4.1 Introduction

In this little howto you wil learn how to set up KDevelop to write a simple application that is able to connect to a mysql server and execute sql-statements on it. I will only discuss how to write to and not to read from a database. If you want to read something, look at the mysql C-API that can be found at: <http://www.mysql.com/doc/en/C.html>

### 5.4.2 What do you need?

You should have installed the following applications and libraries:

- kdevelop
- libmysqlclient10-dev, libmysqlclient10
- libc6-dev

### 5.4.3 Preparing the server

#### Enable network access

To get access to the server over the network you need to do a little adjustment: Open `/etc/mysql/my.cnf` and comment out the line `skip-networking` so that it looks like `#skip-networking`. Don't forget to save ;) Now you have to restart the mysql server.

I do it this way:

```
killall -9 safe_mysqld
killall -9 mysqld
/etc/init.d/mysql start
```

#### Adding a database user

You have enabled network access, now you need a database user. The new user should be able to do some changes to tables (insert, delete and update). For creating the user I use phpMyAdmin, a very powerful tool for all ways of modifying mysql databases. If you don't already know that tool, have a look at: <http://www.phpmyadmin.net/>.

- log in to your m23 server: open **`http://<serverIP>/m23admin/phpMyAdmin/index.php`** in a web-browser and adjust `<serverIP>` to the ip address of your m23 server.
- select "home" on the left
- click on "Privileges" in the main window
- click "Add a new User"
- think about a good user name and insert it at: "User name:"
- for "Host:" you can leave it on "any host" and select "%" for the host name. If you want only selected hosts to log in, you can enter the ip or hostname.
- select a password and retype it in the text field below
- in "Global privileges" -> "Data" select at least: INSERT, UPDATE and DELETE
- click the "GO" button to accept your changes
- select "home" on the left
- click on "Reload MySQL" in the main window

After this adjustments you should be able to log in to the m23 server with your new account.

### 5.4.4 Preparing KDevelop

#### Creating a project

In the KDevelop GUI select "Project" -> "New" select from the list "C++" under "Terminal". You have to select "C++", "C" will not work!

- select "Next"
- select what you want in the next dialog pages

#### Adjusting project properties

Select "Project" -> "Options" -> "Compiler options" -> "Linker (tab)". Now add **`-lmysqlclient -lcrypt -lnsl`** to the input line. Close the window with a click on the "OK" button. These settings are required to build applications with mysql support.

### 5.4.5 Filling main.cpp

After all preparations we step forward to the source code. You need to include **include <mysql/mysql.h>** and create a global variable called `mysql` from the type `MYSQL`.

#### Connecting to the server

```
#include <mysql/mysql.h>

MYSQL connection;

void connect(char *server, char *dbuser, char *passwd)
{
    if (!mysql_connect(&connection, server, dbuser, passwd))
    {
        fprintf(stderr, "Failed to connect to database:\n
            Error: %s\n", mysql_error(&connection));
        exit(2);
    }
    mysql_select_db(&connection, "m23");
};
```

1. First of all we have to include the necessary header file: *#include <mysql/mysql.h>*
2. The `mysql_connect` function requires a **MYSQL** variable (here called *connection*) to store the connection data, a server name or ip, a valid mysql user and proper password. If all works correctly, `mysql_connect` will return 0, otherwise we get an error, print an error message and quit.
3. `mysql_error` will generate a human readable error message.
4. At least we should choose our database, this is done with `mysql_select_db`. Now the connection should be established.

#### Disconnecting from the server

```
void disconnect()
{
    mysql_close(&connection);
};
```

This function disconnects from the server. The global variable *connection* is used to identify the right connection to the server.

#### Send SQL statements

```
MYSQL_RES *query(char *sql)
{
    MYSQL_RES *res;

    if (mysql_query(&connection, sql) != 0)
    {
        fprintf(stderr, "Failed to send query: Error: %s\nsqlstatement:%s\n", \
            mysql_error(&connection), sql);
        exit(2);
    }

    res = mysql_store_result(&connection);
```

```
return(res);
};
```

1. We declare a variable (*res*) that will hold the result of our query
2. `mysql_query` requires an established connection to a mysql server and a valid sql statement. If the statement gets executed correctly, it returns 0, otherwise you can use the `mysql_error` function to get the error message.
3. And at last `mysql_store_result` stores the result of our query or **NULL** if there was an error.

### 5.4.6 Example

```
int main(int argc, char *argv[])
{
    MYSQL_RES *res;
    unsigned int fields;
    my_ulonglong rows;
    MYSQL_ROW row;

    connect("127.0.0.1", "root", "");

    res=query("SELECT * FROM `clients`");

    fields=mysql_field_count(&connection); //<<1

    rows=mysql_num_rows(res); //<<2

    for (int i=0; i < rows; i++)
    {
        unsigned long *lengths;

        row=mysql_fetch_row(res); //<<3

        lengths = mysql_fetch_lengths(res); //<<4

        for (int fnr=0; fnr < fields; fnr++)
            printf("[%i: %s] ", (int) lengths[fnr],
                row[fnr] ? row[fnr] : "NULL"); //<<5
    }

    mysql_free_result(res); //<<6

    disconnect();

    return EXIT_SUCCESS;
}
```

1. Get the number of fields of the table.
2. Get the amount of result rows.
3. Fetch a row (one by one) and store the result in *row*.
4. Store the lengths (in characters) of the result fields.
5. Print the fields of one row.
6. Free the memory by deleting the result data.

### 5.4.7 The complete program

```

#include <mysql/mysql.h>
#include <stdio.h>
#include <stdlib.h>

MYSQL connection;

void connect(char *server, char *dbuser, char *passwd)
{
    if (!mysql_connect(&connection, server, dbuser, passwd))
    {
        fprintf(stderr, "Failed to connect to database:\n
            Error: %s\n", mysql_error(&connection));
        exit(2);
    }
    mysql_select_db(&connection, "m23");
};

void disconnect()
{
    mysql_close(&connection);
};

MYSQL_RES *query(char *sql)
{
    MYSQL_RES *res;

    if (mysql_query(&connection, sql) != 0)
    {
        fprintf(stderr, "Failed to send query: Error: %s\nsqlstatement:%s\n", \
            mysql_error(&connection), sql);
        exit(2);
    };

    res = mysql_store_result(&connection);

    return(res);
};

int main(int argc, char *argv[])
{
    MYSQL_RES *res;
    unsigned int fields;

```

```

my_ulonglong rows;
MYSQL_ROW row;

connect("127.0.0.1", "root", "");

res=query("SELECT * FROM `clients`");

fields=mysql_field_count(&connection); //<<1

rows=mysql_num_rows(res); //<<2

for (int i=0; i < rows; i++)
{
    unsigned long *lengths;

    row=mysql_fetch_row(res); //<<3

    lengths = mysql_fetch_lengths(res); //<<4

    for (int fnr=0; fnr < fields; fnr++)
        printf("[%i: %s] ", (int) lengths[fnr],
                row[fnr] ? row[fnr] : "NULL"); //<<5
}

mysql_free_result(res); //<<6

disconnect();

return EXIT_SUCCESS;
}

```

## 5.5 How to develop plugins for m23?

### 5.5.1 Introduction

m23 gives you a plugin interface, that enables you to create your own plugins easily. A plugin can be everything that can be written in PHP and bash script. The plugins are packaged in an archive, that contains installation and deinstallation routines and of course the data for the plugin.

#### What is this document about?

You will learn what m23 plugins are and how to build them.

### 5.5.2 How to create a plugin?

First of all develop you plugin application and don't forget to test it ;) When all seems to be correct, create a new directory for your plugin package. This will be called **project directory**.

#### XXX.m23plg file

This is your main plugin file, it should have a good chosen name and nothing like plugin.m23plg.

It may look like this:

```

<?PHP
/*

```

```

pluginName:Testplugin2
pluginPage:testpage
pluginAuthor: me
pluginVersion: 1
pluginUpdate: www.pc-kiel.de/plugin.dat
pluginClientRequires: rdiff
pluginIcon: /gfx/overview-mini.png
*/
Here stands your code
?>

```

The lines between `/*` and `*/` are treated by PHP as comments, but the m23admin uses this informations for:

- `pluginName`: is the name that is shown in the m23 menu
- `pluginPage`: this name is used for internal purpose, this is how the page is known to m23
- `pluginAuthor`: here you can leave your name, contact address etc.
- `pluginVersion`: version number of your plugin
- `pluginUpdate`: specifies the location where to find the file, containing informations about newer versions of the plugin
- `pluginClientRequires`: if your plugin needs some packages installed on the client, you have to list these packagenames here
- `pluginIcon`: you can select an icon to be shown before the menu entry

### 5.5.3 Installation

If you install a plugin with the m23-interface the plugin package will be downloaded to /m23 and extracted. Before the real installation it will be checked that no files get overwritten. The user can select, if he wants to overwrite files or skip installation. Your plugin should have at least one `XXX.m23plg` file, where XXX stands for your plugin filename. You should organize your plugin package in a way, that this file will be extracted to one of these directories:

- `/m23/data+scripts/m23admin/clients`
- `/m23/data+scripts/m23admin/groups`
- `/m23/data+scripts/m23admin/packages`
- `/m23/data+scripts/m23admin/server`
- `/m23/data+scripts/m23admin/tools`

In other words:

your plugin package should have a directory structure like:

```
data+scripts/m23admin/clients/myPlugin.m23plg.
```

Copy all files of your plugin application with correct pathes to the **project directory**. For an easier way to make a m23 package have a look at the hint section.

Your project directory may look like this:

```

/projectDir/data+scripts/m23admin/clients/myPlugin.m23plg
/projectDir/bin/myExecutable
/projectDir/data+scripts/myPluginDir/some data files
/projectDir/data+scripts/myPluginDir/some more scripts.php

```



**install.sh**

If you want to do some additional installation e.g. install an extra *deb package* on the server machine, this is the right place. In this file you can do whatever you want, but you shouldn't do something that will eventually crash the server.

During installation your plugin package will be extracted and afterwards `install.sh` will be executed. When execution is done, `install.sh` will be deleted.

Your `install.sh` may look like:

```
#!/bin/bash
apt-get update
apt-get install desiredPackage
```

**5.5.4 Deinstallation**

All your plugin files will be removed and you have the possibility to do some additional clean up.

**deinstall.sh**

This is the place to add your deinstallation script. It is similar to the `install.sh`, you can remove packages and do other things, but be again careful not to crash the server.

Your `deinstall.sh` may look like:

```
#!/bin/bash
apt-get update
apt-get remove desiredPackage
```

**5.5.5 Update information files**

With the update information files you can specify name, version, size, description and the url where the update can be found. These informations are needed, if you want to update an existing plugin with the m23 admin. Name, version and description are free form. Size should be the extracted size of the plugin and url is the address, where the plugin data can be downloaded.

**How does an information file look like?**

```
pluginURL: http://m23.sf.net/testplug.tb2
pluginVersion: 2
pluginSize: 1023
pluginName: Testplugin
pluginDescription: This is only a test plugin
```

**Protocols for downloading files**

You can use http, ftp and local files for downloading your plugin information.

**5.5.6 Hints****Better naming for your files**

You normally will develop your application in the `/m23` directory. To make finding your files easier you should name your files like `BACKUP_startpage.php`. Your files should always begin with your selected prefix. Now you can find your files with:

```
find /m23/ -name BACKUP*
```

To make a package with the found files, simply use the following script:

```
for file in `find . -name BACKUP_*`
do
    files=$files" "$file
done
tar cvj -f myPackage.tb2 $files
```

Where you replace *BACKUP\_* with your package prefix and *myPackage* with your package name.

## 5.6 How to generate a new base system?

### 5.6.1 install necessary system files

```
debootstrap --arch=i386 woody .
```

This may run in to an error, but it doesn't matter. Simply follow this guide ;) .

### 5.6.2 editing files

#### **fstab**

Copy your existing */etc/fstab* to the new */etc/* directory. Adjust the line for your boot device, e.g. your new boot device is *hda3* so you have to change */dev/hda2 / ext3 defaults 0 0* to */dev/hda1 / ext3 defaults 0 0* . Your new *fstab* may look like this:

```
# /etc/fstab file system info, created by the m23 project
# <file system> <mount point> <type> <options> <dump> <pass>
proc /proc proc defaults 0 0
/dev/hda1 none swap sw 0 0
/dev/hda3 / ext3 defaults 0 0
/dev/cdrom /mnt/cdrom auto ro,noauto,user,exec 0 0
/dev/fd0 /mnt/floppy auto user,noauto 0 0
```

#### **lilo.conf**

You can use your current *lilo.conf* and edit some values like *root*. You may choose a different kernel than in your current system so you have to adjust the *image* parameter too. But first it is essential to have a *lilo.conf* with the correct *root* value, *image* doesn't matter at the moment.

```
boot=/dev/hda
map=/boot/map
install=/boot/boot-menu.b
compact
prompt
vga=normal
delay=10
timeout=20

default=m23Server3

image=/boot/vmlinuz-2.4.20-1-386-sec
    root=/dev/hda3
    label=m23Server3
    append="hdb=scsi-ide"
    initrd=/initrd.img
```

**sources.list**

Your sources.list should look like this:

```
deb http://security.debian.org/ woody/updates main contrib non-free
deb http://ftp.de.debian.org/debian/ stable main non-free contrib
deb http://ftp.szczepanek.de/ftp/trusteddebian/ stable main contrib
```

You can add more sources if preferred.

**/etc/network**

Simply copy your old /etc/network directory to the new /etc.

**5.6.3 step in to your new system**

You can enter your new system (without reboot) with:

```
chroot .
```

**5.6.4 source update and cleanup**

I think we don't need mailx :) .

```
apt-get update
apt-get remove mailx
```

**5.6.5 installing a kernel**

You can list all available kernels with the following command:

```
apt-cache search kernel | grep kernel-image
```

Pick one out adjust the *image* value in your new *lilo.conf*. To install your new kernel type the following:

```
apt-get install myChosenKernel-Image
```

**in case of an error**

If you get an error with the *mkinitrd* command try it manually. Adjust */boot/initrd.img-2.4.20-1-386-sec* to the filename you entered in the *lilo.conf*. You have to adjust the */lib/modules/...* and the root device after *-r* also.

```
mkinitrd -r /dev/hda3 -o /boot/initrd.img-2.4.20-1-386-sec /lib/modules/2.4.20-1-386-sec
```

**5.6.6 system update and installation of additional packages**

```
apt-get dist-upgrade -u
apt-get install ssh
```

**5.6.7 booting your new system**

To see if your new system is ready to boot, copy your new kernel from the new *boot/* directory to */boot/*. This kernel will be called like *vmlinuz-2.4.20-1-386-sec*. Edit your **current** */etc/lilo.conf* and add a new section like this:

```
image=/boot/vmlinuz-2.4.20-1-386-sec
    root=/dev/hda3
    label=m23Server3
    initrd=/initrd.img
```

*vmlinuz-2.4.20-1-386-sec* should be replaced with the name of your kernel and the section above has to be the same as in your new *lilo.conf*.

## 5.7 How to create a bootable server installation CD?

### 5.7.1 Introduction

If you want to change the server and generate a new installation CD you simply have to execute the `makeCD.sh` script from the `/mdk/bootCD` directory.

### 5.7.2 what does the `makeCD` script?

- generates a new `initrd` files used for booting from the CD
- compresses the server operating system
- compresses the `m23` files
- generates the ISO image to burn on a CD

#### `initrd`

While booting from the CD the kernel is started, if the kernel starts up it loads an initial file system from a file, this is the `initrd` (here called `rescue`). This file is compressed and will be extracted to the memory and mounted as root file system. All needed files like basic commands (`ls,cp`) and the install script are contained in this root file system.

In the `/mdk/bootCD/root` are all files needed for the `initrd`. If you want to make changes to the start up process of the boot CD you should edit the `/mdk/bootCD/root` directory. The `mkRescue.sh` script makes an empty `initrd` file, formats it with `ext2` file system, copies needed files to `initrd` and compresses it to `rescue.gz`. For further information have a look at the `mkRescue.sh` script.

#### compress operating system

The whole current operating system is compressed with `bzip2` to a file called `m23image.tb2`. Some directories aren't saved, because they aren't needed or will mess up the image with useless files. E.g. `/proc`, `/tmp`, ... should not be saved. The image is stored in the `/mdk/bootCD/iso` directory. If there is already a `m23image.tb2` the operating isn't compressed. To regenerate the `m23image.tb2` you have to delete the file.

#### compresses the `m23` files

The whole `/m23` directory is compressed to `/mdk/bootCD/iso/m23.tb2`, if this file already exists the `/m23` system isn't recompressed. To force recompress simply delete `/mdk/bootCD/iso/m23.tb2`. Before compression you should clean the `/m23` directory from test scripts, `dhcp` config files and database from all entries. For cleaning the `m23` database: Delete all `*.MYD` files in `/m23/db/m23/` and replace them with empty files. (`touch tablename.MYD`).

#### generating the ISO image

After these steps the ISO image will be created automatical in `/mdk/bootCD` directory. Now you can write the iso file to a CD. This should generate a bootable CD. Good luck ;)

## 5.8 How to make network bootimages?

### 5.8.1 Introduction

What are bootimages? Bootimages are used to boot up a client over the network. The bootimage contains a Linux kernel, an initial ramdisk and a script for fetching the jobs for the client.

A client runs for first start up thru the following sequence:

- get IP, netmask, bootimage name, ... from the `m23` DHCP server

- fetch the bootimage from the server with TFTP protocol
- load and extract the image to the client memory
- start the contained kernel
- kernel loads the included initrd
- start up script fetches IP, netmask, etc. from the server again
- the script fetches the first job for the client and saves the job script file
- the script is executed and the next job will be fetched from the server

This technology makes it possible to install angelOne Linux on an empty computer. No installed operating system is needed for partition, format or installation.

### 5.8.2 creating a new bootimage

In the /mdk/bootimage directory you can find the mkBootImage.sh script that generates the bootimage for PXE and Etherboot standard. The bootimages will be stored in /m23/tftp/ as m23pxeinstall (PXE kernel), initrd.gz (initial ramdisk for PXE) and m23install (Etherboot). To generate the Etherboot files you need to install **mknbi**.

#### How it works?

it creates a blank file of 17MB size

```
> dd if=/dev/zero of=initrd bs=1k count=23000
```

sets up a loop device

```
> losetup /dev/loop1 initrd
```

the 23MB file will be formatted with EXT2

```
> mke2fs -m 0 -N 10000 /dev/loop1
```

mount the file

```
> mount /dev/loop1 mnt
```

copy needed files from root2 and hardware informations to the mounted image

```
> cp -rdpR root2/* mnt/
> cp -rdpR /usr/share/hwdata/* root2/usr/share/hwdata/
```

umount the image

```
> umount mnt
```

set "down" the loop device

```
> losetup -d /dev/loop1
```

set correct file permissions

```
> chmod 0555 bzImage
> chown root:root bzImage
```

set boot device in kernel

```
> rdev bzImage /dev/ram0
```

generate bootimage for Etherboot

```
> mknbi-linux bzImage --first32pm --output=/m23/tftp/m23install --ip=dhcp
--rootdir=/dev/ram0 initrd
```

generate files for PXE

```
> cp bzImage /m23/tftp/m23pxeinstall
> gzip initrd
> mv initrd.gz /m23/tftp/initrd.gz
```

### 5.8.3 What can you do with this SDK?

Modify all files in root2. These files are the files for a kind of Mini Linux distribution. You should be familiar to Linux, if you want to change a thing. `linurc` will be the first script executed after network boot. If you want to do automatic execution this is the right place.

#### Build a new kernel

Copy your new kernel to `bzImage` in the SDK directory and don't forget to copy the modules to `root2/lib/modules`. In the `m23client-Install*.conf` file you get the configuration for the kernel we used.

## 5.9 How to generate an Etherboot bootimage for booting from hard-disk?

If the clients is set up, we want to boot it from `harddisk`. To do so, we send a little bootimage that tells the client to boot from `harddisk` directly. This seems the easiest way right now.

### 5.9.1 exchange `epic100.c` with the special boot code

All Etherboot drivers have the option to boot (in case of an error or user intervention) from `harddisk`. To make `harddisk` booting the default starting method and remove the network card specific code, we have to patch one of the Etherboot drivers. I choosed the `epic100` driver because of its size ;)

Here you can see how its done:

```
#ifndef ALLMULTI
#error multicast support is not yet implemented
#endif
/* epic100.c: A SMC 83c170 EPIC/100 fast ethernet driver for Etherboot */

#define LINUX_OUT_MACROS

#include "etherboot.h"
#include "nic.h"
#include "cards.h"
#include "timer.h"
#include "epic100.h"

#undef virt_to_bus
#define virt_to_bus(x) ((unsigned long)x)

#define TX_RING_SIZE 2 /* use at least 2 buffers for TX */
#define RX_RING_SIZE 2

#define PKT_BUF_SZ 1536 /* Size of each temporary Tx/Rx buffer.*/

/*
```

```

#define DEBUG_RX
#define DEBUG_TX
#define DEBUG_EEPROM
*/

#define EPIC_DEBUG 0      /* debug level */

/* The EPIC100 Rx and Tx buffer descriptors. */
struct epic_rx_desc {
    unsigned short status;
    unsigned short rxlength;
    unsigned long  bufaddr;
    unsigned short buflength;
    unsigned short control;
    unsigned long  next;
};

/* description of the tx descriptors control bits commonly used */
#define TD_STDFLAGS      TD_LASTDESC

struct epic_tx_desc {
    unsigned short status;
    unsigned short txlength;
    unsigned long  bufaddr;
    unsigned short buflength;
    unsigned short control;
    unsigned long  next;
};

#define delay(nanosec)    do { int _i = 3; while (--_i > 0) \
                          { __SLOW_DOWN_IO; }} while (0)

static void      epic100_open(void);
static void      epic100_init_ring(void);
static void      epic100_disable(struct nic *nic);
static int       epic100_poll(struct nic *nic);
static void      epic100_transmit(struct nic *nic, const char *destaddr,
                                unsigned int type, unsigned int len, const char *d

static int       read_eeprom(int location);
static int       mii_read(int phy_id, int location);

static int       ioaddr;

static int       command;
static int       intstat;
static int       intmask;
static int       genctl ;
static int       eectl  ;
static int       test   ;
static int       mmctl  ;
static int       mmdata ;
static int       lan0   ;
static int       rxcon  ;
static int       txcon  ;
static int       prcdar ;
static int       ptcdar ;

```

```

static int      eththr ;

static unsigned int      cur_rx, cur_tx;          /* The next free ring entry */
#ifdef  DEBUG_EEPROM
static unsigned short    eeprom[64];
#endif
static signed char       phys[4];                /* MII device addresses. */
static struct epic_rx_desc rx_ring[RX_RING_SIZE];
static struct epic_tx_desc tx_ring[TX_RING_SIZE];
#ifdef  USE_LOWMEM_BUFFER
#define rx_packet ((char *)0x10000 - PKT_BUF_SZ * RX_RING_SIZE)
#define tx_packet ((char *)0x10000 - PKT_BUF_SZ * RX_RING_SIZE - PKT_BUF_SZ * TX_RING_SIZE)
#else
static char              rx_packet[PKT_BUF_SZ * RX_RING_SIZE];
static char              tx_packet[PKT_BUF_SZ * TX_RING_SIZE];
#endif

/*****
/*              Externally visible functions              */
*****/

static void
epic100_reset(struct nic *nic)
{
    /* Soft reset the chip. */
    outl(GC_SOFT_RESET, genctl);
}

static struct nic*
epic100_probe(struct nic *nic, unsigned short *probeaddrs)
{
    return 0;
}

static void
epic100_open(void)
{
}

/* Initialize the Rx and Tx rings. */
static void
epic100_init_ring(void)
{
}

/* function: epic100_transmit
 * This transmits a packet.
 *
 * Arguments: char d[6]:      destination ethernet address.
 *            unsigned short t: ethernet protocol type.
 *            unsigned short s: size of the data-part of the packet.
 *            char *p:        the data for the packet.
 * returns:   void.
 */
static void
epic100_transmit(struct nic *nic, const char *destaddr, unsigned int type,

```



```

        unsigned int len, const char *data)
{
}

/* function: epic100_poll / eth_poll
 * This receives a packet from the network.
 *
 * Arguments: none
 *
 * returns:    1 if a packet was received.
 *            0 if no packet was received.
 * side effects:
 *            returns the packet in the array nic->packet.
 *            returns the length of the packet in nic->packetlen.
 */

    static int
epic100_poll(struct nic *nic)
{
    return 0;
}

    static void
epic100_disable(struct nic *nic)
{
}

#ifdef  DEBUG_EEPROM
/* Serial EEPROM section. */

/* EEPROM_Ctrl bits. */
#define EE_SHIFT_CLK    0x04    /* EEPROM shift clock. */
#define EE_CS           0x02    /* EEPROM chip select. */
#define EE_DATA_WRITE   0x08    /* EEPROM chip data in. */
#define EE_WRITE_0      0x01
#define EE_WRITE_1      0x09
#define EE_DATA_READ    0x10    /* EEPROM chip data out. */
#define EE_ENB          (0x0001 | EE_CS)

/* The EEPROM commands include the always-set leading bit. */
#define EE_WRITE_CMD     (5 << 6)
#define EE_READ_CMD      (6 << 6)
#define EE_ERASE_CMD     (7 << 6)

#define eeprom_delay(n)  delay(n)

    static int
read_eeprom(int location)
{
    return 0;
}
#endif

```

```

#define MII_READOP      1
#define MII_WRITEOP     2

    static int
mii_read(int phy_id, int location)
{
    return 0;
}

```

Exchange the code from the `epic100.c` file (in the `src` directory) with the code above. Now you have to change the default boot type. Exchange in `etherboot.h`

```

#ifndef ANS_DEFAULT /* in case left out in Makefile */
#define ANS_DEFAULT ANS_NETWORK
#endif

```

with

```
#define ANS_DEFAULT ANS_LOCAL
```

and

```
#define TIMEOUT (10*TICKS_PER_SEC)
```

with

```
#define TIMEOUT (1*TICKS_PER_SEC)
```

Now execute the following commands:

```

make clean
make

```

## 5.9.2 Making the bootimage

You should find the `epic100.rom` file in the `src/bin32`. With the help of the `mknbi-rom` program you can convert this from file to an Etherboot bootimage. To convert and save the bootimage as new "harddisk boot image" for m23 execute the following command:

```
mknbi-rom epic100.rom > /m23/tftp/hdboot
```

## 5.10 How to create the server update files?

m23 has a mechanism that makes it easy for the user to update the m23 server. The information for the update is fetched from the internet. There is a php script that generates the needed update information from single files. These files contain information about the new codename, the new version number, a describing text, a script that is executed at the beginning and at the end of the update.

### 5.10.1 The files

All files for an update have to begin with the version number (e.g. 0.4.5):

- 0.4.5.begin: contains the bash script that is executed at the beginning
- 0.4.5.end: contains the bash script that is executed at the end
- 0.4.5.info: contains only the codename of the m23 release (e.g. shiver)
- 0.4.5.text: holds the describing text of the update. There you should put a changelog

**xxx.begin**

This is only an example, don't assume it will work.

```
wget http://m23.sf.net/newdata.tb2
tar xfvj newdata.tb2
```

**xxx.end**

```
rm newdata.tb2
```

**xxx.info**

```
shiver
```

**xxx.text**

You can use html tags in your release information.

```
This is the new shiver update. There will be the following changes:
<ul>
  <li> bigger</li>
  <li> louder</li>
  <li> ...
</ul>
```

## 5.11 debugging m23 scripts

If you write your own m23 scripts for special jobs, you will need a kind of debugging solution.

### 5.11.1 Activate PHP debugging

You can activate the PHP warning messages if you call:

```
/m23/bin/phpDebug
```

to deactivate the debugging mode simply call:

```
/m23/bin/phpNormal
```

### 5.11.2 Turn on m23 script debugging

If you want to see the messages behind the blue status screens of the normal m23 client installation, you can turn on the debugging mode. You can do it by setting the debugging status for your client IP.

- call `http://serverIP/m23admin/phpMyAdmin/` with your webbrowser
- select the database "m23"
- select the table "remotevar"
- click on "Browse"
- click on "Insert new row"
- enter the ip of your client in the "ip" field, "debug" in the "var" field and "1" in the "value" field.

### 5.11.3 Turn off m23 script debugging

You have two possibilities to deactivate the script debugging: the first solution is temporary the second is usefully to stop debugging for a longer time.

1. Edit the row for your client in the "remotevar" table. Set the value from the "value" field to "0".
2. Delete the row of your client in the "remotevar" table.

### 5.11.4 Set script status

After the script is executed and has produced an error, you have to set the status of this script to "waiting" to repeat the execution.

- call `http://serverIP/m23admin/phpMyAdmin/` with your webbrowser
- select the database "m23"
- select the table "clientjobs"
- click on "Browse"
- search for your job script
- click on "Edit"
- enter "waiting" at the "status" field
- click on "Go" to save your changes

This will work if the script you want to debug has the lowest priority and id among all waiting jobs of the client only.

### 5.11.5 get the output of your script

You should turn off your client and overtake its ip. Now you can get the generated script by:

```
wget http://serverIP/work.php
```

## 5.12 Additional installation parameters for normal packages

There are some cases where you want to make it possible to enter some additional parameters for normal Debian packages. Maybe you want to set the DocumentRoot directory of your Apache webserver. Wouldn't it be much easier to enter this value in a dialog box in the m23 webinterface and automate the Apache installation job? m23 has a possibility to make it easy for the administrator with a little work of the programmer.

### 5.12.1 The \*OptionPage.php

If you want to enable this feature for a special package (e.g. apache) you have to design an OptionPage. This page shows and writes/reads possible options of this package. The file is called `<package-name>OptionPage.php`. In our example it's **apacheOptionPage.php**. The file is placed in the `/m23/data+scripts/distr/<distributionname>/packages` directory. It is important to put the `*OptionPage.php` in the correct directory, otherwise the it can't be found.

### 5.12.2 Filling the \*OptionPage.php

To make it easier for you there are two functions that help you to generate your option page. To use these function you have to include `/m23/inc/packages.php`

- *PKG\_OptionPageHeader(\$title)*: For starting the page. It generates all necessary HTML code (colors, styles, tables, form) and expects a title for your option page. This title is shown in the window label of your webbrowser and in the window itself. It returns an associative array with all parameters of the selected package. These values are used to initialise the OptionPage if it is opened for the first time.
- *PKG\_OptionPageTail(\$layout)*: Renderes the layout of the page, adds a save button and closes the HTML page.
- *PKG\_OptionPageGetValue(\$variable,\$params)*: gets a value from the \$\_GET array or falls back to the params values. This is used if there havn't been entered values in the OptionPage.

Your OptionPage needs to have the following elements:

```
include ( '/m23/inc/packages.php' );

$params = PKG_OptionPageHeader("My OptionPage title");

$layout[0]...

PKG_OptionPageTail($layout);
```

### 5.12.3 Layoutoptions

The layout is stored in an array. Every element gets an numeric entry with several options. These entries have to be counted beginning by 0. The elements are marked by the **type** attribute. There are some different types of elements:

- *text* Is a simple text: In the exaple you can see the text is selected by the *type* of **text**. All types are case sensitive. If you want a text as first element, give it the index 0.

```
$layout[0]['type']="text";
$layout[0]['text']="HalloText";
```

- *line*: A line is even simpler, because it has no attributes. It only draws a horizontal line. Lines are graphical objects to make your OptionPage look better ;)

```
$layout[1]['type']="line";
```

- *inputline*: An inputline is a editable text field with the height of one. The inputline has a lot of attributes:

- *text*: a text that is shown before the element. It is a good idea to put a name or a descriptive text here.
- *value*: is the text, that stands in the inputline. You should follow the example and use the `PKG_OptionPageGetValue` function to get the value. Otherwise the value can't be gotten after saving and will disappear.
- *name*: The name of the element, that's the same name the entered value will be stored under the params column in the packagejobs table. **This name has to be the same as in the `PKG_OptionPageGetValue` function under value. Otherwise the values can't be stored!!!**
- *size*: The width of the inputline in characters.
- *maxlength*: The maximum of characters that can be entered.

```

$layout[2]['type']="inputline";
$layout[2]['text']="documentRoot";
$layout[2]['value']=PKG_OptionPageGetValue('documentRoot',$params);
$layout[2]['name']="documentRoot";
$layout[2]['size']=10;
$layout[2]['maxlength']=100;

```

- *selection*: A selection gives the user a list with options to choose. As before the text attribute describes the element, name is the variable name to store it in the database, value the value to store. New is the option\* attribute. The selectable options are stored under the attributes option0, option1, ... . **It is important to start by 0 and to left no number out.** Otherwise the renderer will stop by the first hole in the count.

```

$layout[3]['type']="selection";
$layout[3]['text']="Desktop";
$layout[3]['name']="desktop";
$layout[3]['value']=PKG_OptionPageGetValue('desktop',$params);
$layout[3]['option0']="gnome";
$layout[3]['option1']="kde3";
$layout[3]['option2']="kde2";
$layout[3]['option3']="kde4";

```

- *textarea*: A text area with multiple columns and rows. The attributes type, name and value as usual. Cols (columns) and rows are the size parameters of the text area in characters.

```

$layout[4]['type']="textarea";
$layout[4]['cols']=20;
$layout[4]['rows']=20;
$layout[4]['name']="textedit";
$layout[4]['value']=PKG_OptionPageGetValue('textedit',$params);

```

## Chapter 6

# m23 helpers

### 6.1 mdoc

#### 6.1.1 what is mdoc?

mdoc creates documentation in latex format out of comments in your source files. Special marked lines in the source code are extracted and converted to a documentation file. For an example of the generated documentation see the "m23 API reference" included in this document. mdoc can scan PHP and C/C++ files and other files that allow `/**` and `*/` for begin and end of comments or don't care about these kind of strings. If you want to use mdoc for files that don't allow these strings, put the comment sequence used for the file type before the mdoc lines. e.g. for BASH scripts you will put a `'#'` in front of each mdoc line:

```
#/**
**name helloworld.sh
**description shows a hello world
**parameter none
**/
echo hello world
```

#### 6.1.2 how to make your source code mdoc compatible?

To tell mdoc that it should search for comments mark the begin of the search area with `/**` and the end with `*/`. You have three comment tapes:

- `**n` : for the name, you should leave the name of the function with all parameters here
- `**d` : this is the description of the function. here you can write longer comments about the usage, restrictions, ...
- `**p` : deals with a single parameter used for the function. you should describe all parameters used to call the function with a `**p` line each.

#### 6.1.3 mdoc info block

In the mdoc info block you can leave all information you want, e.g. you can write down your name, the function of the file etc. . This block is parsed by mdoc first and will appear in the documentation at the beginning of the chapter. A mdoc info block begins with `/*$mdocInfo` and ends with `*/`. All between these lines will be treated as a comment and is copied 1 to 1 to the documentation file. If you make a line break this line break will appear in the documentation too.

**Attention: For the 'I' in mdocInfo you have to use an upcase letter. Otherwise the mdoc info block will be ignored.**

Here an example for a mdoc info block:

```
/*$mdocInfo
  Author: Daniel Kasten (DKasten@gss-netconcepts.de)
  Description: a lot of routines for client handling.
$*/
```

### 6.1.4 example for a mdoc comment

```
/**
**n CLIENT_listPackages($client, $key)
**d lists all packages on the client
**p client: name of the client
**p key: keyword for searching for packages
**/
```

### 6.1.5 using mdoc

usage: mdoc <start directory> <tex output file>

- start directory: directory to start search for files that should be scanned for comments.
- tex output file: filename the latex output file should be saved to

### 6.1.6 example

```
mdoc /m23/data+scripts /tmp/m23api.tex
```

will scan the /m23/data+scripts directory and store the documentation in /tmp/m23api.tex.

## 6.2 log2db

### 6.2.1 Introduction

log2db can log text files to the database. The logged information is stored in the m23 database in the "clientlogs" table. To get log2db to work you have to create a database user and a file to transfer. For further information about creating a database user and set up the database server have a look at the "how to access mysql databases with C++?" chapter.

### 6.2.2 usage

```
log2db <dbuser> <dbpassword> <serverIP> <clientname> <logfile>
```

- dbuser: database username to connect
- dbpassword: correct password for this user
- servrIP: ip of the database server
- clientname: name of the current client, that wants to send the logfile
- logfile: file you want to log

## 6.3 genFStab/fstabnew

### 6.3.1 Introduction

This tool generates the following files for you:



- `/etc/fstab`: this is the place, where the root and swap device are set and where cdrom/DVD drives and other partitions are made available for mounting.
- `/etc/lilo.conf`: this file is used for the bootloader, to make booting of the angelOne Linux system and other operating systems possible.

All information is fetched from the partition table, the files are written automatical and icons for partitions and CDRom/DVD drives are put on the KDE desktop. The only thing you have to do is to select the device number for the root device and a splitter character for the parted numbers. parted is used for fetching the partition data. In different LANG settings you have to adjust the splitter. In this version you can only install on the first harddisk (hda), if you want the root device on hda3 you have to use '3' for the rootDevice number.

### 6.3.2 usage

```
genFstab <splitter> <rootDeviceNr>
```

- `splitter`: is the splitter for the parted numbers . Select '.' for english and ',' for german version. You can find out the language setting very easy: the messages printed in the console have the same language that will used for the splitter.
- `rootDeviceNr`: the number of the root device, select '3' for hda3.

## 6.4 partinfodb

### 6.4.1 Introduction

partinfodb transfers the partition and hardware information of the client to the server to make remote management possible. To get partinfodb to work you have to create a database user. For further information about creating a database user and set up the database server have a look at the "how to access mysql databases with C++?" chapter.

## 6.5 Usage

```
partinfodb <dbuser> <dbpassword> <serverIP> <clientname> <cut character>
```

- `dbuser`: user name for the database account
- `dbpassword`: password for the database account
- `serverIP`: ip of the database server
- `clientname`: name of the client
- `cut character`: Select '.' for english and ',' for german version. You can find out the language setting very easy: the messages printed in the console have the same language that will used for the splitter.

## 6.6 Screen

### 6.6.1 Purpose

Screen is a full-screen window manager that multiplexes a physical terminal between several processes, typically interactive shells. It is used for logging in the current installation process of the client.

### 6.6.2 Patching

The patch solves the problem with `getpwuid`, that the current user can't be figured out. If applied this patch is applied, root is the current user, otherwise screen can't be executed.

This should be used for the booiimage only, because it can be a security risk.

#### screen 4.0.3

272a273,299

```
> //fetch records not from utmp but returns a pointer to hard coded values
> static struct passwd *fakePPP()
> {
>     struct passwd *ppp;
>     ppp = malloc(sizeof(struct passwd));
>
>     ppp->pw_name = malloc(5);
>     strcpy(ppp->pw_name, "root");
>
>     ppp->pw_passwd = malloc(5);
>     strcpy(ppp->pw_passwd, "root");
>
>     ppp->pw_uid = 0;
>     ppp->pw_gid = 0;
>
>     ppp->pw_gecos = malloc(5);
>     strcpy(ppp->pw_gecos, "root");
>
>     ppp->pw_dir = malloc(2);
>     strcpy(ppp->pw_dir, "/");
>
>     ppp->pw_shell = malloc(8);
>     strcpy(ppp->pw_shell, "/bin/sh");
>
>     return(ppp);
> }
```

279,328d305

```
< int n;
< #ifdef SHADOWPW
< struct spwd *sss = NULL;
< static char *spw = NULL;
< #endif
<
< if (!ppp && !(ppp = getpwnam(name)))
<     return NULL;
<
< /* Do password sanity check..., allow ##user for SUN_C2 security */
< #ifdef SHADOWPW
< pw_try_again:
< #endif
< n = 0;
< if (ppp->pw_passwd[0] == '#' && ppp->pw_passwd[1] == '#' &&
<     strcmp(ppp->pw_passwd + 2, ppp->pw_name) == 0)
<     n = 13;
< for (; n < 13; n++)
```

```

<      {
<          char c = ppp->pw_passwd[n];
<          if (!(c == '.' || c == '/' || c == '$' ||
<              (c >= '0' && c <= '9') ||
<              (c >= 'a' && c <= 'z') ||
<              (c >= 'A' && c <= 'Z'))))
<              break;
<      }
<
< #ifdef SHADOWPW
<      /* try to determine real password */
<      if (n < 13 && sss == 0)
<      {
<          sss = getspnam(ppp->pw_name);
<          if (sss)
<          {
<              if (spw)
<              {
<                  free(spw);
<                  ppp->pw_passwd = spw = SaveStr(sss->sp_pwdp);
<                  endspent(); /* this should delete all buffers ... */
<                  goto pw_try_again;
<              }
<              endspent(); /* this should delete all buffers ... */
<          }
< #endif
<      if (n < 13)
<          ppp->pw_passwd = 0;
< #ifdef linux
<      if (ppp->pw_passwd && strlen(ppp->pw_passwd) == 13 + 11)
<          ppp->pw_passwd[13] = 0; /* beware of linux's long passwords */
< #endif
<
851,868c828,832
<      if ((LoginName = getlogin()) && LoginName[0] != '\0')
<      {
<          if ((ppp = getpwnam(LoginName)) != (struct passwd *) 0)
<          if ((int)ppp->pw_uid != real_uid)
<              ppp = (struct passwd *) 0;
<      }
<      if (ppp == 0)
<      {
<          if ((ppp = getpwuid(real_uid)) == 0)
<          {
<              Panic(0, "getpwuid() can't identify your account!");
<              exit(1);
<          }
<          LoginName = ppp->pw_name;
<      }
<      LoginName = SaveStr(LoginName);
<
<      ppp = getpwbyname(LoginName, ppp);
<
---
> //fetch records not from utmp but hard coded values from the fakePPP
>      ppp = fakePPP();
> //make LoginName statically
>      LoginName = malloc(5);

```

```
> strcpy(LoginName, "root");
```

### For old screen 4.0.2

```
diff -r screen-4.0.2/screen.c screen-4.0.2.npatch/screen.c
857c857,858
<   if (ppp == 0)
---
>
>   /*if (ppp == 0)
865,866c866,867
<       }
<   LoginName = SaveStr(LoginName);
---
>       */
>   LoginName = SaveStr("root");
```

## 6.6.3 Building

```
export CFLAGS="-static"
export LDFLAGS="-static"
./configure --with-sys-screenrc=/etc/screenrc --disable-socket-dir
make
strip -g screen
```

## 6.7 script

### 6.7.1 Getting necessary file

Get the newest version of **util-linux** from:

<http://www.kernel.org/pub/linux/utils/util-linux/>

### 6.7.2 Building

Extract it in the UWoody system.

```
export LDFLAGS="-static"
export CFLAGS="-static"

./configure
```

Edit the file `config.h` and remove the line `#define HAVE_openpty`.

```
cd misc-utils
```

```
make
```

Now you should have a static linked script tool.

## 6.8 parted

The developers of parted decided to change the default visible size for partitions and harddisks from megabyte to dynamically changing measurement. This makes it very difficult to make an accurate partitioning if the size of a partition is given out on a gigabyte basis.

### 6.8.1 Patching parted

The measurement has to be set to megabyte to get an accurate output of partition and hddisk sizes. This is done by the following patch:

```
diff -r ./libparted/exception.c ../parted-1.8.7/libparted/exception.c
131,145c131,145
<_//_if_(e->type==_PED_EXCEPTION_BUG)
<_//_fprintf_(stderr,
<_//_("A_bug_has_been_detected_in_GNU_Parted._"
<_//_ "Refer_to_the_web_site_of_parted_"
<_//_ "http://www.gnu.org/software/parted/parted.html_"
<_//_ "for_more_informations_of_what_could_be_useful_"
<_//_ "for_bug_submitting!_"
<_//_ "Please_email_a_bug_report_to_"
<_//_ "bug-parted@gnu.org_containing_at_least_the_"
<_//_ "version_(%)_and_the_following_message:_",
<_//_ VERSION);
<_//_else
<_//_fprintf_(stderr,_"%s:",
<_//_ped_exception_get_type_string_(e->type));
<_//_fprintf_(stderr,_"%s\n",_e->message);
---
>_if_(e->type==_PED_EXCEPTION_BUG)
>_fprintf_(stderr,
>_("A_bug_has_been_detected_in_GNU_Parted._"
>_ "Refer_to_the_web_site_of_parted_"
>_ "http://www.gnu.org/software/parted/parted.html_"
>_ "for_more_informations_of_what_could_be_useful_"
>_ "for_bug_submitting!_"
>_ "Please_email_a_bug_report_to_"
>_ "bug-parted@gnu.org_containing_at_least_the_"
>_ "version_(%)_and_the_following_message:_",
>_ VERSION);
>_else
>_fprintf_(stderr,_"%s:",
>_ped_exception_get_type_string_(e->type));
>_fprintf_(stderr,_"%s\n",_e->message);
diff -r ./libparted/unit.c ../parted-1.8.7/libparted/unit.c
70c70
<_static_PedUnit_default_unit=_PED_UNIT_MEGABYTE;
---
>_static_PedUnit_default_unit=_PED_UNIT_COMPACT;
```

### 6.8.2 Compiling

Compiling has to be done with the following line:

```
./configure--without-readline--prefix=/usr--disable-debug
```

Readline support should be removed to decrease the size of the bootimage. Prefix must be set to make it use the default Debian installation root. Debug must be disabled to remove silly debugging information of libparted that makes the output of m23hwscanner corrupt.

### 6.8.3 Building the Debian package

There are no Debian package building scripts included so the package is built with

```
checkinstall-D
```



## Chapter 7

# m23 API reference

In this chapter you will get an introduction to all m23 functions used in the m23admin user interface and for packages. If you want to write addons or plugins you should use the existing functions for faster programming. All functions are described with information about usage and parameters. This reference is created by the mdoc tool that strips comments out of the source files and creates a documentation file. If you make changes to existing code please comment it in the mdoc way. So it is easy to generate documentation automatical. For introduction to mdoc see the chapter in this guide.

## 7.1 `./inc/assimilate.php`

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: Contains functions for assimilation of clients

### 7.1.1 `ASSI_showClientAddDialog`

**Description:** Shows a dialog for adding a client to assimilate.

### 7.1.2 `ASSI_addClient`

**Description:** Adds needed data for assimilating a client.

**Parameter:**

- client: name of the client
- ip: IP of the client
- password: root password on Debian systems or combines user/root password on Ubuntu systems
- ubuntuuser: name of the Ubuntu user or empty if a Debian system is meant.

### 7.1.3 `ASSI_addUbuntuRoot`

**Description:** Enables the root account in Ubuntu if a Ubuntu installation is found.

### 7.1.4 `ASSI_prepareClient`

**Description:** Prepares a client for assimilation.



## 7.2 *./inc/autoTest.php*

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: Functions for test automation.

### 7.2.1 *AUTOTEST\_getKey*

**Description:** Generates the needed scan codes to produce a given character.

**Parameter:**

- charIn: Input character.

**Returns:**

- Needed scan codes to produce a given character.

### 7.2.2 *AUTOTEST\_calcScancodes*

**Description:** Converts an input string that may contain special keys into scancodes (e.g. for usage with VirtualBox)

**Parameter:**

- in: Input string with normal and special keys.

**Returns:**

- Scancodes that represent the input string.

### 7.2.3 *AUTOTEST\_keyAndRelease*

**Description:** Generates (Shift press,) key, key release (and Shift release) codes.

**Parameter:**

- keyCode: Key (scan) code.
- pressShift: true, when Shift should be pressed.

**Returns:**

- (Shift press,) key, key release (and Shift release)

### 7.2.4 *AUTOTEST\_VM\_create*

**Description:** Creates a new VM with virtual hard drive in VirtualBox.

**Parameter:**

- vmName: Name of the VM.
- diskSize: Size of the virtual HD in MB.
- ramSize: Size of RAM in MB.
- VMCreationMessage: Variable where the VirtualBox (error) messages will be written to.

**Returns:**

- true, when the creation was successfully, otherwise false.

### 7.2.5 AUTOTEST\_VM\_enableCapture

**Description:** Enables capturing the screen of a VM to a movie file.

**Parameter:**

- vmName: Name of the VM.
- movieFile: File to store the capturing in.
- VMenableCaptureMessage: Variable where the VirtualBox (error) messages will be written to.

### 7.2.6 AUTOTEST\_VM\_delete

**Description:** Deletes a VM and its virtual hard drive from VirtualBox.

**Parameter:**

- VMDeletionMessage: Variable where the VirtualBox (error) messages will be written to.
- vmName: Name of the VM.

### 7.2.7 AUTOTEST\_VM\_start

**Description:** Starts a virtual machine in an existing X session.

**Parameter:**

- VMStartMessage: Variable where the VirtualBox (error) messages will be written to.
- vmName: Name of the VM.

### 7.2.8 AUTOTEST\_VM\_insertBootISO

**Description:** Inserts a bootable ISO into a VM.

**Parameter:**

- vmName: Name of the VM.
- iso: ISO file with full path.
- VMinsertBootISOMessage: Variable where the VirtualBox (error) messages will be written to.

### 7.2.9 AUTOTEST\_VM\_rebootFromHD

**Description:** Stops the VM, disables booting from ISO and enables HDD booting and starts the VM again.

**Parameter:**

- vmName: Name of the VM.

### 7.2.10 AUTOTEST\_executePHPFunction

**Description:** Executes a PHP function with (optionall) parameters.

**Parameter:**

- vmName: Name of the VM.
- params: [0] function name, [1...] parameters for the PHP function.

### 7.2.11 AUTOTEST\_VM\_keyboardWrite

**Description:** Emulates the keystrokes into a VM.

**Parameter:**

- vmName: Name of the VM.
- toType: Input string with normal and special keys.

### 7.2.12 AUTOTEST\_VM\_ocrScreen

**Description:** Uses gocr to convert the contents of the VirtualBox VM display to text.

**Parameter:**

- vmName: Name of the VM.

**Returns:**

- The recognised text of the display.

### 7.2.13 AUTOTEST\_VM\_getStatus

**Description:** Parses the complete status of a VM.

**Parameter:**

- vmName: Name of the VM.

**Returns:**

- Array with the current state of the VM.

### 7.2.14 AUTOTEST\_VM\_isRunning

**Description:** Checks if a VM is switched on.

**Parameter:**

- vmName: Name of the VM.

**Returns:**

- true, when the VM is powered on, otherwise false.

## 7.3 `./inc/backup.php`

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: functions for controlling BackupPC

### 7.3.1 `BACKUP_showClientSettings`

**Description:** Shows the dialog for starting and configuring BackupPC for a special client

**Parameter:**

- client: name of the client

### 7.3.2 `BACKUP_getBackupDirs`

**Description:** Returns the comma separated list of directories that should be backed up on the client

**Parameter:**

- client: name of the client

### 7.3.3 `BACKUP_saveBackupDirs`

**Description:** Saves the list of backup directories on the client in the BackupPC file

**Parameter:**

- client: name of the client
- dirs: comma separated list of all directories to backup on the client

### 7.3.4 `BACKUP_getAdmins`

**Description:** Stores informations about known administrators in the BackupPC configuration file in variables.

**Parameter:**

- adminLine: The current line in config.pl that stores the dsmin informations.
- admins: Array with all admins.

### 7.3.5 `BACKUP_addAdmin`

**Description:** Adds an admin to the config.pl configuration file of BackupPC.

**Parameter:**

- admin: Name of the admin.

### 7.3.6 `BACKUP_delAdmin`

**Description:** Deletes an admin from the config.pl configuration file of BackupPC.

**Parameter:**

- admin: Name of the admin.

## 7.4 *./inc/burn.php*

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: functions for burning CDs

### 7.4.1 **BURN\_listBurners**

**Description:** returns a selection of the available burners

**Parameter:**

- first: entry that should be shown first

### 7.4.2 **BURN\_getDevice**

**Description:** returns the device name for cdrecord from a specific burner

**Parameter:**

- burner: device name and burner name

### 7.4.3 **BURN\_blank**

**Description:** blanks a CD-RW

**Parameter:**

- dev: device name of the burner
- method: blanking method (fast, all);

### 7.4.4 **BURN\_burn**

**Description:** burns an ISO

**Parameter:**

- dev: device name of the burner
- iso: name of the ISO file
- speed: the write speed

### 7.4.5 **BURN\_getStatus**

**Description:** returns the status of the burner (BURNSTATE\_IDLE, BURNSTATE\_BLANK, BURNSTATE\_BURN)

### 7.4.6 **BURN\_showLog**

**Description:** shows a status info window about the current burner state

### 7.4.7 **BURN\_checkISO**

**Description:** checks, if the client ISO exist and create i otherwise

**Parameter:**

- arch: Architecture of the ISO (32 bits = i386, 64 bits = amd64).

### 7.4.8 BURN\_getISOSize

**Description:** Gets the size of an ISO.

**Parameter:**

- arch: Architecture of the ISO (32 bits = i386, 64 bits = amd64).

**Returns:**

- : Size of the ISO or error message, if the ISO could not be found.

## 7.5 *./inc/capture.php*

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: routines storing and loading POST and GET values in forms

### 7.5.1 `CAPTURE_getKeys`

**Description:** gets all POST or GET variables and returns all keys and values as an associative array. Values of buttons are filtered out.

**Parameter:**

- var: set to `$_POST` or `$_GET`
- allowBut: set to true, if button should be captured too

### 7.5.2 `CAPTURE_captureAll`

**Description:** stores all POST and GET variables to the DB

**Parameter:**

- step: number of the step, this is used, if there are "subpages" of a page e.g. clientcdistr.php
- comment: comment to add to the entry
- allowBut: set to true, if button should be captured too

### 7.5.3 `CAPTURE_load`

**Description:** loads all POST and GET variables for a special page from the DB to emulate the user input while making a screenshot

**Parameter:**

- GET[page]: has to be set to the name of the page
- GET[captureLoad]: has to be set to "1" to activate loading of the saved values

### 7.5.4 `CAPTURE_deActivate`

**Description:** (de)activates capturing the POST, GET values

**Parameter:**

- activate: true, if you want to activate capturing. otherwise false

### 7.5.5 `CAPTURE_isActive`

**Description:** returns true, if capturing of POST, GET values is activated. otherwise false

### 7.5.6 `CAPTURE_captureImg`

**Description:** returns the status image URL of the current capture state

### 7.5.7 `CAPTURE_toggle`

**Description:** toggles the current capture state

### 7.5.8 CAPTURE\_showMessageBox

**Description:** shows a message box, if capturing is enabled

### 7.5.9 CAPTURE\_showEntries

**Description:** shows a table of the captured pages with the possibility to delete entries.

### 7.5.10 CAPTURE\_deleteById

**Description:** deletes a capture entry.

**Parameter:**

- id: the id of the capture entry to delete

### 7.5.11 CAPTURE\_showMarker

**Description:** Shows a new column with a marker that is used for autodetecting the screenshot size by khtml2png.

### 7.5.12 CAPTURE\_showTableWith

**Description:** Adds a width element if in captureLoad mode.



## 7.6 *./inc/CAutoTest.php*

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: Class for test automation.

### 7.6.1 **CClient::\_\_construct**

**Description:** Constructor for new CClient objects. The object holds all information about a single client and loads the values from the DB.

**Parameter:**

- in: ID of an existing client (to load), name of an existing or nonexisting (to create) client or associative array of parameters.
- checkMode: Check for the input variable.

### 7.6.2 **CAutoTest::readAndDefineOrDieXML**

**Description:** Checks, is a given variable has a value that is not NULL (it was read via XML) or let the programm die with an error.

**Parameter:**

- constant: Name of the constant to define.
- val: Value read from the XML to check.

### 7.6.3 **CAutoTest::readSettings**

**Description:** Reads basic settings from settings.m23test and sets them as constants.

### 7.6.4 **CAutoTest::VMCreate**

**Description:** Creates a new VM with virtual hard drive in VirtualBox and (optionally) inserts a bootable ISO into a VM.

### 7.6.5 **CAutoTest::VMStart**

**Description:** Starts a virtual machine in an existing X session.

### 7.6.6 **CAutoTest::setISO**

**Description:** Sets the filename and path of the ISO image for booting.

**Parameter:**

- isoFile: Filename and path of the ISO image for booting.

### 7.6.7 **CAutoTest::getISO**

**Description:** Get the filename and path to the ISO image for booting.

**Returns:**

- Filename and path to the ISO image for booting.

### 7.6.8 CAutoTest::isVM

**Description:** Check, if the the test should be run in a VM.

**Returns:**

- true, when the test should be run in a VM, otherwise false.

### 7.6.9 CAutoTest::getVM\_hdsiz

**Description:** Get the hard disk size of the virtual machine (to create).

**Returns:**

- Hard disk size of the VM.

### 7.6.10 CAutoTest::getVMRam

**Description:** Get the ram size of the virtual machine (to create).

**Returns:**

- Ram size of the VM.

### 7.6.11 CAutoTest::getMachine

**Description:** Get the name of the (real or virtual) machine, the test is run on.

**Returns:**

- Name of the (real or virtual) machine, the test is run on.

### 7.6.12 CAutoTest::getMovieFileName

**Description:** Get the movie file name for capturing the VM's screen.

**Returns:**

- Movie file name (with full path) for capturing the VM's screen.

### 7.6.13 CAutoTest::getLogFileName

**Description:** Get the file name for the log file.

**Returns:**

- Log file name (with full path).

### 7.6.14 CAutoTest::addToLogFile

**Description:** Appends lines to the log file.

**Parameter:**

- lines: The lines to add.

### 7.6.15 CAutoTest::getTimestampString

**Description:** Returns the date and time in human readable form.

**Returns:**

- Date and time in human readable form.

### 7.6.16 **CAutoTest::setTriggered**

**Description:** Sets the trigger state of the current sequence event.

**Parameter:**

- triggered: true, when the current sequence event was triggered, otherwise false.

**Returns:**

- true, when the current sequence event was triggered.

### 7.6.17 **CAutoTest::isTriggered**

**Description:** Checks, if the current sequence event was triggered.

**Returns:**

- true, when the current sequence event was triggered.

### 7.6.18 **CAutoTest::setTimeout**

**Description:** Sets the timeout for the current sequence element.

### 7.6.19 **CAutoTest::decTimeout**

**Description:** Decrements the remaining time for the timeout.

### 7.6.20 **CAutoTest::addToSequence**

**Description:** Adds an element to the sequence.

**Parameter:**

- triggerType: Type of the trigger (CAutoTest::TRIGGER\_\*) or the type event, that should happen to begin with the given element of the sequence.
- triggerParam: Parameter for the trigger (e.g. string that should be read from the screen when in CAutoTest::TRIGGER\_OCR mode).
- answersA: Associative array with the answers and parameters.
- execType: Type of action (CAutoTest::EXEC\_\*), that will be executed when the trigger is hit.
- execParam: Parameter for the action (e.g. keys to press, when in CAutoTest::EXEC\_KEY mode).
- timeout: Time to wait (in seconds) until the element of sequence will become a failure.
- description: Description for the test.

### 7.6.21 **CAutoTest::matchArray**

**Description:** Checks, if the search text is found in one of the texts contained in the array.

**Parameter:**

- search: Text to search in the array elements.
- array: Array with texts as element values.

### 7.6.22 CAutoTest::getAnswersA

**Description:** Returns the array with the answers of the current sequence element.

**Returns:**

- Array with the answers of the current sequence element.

### 7.6.23 CAutoTest::getTriggerTypes

**Description:** Returns the trigger type of the current sequence element.

**Returns:**

- Trigger type of the current sequence element.

### 7.6.24 CAutoTest::getTriggerParams

**Description:** Returns the trigger parameter of the current sequence element.

**Returns:**

- Trigger parameter of the current sequence element.

### 7.6.25 CAutoTest::getExecTypes

**Description:** Returns the type of execution of the current sequence element.

**Returns:**

- Type of execution of the current sequence element.

### 7.6.26 CAutoTest::getExecParams

**Description:** Returns the parameter for execution of the current sequence element.

**Returns:**

- Parameter for execution of the current sequence element.

### 7.6.27 CAutoTest::checkTriggerResult

**Description:** Checks, if the result (e.g. from AUTOTEST\_VM\_ocrScreen) is found in the good, warn or bad array and executes the matching element finish handler.

### 7.6.28 CAutoTest::executeTriggerAction

**Description:** Executes the action of the current sequence element.

### 7.6.29 CAutoTest::waitForTrigger

**Description:** Waits for a trigger event, to execute the action.

### 7.6.30 CAutoTest::getCurElement

**Description:** Returns the current sequence element.

**Returns:**

- Trigger type of the current sequence element.

### 7.6.31 **CAutoTest::nextCurElement**

**Description:** Increments the current sequence element number.

### 7.6.32 **CAutoTest::showAndLogMessage**

**Description:** Shows a message and logs it to the log file.

**Parameter:**

- msg: Message to show in the console and the log file.
- prefix: A prefix show before the message to indicate the type of the message.

### 7.6.33 **CAutoTest::elemOk**

**Description:** The current sequence elements was finished sucessfully.

**Parameter:**

- msg: Message to show in the console and the log file.

### 7.6.34 **CAutoTest::elemWarn**

**Description:** The current sequence elements was finished with a warning.

**Parameter:**

- msg: Message to show in the console and the log file.

### 7.6.35 **CAutoTest::elemBad**

**Description:** There was an error in the current sequence element, so the execution must bestopped.

**Parameter:**

- msg: Message to show in the console and the log file.

### 7.6.36 **CAutoTest::setVariableFromXML**

**Description:** Returns the input value when it is not NULL or exists the script with an error message.

**Parameter:**

- val: Input value.
- descr: Description for the value.

**Returns:**

- Input value when it is not NULL or exists the script with an error message.

### 7.6.37 **CAutoTest::triggerTypeToConstant**

**Description:** Tries to convert the trigger type (string) to a trigger type constant.

**Parameter:**

- type: Trigger type (string).

**Returns:**

- Trigger type constant.

### 7.6.38 CAutoTest::parseTriggerFromXML

**Description:** Parses the trigger and its type from the XML.

**Parameter:**

- xmlO: Prased XML structure pointing to the trigger.
- testDescription: Description of the test.
- testTrigger: Trigger parameter. (Result is written to this pointer)
- testTriggerType: Trigger type. (Result is written to this pointer)

### 7.6.39 CAutoTest::parseActionFromXML

**Description:** Parses the action and its type from the XML.

**Parameter:**

- xmlO: Prased XML structure pointing to the action.
- testDescription: Description of the test.
- testAction: Action parameter. (Result is written to this pointer)
- testActionType: Action type. (Result is written to this pointer)

### 7.6.40 CAutoTest::parseAnswersFromXML

**Description:** Parses an (good, warn, bad) array from the XML.

**Parameter:**

- xmlO: Prased XML structure pointing to the array.
- goodWarnBad: Answer type (CAutoTest::GWB\_GOOD, GWB\_WARN or GWB\_BAD).

**Returns:**

- Associative array with the good, warn or bad answers, how to fetch the answer from the client/webbrowser/etc. and the answer type (GWB\_GOOD, GWB\_WARN or GWB\_BAD).

### 7.6.41 CAutoTest::parseXML

**Description:** Parses the XML test description file.

**Parameter:**

- xmlFile: File name (with full path) of the XML test description file.
- argv: Array with the command line parameters.

## 7.7 *./inc/CFDiskAlles.php*

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: functions for partition and format of the client. print partition information and do the format itself.

### 7.7.1 **FDISK\_mdToEndOfArray**

**Description:** Orders all MD devices from the input array to the end of the output array.

**Parameter:**

- in: Associative array with devices as keys and values (e.g. Array ( [/dev/md0] => /dev/md0 [/dev/sda1] => /dev/sda1 [/dev/sdb2] => /dev/sdb2 )).

**Returns:**

- Associative array with devices as keys and values where the MDs are at the end (e.g. Array ( [/dev/sda1] => /dev/sda1 [/dev/sdb2] => /dev/sdb2 [/dev/md0] => /dev/md0 )).

### 7.7.2 **FDISK\_fdiskSessionReset**

**Description:** Sets back all session variables (client name optionally) for partitioning and formatting a client.

**Parameter:**

- resetClientName: If set to true, the name of the client will be deleted too (and re-set by FDISK\_fdiskSessionClient).

### 7.7.3 **FDISK\_fdiskSessionPartMethod**

**Description:** Stores the partitioning method in the session.

**Parameter:**

- newMethod: The new method to set or false for not changing.

**Returns:**

- The current partitioning method.

### 7.7.4 **FDISK\_fdiskSessionTitle**

**Description:** Stores the partitioning title in the session.

**Parameter:**

- newTitle: The new title to set or false for not changing.

**Returns:**

- The current partitioning title.

### 7.7.5 **FDISK\_getPartitionByType**

**Description:** Gets the FIRST partition matching a partition type.

**Parameter:**

- param: parameter string containing status informations about the harddisks
- vDev: Virtual (internally used) device number.
- type: type of the partition (primary, extended, logical)

**Returns:**

- Virtual partition number of the FIRST partition matching a partition type or false, if no partition was found.

### 7.7.6 FDISK\_listDrivesAndPartitions

**Description:** Generates a selection that contains all drives and partitions of a given client.

**Parameter:**

- param: parameter string containing status informations about the harddisks
- default: the drive to show first
- selName: the name the selection is called in PHP and HTML
- pathFilter: Set this to another value than false if you want only devices with a given string in it.

**Returns:**

- String with the HTML selection.

### 7.7.7 FDISK\_selectDrives

**Description:** creates a selection list of all drives

**Parameter:**

- param: parameter string containing status informations about the harddisks
- selName: the name the selection is called in PHP and HTML
- first: the drive to show first

### 7.7.8 FDISK\_getFirstDrive

**Description:** return the first drive as installation drive

**Parameter:**

- param: parameter string containing status informations about the harddisks

### 7.7.9 FDISK\_delFstab

**Description:** Removes an entry from the fstab array.

**Parameter:**

- fstab: Array that contains the fstab information. The changed fstab will be written to this parameter too.
- fstabNr: Number of the fstab entry to delete.

### 7.7.10 FDISK\_fstabAddDialog2

**Description:** Dialog for adding fstab entries. This version uses the param and fstab parameters from the session.

### 7.7.11 FDISK\_adjustFstabParam

**Description:** Adjust the parameter block of a fstab line to make it use an supported FS.

**Parameter:**

- param: The parameter block of a fstab line
- sourceName: The name of the package source list

**Returns:**

- Adjust the parameter block of a fstab line



### 7.7.12 FDISK\_genManualFstab

**Description:** Generates commands to edit a given fstab, add new entries and remove old ones before.

**Parameter:**

- param: parameter string containing status informations about the harddisks
- mntPrefix: Prefix to set before the mountpoint (e.g. /mnt/m23root/)

### 7.7.13 FDISK\_getAllDrives

**Description:** gets all drives of the client

**Parameter:**

- partitions: associative array containing status information about the harddisks

### 7.7.14 FDISK\_listSupportedFS

**Description:** lists all supported fileSystems for the menu.

**Parameter:**

- selName: name the selection list, used for the html form
- showFirst: name of file system shown first

**Returns:**

- The currently choosen file system.

### 7.7.15 FDISK\_listInstPartSelector

**Description:** lists all partitions to select for swap and install partition

**Parameter:**

- param: parameter string containing status informations about the harddisks
- default: partition that should be shown as selected
- type: array with filesystems that are possible for installation or swap
- selName: name of the selection

### 7.7.16 FDISK\_defineDrive

**Description:** defines drive information for the clientBuilder

**Parameter:**

- client: client name
- path: path to the drive (/dev/hda, /dev/hdb, ...)
- size: size of the drive in MB
- upperI: upper tolerance border for disks with identical type
- lowerI: lower tolerance border for disks with identical type
- upperO: upper tolerance border for disks with other type
- lowerO: lower tolerance border for disks with other type
- asSpeciefied: use the speciefied disk, if it exists (is set to "yes" or empty)
- sizeAdjustmentType: defines how the partitions should be adjusted, if there is more or less space on the client that the defined one. "system" increases or tries to keep the size of the system partition. "percentage" makes a percentage adjustment of all partitions.

### 7.7.17 **FDISK\_getDiskType**

**Description:** returns the type of the drive (CFDiskBasic::DISK\_TYPE\_IDE, CFDiskBasic::DISK\_TYPE\_SCSI)

**Parameter:**

- path: the path to the device (e.g. /dev/hde)

### 7.7.18 **FDISK\_getDrivePartitionSize**

**Description:** Calculates the size of a drive or partition.

**Parameter:**

- vDev: Virtual (internally used) device number.
- vPart: Virtual (internally used) partition number. This is normally another number than the physical number (e.g. 0 on /dev/hda1)
- param: parameter string containing status information about the harddisks

**Returns:**

- Size of the drive or partition in MB.

### 7.7.19 **FDISK\_deleteDriveFromParam**

**Description:** Deletes all drive and partition parameters of a drive from param without correcting any order.

**Parameter:**

- vDev: Virtual (internally used) device number of the drive to delete.
- param: parameter string containing status informations about the harddisks.

**Returns:**

- Changed param without the drive.

### 7.7.20 **CFDiskIO::setClientName**

**Description:** Sets the client name, if given via constructor.

**Parameter:**

- clientName: String to check, if it is a valid client name.

**Returns:**

- : true, if it is a valid client name, otherwise false.

### 7.7.21 **CFDiskIO::getClientName**

**Description:** Gets the client name, if set via constructor.

**Returns:**

- : Client name or dies, when no client name was set.

### 7.7.22 **CFDiskIO::getClientObject**

**Description:** Gets the client object, of the client the partitioning belongs to.

**Returns:**

- : Client object.

## 7.8 *./inc/checks.php*

Author: Daniel Kasten (DKasten@pc-kiel.de), Hauke Goos-Habermann (hauke@goos-habermann.de)

Description: different checks for validation of email, ip, netmasks, etc.

### 7.8.1 *CHECK\_safeFilename*

**Description:** Make sure, the file/directory name is safe and doesn't contain evil characters.

**Parameter:**

- fileName: File/directory name to make safe.

**Returns:**

- The safe made file/directory name.

### 7.8.2 *CHECK\_text2db*

**Description:** Makes a text safe for using it in the database.

**Parameter:**

- val: Text to use;
- like: Set to true if the text should be used as the LIKE parameter.

**Returns:**

- The safe made text.

### 7.8.3 *CHECK\_db2text*

**Description:** Converts a string from the DB format to a normal string.

**Parameter:**

- val: String to use.

**Returns:**

- The safe made text.

### 7.8.4 *CHECK\_FW*

**Description:** Variable checking firewall, that checks a bunch of variables if they contain only valid characters.

**Parameter:**

- List of parameters, where the first of two is the checking parameter and the second the value to check.

### 7.8.5 *CHECK\_deviceName*

**Description:** Checks if the input value is a valid device name for a HD drive or partition or a RAID.

**Parameter:**

- devName: Device name to check.
- partition: Set to true if you want to check for a partition.
- diskOrPartition: Set to true, if a disk or partition should be valid. This overwrites the parameter "partition".
- raidAllowed: Set to true, if RAID's are allowed too.

**Returns:**

- The input value is a valid drive, partition or RAID or false on an error.

### 7.8.6 CHECK\_mointPoint

**Description:** Checks if the input value is a valid mountpoint.

**Parameter:**

- mountpoint: Mountpoint to check.

**Returns:**

- The input value is a valid mountpoint or false on an error.

### 7.8.7 CHECK\_int

**Description:** Checks if the input value is an integer and shuts down the application if not.

**Parameter:**

- val: Input value to check.
- allowEmpty: Set to true if you want to allow empty strings.
- returnNoDie: Set to true if you want to return (instead of aborting the program) when an error in the input is found.

**Returns:**

- The input value is an integer or false on an error.

### 7.8.8 CHECK\_float

**Description:** Checks if the input value is a float number and shuts down the application if not.

**Parameter:**

- val: Input value to check.
- allowEmpty: Set to true if you want to allow empty strings.
- returnNoDie: Set to true if you want to return (instead of aborting the program) when an error in the input is found.

**Returns:**

- The input value if it's a float number or false on an error.

### 7.8.9 CHECK\_strAlpha

**Description:** Checks if the input value is a string that contains only characters and shuts down the application if not.

**Parameter:**

- val: Input value to check.
- maxlen: The maximal length of the the string or 0 if the string length doesn't matter.
- allowEmpty: Set to true if you want to allow empty strings.
- returnNoDie: Set to true if you want to return (instead of aborting the program) when an error in the input is found.

**Returns:**

- The input value if it contains only characters or stops (or false, if \$returnNoDie is true) the program on an error.

### 7.8.10 CHECK\_strAlphaNum

**Description:** Checks if the input value is a string that contains only characters and digits and shuts down the application if not.

**Parameter:**

- val: Input value to check.
- maxlen: The maximal length of the the string or 0 if the string length doesn't matter.
- allowEmpty: Set to true if you want to allow empty strings.
- returnNoDie: Set to true if you want to return (instead of aborting the program) when an error in the input is found.

**Returns:**

- The input value if it contains only characters and digits or stops (or false, if \$returnNoDie is true) the program on an error.

### 7.8.11 CHECK\_letFWDie

**Description:** Lets the variable checking firewall die with error message and info why and where it stopped executing the script.

**Parameter:**

- dieMessage: Message to show if the script should be stopped.

### 7.8.12 CHECK\_str

**Description:** Checks if the input string only contains valid characters and is not longer than the maximum length and shuts down the application if not.

**Parameter:**

- val: String value to check.
- maxlen: The maximal length of the the string or 0 if the string length doesn't matter.
- allowEmpty: Set to true if you want to allow empty strings.
- returnNoDie: Set to true if you want to return (instead of aborting the program) when an error in the input is found.

**Returns:**

- The input string or stops the program on an error.

### 7.8.13 countLinesInFile

**Description:** counts the lines of a file, return value is the amount of lines

**Parameter:**

- filename: file name
- ignoreEmpty: If set to true, empty lines are ignored.

### 7.8.14 checkIP

**Description:** checks if an ip is valid

**Parameter:**

- string: ip value to check

**Returns:**

- true if IP is valid, else false

### 7.8.15 checkMAC

**Description:** Checks if a MAC address is valid.

**Parameter:**

- mac: MAC address to test.

**Returns:**

- 

### 7.8.16 checkNetmask

**Description:** checks if a netmask is valid

**Parameter:**

- string: netmask value to check

**Returns:**

- true if netmask is valid, else false

### 7.8.17 checkEmail

**Description:** checks if a email address is valid, returns 1 if it is a valid netmask otherwise 0

**Parameter:**

- string: email address value to check

### 7.8.18 checkFQDN

**Description:** Checks if a string contains only characters that are allowed in a FQDN.

**Parameter:**

- string: string to check for special characters

### 7.8.19 checkNormalKeys

**Description:** checks if a string doesn't contain any special letters, returns 1 if it doesn't contain special characters otherwise 0

**Parameter:**

- string: string to check for special characters

## 7.9 *./inc/client\_details.php*

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: Functions for drawing the buttons etc. in client\_details.php.

### 7.9.1 **CLIENT\_DETAILS\_beginCategory**

**Description:** Starts a new named section for icons.

**Parameter:**

- title: Title of the section.
- anchor: A HTML anchor where the a special URL can jump to.

### 7.9.2 **CLIENT\_DETAILS\_endCategory**

**Description:** Ends the previously opened icon section.

### 7.9.3 **CLIENT\_DETAILS\_addIcon**

**Description:** Adds an icon in a section.

**Parameter:**

- page: The m23 page to link to.
- urlParams: Additional parameters for the URL (e.g. "&action=deinstall").
- icon: File name of the icon placed under /m23/data+scripts/gfx.
- title: Title for the icon shown under it.
- tooltip: The tooltip text that is shown when the mouse is over the icon.

### 7.9.4 **CLIENT\_DETAILS\_addIcon2**

**Description:** Adds an icon in a section that can link to all URLs.

**Parameter:**

- url: The URL to link to.
- icon: File name of the icon placed under /m23/data+scripts/gfx.
- title: Title for the icon shown under it.
- tooltip: The tooltip text that is shown when the mouse is over the icon.

## 7.10 ./inc/client.php

Author: Daniel Kasten (DKasten@pc-kiel.de), Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: a lot of routines for client handling. routines for: install and deinstall packages on clients, get information about a special client, list all clients,...

### 7.10.1 CLIENT\_removeServerCache

**Description:** Removes the client cache on the m23 server.

**Parameter:**

- client: Name of the client.

### 7.10.2 CLIENT\_touchLiveLogFile

**Description:** Touches the live log file of a given client and returns the full name of the log file (with directory).

**Parameter:**

- client: Name of the client.

**Returns:**

- The full name of the log file (with directory).

### 7.10.3 CLIENT\_getNextFreeIp

**Description:** Get the next free IP address that can be used as m23 client.

**Returns:**

- Next free IP address.

### 7.10.4 CLIENT\_getAllAsRes

**Description:** Creates and executes an SQL statement for getting all values of all clients.

**Parameter:**

- order: Name of the field to order the results by.

**Returns:**

- MySQL resource ID.

### 7.10.5 CLIENT\_touchLogFile

**Description:** Touches a log file in the client's directory and returns the full name of the log file (with directory).

**Parameter:**

- client: Name of the client.
- base: The base name of the log file.

**Returns:**

- The full name of the log file (with directory).



### 7.10.6 **CLIENT\_liveLogJobName**

**Description:** Generates the job name of the sever's live log job.

**Parameter:**

- client: Name of the client.

**Returns:**

- The job name of the sever's live log job.

### 7.10.7 **CLIENT\_stopLiveScreenRecording**

**Description:** Stops the screen installation session for real-time client logging.

**Parameter:**

- client: Name of the client.

### 7.10.8 **CLIENT\_startLiveScreenRecording**

**Description:** Saves a screen installation session to a log file on the server in real-time. The server runs a screen for consecutively connecting the client.

**Parameter:**

- client: Name of the client.

### 7.10.9 **CLIENT\_getOverviewSearchLine**

**Description:** Checks all client search dialogs and returns the current search term.

**Parameter:**

- amount: Amount of client search dialogs to check.

**Returns:**

- The current client search term.

### 7.10.10 **CLIENT\_showOverviewSearchDialog**

**Description:** Shows a client search dialog for the client overview.

**Parameter:**

- htmlName: Base name for the HTML edit line and the buttons.
- addTable: If set to true, a table structure is build around the dialog.

### 7.10.11 **CLIENT\_extraWebAction**

**Description:** Executes extra actions from the client details page.

**Parameter:**

- action: The action to execute.
- client: Name of the client.

**Returns:**

- True if the action was executed or false otherwise.

### 7.10.12 CLIENT\_getOption

**Description:** Returns an option of a client.

**Parameter:**

- client: Name of the client.
- optionName: Name of the option to ask (e.g. 'distr' for the client's distribution)

**Returns:**

- Value of the option the client uses.

### 7.10.13 CLIENT\_getDistribution

**Description:** Returns the distribution of a client.

**Parameter:**

- client: Name of the client.

**Returns:**

- Name of the distribution, the client uses.

### 7.10.14 CLIENT\_runDebconf

**Description:** Generates BASH code to import debconf settings from the DB into the debconf of the client.

**Parameter:**

- clientName: Name of the client.

### 7.10.15 CLIENT\_copyDebconfDB

**Description:** Copies all debconf values from one client to another.

**Parameter:**

- clientName: Name of the source client.
- destClient: Name of the destination client.

### 7.10.16 CLIENT\_setDebconfDB

**Description:** Sets debconf values for a client and a package.

**Parameter:**

- clientName: Name of the client.
- package: Name of the package.
- variablesValues[varname][val]: Value for the variable "varname".
- variablesValues[varname][type]: Type of the variable "varname".

**Returns:**

- debconf for debconf-set-selections.

### 7.10.17 CLIENT\_getDebconfDB

**Description:** Generates the debconf output as debconf-set-selections expects it from the DB value.

**Parameter:**

- clientName: Name of the client.

**Returns:**

- debconf for debconf-set-selections.

### 7.10.18 **CLIENT\_getDebconfDBValue**

**Description:** Get the debconf value of a variable of a package.

**Parameter:**

- `clientName`: Name of the client.
- `package`: Name of the package.
- `var`: Name of the variable to ask the value for.

**Returns:**

- Value of the package variable.

### 7.10.19 **CLIENT\_getAllClientNames**

**Description:** Gets the names of all clients.

**Returns:**

- Array with the names of all clients.

### 7.10.20 **CLIENT\_getClientAmount**

**Description:** Gets the amount of all clients.

**Returns:**

- Amount of all clients.

### 7.10.21 **CLIENT\_getCurrentMemoryUsage**

**Description:** Gets the amount of free and total memory on a client or localhost.

**Parameter:**

- `clientNameOrIP`: The name of the client or localhost or an IP.

**Returns:**

- Associative array with the free memory in `$out['free']` and the total memory in `$out['all']` in KB.

### 7.10.22 **CLIENT\_getCurrentFreeSpaceInDir**

**Description:** Get the amount of free space in a given directory on a client or localhost.

**Parameter:**

- `clientNameOrIP`: The name of the client or localhost or an IP.
- `dir`: The directory to check for.

**Returns:**

- The amount of free space in the directory in 1K blocks.

### 7.10.23 **CLIENT\_getClientID**

**Description:** Returns the ID of the calling client.

### 7.10.24 CLIENT\_getActiveNetDevices

**Description:** Checks for active network devices on a client or localhost.

**Parameter:**

- clientNameOrIP: The name of the client or localhost or an IP.

**Returns:**

- Associative array with active network cards (e.g. Array ( [0] => Array ( [dev] => eth0 [type] => encap:Ethernet [mac] => 00:52:66:23:00:23 ) [1] => Array ( [dev] => venet0 [type] => encap:UNSPEC [mac] => 00-00-00-00-00-00-00-00-00-00-00-00-00-00-00-00 ) )

### 7.10.25 CLIENT\_executeOnClientOrIP

**Description:** Runs a script with "screen" in the background or under a plain BASH under a given user. The script can be executed on the local machine "localhost" or a remote client that is accessible via SSH with a public key and without a password.

**Parameter:**

- clientNameOrIP: The name of the client or localhost or an IP.
- jobName: name of the job screen should show
- cmds: the commands of the script
- user: user the script should be run under
- runInScreen: Set to true if the execution should be done in "screen". False executes it under the normal BASH.

**Returns:**

- The output of the screen (only available on direct output if \$runInScreen is false).

### 7.10.26 CLIENT\_isBasesystemInstalledFromImage

**Description:** Detects if the base system should be installed from an image.

**Parameter:**

- options: Array with the client options.

**Returns:**

- true if it should be installed from an image, otherwise false

### 7.10.27 CLIENT\_addClient

**Description:** adds a new client to the database and prepares the client for the installation

**Parameter:**

- data['client']: client name
- data['office']: office
- data['name']: name of the user
- data['familyname']: family name of the user
- data['email']: email
- data['mac']: client MAC
- data['ip']: IP of the client

- data['netmask']: netmask of the client
- data['gateway']: gateway of the client
- data['dns1']: DNS server 1
- data['dns2']: DNS server 2
- data['newgroup']: group of the client
- data['language']: client language
- data['firstpw']: password for the first user login
- data['rootpassword']: root password
- options['packageProxy']: the ip of the proxy the packages should be fetched from
- options['packagePort']: the proxy port
- options['netRootPwd']: password for root during network booting
- options['ldaptype']: type of the LDAP server
- options['ldapservers']: name of the LDAP server
- options['nfs homeserver']: NFS home server with full path
- options['login']: login name for the user
- options['userID']: user ID for the LDAP account
- options['groupID']: group ID for the LDAP account
- options['addNewLocalLogin'] = \$\_POST[addNewLocalLogin];
- options['timeZone']: POSIX timezone
- options['getSystemtimeByNTP']: "yes", if the system time should be set with NTP
- options['installPrinter']: "yes", if printer drivers should be installed and printers detected
- clientAddType: can be CLIENT\_ADD\_TYPE\_add if the client should be added, CLIENT\_ADD\_TYPE\_define if it should be defined for mass installation or CLIENT\_ADD\_TYPE\_assimilate if the client should be imported into the m23 system.
- cryptRootPw: set to true, if the password should be encrypted or false, if it's already encrypted

### 7.10.28 CLIENT\_IPexists

**Description:** checks if an IP with the selected IP exists and returns true if yes, otherwise false

**Parameter:**

- ip: IP to check

### 7.10.29 CLIENT\_MACexists

**Description:** checks if a mac with the selected mac exists and returns true if yes, otherwise false

**Parameter:**

- mac: MAC to check

### 7.10.30 CLIENT\_exists

**Description:** checks if a client with the selected name exists and returns true if yes, otherwise false

**Parameter:**

- clientName: name of the client

### 7.10.31 CLIENT\_getAskingParams

**Description:** returns database parameters of the asking client. The client is authenticated by its m23shared clients name, client ID or ip

### 7.10.32 CLIENT\_getParams

**Description:** returns database parameters of a special client

**Parameter:**

- clientName: name of the client

### 7.10.33 CLIENT\_getClientStatus

**Description:** returns the current client status

**Parameter:**

- client: name of the client

### 7.10.34 CLIENT\_getProperty

**Description:** fetches a property from the client information of the database

**Parameter:**

- client: name of the client
- var: name of the property

### 7.10.35 CLIENT\_listPackages

**Description:** lists all packages on the client

**Parameter:**

- client: name of the client
- key: keyword for searching for packages
- withActions: you can select to draw the action selection button, if you set it to true, you can delete packages and discard package deletion jobs

### 7.10.36 CLIENT\_getPossibleActions

**Description:** list the possible actions. e.g. if a package is installed it can be uninstalled

**Parameter:**

- status: actual status of the package
- actionNr: number of the action radio button
- package: name of the package

### 7.10.37 CLIENT\_acceptChanges

**Description:** removes packages or discards changes

**Parameter:**

- client: name of the client
- amount: amount of packages in the web interface

### 7.10.38 CLIENT\_showHardwareInfo

**Description:** prints a table with hardware informations

**Parameter:**

- client: name of the client

### 7.10.39 CLIENT\_showGeneralInfo

**Description:** prints a table with general information

**Parameter:**

- id: id of the client
- generateEnterKeep: set to true, if you want these values to be generated, entered or kept

### 7.10.40 CLIENT\_showWaitingJobs

**Description:** shows the waiting jobs for the client

**Parameter:**

- client: name of the client

### 7.10.41 CLIENT\_setLastmodify

**Description:** sets the last modified time of a client

**Parameter:**

- id: id of the client
- client: name of the client

### 7.10.42 CLIENT\_getSubnet

**Description:** gets the subnet of a given ip and netmask

**Parameter:**

- ip: ip address
- netmask: netmask

### 7.10.43 CLIENT\_getBroadcast

**Description:** gets the broadcast of a given ip and netmask

**Parameter:**

- ip: ip address
- netmask: netmask

#### 7.10.44 CLIENT\_convertMac

**Description:** converts a mac address to a 00:11... or 0011 format

**Parameter:**

- mac: the mac address
- splitter: select a character to split the mac in couples of two characters, if you leave it blank, splitting characters will be removed

#### 7.10.45 CLIENT\_getIPbyName

**Description:** returns the ip from a selected clientname

**Parameter:**

- clientName: name of the client

#### 7.10.46 CLIENT\_getNamebyIP

**Description:** returns the clientname from a selected ip

**Parameter:**

- ip: ip of the client

#### 7.10.47 CLIENT\_getMACbyName

**Description:** returns the mac from a selected clientname

**Parameter:**

- clientName: name of the client

#### 7.10.48 CLIENT\_sshFetchJob

**Description:** Connects to the client via SSH and lets the next job fetch and execute it in a screen (named "m23install").

**Parameter:**

- clientName: name of the client
- ip: Optional parameter for the client's IP (faster than getting the IP by the client name)

#### 7.10.49 CLIENT\_backToRed

**Description:** Sets a client back to red state, as it was just after adding it.

**Parameter:**

- clientName: name of the client

#### 7.10.50 CLIENT\_desasterRecovery

**Description:** recover a client: all client jobs are done again, status is set to 0

**Parameter:**

- clientName: name of the client
- addInstallRemovalJobs: If set to true, the names of all installed packages will be combined to a m23normal and all removed to a m23normalRemove job.
- addShutdownOrRebootPackage: If set to true, a shutdown or reboot package will be added.



**7.10.51 CLIENT\_wol**

**Description:** wakes a client over the network

**Parameter:**

- clientName: name of the client

**7.10.52 CLIENT\_recalculateStatusBar**

**Description:** Recalculates the percent points for the pending jobs on a client.

**Parameter:**

- clientName: name of the client

**7.10.53 CLIENT\_resetStatusBar**

**Description:** Resets the percent points to 0 for the pending jobs on a client.

**Parameter:**

- clientName: name of the client

**7.10.54 CLIENT\_startInstall**

**Description:** starts the installation on a client

**Parameter:**

- clientName: name of the client

**7.10.55 CLIENT\_resetAndInstall**

**Description:** Resets or wakes the client to boot from network and run jobs

**Parameter:**

- clientName: name of the client

**7.10.56 CLIENT\_getBootType**

**Description:** gets the type of network boot (pxe, etherboot)

**Parameter:**

- clientName: name of the client

**7.10.57 CLIENT\_isrunning**

**Description:** tests out whether a client is up (running) or not

**Parameter:**

- clientName: name of the client

**7.10.58 CLIENT\_reset**

**Description:** resets a client

**Parameter:**

- clientName: name of the client

**7.10.59 CLIENT\_showLog**

**Description:** prints the log information of the client

**Parameter:**

- clientName: name of the client

### 7.10.60 CLIENT\_getClientName

**Description:** returns the client name of the calling client or the client given by its ID (\$\_GET['m23clientID']).

### 7.10.61 CLIENT\_getAllOptions

**Description:** gets all options from the options column of a client as associative array

**Parameter:**

- clientName: name of the client

### 7.10.62 CLIENT\_setAllOptions

**Description:** sets all options in the options column of a client

**Parameter:**

- clientName: name of the client
- options: the options as associative array

### 7.10.63 CLIENT\_getAllAskingOptions

**Description:** gets all options from the options column of the calling client as associative array

### 7.10.64 CLIENT\_getSetOption

**Description:** checks if a variable is set and places its value under the variable name in the options array

**Parameter:**

- options: name of the options array

### 7.10.65 CLIENT\_options2HiddenForm

**Description:** generates hidden fields with the values of the option array

**Parameter:**

- options: name of the options array

### 7.10.66 CLIENT\_hiddenForm2options

**Description:** reads the option values of the hidden fields and adds them to the options array

**Parameter:**

- options: name of the options array

### 7.10.67 CLIENT\_getStatusimage

**Description:** return the image name with the correct color

**Parameter:**

- status: the status that should be converted to an image

### 7.10.68 CLIENT\_showStatusSelection

**Description:** shows a dialog that lets you select the current status of a client

**Parameter:**

- client: the name of the client

**7.10.69 CLIENT\_listCriticalClients**

**Description:** lists clients with critical status'

**7.10.70 CLIENT\_isInDebugMode**

**Description:** returns "true", if a client is in debug mode

**Parameter:**

- clientName: name of the client

**7.10.71 CLIENT\_toggleDebugMode**

**Description:** en/disables the debug mode of a client

**Parameter:**

- clientName: name of the client
- enable: set to "true" to activate debug mode or to "false" to disable

**7.10.72 CLIENT\_getStatusimage**

**Description:** return the image name with the correct color

**Parameter:**

- status: the status that should be converted to an image

**7.10.73 CLIENT\_generateHTMLStatusBar**

**Description:** generates HTML code containing the status of the client with links to the pages

**Parameter:**

- clientName: name of the client

**7.10.74 CLIENT\_showDebugSelection**

**Description:** shows a dialog that lets you select the current debug state of a client

**Parameter:**

- client: the name of the client

**7.10.75 CLIENT\_isInRescueMode**

**Description:** checks if a clients has waiting rescue packages

**Parameter:**

- clientName: the name of the client

**7.10.76 CLIENT\_showDirectConnectionHelp**

**Description:** returns the help file for directConnection and replaces place holders with the correct values

**Parameter:**

- clientName: the name of the client
- language: language for the help file

### 7.10.77 CLIENT\_isInDebugMode

**Description:** returns "true", if the asking client is in debug mode

### 7.10.78 CLIENT\_getToDetailsURL

**Description:** Generates the link to the client's control center page

**Parameter:**

- clientName: the name of the client
- id: the id of the client
- section: section to jump on the page

**Returns:**

- Link to the client's control center page

### 7.10.79 CLIENT\_HTMLBackToDetails

**Description:** generates HTML code for returning to the client controll center page

**Parameter:**

- clientName: the name of the client
- id: the id of the client
- section: section to jump on the page

### 7.10.80 CLIENT\_getId

**Description:** returns the id of a client

**Parameter:**

- clientName: the name of the client

### 7.10.81 CLIENT\_query

**Description:** returns the result of a query for getting all clients matching selected states and groupNames. Empty values are interpreted as 'all' for this kind of value.

**Parameter:**

- o1: operator 1 (can be '=', '<', '>') selects of the first state should be equal, smaler or bigger that the state in s1
- s1: first state to compare with the state of the client
- o2: operator 2
- s2: second state to compare
- groupName: if you want to filter for special group, set it to the group name
- o3: operator 3
- s3: third state to compare
- search: Search string to search all clients for and only list matching clients or all if \$search is empty.

### 7.10.82 CLIENT\_addChangeElement

**Description:** Generates a HTML dialog element for changing a client property.

**Parameter:**

- elem: Name of the element.
- serverOnlyElement: Set to true if the element could only be changed in the DB and not on the server (e.g. a misspelled MAC)

### 7.10.83 CLIENT\_showDelDialog

**Description:** Shows the dialog for deleting a client.

### 7.10.84 CLIENT\_showAddDialog

**Description:** shows the dialog for adding, defining or changing a client

**Parameter:**

- addType: defines the behaviour and appearance of the dialog

### 7.10.85 CLIENT\_deleteClient

**Description:** deletes a client and shows an optional message

**Parameter:**

- client: name of the client to delete
- showMsg: set to true, is a success message should be shown
- deleteVM: Set to true to delete the VM too.

### 7.10.86 CLIENT\_getNames

**Description:** returns an array with all clients

**Parameter:**

- groupName: if the group is set, only clients in the group are returned, otherwise all clients

### 7.10.87 CLIENT\_getNamesWithPackages

**Description:** returns an array with all clients having packages installed

**Parameter:**

- showFakeClients: if set to true, fake clients used to store package lists are shown. false only shows real clients

### 7.10.88 CLIENT\_changeClient

**Description:** changes values of the clients

### 7.10.89 CLIENT\_setAllParams

**Description:** Sets all parameters in the columns of a client

**Parameter:**

- client: name of the client
- data: the options as associative array

### 7.10.90 CLIENT\_plinkFetchJob

**Description:** Connects to a client over the Putty SSH client and executes a command

**Parameter:**

- clientName: name of the client
- password: Password for root on the client
- jobName: name of the screen job on the server
- ubuntuUser: name of the Ubuntu user or empty if a Debian system is meant.

## 7.11 *./inc/CScredit.php*

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: Functions for the embedded script editor.

### 7.11.1 *CScredit::\_\_construct*

**Description:** Constructor for new CScredit objects.

### 7.11.2 *CScredit::setCurrentScriptFilename*

**Description:** Corrects the given filename to have it a valid prefix and suffix and sets it as current file name.

**Parameter:**

- filename: The filename to check and correct.

### 7.11.3 *CScredit::getCurrentScriptFilename*

**Description:** Gets the current script filename.

**Returns:**

- Current script filename.

### 7.11.4 *CScredit::getCurrentScriptFilenameFullPath*

**Description:** Gets the current script filename with full path.

**Returns:**

- Current script filename full path.

### 7.11.5 *CScredit::getCurrentScriptFilenameWithoutInstallPhp*

**Description:** Gets the current script filename without "Install.php" at its end.

**Returns:**

- Current script filename without "Install.php" at its end.

### 7.11.6 *CScredit::getLocalScriptFileNames*

**Description:** Gets the filenames of local scripts.

**Returns:**

- Array with the filenames of local scripts.

### 7.11.7 *CScredit::updateOnlineScriptInfo*

**Description:** Downloads the information about online available scripts.

**Returns:**

- true, if the information could be fetched, otherwise false.

### 7.11.8 CScredit::getNextOnlineScriptInfo

**Description:** Gets an information about all scripts that are available online. Every call of the function fetches the information about one script.

**Parameter:**

- ts: Timestamp, when the script was uploaded.
- scriptId: Id of the script (needed for download).
- scriptName: Name of the script.
- author: Name of the author.
- description: Description for the script.

**Returns:**

- true, if an entry could be read otherwise (e.g. if all entries were read) false.

### 7.11.9 CScredit::loadOnlineScript

**Description:** Loads an online script into the editor.

**Parameter:**

- scriptIdToLoad: Id of the script to load.

### 7.11.10 CScredit::getOnlineScriptDialog

**Description:** Generates a dialog with JavaScript to get information about online scripts with download option.

**Returns:**

- Dialog (HTML) with JavaScript to get information about online scripts with download option.

### 7.11.11 CScredit::isNotSaved

**Description:** Returns if there is no script in the editor (after submitting).

**Returns:**

- true, if there is no script in the editor (after submitting), otherwise false.

### 7.11.12 CScredit::getNewScriptTemplate

**Description:** Returns a template for a basic script.

**Returns:**

- Text of the script template.

### 7.11.13 CScredit::uploadScript

**Description:** Checks, if all needed information are given before uploading the script.

**Parameter:**

- author: Name of the script author (or pseudonym)
- description: Description for the script.
- text: The script code itself.



#### 7.11.14 **CScredit::getCurrentScript**

**Description:** Get the text of the editor window.

**Returns:**

- Current text of the editor window.

#### 7.11.15 **CScredit::setCurrentScript**

**Description:** Set the text of the editor window.

**Parameter:**

- text: Current text of the editor window to set.

#### 7.11.16 **CScredit::deleteCurrentScript**

**Description:** Deletes the current script, if one is loaded.

**Returns:**

- true, if the script could be deleted, otherwise false.

#### 7.11.17 **CScredit::getViewScriptOutputDialog**

**Description:** Generates a dialog with JavaScript to choose a client and to open the script output viewer for the currently saved script.

**Returns:**

- Dialog (HTML) with JavaScript to choose a client and to open the script output viewer for the currently saved script.

#### 7.11.18 **CScredit::saveScript**

**Description:** Saves the script in the editor to the file.

#### 7.11.19 **CScredit::show**

**Description:** Shows a script editor with syntax highlighting.

## 7.12 ./inc/db.php

Author: Daniel Kasten (DKasten@pc-kiel.de) ,Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: database functions, open, close the database, get ip of the calling client

### 7.12.1 ip2longSafe

**Description:** Special version of ip2long that is safe on 32 bit machines.

**Parameter:**

- in: Input v4 IP (e.g. 192.168.1.23) or number.

**Returns:**

- Unsigned long representation of the input IP or the input numer.

### 7.12.2 getArchList

**Description:** Returns an associative array with the supported CPU architectures as key and value.

**Returns:**

- Associative array with the supported CPU architectures as key and value.

### 7.12.3 isMySQL3used

**Description:** checks if MySQL 3 is installed and returns true if v3 is found, otherwise false

### 7.12.4 encryptShadow

**Description:** encrypts a password for adding a user to the client

**Parameter:**

- userName: the username for the account
- password: the unencrypted password to encrypt

### 7.12.5 getClientLanguage

### 7.12.6 getInstDev

**Description:** fetch the device for installation

**Parameter:**

- id: package ID

### 7.12.7 DB\_getConnection

**Description:** Gets the MySQLi connection.

**Returns:**

- MySQLi connection.

### 7.12.8 DB\_setConnection

**Description:** Sets the MySQLi connection to use globally.

**Parameter:**

- conn: MySQLi connection to use globally.

### 7.12.9 DB\_isConnectionValid

**Description:** Checks, if the MySQLi connection is valid.

**Returns:**

- true on valid MySQLi connection, otherwise false.

### 7.12.10 dbConnect

**Description:** connects to the m23 database

### 7.12.11 dbClose

**Description:** closes the connection to the m23 database

### 7.12.12 getServerIP

**Description:** returns the IP of the m23 server

### 7.12.13 getServerNetmask

**Description:** returns the netmask of the m23 server

### 7.12.14 getServerNetwork

**Description:** Get the network IP of the m23 server.

**Returns:**

- Network IP of the m23 server.

### 7.12.15 getDNSServers

**Description:** Returns an array with the DNS servers of the m23 server.

### 7.12.16 getServerGateway

**Description:** Returns the gateway of the m23 server

### 7.12.17 sendClientStatus

**Description:** generates a bash script to send a status to the server

**Parameter:**

- id: package ID
- status: done, waiting; finished jobs should be set to done, waiting should not be used from this place

### 7.12.18 sendClientStageStatus

**Description:** generates a bash script to send a stage status to the server

**Parameter:**

- status: 0: client waiting for hardware detection, 1 hardware detection done, 2 partitionated and formatted, base system is installed

### 7.12.19 returnClientStageStatus

**Description:** generates a bash script to send a stage status to the server

**Parameter:**

- status: 0: client waiting for hardware detection, 1 hardware detection done, 2 partitionated and formatted, base system is installed

### 7.12.20 sendClientLogStatus

**Description:** generates a bash script to send log status to the server

**Parameter:**

- status: how the line should be named, that is logged to the server
- ok: true: operation sucessful, false: failure
- critical: if it is set to "true" the execution of the script is stopped and a local rescue console is opened

### 7.12.21 deleteClientLogs

**Description:** deletes the installation logs

**Parameter:**

- clientName: name of the client to delete all logs

### 7.12.22 workPhpName

**Description:** Generates an unique name for storing the work.php file.

**Returns:**

- Unique name for storing the work.php file.

### 7.12.23 executeNextWork

**Description:** generates a bash script that fetches the next work.php from server

### 7.12.24 DB\_query

**Description:** makes a query and returns the default error message if an error occurs

**Parameter:**

- sql: sql query

### 7.12.25 DB\_queryNoDie

**Description:** Executes a SQL query and returns the resource id to access the result.

**Returns:**

- Ressource id of the query result and DOESN'T die on an error.

### 7.12.26 DB\_genPassword

**Description:** generates a random password with a specified length

**Parameter:**

- length: length of password

### 7.12.27 getClientIP

**Description:** returns the IP of the calling client

### 7.12.28 implodeAssoc

**Description:** makes a string from an associative array

**Parameter:**

- glue: the string to glue the parts of the array with
- arr: array to implode

### 7.12.29 explodeAssoc

**Description:** makes an associative array from a string

**Parameter:**

- glue: the string to glue the parts of the array with
- arr: array to explode

### 7.12.30 sedSearchReplace

**Description:** generates BASH code to search and replace a string in a file using sed keeping the ownership and permissions

**Parameter:**

- pathFile: file with whole path, in that should be searched and replaced
- search: search pattern
- replace: replace string

### 7.12.31 isProgrammInstalled

**Description:** returns true if a programm can be used

**Parameter:**

- progName: name of the programm

### 7.12.32 pingIP

**Description:** tests, if someone is answering the ping on a given IP address. returns true, if someone answers (needs "iputils-ping" to be installed)

**Parameter:**

- ip

### 7.12.33 delFromArray

**Description:** deletes all entries in the array \$arr assigned by the keys stored in the array \$delKeys. the new array without the entries in \$delKeys is returned.

**Parameter:**

- arr: array with the entries to filter
- delKeys: array with all keys to delete from \$arr

### 7.12.34 delValuesFromArray

**Description:** deletes all entries in the array \$arr with values stored in the array \$delVals.

**Parameter:**

- arr: array with the entries to filter
- delVals: array with all values to delete from \$arr

**Returns:**

- array without the entries in \$delVals.

### 7.12.35 DB\_getLikeableColumns

**Description:** Returns an associative array that contains all fields of a table that can be searched by LIKE.

**Parameter:**

- table: Name of the table to search.

**Returns:**

- associative array that contains all fields of a table that can be searched by LIKE.

## 7.13 *./inc/dhcp.php*

Author: Daniel Kasten (DKasten@pc-kiel.de), Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: functions to add and remove a client to/from the dhcp server list.

### 7.13.1 **DHCP\_exportDHCPSettingsForExternalDHCPServer**

**Description:** Exports the DHCP settings of m23 clients that are booting over the network and adds settings for external DHCP servers.

### 7.13.2 **DHCP\_lineNumberAffterLastClient**

**Description:** Gets the line number with the last client definition in the dhcpd.conf.

**Returns:**

- Line number with the last client definition in the dhcpd.conf.

### 7.13.3 **DHCP\_addSubnetDefinition**

**Description:** Adds the subnet definition to the dhcpd.conf to let the DHCP server give out network information to clients to other subnets.

**Parameter:**

- subnet: The subnet.
- netmask: netmask for the ip

### 7.13.4 **DHCP\_delSubnetDefinition**

**Description:** Removes a subnet definition from the dhcpd.conf.

**Parameter:**

- subnet: The subnet.
- netmask: netmask for the ip

### 7.13.5 **DHCP\_addDynamicRange**

**Description:** Adds a dynamic IP range to the dhcpd.conf and restarts the DHCP server.

**Parameter:**

- firstIP: The first IP marking the begin of the dynamic IP range.
- lastIP: The last IP marking the end of the dynamic IP range.
- netmask: Netmask for the IPs.
- gateway: The gateway IP.

**Returns:**

- true, if the DHCP server could be restarted with the new settings.

### 7.13.6 **DHCP\_getDynamicRanges**

**Description:** Gets all dynamic IP ranges from the dhcpd.conf.

**Returns:**

- Associative array with the found IP ranges (e.g. Array ( [0] => Array ( [netmask] => 255.255.255.0 [firstIP] => 192.168.1.10 [lastIP] => 192.168.1.200 [gateway] => 192.168.1.1 ) [1] => ...)) or empty array.

### 7.13.7 DHCP\_getNetmaskOfDynamicRanges

**Description:** Gets the netmask of a dynamic range identified by the first IP of the range.

**Parameter:**

- firstIP: The first IP marking the begin of the dynamic IP range.

**Returns:**

- Netmask or false in case of an error.

### 7.13.8 DHCP\_delDynamicRange

**Description:** Removes a dynamic IP range from the dhcpd.conf and restarts the DHCP server.

**Parameter:**

- firstIP: The first IP marking the begin of the dynamic IP range.
- lastIP: The last IP marking the end of the dynamic IP range.

**Returns:**

- true, if the DHCP server could be restarted with the new settings.

### 7.13.9 DHCP\_bootTypeToNewFormat

**Description:** Converts a boolean boot type to the new string format.

**Parameter:**

- bootType: Boolean or string format (e.g. "pxe") boot type.

**Returns:**

- String format (e.g. "pxe") boot type.

### 7.13.10 DHCP\_addClient

**Description:** adds a new client to the dhcpd.conf and restarts the dhcpd-server

**Parameter:**

- clientName: name of the client
- ip: ip address of the client
- netmask: netmask for the ip
- mac: mac adresse of the network card
- bootType: Parameter can be boolean for backward compatibility: if true use PXE for the client, otherwise use Etherboot
- bootType: Parameter can a string: pxe, etherboot, gppe, none
- gateway: The gateway for the client.
- updateDB: If set to true, the boot type is set for the client in the DB.

**Returns:**

- true, if the DHCP server could be restarted with the new settings.



#### 7.13.11 DHCP\_addLineToDHCPDConf

**Description:** Adds a line to the dhcpd.conf file.

**Parameter:**

- line: Line to add.

#### 7.13.12 DHCP\_restartDHCPserver

**Description:** Restarts the DHCP server.

**Returns:**

- true if it could be (re)started otherwise false.

#### 7.13.13 DHCP\_rmClient

**Description:** removes a client from dhcpd.conf and restarts the dhcpd-server

**Parameter:**

- clientName: name of the client

#### 7.13.14 DHCP\_setBootimage

**Description:** sets the bootimage of a client for EtherBoot

**Parameter:**

- clientName: name of the client
- bootImage: name of the bootimage (hdboot, ip address for name)

#### 7.13.15 DHCP\_activateBoot

**Description:** switches the network boot on or off

**Parameter:**

- clientName: name of the client
- on: true activates the network boot, false deactivates
- bootType: The boot type CAN be given here (e.g. pxe or etherboot)

#### 7.13.16 DHCP\_calcPXEIP

**Description:** calculates the ip for the pxe config file

**Parameter:**

- ip: ip address to convert to the PXE file name

#### 7.13.17 DHCP\_writePXEcfg

**Description:** writes the pxe config file for te client

**Parameter:**

- clientName: name of the client
- arch: computer architecture (i386 or amd64)

#### 7.13.18 DHCP\_removePXEcfg

**Description:** removes the PXE start file for a special client

**Parameter:**

- clientName: name of the client

### 7.13.19 DHCP\_isNetworkBootingActive

**Description:** Checks, if a client has network booting enabled.

**Parameter:**

- clientName: name of the client

**Returns:**

- : True, if network booting is active, false otherwise.

## 7.14 ./inc/distr/halfSister/packages.php

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: Basic package operations (search, add,...) for halfSister distributions

### 7.14.1 PKG\_updatePackageSearchCacheFile

**Description:** Updates the compressed package search file.

**Parameter:**

- packagesource: Name of the package sources list.

**Returns:**

- The name of the package cache.

### 7.14.2 PKG\_fastGetInstalledPackages

**Description:** Gets a list of all installed packages (faster than dpkg --get-selections).

**Parameter:**

- storeFile: File name to store the list of installed on the client or empty if the list should be outputted to stdout.

### 7.14.3 pkgUpdateCacheOnServer

**Parameter:**

- \$1 (packagesourcename): Name der Paketquellenliste
- \$2 (packagesource): Inhalt der Paketquellenliste
- \$3 (force): set to true (1) if you want to update the package info and the time is not over
- \$4 (arch): Architecture (amd64/i386) to get package infos for.

### 7.14.4 PKG\_listPackages

**Description:** list packages matching the key

**Parameter:**

- key: search key
- distr: the distribution name
- packagesource: name of the package source
- client: Name of the client the packages are searched for. (Not used here and only for halfSister)

### 7.14.5 PKG\_previewInstall

**Description:** shows what happens if packages get (de)installed

**Parameter:**

- clientName: name of the client
- distr: the distribution name
- packagesource: name of the package source
- packages: the packages to be installed
- aptCommand: sets the apt-get command: install, remove

### 7.14.6 PKG\_getKernels

**Description:** Generates an associative array with the available kernels for an architecture and distribution as keys and values.

**Parameter:**

- distr: the distribution name
- packagesource: name of the package source
- arch: Architecture to get package infos for.

**Returns:**

- Associative array with the available kernels for an architecture and distribution as keys and values.

### 7.14.7 PKG\_translateClientPackageStatus

**Description:** translates the package status to human language ;)

**Parameter:**

- status: status code you want to translate

## 7.15 *./inc/edit.php*

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: routines for editing files with sed

### 7.15.1 *EDIT\_writeToFile*

**Description:** Writes a text to a file on a client.

**Parameter:**

- file: Name of the file.
- text: The text to insert.

**Returns:**

- Code for writing a text to a file on a client.

### 7.15.2 *EDIT\_setOption*

**Description:** Changes an option in a configuration file to a given value.

**Parameter:**

- file: Name of the file to change.
- option: Name of the option to change.
- value: Value to set.

**Returns:**

- sed code to change the option in the file to the value.

### 7.15.3 *EDIT\_genClientm23Random*

**Description:** Generates BASH code to calculate a client-side random MD5 hash that is stored in the variable \$m23Random.

**Returns:**

- BASH code to generate a random MD5 hash on client-side that is store

### 7.15.4 *EDIT\_commentoutInsert*

**Description:** Comments out a matched line and inserts a new line after it.

**Parameter:**

- file: the name of the file
- search: Search string to match the line to comment out.
- lineToInsert: The text of the line to insert.
- commentStr: string to comment out (e.g. "#" for BASH or "//" for C/C++ style)

### 7.15.5 *EDIT\_countMatches*

**Description:** Generates BASH code that counts how many times the search string can be found in the file. This can be used in ' '.

**Parameter:**

- file: file name
- search: search text

### 7.15.6 EDIT\_calc

**Description:** calculates changes of the variable

**Parameter:**

- var: name of the BASH variable (e.g. \$nr)
- calc: calculation that should be done with the var (e.g. incrementation: "+ 1")

### 7.15.7 EDIT\_uncomment

**Description:** uncomments all with m23 commented lines of a file

**Parameter:**

- file: the name of the file

### 7.15.8 EDIT\_commentout

**Description:** comments out lines in range or matching lines

**Parameter:**

- file: the name of the file
- from: start commenting out from this line
- to: stop commenting out at this line
- commentStr: string to comment out (e.g. "#" for BASH or "/" for C/C++ style)
- match:

### 7.15.9 EDIT\_insertAfterLineNumber

**Description:** inserts a text AFTER a line number

**Parameter:**

- file: the name of the file
- lineNumber: reference line number for inserting
- insertText: text to insert
- addIfNotExists: set to true, if the the line should be added only if the line doesn't exist. false, if the line should be added on every execution.

### 7.15.10 EDIT\_insertAtLineNumber

**Description:** inserts a text AT a line number

**Parameter:**

- file: the name of the file
- lineNumber: reference line number for inserting
- insertText: text to insert
- addIfNotExists: set to true, if the the line should be added only if the line doesn't exist. false, if the line should be added on every execution.

### 7.15.11 EDIT\_insertLineNumber

**Description:** inserts a text AT or AFTER a line number

**Parameter:**

- file: the name of the file
- lineNumber: reference line number for inserting
- insertText: text to insert
- insertMode: "0" insert AT, "1" insert AFTER line number
- addIfNotExists: set to true, if the the line should be added only if the line doesn't exist. false, if the line should be added on every execution.

### 7.15.12 EDIT\_searchLineNumber

**Description:** searches for the first line that contains "searchLine" and stores the line number in the BASH variable "m23searchLine"

**Parameter:**

- file: the name of the file
- searchLine: line to search
- startFrom: the line number to start searching from

### 7.15.13 EDIT\_searchLastLineNumber

**Description:** searches for the last line that contains "searchLine" and stores the line number in the BASH variable "m23searchLine"

**Parameter:**

- file: the name of the file
- searchLine: line to search

### 7.15.14 EDIT\_searchNextLineNumber

**Description:** searches for the next line number that contains "searchLine"

**Parameter:**

- file: the name of the file
- searchLine: line to search

### 7.15.15 EDIT\_replace

**Description:** replaces \$searchLine with \$replaceText

**Parameter:**

- file: the name of the file
- searchLine: line to search
- repaText: text to replace with
- mode: can be "g" to replace all matching lines. Any other value will only replace the first occurrence.

### 7.15.16 EDIT\_prepareStr

**Description:** changes the string to make it compatible with sed

**Parameter:**

- str: string that should be changed. the string is read and written from/to this variable
- forSearch: set to true, if the string should be used as a search string

### 7.15.17 EDIT\_savePerms

**Description:** saves the permissions and owner of a file

**Parameter:**

- file: the name to the file

### 7.15.18 EDIT\_restorePerms

**Description:** restores previously saved file permissions and owner

### 7.15.19 EDIT\_deleteLines

**Description:** Deletes lines from a given line number to a given line number

**Parameter:**

- file: the name to the file
- from: start deleting at this line number
- to: end deleting at this line number

### 7.15.20 EDIT\_deleteLinesAmount

**Description:** Deletes N lines from a given line number

**Parameter:**

- file: the name to the file
- from: start deleting at this line number
- amount: the amount of lines to delete

### 7.15.21 EDIT\_addIfNotExists

**Description:** Adds a new line if the search pattern cannot be found.

**Parameter:**

- file: the name to the file
- search: regular expression to search
- add: line to add

### 7.15.22 EDIT\_deleteMatching

**Description:** Deletes all lines matching the regular expression

**Parameter:**

- file: the name to the file
- search: regular expression to search



## 7.16 *./inc/fdisk.php*

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: functions for partition and format of the client. print partition information and do the format itself.

### 7.16.1 **FDISK\_showFdiskCombinedGUIFunctions**

**Description:** Shows the menu bar with integrated logic for FDISK\_showCombinedFdiskGUIDialog.

### 7.16.2 **FDISK\_showCombinedFdiskGUIDialog**

**Description:** Shows the new partition and formatting screen.

### 7.16.3 **FDISK\_mdToEndOfArray**

**Description:** Orders all MD devices from the input array to the end of the output array.

**Parameter:**

- in: Associative array with devices as keys and values (e.g. Array ( [/dev/md0] => /dev/md0 [/dev/sda1] => /dev/sda1 [/dev/sdb2] => /dev/sdb2 )).

**Returns:**

- Associative array with devices as keys and values where the MDs are at the end (e.g. Array ( [/dev/sda1] => /dev/sda1 [/dev/sdb2] => /dev/sdb2 [/dev/md0] => /dev/md0 )).

### 7.16.4 **FDISK\_getFstabArray**

**Description:** Gets the fstab of a client as array.

**Parameter:**

- client: Name of the client.

**Returns:**

- Array with the fstab (each line of the fstab as item).

### 7.16.5 **FDISK\_findFstabMountPointByDev**

**Description:** Searches a client's fstab for a device and figures out the according mount point.

**Parameter:**

- fstabA: The fstab as array.
- dev: The device.

**Returns:**

- Mount point for the device.

### 7.16.6 **FDISK\_swapFilesystems**

**Description:** Returns an array with the filesystems usable for swapping.

### 7.16.7 `FDISK_formatInstallAndSwappart`

**Description:** Adds jobs to format the installation and swap partitions and set the boot flag on the installation partition

### 7.16.8 `FDISK_finalChecksAndRealPartitionAndFormatStart`

**Description:** Does some final checks, starts the partitioning and formatting and switches to the distribution selection page.

### 7.16.9 `FDISK_installFilesystems`

**Description:** Returns an array with the filesystems usable for installation.

### 7.16.10 `FDISK_getUnusedMDs`

**Description:** Returns an associative array with the unused MDs (e.g. `/dev/md0`, `/dev/md1`, ...) as key and value.

**Parameter:**

- param: parameter string containing status informations about the harddisks

**Returns:**

- Associative array with the unused MDs (e.g. `/dev/md0`, `/dev/md1`, ...) as key and value.

### 7.16.11 `FDISK_listDrivesAndPartitions2`

**Description:** Generates and defines a selection that contains all drives and partitions of a given client.

**Parameter:**

- param: parameter string containing status informations about the harddisks
- default: the drive to show first
- selName: the name the selection is called in PHP and HTML
- pathFilter: Set this to another value than false if you want only devices with a given string in it.
- filterOutSetRaidLvmLock: If set to true, drives and partitions with set raidLvmLock will not be listed.

**Returns:**

- String with the HTML selection.

### 7.16.12 `FDISK_printAllBars2`

**Description:** Shows the partition bars of all drives specified for the current client, that is stored in the session.

### 7.16.13 `FDISK_showAllPartTables`

**Description:** Shows the partition tables of all drives specified for the current client, that is stored in the session.

#### 7.16.14 FDISK\_fdiskSessionPartJobs

**Description:** Stores the partition jobs in the session.

**Parameter:**

- newJobs: The new partition jobs to set or false for not changing.

**Returns:**

- The current partition jobs.

#### 7.16.15 FDISK\_fdiskSessionInstPart

**Description:** Stores the installation partition in the session.

**Parameter:**

- newInstPart: The new installation partition to set or false for not changing.

**Returns:**

- The current installation partition.

#### 7.16.16 FDISK\_fdiskSessionSwapPart

**Description:** Stores the swap partition in the session.

**Parameter:**

- newSwapPart: The new swap partition to set or false for not changing.

**Returns:**

- The current swap partition.

#### 7.16.17 FDISK\_fdiskSessionSetter

**Description:** Generic function to store values in the client partition and format session.

**Parameter:**

- newVal: The value to set or false for not changing.
- varName: The name the value should be stored under in the client partition and format session.

**Returns:**

- The current value.

#### 7.16.18 FDISK\_fdiskSessionClient

**Description:** Returns the client name to partition and format.

**Returns:**

- The client name to partition and format.

#### 7.16.19 FDISK\_fdiskSessionParam

**Description:** Stores the partition parameters in the session.

**Parameter:**

- newParam: The new partition parameters to set or false for not changing.

**Returns:**

- The current partition parameters.

### 7.16.20 FDISK\_fdiskSessionInstallDrive

**Description:** Stores the installation drive in the session.

**Parameter:**

- newDrive: The new installation drive to set or false for not changing.

**Returns:**

- The current installation drive.

### 7.16.21 FDISK\_fdiskSessionvDevInstall

**Description:** Stores the internal virtual installation drive number in the session.

**Parameter:**

- newDrive: The new internal virtual installation drive number to set or false for not changing.

**Returns:**

- The current internal virtual installation drive number.

### 7.16.22 FDISK\_fdiskSessionFreeSpaces

**Description:** Stores the free space parts of the installation drive in the session or recalculates them for the current installation drive.

**Parameter:**

- newSpaces: The new free spaces to set or false for not changing.
- reset: Re-calculate the free spaces, if set to true.

**Returns:**

- The current free spaces.

### 7.16.23 FDISK\_fdiskSessionReset

**Description:** Sets back all session variables (client name optionally) for partitioning and formatting a client.

**Parameter:**

- resetClientName: If set to true, the name of the client will be deleted too (and re-set by FDISK\_fdiskSessionClient).

### 7.16.24 FDISK\_fdiskSessionPartMethod

**Description:** Stores the partitioning method in the session.

**Parameter:**

- newMethod: The new method to set or false for not changing.

**Returns:**

- The current partitioning method.

### 7.16.25 FDISK\_fdiskSessionPage

**Description:** Stores the page in the session.

**Parameter:**

- newPage: The new page to set or false for not changing.

**Returns:**

- The current page.

### 7.16.26 **FDISK\_fdiskSessionHelpPage**

**Description:** Stores the help page in the session.

**Parameter:**

- newPage: The new help page to set or false for not changing.

**Returns:**

- The current help page.

### 7.16.27 **FDISK\_fdiskSessionTitle**

**Description:** Stores the partitioning title in the session.

**Parameter:**

- newTitle: The new title to set or false for not changing.

**Returns:**

- The current partitioning title.

### 7.16.28 **FDISK\_fdiskSessionFstab**

**Description:** Stores the fstab in the session.

**Parameter:**

- newFstab: The new fstab to set or false for not changing.

**Returns:**

- The current fstab.

### 7.16.29 **FDISK\_getPartitionByType**

**Description:** Gets the FIRST partition matching a partition type.

**Parameter:**

- param: parameter string containing status informations about the harddisks
- vDev: Virtual (internally used) device number.
- type: type of the partition (primary, extended, logical)

**Returns:**

- Virtual partition number of the FIRST partition matching a partition type or false, if no partition was found.

### 7.16.30 **FDISK\_getDrivesAndPartitions**

**Description:** Generates an array that contains all drives and partitions of a given client.

**Parameter:**

- param: parameter string containing status informations about the harddisks
- pathFilter: Set this to another value than false if you want only devices with a given string in it. If you add an "!" the beginning all is given out that doesn't contains the filter string (without the "!").
- addSizesAndTypes: If set to true, the array will contain the sizes, filesystems and types of the partitions and drives.
- filterOutSetRaidLvmLock: If set to true, drives and partitions with set raidLvmLock will not be listed.

**Returns:**

- Array with drives and partitions and (optionally) their sizes, filesystems and types.

### 7.16.31 FDISK\_listDrivesAndPartitions

**Description:** Generates a selection that contains all drives and partitions of a given client.

**Parameter:**

- param: parameter string containing status informations about the harddisks
- default: the drive to show first
- selName: the name the selection is called in PHP and HTML
- pathFilter: Set this to another value than false if you want only devices with a given string in it.

**Returns:**

- String with the HTML selection.

### 7.16.32 FDISK\_selectDrives

**Description:** creates a selection list of all drives

**Parameter:**

- param: parameter string containing status informations about the harddisks
- selName: the name the selection is called in PHP and HTML
- first: the drive to show first

### 7.16.33 FDISK\_printAllBars

**Description:** shows the partitions bars of all available drives

**Parameter:**

- param: parameter string containing status informations about the harddisks
- fstabA: Associative array with fstab information

### 7.16.34 FDISK\_getFirstDrive

**Description:** return the first drive as installation drive

**Parameter:**

- param: parameter string containing status informations about the harddisks

### 7.16.35 FDISK\_formatPart

**Description:** formats a partition

**Parameter:**

- param: parameter string containing status informations about the harddisks
- dev: partition to format (e.g. /dev/hda1)
- type: type of filesystem
- partJobs: parted commands

### 7.16.36 **FDISK\_getBiggestValueOf**

**Description:** gets the biggest value from a special type of partition

**Parameter:**

- param: parameter string containing status informations about the harddisks
- dev: selected device (e.g. hda)
- partType: type of the partition (logical, primary, extended)
- varType: define part of the key for the associative array (e.g. "type" means \$param["dev\$vDev"."part\$vPart"."\_type"])

### 7.16.37 **FDISK\_devNrExists**

**Description:** checks if a certain device number exists

**Parameter:**

- param: parameter string containing status informations about the harddisks
- vDev: Virtual (internally used) device number.
- devNr: device number you want to check

### 7.16.38 **FDISK\_nextLogicalDevNr**

**Description:** gets the next free logical device number

**Parameter:**

- param: parameter string containing status informations about the harddisks
- vDev: Virtual (internally used) device number.

### 7.16.39 **FDISK\_nextPrimaryDevNr**

**Description:** gets the next free primary device number

**Parameter:**

- param: parameter string containing status informations about the harddisks
- vDev: Virtual (internally used) device number.

### 7.16.40 **FDISK\_correctLogical**

**Description:** corrects the order of the logical partitions after deleting \$devNr.

**Parameter:**

- param: parameter string containing status informations about the harddisks
- vDev: Virtual (internally used) device number.
- devNr: the real device number to delete

### 7.16.41 **FDISK\_findDevNrPosition**

**Description:** returns the device position for the new device

**Parameter:**

- start: start position for the search
- end: end position for the search
- param: parameter string containing status informations about the harddisks

- vDev: Virtual (internally used) device number.
- newPartNr: stores the new device number
- type: type of the new partition

#### 7.16.42 FDISK\_partCreationSelect

**Description:** retunes a selection for selecting a partition type to create.

**Parameter:**

- param: parameter string containing status informations about the harddisks
- vDev: Virtual (internally used) device number.

#### 7.16.43 FDISK\_canPartTypeBeCreated

**Description:** checks if a partition from a certain type can be created

**Parameter:**

- param: parameter string containing status informations about the harddisks
- vDev: Virtual (internally used) device number.
- type: type of the partition (primary, extended, logical)

#### 7.16.44 FDISK\_checkFreeSpace

**Description:** checks if there is a free space between \$start and \$end

**Parameter:**

- param: parameter string containing status informations about the harddisks
- vDev: Virtual (internally used) device number.
- type: type of the partition (primary, extended, logical)
- start: start position for the search
- end: end position for the search
- freeSpaces: array of the free space information

#### 7.16.45 FDISK\_installExistingDialog

**Description:** shows the dialog for installation on existing partitions

**Parameter:**

- param: parameter string containing status informations about the harddisks

#### 7.16.46 FDISK\_addFstab

**Description:** Adds a new entry to the fstab that is stored in the param array.

**Parameter:**

- fstab: Array that contains the fstab information. The changed fstab will be written to this parameter too.
- dev: Device to mount (e.g. /dev/hda1)
- mountpoint: Location where to mount the device (e.g. /mnt/hda1)



#### 7.16.47 **FDISK\_delFstab**

**Description:** Removes an entry from the fstab array.

**Parameter:**

- **fstab:** Array that contains the fstab information. The changed fstab will be written to this parameter too.
- **fstabNr:** Number of the fstab entry to delete.

#### 7.16.48 **FDISK\_listFstab**

**Description:** Generates a HTML table with all defined mountpoints.

**Parameter:**

- **param:** parameter string containing status informations about the harddisks

**Returns:**

- HTML table with the fstab.

#### 7.16.49 **FDISK\_fstabAddDialog2**

**Description:** Dialog for adding fstab entries. This version uses the param and fstab parameters from the session.

#### 7.16.50 **FDISK\_fstabAddDialog**

**Description:** Dialog for adding fstab entries.

**Parameter:**

- **param:** parameter string containing status informations about the harddisks
- **fstab:** Array that contains the fstab information. The changed fstab will be written to this parameter too.

#### 7.16.51 **FDISK\_adjustFstabParam**

**Description:** Adjust the parameter block of a fstab line to make it use an supported FS.

**Parameter:**

- **param:** The parameter block of a fstab line
- **sourceName:** The name of the package source list

**Returns:**

- Adjust the parameter block of a fstab line

#### 7.16.52 **FDISK\_genManualFstab**

**Description:** Generates commands to edit a given fstab, add new entries and remove old ones before.

**Parameter:**

- **param:** parameter string containing status informations about the harddisks
- **mntPrefix:** Prefix to set before the mountpoint (e.g. /mnt/m23root/)

### 7.16.53 FDISK\_getBelongingRaidDev

**Description:** Searches for the RAID device, a physical partition belongs to, if it is part of a RAID.

**Parameter:**

- dev: The physical partition (e.g. /dev/hda4) that belongs to a RAID.
- param: parameter string containing status informations about the harddisks

**Returns:**

- The RAID device (e.g. /dev/md0) the physical partition belongs to or false, if no belonging RAID was found.

### 7.16.54 FDISK\_delPart

**Description:** deletes a partition from the param string and generates the parted commands

**Parameter:**

- dev: the partition to delete (e.g. /dev/hda4)
- param: parameter string containing status informations about the harddisks
- partJobs: parted commands
- deleteBelongingRaid: If set to true, the RAID, the partition belongs to will be destroyed.

**Returns:**

- Changed param string.

### 7.16.55 FDISK\_addPart

**Description:** adds a partition to the param string and generates the parted commands

**Parameter:**

- param: parameter string containing status informations about the harddisks
- partJobs: parted commands
- vDev: virtuell internal used device number.
- start: start position for the search
- end: end position for the search
- type: type of the partition (primary, extended, logical)
- freeSpaces: array of the free space information

**Returns:**

- : Changed param string.

### 7.16.56 FDISK\_listPartitions

**Description:** lists the partitions (/dev/hda1, /dev/hda2, ...) of a device and generates a selection

**Parameter:**

- param: parameter string containing status informations about the harddisks
- vDev: Virtual (internally used) device number or -1, if all partitions on all devices should be listed.
- selName: name of the selection
- excludeType: type of partitions, not to show in the selection

**Returns:**

- HTML code for the selection.

### 7.16.57 **FDISK\_definePartitionSelection**

**Description:** Defines a HTML selection with the partitions (/dev/hda1, /dev/hda2, ...) of a device

**Parameter:**

- param: parameter string containing status informations about the harddisks
- vDev: Virtual (internally used) device number or -1, if all partitions on all devices should be listed.
- selName: name of the selection
- excludeType: type of partitions, not to show in the selection

**Returns:**

- The selected partition.

### 7.16.58 **FDISK\_getPartitionsFromParam**

**Description:** Returns an array with the partitions (/dev/hda1, /dev/hda2, ...) of a device

**Parameter:**

- param: parameter string containing status informations about the harddisks
- vDev: Virtual (internally used) device number or -1, if all partitions on all devices should be listed.
- selName: name of the selection
- excludeType: type of partitions, not to show in the selection

**Returns:**

- Selected partition.

### 7.16.59 **FDISK\_getAllDrives**

**Description:** gets all drives of the client

**Parameter:**

- partitions: associative array containing status information about the harddisks

### 7.16.60 **FDISK\_colorFS**

**Description:** get color for a selected filesystem

**Parameter:**

- fsName: name of the file system: ext3, ext2, linux-swap,...

### 7.16.61 **FDISK\_getPartitionPercent**

**Description:** calculates the percent of a selected partition

**Parameter:**

- param: parameter string containing status informations about the harddisks
- vDev: Virtual (internally used) device number.
- vPart: Virtual (internally used) partition number. This is normally another number than the physical number (e.g. 1 on /dev/hda1)

### 7.16.62 FDISK\_getAfterPartition

**Description:** calculates ??? of free size after a selected partition

**Parameter:**

- param: parameter string containing status informations about the harddisks
- vDev: Virtual (internally used) device number.
- vPart: Virtual (internally used) partition number. This is normally another number than the physical number (e.g. 1 on /dev/hda1)
- factor: the factor to multiplay percent amount of free space

### 7.16.63 FDISK\_getBeforeFristPartition

**Description:** gets the free space before the first partition

**Parameter:**

- param: parameter string containing status informations about the harddisks
- vDev: virtual device number to access the drive
- factor: the factor to multiplay percent amount of free space

### 7.16.64 FDISK\_getPartitions

**Description:** get the partition info for the client from db

**Parameter:**

- client: name of the client

### 7.16.65 FDISK\_getPartInfoString

**Description:** Generates an info string, that shows information about the device name of the partition, its filesystem and belonging to a RAID.

**Parameter:**

- vDev: Virtual (internally used) device number.
- vPart: Virtual (internally used) partition number. This is normally another number than the physical number (e.g. 1 on /dev/hda1)
- param: parameter string containing status informations about the harddisks
- fstabA: Associative array with fstab information.

**Returns:**

- Info string.

### 7.16.66 FDISK\_getDriveInfoString

**Description:** Generates an info string, that shows information about the device name of the drive and belonging to a RAID.

**Parameter:**

- vDev: Virtual (internally used) device number.
- param: parameter string containing status informations about the harddisks
- fstabA: Associative array with fstab information.

**Returns:**

- Info string.

### 7.16.67 FDISK\_getDriveInfoIcon

**Description:** Generates HTML code for showing an icon with status information about a drive.

**Parameter:**

- vDev: Virtual (internally used) device number.
- param: parameter string containing status informations about the harddisks
- fstabA: Associative array with fstab information.

**Returns:**

- HTML code for showing an icon with status information about the drive.

### 7.16.68 FDISK\_getPartInfoIcon

**Description:** Generates HTML code for showing an icon with status information about a drive or partition.

**Parameter:**

- vDev: Virtual (internally used) device number.
- vPart: Virtual (internally used) partition number. This is normally another number than the physical number (e.g. 1 on /dev/hda1) and if set to false, the icon and the status information will be generated for a drive and not for a partition.
- param: parameter string containing status informations about the harddisks
- fstabA: Associative array with fstab information.

**Returns:**

- HTML code for showing an icon with status information about the drive or partition.

### 7.16.69 FDISK\_printBars

**Description:** prints the partitions as colored table

**Parameter:**

- param: parameter string containing status informations about the harddisks
- dev: selected device (e.g. /dev/hda)
- addJavaScript: Set to true to add JavaScript code that calls the JS function emptySpace(), if empty parts of the drive are clicked, selectPartition(), if a partition is clicked and showPartTable(), if the mouse is over the bar.
- fstabA: Associative array with fstab information.

### 7.16.70 FDISK\_getSupportedFS

**Description:** Generates and returns an array with the list of supported file systems.

**Returns:**

- Array with the list of supported file systems.

### 7.16.71 FDISK\_listSupportedFS

**Description:** lists all supported fileSystems for the menu.

**Parameter:**

- selName: name the selection list, used for the html form
- showFirst: name of file system shown first

**Returns:**

- The currently choosen file system.

### 7.16.72 **FDISK\_deletePartitionFromParam**

**Description:** Deletes all partition parameters of a partition from param without correcting the other partitions.

**Parameter:**

- vDev: Virtual (internally used) device number.
- vPart: Virtual (internally used) partition number. This is normally another number than the physical number (e.g. 1 on /dev/hda1)
- param: parameter string containing status informations about the harddisks.

**Returns:**

- Changed param without the partition.

### 7.16.73 **FDISK\_virtualDeletePartition**

**Description:** deletes partition from param assigned thru \$vDev and \$vPart.

**Parameter:**

- vDev: Virtual (internally used) device number.
- devNr: device number of the real device
- param: parameter string containing status informations about the harddisks

### 7.16.74 **FDISK\_virtualAddPartition**

**Description:** adds a partition to the param param

**Parameter:**

- vDev: virtual internal used device number.
- param: parameter string containing status informations about the harddisks
- start: start MB of the new partition
- end: end MB of the new partition
- type: type of the partition (primary, extended, logical)
- devNr: returns the device number

### 7.16.75 **FDISK\_listPartTable**

**Description:** lists the partition information as table

**Parameter:**

- vDev: Virtual (internally used) device number.
- param: parameter string containing status informations about the harddisks

### 7.16.76 **FDISK\_listInstPartSelector**

**Description:** lists all partitions to select for swap and install partition

**Parameter:**

- param: parameter string containing status informations about the harddisks
- default: partition that should be shown as selected
- type: array with filesystems that are possible for installation or swap
- selName: name of the selection

### 7.16.77 **FDISK\_formatExisting**

**Parameter:**

- instPart: partition to put the operation system on (e.g. /dev/hda1)
- swapPart: partition to put the swap file system on (e.g. /dev/hdb2)
- command: parted commands to do the installation
- param: parameter string containing status informations about the harddisks

### 7.16.78 **FDISK\_getvPart**

**Description:** returns vPart with the real device number.

**Parameter:**

- param: parameter string containing status informations about the harddisks
- dev: selected device (e.g. hda)
- devNr: number of partition

### 7.16.79 **FDISK\_rmJob**

**Description:** generates a partition remove job

**Parameter:**

- dev: selected device (e.g. hda)
- devNr: number of partition, minor number in parted
- partJobs: associative array with partition jobs

### 7.16.80 **FDISK\_addJob**

**Description:** generates a partition add job

**Parameter:**

- path: selected device (e.g. /dev/hda)
- start: start point for the partition
- end: end point for the partition
- type: type of the partition (primary, logical)
- partJobs: associative array with partition jobs
- fullPath: full path for the partition
- devNr: number of the device (e.g. 1 with /dev/hda1)

### 7.16.81 **FDISK\_bootflagJob**

**Description:** enables the booting flag on a partition

**Parameter:**

- path: device to activate booting on (e.g. /dev/hda1)
- devNr: number of partition, minor number in parted
- partJobs: associative array with partition jobs

### 7.16.82 FDISK\_formatJob

**Description:** generates a partition format job

**Parameter:**

- path: device to format (e.g. /dev/hda1)
- fileSys: file system of the partition: ext3, ext2, linux-swap
- partJobs: associative array with partition jobs

### 7.16.83 FDISK\_countPartitions

**Description:** count all partitions of a selected type

**Parameter:**

- param: parameter string containing status informations about the harddisks
- vDev: Virtual (internally used) device number.
- type: type of the partition (primary, extended, logical)

### 7.16.84 FDISK\_getFreeSpaces

**Description:** get free spaces as array

**Parameter:**

- param: parameter string containing status informations about the harddisks
- dev: selected device (e.g. hda)

### 7.16.85 FDISK\_autoPart

**Description:** generation of param string and command list for automatic partition

**Parameter:**

- clientName: name of the client
- command: parted commands are written to \$command
- dev: selected device (e.g. /dev/hda)
- param: parameter string containing status informations about the harddisks
- instPart: the variable the installation device name is written to
- swapPart: the variable the swap device name is written to
- minSwap: Minimal size of the swap partition in MB.
- maxSwap: Maximal size of the swap partition in MB.

### 7.16.86 FDISK\_printColorDefinitions

**Description:** prints the color definitions for the filesystems

### 7.16.87 FDISK\_showDiskDefine

**Description:** shows a dialog for defining the type and size of the fake drive for the clientBuilder

**Parameter:**

- client: client name



### 7.16.88 FDISK\_defineDrive

**Description:** defines drive information for the clientBuilder

**Parameter:**

- client: client name
- path: path to the drive (/dev/hda, /dev/hdb, ...)
- size: size of the drive in MB
- upperI: upper tolerance border for disks with identical type
- lowerI: lower tolerance border for disks with identical type
- upperO: upper tolerance border for disks with other type
- lowerO: lower tolerance border for disks with other type
- asSpeciefied: use the speciefied disk, if it exists (is set to "yes" or empty)
- sizeAdjustmentType: defines how the partitions should be adjusted, if there is more or less space on the client that the defined one. "system" increases or tries to keep the size of the system partition. "percentage" makes a percentage adjustment of all partitions.

### 7.16.89 FDISK\_dev2LDevLPart

**Description:** searches a special device (e.g. /dev/hda2) and writes the virtual device and partition numbers to the variables. These values can be used to access the file system via \$param["dev\$vDev"."part\$vPart"."\_fs"]

**Parameter:**

- param: the associative array containing all values describing the drives of the client
- dev: the device (e.g. /dev/hda2)
- vDev: the virtual device number, that is used to build the variable name to access the associative array.
- vPart: the virtual partition number, that is used to build the variable name to access the associative array. This number has not to be qual to the partition number of the real drive (e.g. /dev/hda5 can be \$vPart == 3). If it is set to "empty", only vDev is calculated.

**Returns:**

- true if the search worked otherwise false.

### 7.16.90 FDISK\_rereadPartTable

**Description:** Let the OS re-read the partition table.

**Parameter:**

- path: The device that was changed/created (e.g. /dev/sda5).

### 7.16.91 FDISK\_genPartedCommands

**Description:** returns the partition and formation commands that are generated from partJobs.

**Parameter:**

- partJobs: string with information about all created partition jobs
- mkfsExtOptions: Extra parameter for mkfs.extX .

### 7.16.92 FDISK\_listPartJobs

**Description:** print all part jobs in the table

**Parameter:**

- partJobs: string with information about all created partition jobs

### 7.16.93 FDISK\_getDiskType

**Description:** returns the type of the drive (DISK\_TYPE\_IDE, DISK\_TYPE\_SCSI)

**Parameter:**

- path: the path to the device (e.g. /dev/hde)

### 7.16.94 FDISK\_getDriveAndNr

**Description:** splits a path (e.g. /dev/hda1) in the device (/dev/hda) and the device number (1). The device is returned as element 0 and the number as element 1 in an array.

**Parameter:**

- path: the path to partition (e.g. /dev/hde1)

**Returns:**

- Array with two parts. \$out[0]=drive (e.g. /dev/hda), \$out[1]=the device number

### 7.16.95 FDISK\_getNextFdiskFormatJobNr

**Description:** returns the next free job number for the parameters of a m23fdiskFormat job. (e.g. there are used the following parameters: command0 = rm, command1= add. Then the next command number to use will be command2 => return value is 2)

**Parameter:**

- fdiskParams: the parameters of the m23fdiskFormat job

### 7.16.96 FDISK\_AFPselectDrive

**Description:** selects a drive from the settings in "options" and from available drives.

**Parameter:**

- drives: all drives available on the client
- options: options array of the client

### 7.16.97 FDISK\_AFPlinearScale

**Description:** scales all partitions sizes to match the full disk size.

**Parameter:**

- driveToUse: device to use (e.g. /dev/hda)
- driveToUseSize: Size of the real drive to use.
- options: options array of the client
- command: array that stores the modified format parameters
- formatarr: array that contains the original format parameters

### 7.16.98 FDISK\_AFPgetPartSizes

**Description:** writes the sizes of the installation, swap and other partitions to the variables.

**Parameter:**

- formatArr: array that contains the oformat parameters
- options: options array of the client
- instPartSize: stores the size of the installation partition
- instSwapSize: stores the size of the swap partition
- otherSize: stores the size of the other partition(s)

### 7.16.99 FDISK\_adjustFdiskParams

**Description:** adjusts the installation and swap drive for a derived client, based on the defined client settings

**Parameter:**

- path: the path to the device (e.g. /dev/hde)

### 7.16.100 FDISK\_virtualAddDrive

**Description:** Adds a new drive to the param array.

**Parameter:**

- param: parameter string containing status informations about the harddisks
- path: Device name of the new drive (e.g. /dev/md0)
- size: Size in MB of the new drive.

### 7.16.101 FDISK\_getDrivePartitionSize

**Description:** Calculates the size of a drive or partition.

**Parameter:**

- vDev: Virtual (internally used) device number.
- vPart: Virtual (internally used) partition number. This is normally another number than the physical number (e.g. 0 on /dev/hda1)
- param: parameter string containing status information about the harddisks

**Returns:**

- Size of the drive or partition in MB.

### 7.16.102 FDISK\_listRaidTable

**Description:** Get informations about the assigned real drives/partitions of a RAID.

**Parameter:**

- raidDev: Device name of the new drive (e.g. /dev/md0)
- param: parameter string containing status information about the harddisks

**Returns:**

- HTML table with informations about the assigned real drives/partitions.

### 7.16.103 **FDISK\_addDrivePartitionToRaid**

**Description:** Adds a drive or partition to a RAID.

**Parameter:**

- raidDev: Device name of the new drive (e.g. /dev/md0)
- raidType: RAID level (this can be 0,1,4,5,6,10)
- partitionDrive: Partition or drive to add (e.g. /dev/hdc)
- param: parameter string containing status information about the harddisks
- raidMode: Raid mode (e.g. 1 for RAID-1, 5 for RAID-5)

**Returns:**

- true if the RAID has the minimum amount of assigned drives/partitions and otherwise false.

### 7.16.104 **FDISK\_buildRaidDialog**

**Description:** Shows a dialog for creating RAIDs of different types and assign real drives or partitions.

**Parameter:**

- param: parameter string containing status information about the harddisks
- partJobs: associative array with partition jobs
- currentDrive: the current drive to work on (e.g. hda)
- helpPage: Name of the help page to show.
- partitionDrive: Partition or drive to add (e.g. /dev/hdc)
- partMethod: partition method (used for the partition/format dialog). The next step will depend on this value.

**Returns:**

- true if the RAID has the minimum amount of assigned drives/partitions and otherwise false.

### 7.16.105 **FDISK\_addRaidJobs**

**Description:** Generates jobs to create all RAIDs

**Parameter:**

- partJobs: associative array with partition jobs
- param: parameter string containing status information about the harddisks

### 7.16.106 **FDISK\_addRaidBeforeFormat**

**Description:** Generates and places a job to create a RAID on given drives/partitions before the formatting of the RAID device.

**Parameter:**

- raidDev: RAID device (e.g. /dev/md0)
- devList: Space separated list of devices to create the RAID on top (e.g. /dev/sda1 /dev/hda /dev/sbd5).
- partJobs: associative array with partition jobs.
- raidMode: The type of the RAID (0,1,5, ...)

**7.16.107 FDISK\_raidJob**

**Description:** Generates a job to create a RAID on given drives/partitions.

**Parameter:**

- raidDev: RAID device (e.g. /dev/md0)
- devList: Space separated list of devices to create the RAID on top (e.g. /dev/sda1 /dev/hda /dev/sbd5).
- partJobs: associative array with partition jobs

**7.16.108 FDISK\_virtualDeleteDrive**

**Description:** Deletes a (RAID) drive from param assigned thru \$vDev.

**Parameter:**

- vDev: Virtual (internally used) device number.
- param: parameter string containing status informations about the harddisks

**7.16.109 FDISK\_deleteDriveFromParam**

**Description:** Deletes all drive and partition parameters of a drive from param without correcting any order.

**Parameter:**

- vDev: Virtual (internally used) device number of the drive to delete.
- param: parameter string containing status informations about the harddisks.

**Returns:**

- Changed param without the drive.

## 7.17 ./inc/groups.php

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: group management funtions

### 7.17.1 GRP\_exists

**Description:** checks, if a group exists

**Parameter:**

- groupName: name of the group to check

### 7.17.2 GRP\_add

**Description:** adds a group

**Parameter:**

- groupName: name of the group to add

### 7.17.3 GRP\_getIdByName

**Description:** gets the Id of a groupname

**Parameter:**

- groupName: name of the group

**Returns:**

- Group number or false, if no matching group is found.

### 7.17.4 GRP\_del

**Description:** deletes all clients from the group and the group itself

**Parameter:**

- groupName: name of the group

### 7.17.5 GRP\_isClientInGroup

**Description:** returns true, if a client is in the selected group, otherwise false

**Parameter:**

- clientName: name of the client
- groupName: name of the group

### 7.17.6 GRP\_addClientToGroup

**Description:** adds a client to a group

**Parameter:**

- clientName: name of the client
- groupName: name of the group

### 7.17.7 GRP\_delClientFromGroup

**Description:** removes a client from a group

**Parameter:**

- clientName: name of the client
- groupName: name of the group

### 7.17.8 GRP\_listGroupsAndCount

**Description:** returns a associative array with all groupnames and the amount of clients in each group

### 7.17.9 GRP\_showGroupsAndCount

**Description:** generates a table with all groupnames and the amount of clients in each group

### 7.17.10 GRP\_ren

**Description:** renames a group

**Parameter:**

- groupName: name of the group
- newGroupName: name of the new group

### 7.17.11 GRP\_HTMLBackToDetails

**Description:** generates HTML code to return to the group details page

**Parameter:**

- groupName: name of the group
- section: name of the section to jump to

### 7.17.12 GRP\_countClients

**Description:** returns the amount of client of a certain group

**Parameter:**

- groupName: name of the group

### 7.17.13 GRP\_showGeneralInfo

**Description:** shows a table with general information about the group

**Parameter:**

- groupName: name of the group

### 7.17.14 GRP\_showRenDialog

**Description:** shows a dialog to rename a group

### 7.17.15 GRP\_moveClientToGroup

**Description:** moves a client from one group to another

**Parameter:**

- clientName: client to move
- oldGroup: name of the old group
- newGroup: name of the new group

### 7.17.16 GRP\_listGroups

**Description:** returns all groups in an array

### 7.17.17 GRP\_groupSelection

**Description:** generates a HTML selection with all groups as options

**Parameter:**

- selName: name of the selection
- first: the group that should be shown first

### 7.17.18 GRP\_showDelDialog

**Description:** shows a dialog for deleting a group

**Parameter:**

- groupName: name of the group

### 7.17.19 GRP\_doClientMoreGroups

**Description:** dialog and logic for adding and removing the client to and from multiple groups

**Parameter:**

- clientName: name of the client
- type: type of the action ("add" for adding, "del" for removing)

### 7.17.20 GRP\_listClientGroups

**Description:** returns an array containing all groups a client is in

**Parameter:**

- clientName: name of the client

### 7.17.21 GRP\_showClientGroups

**Description:** Shows a list containing all groups a client is in

**Parameter:**

- clientName: name of the client
- link: if there should be links to the group page
- output: If set to true, the list will be shown, if set to false returned instead.

**Returns:**

- Nothing or the list containing all groups a client is in.



### 7.17.22 GRP\_listAllClientsInGroup

**Description:** returns an array that consists of all client names that are in a group

**Parameter:**

- groupName: name of the group to check

### 7.17.23 GRP\_getDistrsAndSourcesLists

**Description:** writes the different distributions and package sources of the clients in a group as array to the both variables

**Parameter:**

- distrs: variable that should store the distributions
- sourceslists: variable that should store the sourceslist names

### 7.17.24 GRP\_showSelDistrSources

**Description:** shows a dialog for selection of distribution and package source name. The choices are taken from distr and packagesource values of the clients in the group. If there is only one entry for one or both of the values, the value is written back to the input variable otherwise a HTML selection is shown.

**Parameter:**

- groupNames: group names stores in an array
- distr: distribution to show first and variable to write the distribution name back
- sourceslist: sources list to show first and variable to write the sources list name back

### 7.17.25 GRP\_listAllClientsInGroups

**Description:** returns an array with all client names contained in the groups

**Parameter:**

- groupNames: the names of the groups stored in an array

### 7.17.26 GRP\_HTMLBackToOverview

**Description:** generates HTML code to return to the group overview page

### 7.17.27 GRP\_getAllPackages

**Description:** shows a list of all packages on all clients in the selected groups. the packages can be selected by checkboxes

**Parameter:**

- groupNames: group names stores in an array
- key: keyword for searching for packages
- withActions: you can select to draw the action

### 7.17.28 GRP\_desasterRecovery

**Description:** recovers all selected clients and shows a message afterwards

**Parameter:**

- clients: an array containing all clients that should be recovered

## 7.18 ./inc/helper.php

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: Helper functions that did not fit into another include file.

### 7.18.1 HELPER\_URIencode

**Description:** Encodes a string like the JavaScript function URIencode would do it.

**Parameter:**

- in: Input string to be encoded.

**Returns:**

- Encoded version of the string

### 7.18.2 HELPER\_isUpper

**Description:** Checks, if a character is upper case

**Parameter:**

- char: Character to check.

**Returns:**

- true, when upper case otherwise false

### 7.18.3 HELPER\_filesize

**Description:** Gets the correct file size of a file, even if it is bigger than 2 GB.

**Parameter:**

- fileName: Name of the file with full path.

**Returns:**

- The file size of the file in bytes.

### 7.18.4 HELPER\_isExecutedInCLI

**Description:** Checks, if it is run in CLI.

**Returns:**

- True, when run in CLI otherwise false.

### 7.18.5 HELPER\_getContentFromURL

**Description:** Downloads an URL via curl and gives back the site code.

**Parameter:**

- url: The URL to download.
- range: If set, a part of the file will be downloaded. (e.g. 0-500 will download the first 500 kb)

**Returns:**

- The downloaded site code or false in case of an error.

### 7.18.6 HELPER\_trimValue

**Description:** Runs trim on the input parameter and writes the result back.

**Parameter:**

- value: Value to trim.

### 7.18.7 HELPER\_xargsRecursive

**Description:** Executes a BASH command with a list of arguments. If the BASH command fails, the argument list is split in two parts and recursively executed again.

**Parameter:**

- cmd: BASH command
- argsA: Array of commands for the BASH command.
- tabAmount: Amount of indenting to start with.

**Returns:**

- Recursive calls of the BASH command with error checking.

### 7.18.8 HELPER\_getNewLogLines

**Description:** Gets the last (new) lines of a (growing) log file.

**Parameter:**

- log: Name of the log file.
- sessionPrefix: Prefix for storing the last read line number in the session.

**Returns:**

- UTF8-encoded new lines of the log file.

### 7.18.9 HELPER\_rmRecursive

**Description:** Removes a directory with sub-directories and contained files.

**Parameter:**

- : dir: Full path to the directory.

### 7.18.10 HELPER\_showBAfH

**Description:** Shows the German BAfH excuse of the day.

### 7.18.11 HELPER\_ucrc32

**Description:** Returns the unsigned crc32 sum of an input value.

**Parameter:**

- : in: Input to crc.

**Returns:**

- Unsigned crc32 sum of an input value.

### 7.18.12 HELPER\_md5x5

**Description:** Hashes an input value 5 times with MD5.

**Parameter:**

- : in: Input to hash.

**Returns:**

- Hashed value.

### 7.18.13 HELPER\_netmaskAmountOfSetBits

**Description:** Calculates the amount of set bits in a network mask (as used in the short form of netmasks).

**Parameter:**

- : nm: The netmask in decimal notation.

**Returns:**

- Amount of set bits in the network mask.

### 7.18.14 HELPER\_networkCalculator

**Description:** Calculates the network IP by a given IP and the netmask.

**Parameter:**

- : ip: The IP.
- : nm: The netmask.

**Returns:**

- Network IP.s

### 7.18.15 HELPER\_netmaskCalculator

**Description:** Converts a short netmask (e.g. 24 for 255.255.255.0) into the decimal notation.

**Parameter:**

- : nm: The netmask to convert. If a netmask in decimal notation is given, no conversation is done.

**Returns:**

- Netmask in decimal notation.

### 7.18.16 HELPER\_importAllIntoPOST

**Description:** Imports all values into the \$\_POST array in case that there are too much array keys for the normal processing.

### 7.18.17 HELPER\_randomUsername

**Description:** Generates a random username with a given length.

**Parameter:**

- length: Length of the username to create.

**Returns:**

- The random username.

#### 7.18.18 HELPER\_createSelfSignedCAAndServerCertificate

**Description:** Creates a selfsigned CA and a server certificate.

**Parameter:**

- CADn: Information about the CA.
- serverDn: Information about the server.
- password: Password for the private server key.
- expirationDate: Expiration of the certificates in days.

**Returns:**

- Associative array with the certificate of the CA, the certificate and private key of the server.

#### 7.18.19 HELPER\_arrayReOrderKeynumbers

**Description:** Changes all keys of the input array to simple ascending numbers, if the key of the input array is a number (if not, the key will be left unchanged). The order of the keys is preserved.

**Parameter:**

- inArray: The input array.

**Returns:**

- New array with the ascending key numbers.

#### 7.18.20 HELPER\_arrayInsertBeforeKeynumber

**Description:** Inserts a value into an array (that has simple numbers as keys) before a given key.

**Parameter:**

- inArray: The input array.
- beforeKeynumber: The key number the value should be inserted before.
- val: The value that should be inserted.

**Returns:**

- New array with the new value inserted.

#### 7.18.21 HELPER\_arrayInsertAfterKeynumber

**Description:** Inserts a value into an array (that has simple numbers as keys) after a given key.

**Parameter:**

- inArray: The input array.
- afterKeynumber: The key number the value should be inserted after.
- val: The value that should be inserted.

**Returns:**

- New array with the new value inserted.

### 7.18.22 HELPER\_m23Array2Array

**Description:** Converts an m23 array to a normal array.

**Parameter:**

- m23Array: The m23 array to convert. The m23 array is a 2D array, that consists of keys build of a parameter names combined with a parameter number. Parameter names with the same parameter number belong together. (e.g. [command0] => format, [path0] => /dev/md0, [fs0] => ext4, ...)

**Returns:**

- A normal array, that may be edited more easily. (e.g [0] => Array([command] => format, [path] => /dev/md0, [fs] => ext4 ))

### 7.18.23 HELPER\_array2m23Array

**Description:** Converts a normal array to an m23 array.

**Parameter:**

- array: A normal array, that may be edited more easily. (e.g [0] => Array([command] => format, [path] => /dev/md0, [fs] => ext4 ))

**Returns:**

- The m23 array, that is a 2D array, that consists of keys build of a parameter names combined with a parameter number. Parameter names with the same parameter number belong together. (e.g. [command0] => format, [path0] => /dev/md0, [fs0] => ext4, ...)

### 7.18.24 print\_r2

**Description:** Function like print\_r, but sorts the entries, if the input is an array and converts newlines to HTML breaks.

**Parameter:**

- in: Value to print.

### 7.18.25 HELPER\_debugBacktraceToFile

**Description:** Writes/Appends debug information about all calling functions and parameters into a file.

**Parameter:**

- file: File name with full path, where the debug information should be stored.

### 7.18.26 HELPER\_getRemoteFileContents

**Description:** Downloads a file if it is not older than a given time and returns its contents.

**Parameter:**

- url: The URL where to download the file from.
- storeFile: The file name to store the download in.
- refreshTime: The time in minutes the file is downloaded again.
- forceOverwrite: Set to true if the file should be overwritten even if the new file is empty.

**Returns:**

- The contents of the files from cache or from download or false if no file could be found.

### 7.18.27 **HELPER\_passGenerator**

**Description:** Generates semi-random passwords via pwgen or DB\_genPassword.

**Parameter:**

- length: The length of the passwords.
- amount: The amount of passwords to generate.

**Returns:**

- Array with the generated passwords if \$amount > 1 or the password string directly if \$amount = 1.

### 7.18.28 **HELPER\_array2AssociativeArray**

**Description:** Copies the values of an array as keys AND values to a new associative array.

**Parameter:**

- in: Input array.

**Returns:**

- Associative array with equal keys and values.

### 7.18.29 **HELPER\_randomMAC**

**Description:** Generates a random MAC address.

**Returns:**

- Random MAC address in the format XX:XX:XX:XX:XX:XX (e.g. 70:c4:d4:49:6e:27).

### 7.18.30 **HELPER\_generateSalt**

**Description:** Generates a random salt string.

**Parameter:**

- length: Length of the salt.

**Returns:**

- Random salt of given length.

### 7.18.31 **HELPER\_grubMd5Crypt**

**Description:** Encrypts a password to the MD5 hash as expected by grub.

**Parameter:**

- password: Password to encrypt.
- length: Length of the salt.

**Returns:**

- Encrypted password in grub style or false if MD5 hash function isn't available.

### 7.18.32 **HELPER\_listFilesInDir**

**Description:** Lists all files in a directory and returns an array with all file names.

**Parameter:**

- dirname: Name of the directory.

**Returns:**

- Array with all file names.

### 7.18.33 HELPER\_getBootLoaders

**Description:** Returns a list of available bootloaders.

**Returns:**

- Array with available bootloaders.

### 7.18.34 HELPER\_getTimeZones

**Description:** Searches for all time zones.

**Parameter:**

- country: two letter country name that is used to select a timezone if none is set with \$first.

**Returns:**

- Array with all time zones.

### 7.18.35 HELPER\_calcMBSize

**Description:** calculates the size in MB from a given input that can be a GB value or measured in **Parameter:**

- number: the number to convert
- from: if number is a percent value, the output will be the percentage of the from value
- trunc: set to true, if the output value should be truncated

### 7.18.36 HELPER\_grep

**Description:** returns all lines from \$string seperated by \$cut that contain \$search

**Parameter:**

- string: the text, that should be searched
- search: the string to be searched
- cut: separator for the input and output lines

**Returns:**

- The found lines as string separated by \$cut.

### 7.18.37 HELPER\_grepNot

**Description:** Returns all lines from \$string seperated by \$cut that do NOT contain \$search.

**Parameter:**

- string: the text, that should be searched
- search: the string to be searched
- cut: separator for the input and output lines

**Returns:**

- The found lines as string separated by \$cut.



### 7.18.38 **HELPER\_grepCount**

**Description:** Counts the lines from \$string separated by \$cut that contain \$search.

**Parameter:**

- string: the text, that should be searched
- search: the string to be searched
- cut: separator for the input and output lines

**Returns:**

- Amount of lines that match the \$search.

### 7.18.39 **HELPER\_getFdiskMountPoints**

**Description:** Returns an array with all mount points listed in /etc/fstab

**Parameter:**

- excludeExtra: set to true, if you want to exclude /proc and /sys from the array

**Returns:**

- Found mount points as array keys and values.

### 7.18.40 **HELPER\_getApacheUser**

**Description:** returns the name of the Apache user

### 7.18.41 **HELPER\_getApacheGroup**

**Description:** returns the group of the Apache user

### 7.18.42 **HELPER\_putFileContents**

**Description:** Writes data to a file.

**Parameter:**

- fileName: name of the file to write
- contents: Text or data that should be written to the file.

**Returns:**

- Error code from fwrite.

### 7.18.43 **HELPER\_getFileContents**

**Description:** returns the contents of a file (the file is read to a maximum of 5 MB)

**Parameter:**

- fileName: name of the file to read

### 7.18.44 **HELPER\_showFileContents**

**Description:** Shows the contents of a file (the file is read to a maximum of 5 MB)

**Parameter:**

- fileName: name of the file to read

**7.18.45 HELPER\_maxPhpUploadSize**

**Description:** Returns the maximum file upload size allowed by php.ini.

**7.18.46 HELPER\_compareLengthAbc**

**Description:** Compares the length of two strings and then by alphabet

**Parameter:**

- \$a: string of a certain length
- \$b: string of a certain length

**7.18.47 HELPER\_sortByLength**

**Description:** Sorts an array by length of its values, shortest value first, keeping key-value pairs

**Parameter:**

- \$array: The array you want to sort by length

## 7.19 *./inc/help.php*

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: function to show the help box in the correct language

### 7.19.1 **HELP\_showHelp**

**Description:** shows the help block for the online help

**Parameter:**

- topic: the name of the help file
- language: two character language description (e.g. de, en, fr,...)

### 7.19.2 **HELP\_getHelp**

**Description:** Returns the help block for the online help

**Parameter:**

- topic: the name of the help file or name of a man page starting with "man://" e.g. man://tar
- language: two character language description (e.g. de, en, fr,...)
- fileName: full path to a help file in a directory with language short name

**Returns:**

- help block string

### 7.19.3 **HELP\_getHelpString**

**Description:** returns the help block for the online help

**Parameter:**

- topic: the name of the help file
- language: two character language description (e.g. de, en, fr,...)

### 7.19.4 **HELP\_showHelpTex**

**Description:** shows the help file converted to LaTeX code

**Parameter:**

- fileName: name of the help file

## 7.20 `./inc/html.php`

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: functions for generating often used HTML code

### 7.20.1 `HTML_imgSwitch`

**Description:** Defines an image button with two states and a text next to it.

**Parameter:**

- `$htmlName`: Name of the html image input element.
- `$off_img`: Name and path of image to be displayed if its state is "off"
- `$on_img`: Name and path of image to be displayed if its state is "on"
- `$off_text`: Text to be displayed if state is "off"
- `$on_text`: Text to be displayed if state is "on"
- `$separator`: Anything which shall be displayed between the picture (clickable) and the text (not clickable)
- `$default`: State of the image input element on first load of page ("on" or "off")
- `$outState`: Current state of element (true for "on" or false for "off").

**Returns:**

- true, if the button was clicked otherwise false.

### 7.20.2 `HTML_uploadFile`

**Description:** Shows a dialog for uploading image files.

**Parameter:**

- `htmlName`: Name of the HTML element
- `label`: The visual naming of the HTML element.
- `maxFileSize`: The maximum allowed filesize in bytes.

**Returns:**

- The full path to the uploaded file or false in case of an error.

### 7.20.3 `HTML_urlButton`

**Description:** Defines a link that appears like a button.

**Parameter:**

- `htmlNames`: Name of the constant.
- `label`: Label of the button.
- `url`: The URL where the link button should point to.

#### 7.20.4 **HTML\_sourceViewer**

**Description:** Creates a source code viewer area with syntax highlighting.

**Parameter:**

- **htmlNames:** Name of the source viewer.
- **code:** The source code to show.
- **highlighting:** The GeSHi language of the source code (e.g. bash).

#### 7.20.5 **HTML\_getOutputBuffer**

**Description:** Gets the complete (previously rendered) HTML output buffer.

**Returns:**

- The complete contents of the (previously rendered) HTML output buffer.

#### 7.20.6 **HTML\_setOutputBuffer**

**Description:** Sets (replaces) the complete (previously rendered) HTML output buffer, that will be sent to the webbrowser.

**Parameter:**

- **HTMLOutputBuffer:** New HTML codes that should replace the complete current output buffer.

#### 7.20.7 **HTML\_AJAXAutoSubmit**

**Description:** Defines AJAX code that clicks a submit button when the given URL returns 'submit'. The defined constant should be used as LAST part of the \$extra parameter in the HTML\_submit function.

**Parameter:**

- **htmlNames:** Name of the HTML submit element (button).
- **url:** The HTTP URL to poll.
- **timeout:** Time in milliseconds to poll the URL for new status.

**Returns:**

- Constant name to insert into \$extra.

#### 7.20.8 **HTML\_liveSpan**

**Description:** Creates a span that updates itself via AJAX by polling from a given URL.

**Parameter:**

- **htmlNames:** Name of the span.
- **url:** The HTTP URL to poll.
- **staticValue:** Value that should be shown, when AJAX is not available (e.g. when JavaScript is disabled)
- **timeout:** Time in milliseconds to poll the URL for new status.

### 7.20.9 HTML\_manipulateOutputBuffer

**Description:** Manipulates the output buffer with already generated HTML code and replaces all occurrences the search term with the replace term.

**Parameter:**

- search: The search term.
- replace: The replace text.

**Returns:**

- true, if the search term was found.

### 7.20.10 HTML\_showTitle

**Description:** Shows a title.

**Parameter:**

- title: Text of the title.

### 7.20.11 HTML\_showSmallTitle

**Description:** Shows a title of the second tier.

**Parameter:**

- title: Text of the small title.

### 7.20.12 HTML\_hiddenVar

**Description:** Create a hidden HTML variable to store values in an HTML form.

**Parameter:**

- var: Name of the hidden variable.
- val: Its value.

### 7.20.13 HTML\_liveLogArea

**Description:** Creates a log area that updates itself via AJAX by polling from a given URL.

**Parameter:**

- htmlNames: Name of the log area.
- width: The width in characters of the log area.
- height: The height in characters of the log area.
- url: The HTTP URL to poll.
- timeout: Time in milliseconds to poll the URL for new status.
- maxLines: Maximum amount of lines to show in the log area (older lines are removed, when there are too many).

### 7.20.14 HTML\_checkboxChangerButtons

**Description:** Defines buttons for changing all check boxes.

**Parameter:**

- htmlNames: Name of the HTML elements.

### 7.20.15 HTML\_jsCheckboxChanger

**Description:** Generates JavaScript code for changing all check boxes.

**Parameter:**

- jsBlockName: Name of the JS block constant.

### 7.20.16 HTML\_logArea

**Description:** Shows a text area for log information (readonly).

**Parameter:**

- htmlName: Name of the HTML element.
- cols: Number of columns.
- rows: Number of rows to show.
- text: The log information to show.

### 7.20.17 HTML\_getQuestionnaireURL

**Description:** Returns the complete URL to the m23 questionnaire in the language of the webinterface.

**Returns:**

- Complete URL to the m23 questionnaire in the language of the webinterface.

### 7.20.18 HTML\_questionnaire

**Description:** Shows the questionnaire window.

**Parameter:**

- disable: Set to true to disable showing of the window again.

### 7.20.19 HTML\_esel

**Description:** Shows an dog-ear that can be opened to show "goos-habermann.de/m23ad".

### 7.20.20 HTML\_JSMenuCloseAllEntries

**Description:** Closes all menu entries for a menu. This should be called at the end of a page to get it executed after loading.

### 7.20.21 HTML\_JSMenuOpener

**Description:** Opens a menu entry when moving the mouse over the title and closes all other entries of the same menu.

**Parameter:**

- menuName: Name of the complete menu. This name must be the same on all entries belonging to the same menu.
- entryName: Name of the entry. This name must be unique.
- title: Title for the menu entry.
- html: HTML code of the menu entry. Here can stand all that is expressable with HTML. This part is shown and hidden.

- titleCSS: CSS class for marking the title.

**Returns:**

- The HTML code for displaying the menu entry.

**7.20.22 HTML\_jQueryMenu**

**Description:** Creates an entry for the jQuery accordion menu

**Parameter:**

- title: Title for the menu entry.
- html: HTML code of the menu entry. Here can stand all that is expressable with HTML. This part is shown and hidden.
- titleCSS: CSS class for marking the title.

**Returns:**

- The jQuery code for the menu entry.

**7.20.23 HTML\_jQueryMenuHeader**

**Description:** Generate code for beginning a the jQuery accordion menu.

**Parameter:**

- menuName: Name of the menu.

**Returns:**

- The jQuery code for beginning the menu.

**7.20.24 HTML\_jQueryReStoreYWindowPosition**

**Description:** Generates jQuery code for storing the Y scroll position of the window and to restore the position after a submit.

**Parameter:**

- variablePrefix: Prefix for the hidden variable with the Y position.
- hiddenPosCode: Variable where the hidden variable HTML code is written to.

**Returns:**

- The jQuery code for storing the Y scroll position of the window and to restore the position after a submit.

**7.20.25 HTML\_jQueryMenuEnd**

**Description:** Generates code for ending a the jQuery accordion menu.

**Parameter:**

- menuName: Name of the menu.

**Returns:**

- The jQuery code for ending the menu.



### 7.20.26 HTML\_incStatusBarPercentByName

**Description:** Increments the status bar percent by a given amount.

**Parameter:**

- statusBarName: The name of the status bar.
- client: The name of the client, the status bar belongs to (or other values for identifying the object the status bar belongs to)
- percent: Percent value of the current job.

### 7.20.27 HTML\_setStatusBarPercentPointByName

**Description:** Calculates the value of a percent point according to the amount of waiting packages and stores the result in the DB.

**Parameter:**

- statusBarName: The name of the status bar.
- client: The name of the client, the status bar belongs to (or other values for identifying the object the status bar belongs to)
- recalculate: true, if the remaining percent value of the status bar should be used to calculate a new (better fitting) percentpoint.

**Returns:**

- false on errors, otherwise true.

### 7.20.28 HTML\_setStatusBarStatusByName

**Description:** Sets new percent value and/or new status text by clientname AND status bar name.

**Parameter:**

- statusBarName: The name of the status bar.
- client: The name of the client, the status bar belongs to (or other values for identifying the object the status bar belongs to)
- percent: Percent value to write into the DB (may be false, if it should not be changed).
- statustext: A text message that should be shown under the status bar and written to the DB (may be false, if it should not be changed).

**Returns:**

- : false on parameter error.

### 7.20.29 HTML\_setStatusBarStatusByID

**Description:** Sets new percent value and/or new status text by status bar ID.

**Parameter:**

- id: ID of the status bar
- percent: Percent value to write into the DB (may be false, if it should not be changed).
- statustext: A text message that should be shown under the status bar and written to the DB (may be false, if it should not be changed).

**Returns:**

- : false on parameter error.

### 7.20.30 HTML\_setStatusBarStatus

**Description:** Sets new percent value and/or new status text by status bar ID or clientname AND status bar name.

**Parameter:**

- id: ID of the status bar (Optional parameter to set values of status bar with given ID).
- percent: Percent value to write into the DB (may be false, if it should not be changed).
- statustext: A text message that should be shown under the status bar and written to the DB (may be false, if it should not be changed).
- statusBarName: The name of the status bar.
- client: The name of the client, the status bar belongs to (or other values for identifying the object the status bar belongs to)

**Returns:**

- : false on parameter error.

### 7.20.31 HTML\_getStatusBarID

**Description:** Returns the status bar ID of the searched status bar.

**Parameter:**

- name: The name of the status bar.
- client: The name of the client, the status bar belongs to (or other values for identifying the object the status bar belongs to)

**Returns:**

- : The status bar ID of the searched status bar or false if none could be found.

### 7.20.32 HTML\_newStatusBar

**Description:** Shows the iframe for a status bar. This actually displays the status bar.

**Parameter:**

- name: The name of the status bar.
- client: The name of the client, the status bar belongs to (or other values for identifying the object the status bar belongs to)
- type: The method of calculating/getting the percentage to display in the status bar.
- cmd: BASH command, if type is STATUSBAR\_TYPE\_bash.
- refreshtime: Time (in seconds) between refreshes of the status bar.
- statustext: A text message that should be shown under the status bar.
- percent: Percent value to write into the DB.

**Returns:**

- : The status bar ID of the just created status bar or false, if it could not be created.

### 7.20.33 HTML\_showStatusBar

**Description:** Shows the iframe for a status bar. This actually displays the status bar.

**Parameter:**

- id: ID of the status bar.
- width: The width of the status bar iframe.
- height: The height of the status bar iframe.

### 7.20.34 HTML\_showStatusBarHTML

**Description:** Shows the status bar, that is drawn in the iframe (this function is only called by statusBar.php).

**Parameter:**

- id: ID of the status bar.

### 7.20.35 HTML\_multiCheckBox

**Description:** Defines a list of checkboxes, that represent a value each. The values of checked checkboxes are stored in an array and returned.

**Parameter:**

- htmlName: Name of the HTML element.
- valuesLabels: Array with the values and labels for the checkboxes.
- defaultChecked: Array with values that are checked by default.
- forceReload: Set to true if the check box should be set to the state of \$defaultCheck in any case.

**Returns:**

- : Array with the values of all checked checkboxes.

### 7.20.36 HTML\_multiCheckBoxShow

**Description:** Shows a list of checkboxes, that represent a value each. The values of checked checkboxes are stored in an array and returned.

**Parameter:**

- valuesLabels: Array with the values and labels for the checkboxes.
- defaultChecked: Array with values that are checked by default.
- forceReload: Set to true if the check box should be set to the state of \$defaultCheck in any case.

**Returns:**

- : Array with the values of all checked checkboxes.

### 7.20.37 HTML\_setPage

**Description:** Sets the m23 page as hidden value.

**Parameter:**

- page: Name of the page.

### 7.20.38 HTML\_storableInput

**Description:** HTML text or password edit line with loading and storing the values to and from the session.

**Parameter:**

- **htmlName:** Name of the HTML element.
- **prefKey:** Variable name of the preference the dialog element stands for.
- **initValue:** The initial value if the element is shown first.
- **storePointer:** Additional pointer to the variable where to store the entered value.
- **size:** Size (in characters) of the input line.
- **maxlength:** The maximum length of the entered text.
- **type:** Type of the edit line (INPUT\_TYPE\_text or INPUT\_TYPE\_password)

**Returns:**

- Returns the entered value, the default value or false.

### 7.20.39 HTML\_storableSelection

**Description:** Shows a list of radio buttons or a selection with loading and storing the checking state to and from the session.

**Parameter:**

- **htmlName:** Name of the HTML element.
- **prefKey:** Variable name of the preference the dialog element stands for.
- **array:** An array that hold the returned values (array keys) the naming for the elements (array values).
- **type:** SELTYPE\_selection for a selection or SELTYPE\_radio for radio buttons.
- **vertical:** Set to true if the radio buttons should be aligned vertically or to false for horizontal aligning. This parameter is ignored by selections.
- **defaultSelection:** The value of the item to select by default.
- **storePointer:** Additional pointer to the variable where to store the entered value.
- **js:** Here can JavaScript or other parameters be added.

**Returns:**

- true if the check box is checked.

### 7.20.40 HTML\_storableCheckBox

**Description:** Shows a check box with label with loading and storing the checking state to and from the session.

**Parameter:**

- **htmlName:** Name of the HTML element.
- **label:** Label of the element.
- **prefKey:** Variable name of the preference the dialog element stands for.
- **defaultCheck:** Set to true if the check box should be checked if no HTML value is given.
- **storePointer:** Additional pointer to the variable where to store the entered value.

- **checkedValue:** The value that should be stored into \$storePointer if the check box is checked.
- **uncheckedValue:** The value that should be stored into \$storePointer if the check box is NOT checked.

**Returns:**

- true if the check box is checked.

**7.20.41 HTML\_getElementValue**

**Description:** Gets the value for a HTML element by the session data or POST value.

**Parameter:**

- **htmlName:** Name of the HTML element.
- **prefKey:** Variable name of the preference the dialog element stands for.
- **initValue:** The initial value if the element is shown first.

**Returns:**

- Returns the default value, the session value or false.

**7.20.42 HTML\_listSelection**

**Description:** shows a selection with options stored in an array

**Parameter:**

- **selName:** name of the selection
- **list:** array with the entries. The array can be a simple numeric array or an associative array with discrete entries for the shown name and the value. e.g. : \$l[name0]="public"; \$l[val0]="internal"; \$l[name1]="public1"; \$l[val1]="internal1"; public and public1 will be shown the user in the web-browser, while internal and internal1 are the values that are transfered to the server.
- **first:** entry that should be shown first (this is the internal value and NOT the name shown to the user). the first value from the list will be written to \$first. set first to "false" to disable writing the first entry.
- **firstName:** if you want to use the associative array variant and a first value, you need to set the name that should be shown to the user. This name is stored in firstName

**7.20.43 HTML\_showTableHeader**

**Description:** prints the header of a shadowed table

**Parameter:**

- **centerTable:** set to true if the table should be centered vertically
- **tableStyle:** CSS class of the inner table.
- **width:** Width of the table.

**7.20.44 HTML\_showTableEnd**

**Description:** prints the end of a shadowed table

**Parameter:**

- **centerTable:** set to true if the table should be centered vertically

### 7.20.45 HTML\_showFormHeader

**Description:** Shows the header of a formular

**Parameter:**

- addAction: set it, if additional parameters to index.php should be used
- method: default is POST, but you can set it to GET

### 7.20.46 HTML\_showFormEnd

**Description:** Shows the end of a formular

### 7.20.47 HTML\_submit

**Description:** Defines a submit button.

**Parameter:**

- htmlName: Name of the HTML element.
- label: Label of the element.
- extra: Extra options for the HTML input tag.

**Returns:**

- True if it was clicked otherwise false.

### 7.20.48 HTML\_submitImg

**Description:** Defines a graphical submit button.

**Parameter:**

- htmlName: Name of the HTML element.
- img: Name of the image to show.
- alt: Alternative text to show when no images can be shown.
- extra: Extra options for the HTML input tag.

**Returns:**

- True if it was clicked otherwise false.

### 7.20.49 HTML\_input

**Description:** HTML text or password edit line.

**Parameter:**

- htmlName: Name of the HTML element.
- htmlValue: The default text to show in the edit line if nothing was submitted.
- size: Size (in characters) of the input line.
- maxlength: The maximum length of the entered text.
- type: Type of the edit line (INPUT\_TYPE\_text or INPUT\_TYPE\_password)
- Returns the entered value, the default value or false.

### 7.20.50 **array\_makeFirst**

**Description:** special sort function that makes a special element the first element and leaves the other elements in its previous order.

**Parameter:**

- arr: Array to sort
- first: Value of the element that should be put on top

### 7.20.51 **HTML\_getValidSelected**

**Description:** Checks for a valid selected value from a list of possible values. In case the value could not be found, a default value is taken.

**Parameter:**

- selected: Array or single value to check, if it is on the list aof array keys.
- arrayKeys: An array that holds the possible returned values (array keys).
- defaultSelection: The value of the item to select by default.

**Returns:**

- A valid value from a list of possible values.

### 7.20.52 **HTML\_selection**

**Description:** Shows a list of radio buttons or a selection.

**Parameter:**

- htmlName: Name of the HTML element.
- array: An array that hold the returned values (array keys) the naming for the elements (array values).
- type: SELTYPE\_selection for a selection or SELTYPE\_radio for radio buttons.
- vertical: Set to true if the radio buttons should be aligned vertically or to false for horizontal aligning. This parameter is ignored by selections.
- defaultSelection: The value of the item to select by default.
- prefKey: Variable name of the preference the dialog element stands for.
- js: Here can JavaScript or other parameters be added.
- multipleSize: If set to a number (and not to false) a multi selection is generated, where the user can select multiple entries. The number sets the amount of entries to show the user.

**Returns:**

- The value of the selected element or false if nothing was selected.

### 7.20.53 **HTML\_checkBox**

**Description:** Shows a check box with label.

**Parameter:**

- htmlName: Name of the HTML element.
- label: Label of the element.
- defaultCheck: Set to true if the check box should be checked if no HTML value is given.

- **prefKey:** Variable name of the preference the dialog element stands for.
- **htmlValue:** Value of the checkbox if clicked.
- **forceReload:** Set to true if the check box should be set to the state of \$defaultCheck in any case.

**Returns:**

- True if the check box is checked.

**7.20.54 HTML\_checkBoxCheckAll**

**Description:** Generates an array with all checked checkboxes. It assumes that value of a checked checkbox is 1.

**Parameter:**

- **filter:** Filter to get only the POST elements which begin with the filter string.

**Returns:**

- Array with all checked checkboxes.

**7.20.55 HTML\_submitDefine**

**Description:** Defines but does not show a button.

**Parameter:**

- **htmlName:** Name of the HTML element.
- **label:** Label of the element.
- **extra:** Extra options for the HTML input tag.

**7.20.56 HTML\_submitCheck**

**Description:** Checks if a previously defined button was clicked.

**Parameter:**

- **htmlName:** Name of the HTML element.

**Returns:**

- True if the button was clicked.

**7.20.57 HTML\_showTableRow**

**Description:** Shows a table row with a variable amount of entries. The parameters are shown side by side as rows in a table. If more than one HTML\_showTableRow commands are executed in one table it is needed to always use the same amount of paramaters in each call.

**Parameter:**

- Arbitrary amount of cells to show in a table.

**7.20.58 HTML\_showTableHeading**

**Description:** Shows a table heading row with a variable amount of entries. The parameters are shown side by side as rows in a table. If more than one HTML\_showTableRow commands are executed in one table it is needed to always use the same amount of paramaters in each call.

**Parameter:**

- Arbitrary amount of cells to show in a table.



### 7.20.59 HTML\_textArea

**Description:** Shows a text area to insert text.

**Parameter:**

- **htmlName:** Name of the HTML element.
- **cols:** Number of columns.
- **rows:** Number of rows to show.
- **default:** Text to show by default.

**Returns:**

- : The entered text.

### 7.20.60 HTML\_showPagePrintButton

**Description:** Shows a print button that allows easy printing of the current m23 administration interface.

## 7.21 `./inc/hwinfo.php`

Author: Daniel Kasten (DKasten@pc-kiel.de) ,Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: functions to view the hardware information of the client.

### 7.21.1 `HWINFO_getParam`

**Description:** get hardware infos

**Parameter:**

- paramName: parameter to read from the hardware info (e.g. cpu, mem, ...)
- clientName: name of the client

### 7.21.2 `HWINFO_getMemory`

**Description:** returns the size of memory

**Parameter:**

- clientName: name of the client

### 7.21.3 `HWINFO_getHDSize`

**Description:** Returns the sizes of all harddisks in a string, sperated by html breaks

**Parameter:**

- clientName: name of the client

### 7.21.4 `HWINFO_printPartitions`

**Description:** prints the partition information

**Parameter:**

- clientName: name of the client

### 7.21.5 `DMI_getAllTextBox`

**Description:** Get all DMI info in a text box.

**Parameter:**

- clientName: name of the client

**Returns:**

- All DMI info in a text box.

### 7.21.6 `DMI_getParam`

**Description:** get dmi info for a special parameter

**Parameter:**

- paramName: name of dmi setting
- clientName: name of the client

### 7.21.7 `DMI_getBoard`

**Description:** get the dmi board informations

**Parameter:**

- clientName: name of the client

### 7.21.8 DMI\_getMemory

**Description:** get the dmi memory informations

**Parameter:**

- clientName: name of the client

### 7.21.9 DMI\_getCPU

**Description:** get the dmi cpu informations

**Parameter:**

- clientName: name of the client

### 7.21.10 DMI\_getSlot

**Description:** get the dmi information about slots

**Parameter:**

- clientName: name of the client

## 7.22 `./inc/i18n.php`

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: functions for multi language handling in m23.

### 7.22.1 `I18N_number_format`

**Description:** Converts numbers to the language specific number formatting.

**Parameter:**

- in: Input number.

**Returns:**

- Language specific number formatted number.

### 7.22.2 `I18N_convertToHumanReadableName`

**Description:** Converts a short language into a human readable name.

**Parameter:**

- lang: Two letter TLD (or longer code for countries that have more than a language (e.g. be-nl, be-fr))

**Returns:**

- Language in human readable notation.

### 7.22.3 `I18N_m23instLanguage`

**Description:** Checks if a m23inst.php exists for the given language and returns "en" if not.

**Parameter:**

- shortLanguage: Two letter TLD (or longer code for countries that have more than a language (e.g. be-nl, be-fr))

**Returns:**

- Language code with available m23inst.php file.

### 7.22.4 `I18N_addLanguage`

**Description:** Adds a new language to the i18n table.

**Parameter:**

- webinterface: Set to true, if it is a webinterface language. Set to false, for marking a client language.
- shortLanguage: Two letter TLD (or longer code for countries that have more than a language (e.g. be-nl, be-fr))
- longLanguage: Long human readable country/language name.
- country: Two letter TLD.
- lang: Locale setting (e.g. for locale and KDM)
- keymap: Available keymaps for the console etc.
- xkeyboard: X11 keyboard setting.
- kdekeyboard: Language setting for the KDE keyboard.
- locale: List of locales (seperated by newlines) for the locale tool.

- kdekeyboards: List of additional KDE keyboards (seperated by commata).
- timezone: The timezone matching the language.
- packagelang: Language suffix that is added to the packages (e.g. language-pack-gnome-XX)

#### 7.22.5 I18N\_listClientLanguages

**Description:** Lists all languages, the m23 clients can be installed with.

**Parameter:**

- default: the language that should be shown first
- directOutputtedSelection: Set to true, if the selection should be shown instead of returned.

#### 7.22.6 I18N\_countCachedLanguages

**Description:** Counts the cached languages for a type.

**Parameter:**

- webinterface: Set to true, if it is a webinterface language. Set to false, for marking a client language.

#### 7.22.7 I18N\_cacheWebinterfaceLanguages

**Description:** Caches the language information from the language.info files to the DB.

#### 7.22.8 I18N\_getAllCachedLanguages

**Description:** Returns an associative array with the shortnames of the language as keys and the longnames as value.

**Parameter:**

- webinterface: Set to true, if it is a webinterface language. Set to false, for marking a client language.

#### 7.22.9 I18N\_listWebinterfaceLanguages

**Description:** Lists all languages, the m23 webinterface is available in, as option lines

**Parameter:**

- default: the language that should be shown first
- directOutputtedSelection: Set to true, if the selection should be shown instead of returned.

#### 7.22.10 I18N\_addClientLanguageToCache

**Description:** Adds a new client language to the i18n DB cache.

**Parameter:**

- shortLanguage: Two letter TLD (or longer code for countries that have more than a language (e.g. be-nl, be-fr))
- longLanguage: Long human readable country/language name.
- in: Associative array with the information for the language.

#### 7.22.11 I18N\_cacheClientLanguages

**Description:** Caches the client languages in the DB.

### 7.22.12 I18N\_getLangVars

**Description:** Returns an associative array with language settings for the client.

**Parameter:**

- shortLanguage: Two letter TLD (or longer code for countries that have more than a language (e.g. be-nl, be-fr))

## 7.23 ./inc/ldap.php

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: Functions for using a LDAP server

### 7.23.1 LDAP\_getTypes

**Description:** Returns an array with the known LDAP types.

**Returns:**

- Array with the known LDAP types.

### 7.23.2 LDAP\_connectServer

**Description:** Connects with read/write access to the LDAP server on the m23 server.

**Parameter:**

- name: name of the LDAP server stored in the configuration file

### 7.23.3 LDAP\_makeConnection

**Description:** Connects to a LDAP server.

**Parameter:**

- host: hostname or IP of the LDAP server
- baseDN: baseDN for the LDAP server
- pwd: password for the administrator or empty for anonymous access

### 7.23.4 LDAP\_listServers

**Description:** Returns an associative array with the LDAP server names as keys and values.

**Returns:**

- Associative array with the LDAP server names as keys and values.

### 7.23.5 LDAP\_loadServer

**Description:** Loads the variables from a LDAP server.

**Parameter:**

- name: server name

### 7.23.6 LDAP\_addPosix

**Description:** Adds a posix account to the LDAP server and encrypts the password with MD5.

**Parameter:**

- ldapServer: name of the LDAP server stored in the configuration file
- account: the login name
- forename: the forename of the user
- familyname: the familyname of the user
- pwd: the unencrypted password
- uid: Linux user ID
- gid: Linux group ID

### 7.23.7 LDAP\_fqdn2dn

**Description:** Returns the DN converted from a FQDN

**Parameter:**

- domain: a full qualified domain name (e.g. test.m23.de)

### 7.23.8 LDAP\_installServer

**Description:** Generates a script that installs and configures an openLDAP server

**Parameter:**

- host: the IP or hostname of the LDAP server
- org: name of the organisation
- domain: the DN (e.g. foo.m23.de)
- pwd: the unencrypted password for the admin

### 7.23.9 LDAP\_addServerToPhpLdapAdmin

**Description:** Adds an LDAP server to the phpLDAPAdmin configuration file.

**Parameter:**

- name: how the LDAP server should be called
- host: the IP or hostname of the LDAP server
- base: the base DN (e.g. dc=m23, dc=de)
- pwd: the unencrypted password for the admin

### 7.23.10 LDAP\_delServerFromPhpLdapAdmin

**Description:** Deletes a LDAP server from the phpLDAPAdmin configuration file.

**Parameter:**

- name: the name of the LDAP server that should be deleted

### 7.23.11 LDAP\_checkPhpLdapAdminConfiguration

**Description:** Checks if the phpLDAPAdmin configuration file is existing and creates it if it's missing

### 7.23.12 LDAP\_showServerManagementDialog

**Description:** Shows a dialog for adding, removing and changing LDAP servers.

### 7.23.13 LDAP\_I18NLdapType

**Description:** Returns the human readable description of the LDAP usage type

**Parameter:**

- status: status string



#### 7.23.14 LDAP\_getNextID

**Description:** Returns the next higher than the highest ID

**Parameter:**

- type: "user" for user IDs

#### 7.23.15 LDAP\_getNextUserID

**Description:** Returns the next higher than the highest user ID

#### 7.23.16 LDAP\_addNewID

**Description:** Adds a new ID to the table of used IDs or returns "false" if the ID exists

**Parameter:**

- type: "user" for user IDs
- id: number of the new ID

#### 7.23.17 LDAP\_deleteID

**Description:** Deletes an ID from the table of used IDs

**Parameter:**

- type: "user" for user IDs
- id: number of the new ID

#### 7.23.18 LDAP\_addNewUserID

**Description:** Adds a new user ID to the table

**Parameter:**

- id: number of the new ID

#### 7.23.19 LDAP\_addNewGroupID

**Description:** Adds a new user ID to the table

**Parameter:**

- id: number of the new ID

#### 7.23.20 LDAP\_getNextGroupID

**Description:** Returns the next higher than the highest group ID

#### 7.23.21 LDAP\_getFreeIDs

**Description:** Returns an array with free IDs of the selected type.

**Parameter:**

- type: "user" for user IDs
- start: start ID to check if it's free
- amount: the amount of IDs to return

### 7.23.22 LDAP\_getFreeUserIDs

**Description:** Returns an array with free user IDs of the selected type.

**Parameter:**

- start: start ID to check if it's free
- amount: the amount of IDs to return

### 7.23.23 LDAP\_getFreeGroupIDs

**Description:** Returns an array with free group IDs of the selected type.

**Parameter:**

- start: start ID to check if it's free
- amount: the amount of IDs to return

### 7.23.24 LDAP\_matchLDAPserver

**Description:** Searches for the name of a LDAP server and returns the name of the found server or false

**Parameter:**

- host: the IP or hostname of the LDAP server
- base: the base DN (e.g. dc=m23, dc=de)

## 7.24 ./inc/m23shared/m23shared.php

Author: Hauke Goos-Habermann (HHabermann@goos-habermann.de)

Description: database functions, open, close the database, get ip of the calling client

### 7.24.1 m23SHARED\_deleteBills

**Description:** Deletes all bills.

### 7.24.2 m23SHARED\_deleteUserdataFromDB

**Description:** Deletes user data not needed for archiving purpose.

### 7.24.3 m23SHARED\_isMarkedForDeletion

**Description:** Checks if the current user is marked for deletion.

**Returns:**

- True, if the user should be deleted on the next call or false if not.

### 7.24.4 m23SHARED\_markForDeletion

**Description:** Marks the current user's data for deletion and disable his login.

### 7.24.5 m23SHARED\_DBname

**Description:** Generates a database name for m23 shared by input and salt.

**Parameter:**

- adminName: Name of the m23shared admin

**Returns:**

- Database name.

### 7.24.6 m23SHARED\_getDBnameByInterface

**Description:** Calculates the database name for m23 shared by setting in the user interface

**Returns:**

- Database name or false if there is no user logged in.

### 7.24.7 m23SHARED\_getDBnameByClient

**Description:** Gets the database name for m23 shared as part of the client ID.

**Returns:**

- Database name or false if there is no DB name in the ID.

### 7.24.8 m23SHARED\_init

**Description:** Checks if a m23shared environment is present, sets the variables in the session and chooses the according DB.

**Returns:**

- True if an m23 m23shared environment is present, false on error or no m23shared.

### 7.24.9 m23SHARED\_new

**Description:** Adds a new m23shared user and creates a new DB.

**Parameter:**

- user: The name of the new user.
- password: The according password.

**Returns:**

- True if the creation was successfully, otherwise false.

### 7.24.10 m23SHARED\_setLicense

**Description:** Sets the maximum allowed amount of clients and the evaluation time in days.

**Parameter:**

- payType: Payment type (M23SHARED\_PAYTYPE\_EVAL, M23SHARED\_PAYTYPE\_PROFESSIONAL)
- clientAmount: Amount of clients that can be manages with the license.
- evaluationDays: Days for evaluation time.

### 7.24.11 m23SHARED\_evaluationDaysLeft

**Description:** Calculates how many days are left from evaluation period.

**Returns:**

- : Amount of days left (can be negative too if the evaluation time is over)

### 7.24.12 m23SHARED\_evaluationEndDate

**Description:** Generates a string with the end date and time in current selected language of the evaluation period.

**Returns:**

- : String with the end date and time in current selected language of the evaluation period.

### 7.24.13 m23SHARED\_paidClients

**Description:** Calculates and returns the amount of clients the customer has paid for.

**Returns:**

- : Amount of clients the customer has paid for.

### 7.24.14 m23SHARED\_getCompleteClientName

**Description:** Returns the complete name of a m23 shared client (\$\_SESSION variables need to be set).

**Parameter:**

- : clientName: Name of the client (if the value from the session should not/cannot be taken)

**Returns:**

- : Client name of a m23 shared client (e.g. m23SrGH1ikdPZ8.test)

### 7.24.15 m23SHARED\_getServerIP

**Description:** Returns the FQDN of the m23shared server.

**Returns:**

- : FQDN of the m23shared server.

#### 7.24.16 m23SHARED\_getPayTypeArray

**Description:** Returns an array with the numeric pay types as index and the human readable translations as values.

**Parameter:**

- withoutEval: If set to true the evaluation entry will not be added.

**Returns:**

- : Array with assignment of numeric pay types and human readable translations.

#### 7.24.17 m23SHARED\_getSalutationsArray

**Description:** Returns an array with salutation forms.

**Returns:**

- : Array with gender character as key and localised salutation.

#### 7.24.18 m23SHARED\_getSalutationHeadline

**Description:** Returns a salutation headline that can be used as beginning of an email.

**Returns:**

- : Salutation headline in current language.

#### 7.24.19 m23SHARED\_getPayTypeHumanReadable

**Description:** Returns the license and payment type of the m23@web account as human readable string.

**Returns:**

- : Human readable string with license and payment type of the m23@web account.

#### 7.24.20 m23SHARED\_getMonthlyFee

**Description:** Calculates the monthly fee with the given amount of paid clients.

**Returns:**

- : Monthly price.

#### 7.24.21 m23SHARED\_getCustomerEmail

**Description:** Returns the eMail address of customer.

**Returns:**

- : eMail address of customer.

#### 7.24.22 m23SHARED\_setCustomerEmail

**Description:** Sets the eMail address of customer.

#### 7.24.23 m23SHARED\_generateActivationKey

**Description:** Calculates a random activation key and stores it into the DB.

**Returns:**

- : Random activation key.

#### 7.24.24 m23SHARED\_getActivationKey

**Description:** Returns the activation key for this customer.

**Returns:**

- : Activation key.

#### 7.24.25 m23SHARED\_generateCustomerNumber

**Description:** Calculates the customer number by current time and random value and stores it into the DB.

**Returns:**

- : Customer number.

#### 7.24.26 m23SHARED\_getCustomerNr

**Description:** Returns the customer number for this customer.

**Returns:**

- : Customer number.

#### 7.24.27 m23SHARED\_activate

**Description:** Activates a customer account identified by user and activation code, makes some checks if the data is correct and sends a welcome email.

**Parameter:**

- user: The user name of the customer.
- code: The activation code for the account.

#### 7.24.28 m23SHARED\_setCustomerLanguage

**Description:** Sets the language for this customer.

**Parameter:**

- lang: Language for the customer.

#### 7.24.29 m23SHARED\_getCustomerLanguage

**Description:** Returns the language setting for this customer.

**Returns:**

- : Language for this customer.

#### 7.24.30 m23SHARED\_sendActivationMail

**Description:** Prepares and sends the activation mail.

**Parameter:**

- eMail: eMail address of the new customer.
- username: Username of the new customer.
- lang: Language that should be used in the eMail.

### 7.24.31 m23SHARED\_sendActivationMail

**Description:** Prepares and sends the welcome mail.

**Parameter:**

- eMail: eMail address of the new customer.
- username: Username of the new customer.
- lang: Language that should be used in the eMail.

### 7.24.32 m23SHARED\_setRealName

**Description:** Sets the real name of the customer.

**Parameter:**

- name: Real name of the customer.

### 7.24.33 m23SHARED\_getRealName

**Description:** Returns the real name of the customer.

**Returns:**

- : Real name of the customer.

### 7.24.34 m23SHARED\_changeClientAmount

**Description:** Changes the amount of paid clients for the current customer.

**Parameter:**

- newClientAmount: The amount of clients, the customer wants to pay for.

### 7.24.35 m23SHARED\_showBill

**Description:** Shows the bill for a selected month.

**Parameter:**

- month: The month the bill should be generated.
- year: The year of the bill.

### 7.24.36 m23SHARED\_billDateSelection

**Description:** Creates an HTML selection with valid billing months.

**Parameter:**

- htmlName: Name of the HTML selection.

**Returns:**

- The selected month and year.

### 7.24.37 m23SHARED\_priceFormater

**Description:** Formats a price with two digit decimal place.

**Parameter:**

- price: The price to format.

**Returns:**

- The formatted price.

### 7.24.38 m23SHARED\_calculateBill

**Description:** Calculates the bill for a choosen month in a selected year.

**Parameter:**

- month: Month to get the bill for.
- year: Year to get the bill for.

**Returns:**

- Associative array with the bill data.

### 7.24.39 m23SHARED\_getLicenseType

**Description:** Returns the m23shared license of the current m23shared user.

**Returns:**

- License type as constant.

### 7.24.40 m23SHARED\_sendAdminMail

**Description:** Sends an GPG encrypted eMail to the admin.

**Parameter:**

- subject: The subject of the eMail.
- text: The eMail message.

### 7.24.41 m23SHARED\_getCurrentUser

**Description:** Returns the current m23shared user.

**Returns:**

- Current m23shared user.

### 7.24.42 m23SHARED\_changePasswordDialog

**Description:** Tries to change the password for the current m23shared user and shows an error or sucess message. Both of the entered passwords must be identically.

**Parameter:**

- pwd1: The password.
- pwd2: The retyped password.

### 7.24.43 m23SHARED\_changePasswordDialog

**Description:** Tries to change the eMail for the current m23shared user and shows an error or sucess message.

**Parameter:**

- email: New eMail address.

### 7.24.44 m23SHARED\_getBillDates

**Description:** Returns an array filled with all month and years where bills are present.

**Returns:**

- Associative array with all month and years where bills are present as array name and value.



#### 7.24.45 m23SHARED\_downloadBillPDFLink

**Description:** Generates a HTML link that points to the script that generates the bill for a given monath and year.

**Parameter:**

- month: Month to get the bill for.
- year: Year to get the bill for.

**Returns:**

- : HTML link to the bill PDF.

#### 7.24.46 m23SHARED\_getCustomerAddress

**Description:** Returns HTML formatted address information for the current customer.

**Returns:**

- Address information for the current customer.

#### 7.24.47 m23SHARED\_getCustomerBankHTML

**Description:** Returns HTML formatted bank account information for the current customer.

**Returns:**

- Bank account information for the current customer.

#### 7.24.48 m23SHARED\_pdfBill

**Description:** Generates a bill in PDF format for a choosen month in a selected year.

**Parameter:**

- month: Month to get the bill for.
- year: Year to get the bill for.

#### 7.24.49 m23SHARED\_setBankAccount

**Description:** Sets bank account information for the current customer.

**Parameter:**

- bankAccountHolder: Name of the account holder.
- bank: Name of the bank.
- accountNumber: The number of the bank account.
- bankCode: The bank code number.

#### 7.24.50 m23SHARED\_setAddress

**Description:** Sets address information for the current customer.

**Parameter:**

- resident: The name of the resident or his company.
- postCode: Postcode.
- city: City.
- street: Street.
- houseNumber: House number.

#### 7.24.51 m23SHARED\_unusedPaidClientsAvailable

**Description:** Checks if there are unused paid clients and shows an error message if not.

**Returns:**

- : true if there are unused clients, false otherwise.

#### 7.24.52 m23SHARED\_showLicenseDialog

**Description:** Shows a dialog for viewing and changing the license and paid client amount.

#### 7.24.53 m23SHARED\_getAllm23sharedUsers

**Description:** Gets all m23shared users.

**Parameter:**

- onlyWithBillTable: If set to true, only m23shared users with existing bill table will be returned.

**Returns:**

- : Array with all m23 shared users.

#### 7.24.54 m23SHARED\_switchUser

**Description:** Changes the current m23shared user.

#### 7.24.55 m23SHARED\_prepareBillMailSending

**Description:** Prepares the bill mail sending queue.

**Parameter:**

- month: Month to mail the bill for.
- year: Year to mail the bill for.

**Returns:**

- Array with all users that have bill mails to send.

#### 7.24.56 m23SHARED\_markBillMailAsSent

**Description:** Marks a bill mail as sent.

**Parameter:**

- month: Month to mail the bill for.
- year: Year to mail the bill for.
- user: DB name of the customer.

#### 7.24.57 m23SHARED\_sendAllBillMails

**Description:** Sends the bills of all users from the previous month as PDF attachment. This should be run at the beginning of a month.

**7.24.58 m23SHARED\_addExtraBill**

**Description:** Adds an extra entry to the bill.

**Parameter:**

- amount: Amount of good.
- description: Description of the good.
- unitprice: Price per unit.

**7.24.59 m23SHARED\_showDonationDialog**

**Description:** Shows a dialog where the user can donate to the m23 project.

**7.24.60 m23SHARED\_showBootMediaDownloadDialog**

**Description:** Shows a dialog with download icons for the different boot media.

**7.24.61 m23SHARED\_allUserDBQuery**

**Description:** Executes an SQL query on all m23shared databases and returns an associated array with all results.

**Parameter:**

- sqlIN: The input query string that MUST include m23SHAREDDB as placeholder for the current m23shared DB name.

**Returns:**

- Associated array with the query result of all m23shared DBs.

**7.24.62 m23SHARED\_getUserByResident**

**Description:** Gets the user name of m23shared customer by the resident name.

**Parameter:**

- resident: Resident name of the customer.

**Returns:**

- m23shared user name for the searched customer or empty string if none was found.

**7.24.63 m23SHARED\_getUserByCustomerNr**

**Description:** Gets the user name of m23shared customer by the customer number.

**Parameter:**

- customerNr: Customer number of the m23shared customer.

**Returns:**

- m23shared user name for the searched customer or empty string if none was found.

#### 7.24.64 m23SHARED\_getUserByInfo

**Description:** Gets the user name of m23shared customer by searching all m23shared DBs for var and value in the remotevar table.

**Parameter:**

- remotevarVar: Variable name to search in the remotevar table.
- remotevarValue: Value to search in the remotevar table.

**Returns:**

- m23shared user name for the searched customer or empty string if none was found.

#### 7.24.65 m23SHARED\_showAdminDialog

**Description:** Shows a dialog for the admin to search users for and change values.

#### 7.24.66 m23SHARED\_blockAccount

**Description:** Blocks or unblocks an account.

**Parameter:**

- block: Set to true blocks, false unblocks.

#### 7.24.67 m23SHARED\_isAccountBlocked

**Description:** Checks if an account is blocked.

**Returns:**

- : True if the account is blocked, false if not.

#### 7.24.68 m23SHARED\_showAddExtraBillDialog

**Description:** Shows a dialog for adding extra entries to the bill.

#### 7.24.69 m23SHARED\_showBillDialog

**Description:** Shows a dialog for viewing and choosing the bill.

#### 7.24.70 m23SHARED\_showPriceListTable

**Description:** Shows a table with the price list.

#### 7.24.71 m23SHARED\_getInformationForBootingYourClientLink

**Description:** Generates a link to the help page information for booting the client.

**Parameter:**

- : client: Name of the client (if the value from the session should not/cannot be taken)

**Returns:**

- Link to the help page information for booting the client.

## 7.25 *./inc/massTools.php*

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: routines for mass installations

### 7.25.1 *MASS\_EGKradioBoxes*

**Description:** Generates HTML code for showing 3 elements, that can be each a "radio button", selection "disabled" or "always selected".

**Parameter:**

- RB\_name: name of the radio button
- arr: array with 3 values for [Enter,Generate,Keep]. Setting a value to "e" means that the user can select, "n" selection is disabled, "y" is always select.
- checkNr: the number of radio button that is enabled by default.

### 7.25.2 *MASS\_FHradioBoxes*

**Description:** Generates HTML code for showing 2 radio buttons for selecting file or handy source

**Parameter:**

- RB\_name: name of the radio button
- checkNr: the number of radio button that is enabled by default.

### 7.25.3 *MASS\_showFileHandDialog*

**Description:** shows a dialog for selecting "by file" or "by hand" for the "enter" properties.

**Parameter:**

- EGKparams: enter generate keep parameters, that hold information about handling of the properties

### 7.25.4 *MASS\_propertyKeys*

**Description:** returns the keys for all properties

### 7.25.5 *MASS\_showFileFormatDialog*

**Description:** shows a dialog that lets the user select a DB file and assign the columns to the fields of the file

**Parameter:**

- EGKparams: enter generate keep parameters, that hold information about handling of the properties

### 7.25.6 *MASS\_keyToI18N*

**Description:** converts the property names to I18N names

**Parameter:**

- key: property name

### 7.25.7 *MASS\_I18NTokey*

**Description:** converts the I18N names to property names

**Parameter:**

- key: property name

### 7.25.8 MASS\_showTableDefinition

**Description:** shows a dialog that lets the user define which field in the DB file should be assigned to which property

**Parameter:**

- EGKparams: enter generate keep parameters, that hold information about handling of the properties
- DBfileName: file name of the DB file

### 7.25.9 MASS\_checkAndSaveFields

**Description:** saved the assignments from field number to property and other information to EGKparams and performs a simple check, to verify that the values of the properties are valuable. An error message is returned or an empty string, if all is ok.

**Parameter:**

- EGKparams: enter generate keep parameters, that hold information about handling of the properties

### 7.25.10 MASS\_openDBFile

**Description:** opens a DB file

**Parameter:**

- fileName: name of the DB file

### 7.25.11 MASS\_readDBFile

**Description:** reads a line from the DB file and returns an associated array with the properties as key and the fields of the file as values.

**Parameter:**

- fileName: name of the DB file

**Returns:**

- Associative array with the values of the DB line or false, if the line was empty.

### 7.25.12 MASS\_readDBFileRaw

**Description:** reads a line from the DB file and returns the fields splitted to a normal array.

**Parameter:**

- file: file pointer
- glue: the separator used to separate the fields

### 7.25.13 MASS\_closeDBFile

**Description:** closes the DB file.

**Parameter:**

- file: file pointer

### 7.25.14 MASS\_getXProperties

**Description:** returns the amount and keys of a social kind (enter, generate, keep, hand, file)

**Parameter:**

- EGKparams: enter generate keep parameters, that hold information about handling of the properties
- x: the 1-letter code of enter, generate, keep, hand or file
- pre: set if there is a prefix before the key name

### 7.25.15 MASS\_showGeneratorOptions

**Description:** shows the dialog for configuring the generator options

**Parameter:**

- EGKparams: enter generate keep parameters, that hold information about handling of the properties

### 7.25.16 MASS\_passGenerator

**Description:** generates the selected amount of passwords with a random algorithm or the pwgen tool.

**Parameter:**

- length: length of the passwords to generate
- method: random or pwgen generated passwords that can be memorized by humans easily
- amount: the amount of passwords to generate

**Returns:**

- Array with the generated passwords as keys.

### 7.25.17 MASS\_loginGenerator

**Description:** generates the selected amount of logins

**Parameter:**

- base: the base name of the login
- start: start number for incremental logins
- forenames: array with all forenames
- familynames: array with all familynames
- type: "incremental" if you want to add a incrementing number after the base name, "ForeFamily-Name" if the logins should be created from fore- and familynames
- amount: the amount of logins to generate

### 7.25.18 MASS\_ipGenerator

**Description:** generates the selected amount of IPs in the selected ranges. Only IPs are generated that aren't in use by m23 or (if activated) pingable.

**Parameter:**

- amount: the amount of IPs to generate
- rangeStr: string with IP range information
- ping: set to true, if each IP should be pinged before it becomes valid

### 7.25.19 MASS\_minMaxIP

**Description:** calculates the possible minimum and maximum IP of a given netmask. The IPs are returned as an array: index 0 = minimum; index 1 = maximum.

**Parameter:**

- netmask: netmask to use
- ip: is used if the can only be set the current part of the ip (max and min ip part == 255)

### 7.25.20 MASS\_generateNetmask

**Description:** generate netmasks from ip addresses via network class definitions.

**Parameter:**

- ip: the ip that should be used to calculate the netmask

### 7.25.21 MASS\_generateClientNames

**Description:** generates client names through appending of numbers.

**Parameter:**

- base: the client base name
- start: the start number
- amount: the amount of client names to generate

### 7.25.22 MASS\_saveGeneratorOptions

**Description:** saves all generator options to EGKparams

**Parameter:**

- EGKparams: enter generate keep parameters, that hold information about handling of the properties

### 7.25.23 MASS\_showOverview

**Description:** shows a table with all generated client settings, that can be edited

**Parameter:**

- EGKparams: enter generate keep parameters, that hold information about handling of the properties

### 7.25.24 MASS\_getAllFromFile

**Description:** returns all values from one key of the DB file as an array.

**Parameter:**

- key: the key of the property
- generateAmount: the amount of values to be read from the DB file
- EGKparams: enter generate keep parameters, that hold information about handling of the properties
- fromDBFile: 2D array filled with the values for the keys

### 7.25.25 MASS\_getLongestLength

**Description:** returns the length of the longest entry in the array or max if bigger than max

**Parameter:**

- arr: the array
- amount: the amount of entries in the array
- max: maximal value to be returned

### 7.25.26 MASS\_startInstall

**Description:** starts the installation of all client with all parameters defined in the table

**Parameter:**

- EGKparams: enter generate keep parameters, that hold information about handling of the properties



## 7.26 *./inc/menu.php*

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: functions for menus

### 7.26.1 **MENU\_showEntry**

**Description:** generates a menu entry, highlights it (if selected) and removes menu entry formatting tags from the menu entry label

**Parameter:**

- text: label of the menu entry
- link: link to the page
- icon: directory and name of the icon to show in front of the entry

### 7.26.2 **MENU\_startGroup**

**Description:** shows the start of a menu group

**Parameter:**

- name: name of the menu group

### 7.26.3 **MENU\_endGroup**

**Description:** shows the end of a menu group

## 7.27 `./inc/message.php`

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: function to show an info box

### 7.27.1 `MSG_showMessageBoxPlaceholder`

**Description:** Shows a placeholder for message boxes at the position of execution.

### 7.27.2 `MSG_placeOrReturnMessageBox`

**Description:** Replaces a (maybe) existing message box placeholder with the given text.

**Parameter:**

- text: Message to embed in the placeholder.

**Returns:**

- Empty string, if the text could be inserted into the existing placeholder or the message, if no placeholder was found.

### 7.27.3 `MSG_getm23UpdateFeed`

**Description:** Shows the m23 server update feed.

**Parameter:**

- width: Width of the box
- refreshTime: The time in minutes the file is downloaded again.

### 7.27.4 `MSG_getm23DevelopmentBlog`

**Description:** Shows the m23 development blog.

**Parameter:**

- width: Width of the box
- refreshTime: The time in minutes the file is downloaded again.

### 7.27.5 `MSG_getRSSFeed`

**Description:** Shows a RSS feed.

**Parameter:**

- url: The URL pointing to the RSS XML file.
- tableType: Name of the CSS table type
- width: Width of the box
- storeFile: The file name to store the download in.
- refreshTime: The time in minutes the file is downloaded again.

### 7.27.6 MSG\_showInfo

**Description:** Shows the help block for the online help.

**Parameter:**

- message: the text for the info message
- language: two character language description (e.g. de, en, fr,...)
- width: width of the box

### 7.27.7 MSG\_showError

**Description:** Shows the error block for the error messages.

**Parameter:**

- message: the text for the info message
- language: two character language description (e.g. de, en, fr,...)
- width: width of the box

### 7.27.8 MSG\_showWarning

**Description:** Shows the warning block for the warning messages.

**Parameter:**

- message: the text for the info message
- language: two character language description (e.g. de, en, fr,...)
- width: width of the box

### 7.27.9 MSG\_show

**Description:** Shows the message block for the messages.

**Parameter:**

- message: the text for the info message
- language: two character language description (e.g. de, en, fr,...)
- width: width of the box
- urgency: type of message (e.g. errortable, warningtable, infotable)

### 7.27.10 MSG\_showMessageBoxHeader

**Description:** shows the header of the message block for the online help

**Parameter:**

- tableType: name of the CSS table type
- type: the heading of the box
- width: width of the box
- dontShowButReturn: Set to true if the HTML output should be returned rather than show.

### 7.27.11 MSG\_showMessageBoxFooter

**Description:** shows the footer of the message block for the online help

**Parameter:**

- dontShowButReturn: Set to true if the HTML output should be returned rather than show.

### 7.27.12 MSG\_showMessageBox

**Description:** shows the message block for the online help

**Parameter:**

- message: the text for the info message
- tableType: name of the CSS table type
- type: the heading of the box
- width: width of the box
- dontShowButReturn: Set to true if the HTML output should be returned rather than show.

### 7.27.13 MSG\_showUpdateInfo

**Description:** shows a info message about the stored update jobs

**Parameter:**

- unr: the amount of update jobs and clients
- language: two character language description (e.g. de, en, fr,...)

### 7.27.14 MSG\_showUpdateInfo

**Description:** shows a info message about stored jobs on N clients

**Parameter:**

- jobNr: the amount of jobs
- clNr: the amount of clients
- language: two character language description (e.g. de, en, fr,...)

### 7.27.15 MSG\_showNewFeature

**Description:** shows the new feature block

**Parameter:**

- url: the url to the forum for the new feature
- language: two character language description (e.g. de, en, fr,...)
- width: width of the box

### 7.27.16 MSG\_DeActivateBlogDialog

**Description:** Creates a dialog to en/disable a blog. The displaying state is written to the DB.

**Parameter:**

- blogVarName: Variable name of the blog to store in the DB.
- css: Name of the CSS class to color the dialog.
- blogName: Name of the blog als human readle heading.
- width: Width of the box containing the switch dialog.
- dialogCode: The HTML code of the dialog element is written to this variable.

**Returns:**

- : True if the blog should be shown otherwise false.

## 7.28 *./inc/packages.php*

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: basic package operations (search, add,...)

### 7.28.1 **PKG\_addHSUser**

**Description:** Adds a job for creating an user on a halfSister client.

**Parameter:**

- client: Name of the client.
- login: Login name of the new user.
- firstpw: Password for the new user.
- uid: Optional user ID of the new user.
- gid: Optional group ID of the new user.

### 7.28.2 **PKG\_addUbuntuUser**

**Description:** Adds a job for creating an user on a Ubuntu client.

**Parameter:**

- client: Name of the client.
- login: Login name of the new user.
- firstpw: Password for the new user.
- uid: Optional user ID of the new user.
- gid: Optional group ID of the new user.

### 7.28.3 **PKG\_addDebianUser**

**Description:** Adds a job for creating an user on a Debian client.

**Parameter:**

- client: Name of the client.
- login: Login name of the new user.
- firstpw: Password for the new user.
- uid: Optional user ID of the new user.
- gid: Optional group ID of the new user.

### 7.28.4 **PKG\_addUser**

**Description:** Adds a job for creating an user on the client.

**Parameter:**

- client: Name of the client.
- login: Login name of the new user.
- firstpw: Password for the new user.
- groups: Array of groups the user should be added.
- uid: Optional user ID of the new user.
- gid: Optional group ID of the new user.

### 7.28.5 PKG\_cleanPackageLine

**Description:** Removes unwanted characters from a line containing package names and makes sure that there is only one line without line breaks.

**Parameter:**

- packageLine: Space separated line containing the package names. The changed line will be written to the parameter too.

### 7.28.6 PKG\_combinem23normal

**Description:** Combines the package names of multiple entries for m23normal and m23normalRemove jobs in a package selection.

**Parameter:**

- packageSelectionName: Name of the package selection to optimise.

### 7.28.7 PKG\_importSelectedPackagesFromFile

**Description:** Imports space-separated packages from a file and adds them to the wait4acc/selected packages of a client.

**Parameter:**

- client: Name of the client or empty.
- file: Name of the file with full path containing space-separated packages.

### 7.28.8 PKG\_exportSelectedPackages

**Description:** Exports the wait4acc/selected packages of a client.

**Parameter:**

- client: Name of the client or empty.

### 7.28.9 PKG\_getDebootstrapCacheFilename

**Description:** Returns the file name of the debootstrap cache file (without path).

**Parameter:**

- release: Select the Debian/Ubuntu suite (squeeze, sarge, sid, precise).
- arch: the computer architecture of the client

**Returns:**

- The file name of the debootstrap cache file (without path).

### 7.28.10 PKG\_getDebootstrapCacheSfURL

**Description:** Returns the URL to the debootstrap cache file on the SourceForge server.

**Parameter:**

- release: Select the Debian/Ubuntu suite (squeeze, sarge, sid, precise).
- arch: the computer architecture of the client

**Returns:**

- The URL to the debootstrap cache file on the SourceForge server.

### 7.28.11 PKG\_downloadBaseSysTom23Server

**Description:** Downloads the debootstrap cache file to the m23 server and checks its validity (by signature).

**Parameter:**

- release: Select the Debian/Ubuntu suite (squeeze, sarge, sid, precise).
- arch: the computer architecture of the client

### 7.28.12 PKG\_getDebootstrapCacheServerURL

**Description:** Returns the URL to the debootstrap cache file on the m23 server.

**Parameter:**

- release: Select the Debian/Ubuntu suite (squeeze, sarge, sid, precise).
- arch: the computer architecture of the client

**Returns:**

- The URL to the debootstrap cache file on the m23 server.

### 7.28.13 PKG\_getDebootstrapCacheServerFile

**Description:** Returns the full path to the debootstrap cache file on the m23 server.

**Parameter:**

- release: Select the Debian/Ubuntu suite (squeeze, sarge, sid, precise).
- arch: the computer architecture of the client

**Returns:**

- The full path to the debootstrap cache file on the m23 server.

### 7.28.14 PKG\_isReconfiguredWithExtraDistr

**Description:** Checks, if the distribution is used for configuring a system that was installed via image.

**Parameter:**

- pkgID: The ID of the base installation package.

**Returns:**

- True, if the distribution is used for configuring, otherwise false.

### 7.28.15 PKG\_translateClientjobsStatus

**Description:** Translates the clientjobs status from the DB into a human readable form.

**Parameter:**

- status: Status code from the DB.

**Returns:**

- Human readable translation of the clientjobs status.

### 7.28.16 **PKG\_isSpecialPackageAvailableForClient**

**Description:** Checks if a special package is available for the client's distribution.

**Parameter:**

- client: Name of the client.
- package: Name of the special package.

**Returns:**

- True if the special package is available otherwise false.

### 7.28.17 **PKG\_OptionPageHeader2**

**Description:** Starts the option page for debconf settings with all necessary options.

**Parameter:**

- title: the window title of the OptionPage

### 7.28.18 **PKG\_OptionPageTail2**

**Description:** Generates the bottom of the OptionPage for debconf settings.

**Parameter:**

- elem: The elements (variable name, type (string, boolean, (multi)select), default value, description) of the debconf templates.

### 7.28.19 **PKG\_decodeDebconfDescription**

**Description:** Decodes and HTML-formats the description of a debconf template and extracts its title.

**Parameter:**

- descr: Text of the debconf description.
- title: Variable to write the title to.

**Returns:**

- : The decoded and HTML-formated description.

### 7.28.20 **PKG\_OptionPageRender2**

**Description:** Renders the layout of an OptionPage for debconf and stored the debconf settings into the DB.

**Parameter:**

- layout: The elements (variable name, type (string, boolean, (multi)select), default value, description) of the debconf templates.
- client: The name of the client, the debconf settings should be stored for.
- package: Name of the package, the debconf settings should be stored for.

### 7.28.21 **PKG\_countSpecialPackages**

**Description:** counts the special packages of a clients matching the package name and status

**Parameter:**

- clientName: name of the client
- packageName: name of the special package
- status: status of the package



### 7.28.22 PKG\_countWaitingJobs

**Description:** returns the amount of a special waiting package

**Parameter:**

- client: name of the client
- package: name of the package you want to know the amount

### 7.28.23 PKG\_closeSearch

**Description:** closes a search request

**Parameter:**

- file: file handle

### 7.28.24 PKG\_getNextPackage

**Description:** fetches the next package

**Parameter:**

- file: file handle

### 7.28.25 PKG\_listRecommendPackages

**Description:** lists recommended packages matching the key

**Parameter:**

- key: search key
- install: set to true, if the selection for installing all packages should be first

### 7.28.26 PKG\_listRecommendSubPackages

**Description:** returns subpackages of a package

**Parameter:**

- cut: cuts the packages by \$cut
- params: variable to write package names to

### 7.28.27 PKG\_addRecommendPackages

**Description:** adds recommended packages to db

**Parameter:**

- amount: amount of selected packages
- client: name of client to install packages on
- normalPackageType2: m23normal, m23normalRemove or orig: select if the packages should be (de)installed or use the saved action
- distr: Name of the distribution.

### 7.28.28 **PKG\_addPackageSelection**

**Description:** Adds a package selections to the list of packages to install.

**Parameter:**

- client: name of client to install packages on
- packageSelectionName: Name of the package selection to install.
- normalPackageType2: m23normal, m23normalRemove or orig: select if the packages should be (de)installed or use the saved action
- distr: Name of the distribution.

### 7.28.29 **PKG\_addNormalPackagesToWait4Aac**

**Description:** adds a package to waiting 4 accept status

**Parameter:**

- client: name of client to install packages on
- priority: priority of the package
- params: parameter for installing the package

### 7.28.30 **PKG\_addSpecialPackagesToWait4Aac**

**Description:** adds a special package to waiting 4 accepts status

**Parameter:**

- client: name of client to install packages on
- priority: priority of the package
- params: parameter for installing the package
- distr: Name of the distribution.

### 7.28.31 **PKG\_countJobsWithStatus**

**Description:** Counts named jobs on a client that have a special status.

**Parameter:**

- client: name of the client
- package: name of the package
- status: The status to search for

**Returns:**

- The amount of packages on the client with the given status.

### 7.28.32 **PKG\_getClientjobsStatus**

**Description:** return the status of a job

**Parameter:**

- client: name of the client
- package: name of the package
- distr: the name of the distribution
- params: parameter for installing the package
- normalPackage: the name of a normal package

### 7.28.33 PKG\_addNormalPackages

**Description:** adds normal packages to db

**Parameter:**

- amount: amount of selected packages
- client: name of client to install packages on

### 7.28.34 PKG\_changePrioritySelectedPackages

**Description:** Changes the priority of selected wait4acc packages.

**Parameter:**

- amount: amount of selected packages
- client: name of client to install packages on
- newPriority: The new priority to set.

### 7.28.35 PKG\_rmSelectedPackages

**Description:** removes normal packages from db

**Parameter:**

- amount: amount of selected packages
- client: name of client to install packages on

### 7.28.36 PKG\_listSelectedpackages

**Description:** lists the packages with wait4acc status

**Parameter:**

- client: name of client to install packages on
- distr: the name of the distribution
- release: release of the distribution

### 7.28.37 PKG\_countSelectedpackages

**Description:** counts the preselected packages

**Parameter:**

- client: name of client to install packages on

### 7.28.38 PKG\_countJobs

**Description:** counts all packages of a client with a given status

**Parameter:**

- client: name of client
- status: status of the packages to be count or empty to count all jobs

### 7.28.39 PKG\_hasOptions

**Description:** generates a link to the package option page (if it exists)

**Parameter:**

- package: name of package
- packageID: id for the selected package
- distr: the name of the distribution
- client: Name of the current client.
- release: The release of the client's distribution.

### 7.28.40 PKG\_savePackageselection

**Description:** saves all selected packages a package selection

**Parameter:**

- client: name of client to install packages on
- selectionName: name for the package selection
- showMsg: set to true, if a message should be shown
- status: Status of the clientjobs that should be added.

### 7.28.41 PKG\_addPackageToPackageselection

**Description:** Add packages to selection

**Parameter:**

- client: name of client to install packages on
- selectionName: name for the package selection
- packageName: name of the normal package
- params: parameter for the package
- normalPackage: the name of a normal package
- installedSize: the size of the package if it is installed
- priority: The priority of the package.

### 7.28.42 PKG\_listSpecialpackages

**Description:** lists special packages matching a key

**Parameter:**

- key: search key

### 7.28.43 PKG\_addSpecialPackages

**Description:** adds normal packages to db

**Parameter:**

- amount: amount of selected packages
- client: name of client to install packages on

#### 7.28.44 PKG\_getSpecialPackagePriority

**Description:** gets the priority of a special package

**Parameter:**

- package: name of package

#### 7.28.45 PKG\_getSpecialPackageDescription

**Description:** gets the description of a special package

**Parameter:**

- package: name of package

#### 7.28.46 PKG\_getSpecialPackageInfo

**Description:** gets informations from special packages

**Parameter:**

- package: name of package
- infoType: the type of information you want to get
- dist: shortname of the distribution

**Returns:**

- The information or false, if no information could be got.

#### 7.28.47 PKG\_getPackageID

**Description:** get the id for a wait4acc job

**Parameter:**

- client: name of the client
- package: name of the package

#### 7.28.48 PKG\_rmNormalJob

**Description:** adds a normal package removal job to the clientjobs table

**Parameter:**

- client: name of the client
- packageName: name of the package
- priority: The priority of the job.

#### 7.28.49 PKG\_addJob

**Description:** adds a job to the clientjobs table

**Parameter:**

- client: name of the client
- packageName: name of the package
- priority: priority of the package
- params: parameter for installing the package

### 7.28.50 **PKG\_discardNormalJob**

**Description:** discards all normal packages from the clientjobs table, that match the param

**Parameter:**

- client: name of the client
- packageName: name of the package

### 7.28.51 **PKG\_addWait4AccJob**

**Description:** adds a wait 4 accept job to the clientjobs table

**Parameter:**

- client: name of the client
- packageName: name of the package
- priority: priority of the package
- params: parameter for installing the package

### 7.28.52 **PKG\_addStatusJob**

**Description:** adds a job to the clientjobs table

**Parameter:**

- client: name of the client
- packageName: name of the package
- priority: priority of the package
- params: parameter for installing the package
- status: the status of the package

### 7.28.53 **PKG\_acceptJobs**

**Description:** accepts all preselected jobs

**Parameter:**

- client: name of the client
- showMsg: set to true, if a message about assigned jobs should be shown

### 7.28.54 **PKG\_discardJobs**

**Description:** discards all preselected jobs

**Parameter:**

- client: name of the client

### 7.28.55 **PKG\_discardJob**

**Description:** discards a selected job

**Parameter:**

- client: name of the client
- package: name of package you want to discard

### 7.28.56 PKG\_changeClientPackageAction

**Description:** changes the status of a already installed package

**Parameter:**

- client: name of the client
- package: name of package you want to discard
- action: the action you want the package set to

### 7.28.57 PKG\_setClientPackageWait4Rm

**Description:** changes the status of a already installed package to wait 4 delete

**Parameter:**

- client: name of the client
- package: name of package

### 7.28.58 PKG\_setClientPackageInstalledOK

**Description:** changes the status of a package to "installed ok"

**Parameter:**

- client: name of the client
- package: name of package

### 7.28.59 PKG\_addShutdownPackage

**Description:** adds a shutdown package, but only if the client is NOT running. returns true, if a shutdown package is added

**Parameter:**

- client: name of the client

### 7.28.60 PKG\_addShutdownOrRebootPackage

**Description:** Adds a shutdown or a reboot package. No new job is added if there is already a waiting shutdown or reboot job. A shutdown package is added if the client can't be pinged and a reboot package if it is reachable via the network.

**Parameter:**

- client: name of the client

### 7.28.61 PKG\_getAllParams

**Description:** gets all parameters of the parameters column of a clientjob

**Parameter:**

- packageID: the ID of the package

### 7.28.62 PKG\_setAllParams

**Description:** sets all parameters in the parameters column of a clientjob

**Parameter:**

- packageID: the ID of the package
- params: the parameters as associative array

### 7.28.63 PKG\_OptionPageHeader

**Description:** starts the option page with all necessary options

**Parameter:**

- title: the window title of the OptionPage

### 7.28.64 PKG\_OptionPageRender

**Description:** renders the layout of a OptionPage

**Parameter:**

- layout: for the definition of the layout array see the development guide

### 7.28.65 PKG\_OptionPageTail

**Description:** generates the bottom of the OptionPage

**Parameter:**

- layout: for the definition of the layout array see the development guide

### 7.28.66 PKG\_OptionPageSaveAlsParameters

**Description:** saves the entered values in the packagejobs params

**Parameter:**

- layout: for the definition of the layout array see the development guide

### 7.28.67 PKG\_OptionPageGetValue

**Description:** gets the value from a variable. The function tries to get the value from the \$\_GET array, if it doesn't work it falls back to the params array

**Parameter:**

- variable: the name of the variable you want to get the value from
- params: the parameters as associative array

### 7.28.68 PKG\_listParams

**Description:** lists the parameters from a package in a nice format

**Parameter:**

- paramStr: the parameters as string (simply read from the packagejobs table)

### 7.28.69 PKG\_getRecommendPackageAllInstalledSize

**Description:** calculates the whole sum of the installedSizes of all recommend packages of one package selection

**Parameter:**

- packageSelection: the name of the package selection

### 7.28.70 PKG\_previewInstallationDeinstallation

**Description:** shows what happens if a client deinstalls/ installs waiting packages and generates a table with title

**Parameter:**

- clientName: name of the client
- install: set to true, if packages should be installed. if false the packages should be deinstalled



### 7.28.71 PKG\_showPreviewInstallationDeinstallation

**Description:** shows what happens if a client installs / deinstalls waiting packages and generates a table with title

**Parameter:**

- clientName: name of the client
- install: set to true, if packages should be installed. if false the packages should be deinstalled

### 7.28.72 PKG\_updateSourcesListAtAllClients

**Description:** updates the sources.list at all clients using it

**Parameter:**

- sourcename: name of the sources.list that should be updated

### 7.28.73 PKG\_executeOnClientJobs

**Description:** Executes a sql statement on all package IDs.

**Parameter:**

- sql: initial SQL statement e.g. "DELETE FROM 'clientjobs' WHERE "
- packageIDList: the list of IDs of jobs to be deleted

### 7.28.74 PKG\_removeFromJobList

**Description:** removes all jobs identified by the IDs in packageIDList

**Parameter:**

- packageIDList: the list of IDs of jobs to be deleted

### 7.28.75 PKG\_changeClientJobsStatus

**Description:** Sets a new status on all jobs identified by the IDs in packageIDList

**Parameter:**

- packageIDList: the list of IDs of jobs to be deleted
- status: New status to set

### 7.28.76 PKG\_removeSpecialFromJobList

**Description:** Removes a special job from the joblist identified by package name and priority.

**Parameter:**

- clientName: Name of the client
- package: Name of the package.
- priority: Priority of the job.

### 7.28.77 PKG\_previewUpdateSystem

**Description:** returns the information of an system update request

**Parameter:**

- clientName: name of the client
- completeUpdate: set it to "true", if it should be a full update (installation and removal of packages) or to "false" for an update of existing packages

### 7.28.78 PKG\_showPreviewUpdateSystem

**Description:** generates HTML code with information about the update preview

**Parameter:**

- `clientName`: name of the client
- `completeUpdate`: set it to "true", if it should be a full update (installation and removal of packages) or to "false" for an update of existing packages

### 7.28.79 PKG\_rmAllSpecialPackagesByName

**Description:** deletes all special packages from a client matching the package name

**Parameter:**

- `clientName`: name of the client
- `packageName`: name of the special package

### 7.28.80 PKG\_getClientsWithPackage

**Description:** Gets all clients that have the specific package installed (or with another status).

**Parameter:**

- `packageName`: Name of the package.
- `status`: The status the package should have.

**Returns:**

- Array with all clients that have the specific package installed (or with another status).

### 7.28.81 PKG\_getClientsWithWaitingJobs

**Description:** Gets all clients that have waiting jobs.

**Returns:**

- Array with all clients that have waiting jobs.

### 7.28.82 PKG\_getClientsByPackages

**Description:** Gets all clients that have the specific packages (not) installed (or with another given status).

**Parameter:**

- `packageNames`: Array with the packages to check.
- `status`: Debian status code or true for "installed".
- `and`: Set to true, if all packages must (not) match the status or, if false, at least one package must match the status.
- `not`: If set to true, only clients, that have no packages with the given status will be added to the output array.

**Returns:**

- Array with all clients that have the specific package (not) installed (or with another given status).

### 7.28.83 PKG\_countPackages

**Description:** counts all packages on a client

**Parameter:**

- `clientName`: name of the client

#### 7.28.84 PKG\_copyWait4accPackagesToClient

**Description:** copies the waiting jobs from one client to another

**Parameter:**

- from: the source client
- to: the destination client

#### 7.28.85 PKG\_copyPackagesToClient

**Description:** copies all with a selected status jobs from one client to another

**Parameter:**

- from: the source client
- to: the destination client
- status: can be set to a package status or be empty to copy all jobs

#### 7.28.86 PKG\_remNormalPackages

**Description:** adds normal deinstallation jobs to db

**Parameter:**

- amount: amount of selected packages
- client: name of client to deinstall packages on

#### 7.28.87 PKG\_addRemovePackagesToWait4Aac

**Description:** adds a remove job to waiting 4 accept status

**Parameter:**

- client: name of client to frinstall packages from
- priority: priority of the package
- params: parameter for deinstalling the package

#### 7.28.88 PKG\_discardRemoveJob

**Description:** discards all remove jobs from the clientjobs table, that match the param

**Parameter:**

- client: name of the client
- packageName: name of the package

#### 7.28.89 PKG\_deletePackageselection

**Description:** delete all packages from package selection

**Parameter:**

- selectionName: name for the package selection

#### 7.28.90 PKG\_getAllPackageSelections

**Description:** returns all package selection names

**Parameter:**

- addEmpty: set to true to add an empty entry at the beginning.

### 7.28.91 PKG\_multiPackageSelectionsSelection

**Description:** Generates a multi selection with all package selections.

**Parameter:**

- selName: name of the selection
- first: entry that should be shown first (this is the internal value and NOT the name shown to the user). the first value from the list will be written to \$first. set first to "false" to disable writing the first entry.
- addEmpty: set to true to add an empty entry at the beginning.

### 7.28.92 PKG\_showAllPackageSelections

**Description:** returns all package selection as HTML selection

**Parameter:**

- selName: name of the selection
- first: entry that should be shown first (this is the internal value and NOT the name shown to the user). the first value from the list will be written to \$first. set first to "false" to disable writing the first entry.
- addEmpty: set to true to add an empty entry at the beginning.

### 7.28.93 PKG\_getPackageParams

**Description:** gets the parameters for a selected package

**Parameter:**

- id: package ID

### 7.28.94 PKG\_getClientbyPackageID

**Description:** gets the clientname that owns a selected package ID

**Parameter:**

- id: package ID

### 7.28.95 PKG\_getInfoFromPackageID

**Description:** gets a row from "clientjobs" for a given package ID

**Parameter:**

- id: package ID
- variable: the name of the row (e.g. client)

### 7.28.96 PKG\_getClientIDbyPackageID

**Description:** returns the ID of a client that owns a selected package ID

**Parameter:**

- id: package ID

### 7.28.97 PKG\_getPackageParamsVar

**Description:** fetch the device for installation

**Parameter:**

- id: package ID
- var: name of variable you want to get the value of

### 7.28.98 PKG\_getPackageIDsByName

**Description:** returns all IDs as an array for jobs matching the client and job name and are a normal or special package.

**Parameter:**

- client: the name of the client, the jobs are for
- packageName: name of the package, can be the name of a normal or special package
- specialPackage: set to true, if you want to search for a special package

### 7.28.99 PKG\_getClientPackages

**Description:** returns an array or a space separated list of all packages installed on a client

**Parameter:**

- client: the name of the client
- key: if it is not empty only packages that contain the key are returned
- arr: set to true if the result should be an array otherwise it's a string
- status: If set only returns packages of the given status

### 7.28.100 PKG\_getPackagesListMarker

**Description:** returns the string to mark client names to store packages

### 7.28.101 PKG\_savePackagesList

**Description:** stores the package names in the DB

**Parameter:**

- listName: name of the list to store the packages
- packages: array or blank seperated list of packages

### 7.28.102 PKG\_loadPackagesList

**Description:** returns an array or a blank seperated list of all packages in the list

**Parameter:**

- listName: name of the list to store the packages
- arr: set to true if the result should be an array otherwise it's a string

### 7.28.103 PKG\_deletePackagesList

**Description:** deletes a packages list

**Parameter:**

- listName: name of the list to delete

### 7.28.104 PKG\_addNormalJob

**Description:** Adds a normal package to the installation queue.

**Parameter:**

- client: the name of the client, the jobs are for
- packageName: name of the normal package
- priority: The priority of the job.

## 7.29 `./inc/pdf.php`

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: Functions for generating PDF files

### 7.29.1 `PDF_showTableRow`

**Description:** Shows a table row with a variable amount of entries. The parameters are shown side by side as rows in a table. If more than one `PDF_showTableRow` commands are executed in one table it is needed to always use the same amount of parameters in each call.

**Parameter:**

- Arbitrary amount of cells to show in a table.

### 7.29.2 `PDF_showTableHeader`

**Description:** Inits some values for starting a new PDF table.

### 7.29.3 `PDF_showTableEnd`

**Description:** Prints the PDF table.

### 7.29.4 `PDF_init`

**Description:** Inits some basic variables for PDF creation.

**Parameter:**

- orientation: Orientation of the PDF document (P or Portrait, L or Landscape)
- unit: pt (point), mm (millimeter), cm (centimeter) or in (inch)
- format: PDF page format A3, A4, A5, Letter or Legal

### 7.29.5 `PDF_output`

**Description:** Shows the created PDF.

## 7.30 *./inc/plugin.php*

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: functions dealing with (de)installation of plugins and status information.

### 7.30.1 *PLG\_listMenuPlugins*

**Description:** generate the menu entries for the plugins

**Parameter:**

- path: the path you want to scan for plugins

### 7.30.2 *PLG\_isPluginSelected*

**Description:** checkes if the plugin was clicked

**Parameter:**

- path: path where to find the plugin files
- value: value the menu item should have to load the plugin page

### 7.30.3 *PLG\_isPluginSelected*

**Description:** gets values from the plugins like plugin name, version,...

**Parameter:**

- fileName: file name with whole path to the plugin file
- var: variable you want to get the value from

### 7.30.4 *PLG\_getPLGName*

**Description:** gets the name of the plugin

**Parameter:**

- fileName: file name with whole path to the plugin file

### 7.30.5 *PLG\_getPLGPage*

**Description:** gets the page of the plugin

**Parameter:**

- fileName: file name with whole path to the plugin file

### 7.30.6 *PLG\_getPLGAuthor*

**Description:** gets the author of the plugin

**Parameter:**

- fileName: file name with whole path to the plugin file

### 7.30.7 *PLG\_getPLGUpdateURL*

**Description:** gets the update address of the plugin

**Parameter:**

- fileName: file name with whole path to the plugin file

### 7.30.8 PLG\_getPLGClientRequires

**Description:** gets the "client requires" packages of the plugin

**Parameter:**

- fileName: file name with whole path to the plugin file

### 7.30.9 PLG\_getPLGVersion

**Description:** gets the version of the plugin

**Parameter:**

- fileName: file name with whole path to the plugin file

### 7.30.10 PLG\_showDownloadStatus

**Description:** shows the status of the plugin download

**Parameter:**

- fileName: file name with whole path to the plugin file

### 7.30.11 PLG\_showDownloadStatus

**Description:** downloads or copies the plugin to the temp dir

**Parameter:**

- url: the place where to get the plugin file from. following transport protocols are allowed: http, ftp and local files. e.g. "http://myserver.de/test.m23plg" is a valid url.
- tempDir: where to store the plugin file temporary
- fileName: file name with whole path to the plugin file

### 7.30.12 PLG\_checkOverwriting

**Description:** checks if the plugin files would overwrite existing files. the plugin file is extracted to a temporary directory. all file names are logged to a file that contains only the file names. these file names are checked against currently installed files. this routine checks if current files would be overwritten by the files of the plugin package. a list of files that would be overwritten is generated and aligned by a table.

**Parameter:**

- logfile: filename with whole path of the logfile containing the file names of the plugin file
- tempDir: where to store the plugin file temporary

### 7.30.13 PLG\_DBInstall

**Description:** stores information about the plugin in the data base.

**Parameter:**

- tempDir: where to find the extracted files of the plugin
- files: all file names of the plugin file name

### 7.30.14 PLG\_realInstall

**Description:** does the real installation

**Parameter:**

- tempDir: where to find the extracted files of the plugin



### 7.30.15 PLG\_getTempDir

**Description:** generates the name for the plugin temp dir

**Parameter:**

- url: the place where to get the plugin file from. following transport protocols are allowed: http, ftp and local files. e.g. "http://myserver.de/test.m23plg" is a valid url.

### 7.30.16 PLG\_getFilename

**Description:** gets the filename for the plugin file

**Parameter:**

- url: the place where to get the plugin file from. following transport protocols are allowed: http, ftp and local files. e.g. "http://myserver.de/test.m23plg" is a valid url.

### 7.30.17 PLG\_install

**Description:** installs a plugin. extracts the files in the plugin file to a temporary directory. checks if currently existing files would be overwritten by the plugin files. if so, ask the user, if he wants to install or stop installation.

**Parameter:**

- url: the place where to get the plugin file from. following transport protocols are allowed: http, ftp and local files. e.g. "http://myserver.de/test.m23plg" is a valid url.

### 7.30.18 PLG\_showPluginOverview

**Description:** shows a overview of all plugins

### 7.30.19 PLG\_uninstall

**Description:** deletes a plugin

**Parameter:**

- name: name of the plugin

### 7.30.20 PLG\_getUpdateFile

**Description:** gets the update info file

**Parameter:**

- name: name of the plugin

### 7.30.21 PLG\_update

**Description:** initializes the update, shows information about the plugin update

**Parameter:**

- name: name of the plugin

### 7.30.22 PLG\_listInfofile

**Description:** lists information of a plugin update file

**Parameter:**

- name: name of the plugin

### 7.30.23 PLG\_realUpdate

**Description:** does the real installation/update

**Parameter:**

- name: name of the plugin
- url: the place where to get the plugin file from. following transport protocols are allowed: http, ftp and local files. e.g. "http://myserver.de/test.m23plg" is a valid url.

## 7.31 *./inc/pool.php*

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: functions for administrating package pools

### 7.31.1 **POOL\_selectPoolType**

**Description:** shows buttons for selecting the type of pool and returns the pressed button

### 7.31.2 **POOL\_getPools**

**Description:** returns an array with all pool names

### 7.31.3 **POOL\_showLoadDeleteCreate**

**Description:** shows a dialog for loading, deleting and creating a pool

**Parameter:**

- poolName: name of the pool

### 7.31.4 **POOL\_create**

**Description:** creates a new pool directory and type property file

**Parameter:**

- poolName: name of the pool
- poolType: type of the pool (cd or download)
- poolArch: CPU architecture for the packages

### 7.31.5 **POOL\_setProperty**

**Description:** sets the contents of a property file

**Parameter:**

- poolName: name of the pool
- property: name of the pool property
- value: value to write in the pool property file

### 7.31.6 **POOL\_getProperty**

**Description:** returns the contents of a property file

**Parameter:**

- poolName: name of the pool
- property: name of the pool property

### 7.31.7 **POOL\_delete**

**Description:** deletes a pool

**Parameter:**

- poolName: name of the pool

### 7.31.8 POOL\_showReadCD

**Description:** shows a dialog for copying the CD contents to the pool

**Parameter:**

- poolName: name of the pool

### 7.31.9 POOL\_readCD

**Description:** copys the CD contents to the pool

**Parameter:**

- poolName: name of the pool
- mountPoint: the mount point of the CD drive

### 7.31.10 POOL\_createExtendedPackageIndex

**Description:** creates the Packages\* index files for the pool

**Parameter:**

- poolName: name of the pool

### 7.31.11 POOL\_showCreatePackageIndex

**Description:** shows information (status of the Packages\* generation, sources.list) about the currently generated pool

### 7.31.12 POOL\_getSize

**Description:** returns the size of a pool in MB

**Parameter:**

- poolName: name of the pool

### 7.31.13 POOL\_getDir

**Description:** returns the directory of the pool

**Parameter:**

- poolName: name of the pool

### 7.31.14 POOL\_download

**Description:** shows error messages if the checks for distribution, sourceslist or packages are failing. Otherwise starts the distribution specific download routine.

**Parameter:**

- poolName: name of the pool
- distr: name of the distribution
- sourceslist: list of the package sources
- release: release branch of the choosen distribution to download the packages from
- downloadBasePackages: set to true if a bunch of basic packages should be included into the pool
- arch: download the packages for a specific CPU architecture

### 7.31.15 POOL\_showDownloadStatus

**Description:** shows the package download status of a pool

**Parameter:**

- poolName: name of the pool

### 7.31.16 POOL\_prepare

**Description:** Generates the needed configuration file for reprepro.

**Parameter:**

- poolName: name of the pool
- release: release of the distribution (e.g. sarge)
- distr: name of the distribution (e.g. Debian)
- arch: CPU architecture for the packages

### 7.31.17 POOL\_makeRepository

**Description:** Generates a package source from packages stored in one directory.

**Parameter:**

- poolName: name of the pool
- archivPath: start search for packages in this subdirectory
- addCmds: additional commands that should be executed before starting the screen
- 

### 7.31.18 POOL\_getCDDistributionRelease

**Description:** Reads the distribution and the release name from a mounted CD and writes these information to the variables.

**Parameter:**

- mountPoint: the directory where the CD is mounted
- distr: the variable the name of the distribution (e.g. Debian) should be written to
- release: the variable release of the distribution (e.g. sarge) should be written to

### 7.31.19 POOL\_showSourcesList

**Description:** Shows the sources list of a selected package source.

**Parameter:**

- poolName: name of the pool

## 7.32 ./inc/preferences.php

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: functions to save and load preferences for client setup.

### 7.32.1 PREF\_preferenceLoadManagerHandler

**Description:** Executes loading and deletion of preferences after pressing the according buttons and defines the buttons for PREF\_showPreferenceManager();

### 7.32.2 PREF\_preferenceSaveManagerHandler

**Description:** Executes the saving of preferences.

### 7.32.3 PREF\_showPreferenceManager

**Description:** Shows a dialog to load and delete existing preferences and to create new preferences.

### 7.32.4 PREF\_saveAllPreferenceValues

**Description:** Saves all values of a session into the preference.

### 7.32.5 PREF\_loadAllPreferenceValues

**Description:** Loads all values of a preference into the session.

### 7.32.6 PREF\_getClientPreferences

**Description:** list all preferences

**Parameter:**

- default: The name of the preference to list first
- directOutput: If enabled the preference names will be given out as a HTML option list. If disabled an array with the preference names as key and value will be returned.

**Returns:**

- Array with the preference names or nothing on enabled directOutput.

### 7.32.7 PREF\_getValue

**Description:** gets a value from a selected preference. with preferences you can store variables and values for reuse.

**Parameter:**

- name: the name of the preference
- var: variable of the preference

### 7.32.8 PREF\_putValue

**Description:** stores a value to a selected preference. with preferences you can store variables and values for reuse.

**Parameter:**

- name: the name of the preference
- var: variable of the preference
- value: value you want to set

### 7.32.9 PREF\_delete

**Description:** deletes a preference

**Parameter:**

- name: the name of the preference

### 7.32.10 PREF\_exists

**Description:** checks if a preference with the selected name exists

**Parameter:**

- name: the name of the preference

### 7.32.11 PREF\_putAllOptions

**Description:** stores all settings in the options array to the preferences

**Parameter:**

- prefName: name of the preference the options should be stored under
- options: the array with the options

### 7.32.12 PREF\_getAllValues

**Description:** gets all preferences and adds them to the options array

**Parameter:**

- prefName: name of the preference the options should be stored under
- options: the array with the options

## 7.33 `./inc/remotovar.php`

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: functions for saving and loading serverside variables.

### 7.33.1 `RMV_exists4IP`

**Description:** checks if a variable exists for a certain IP

**Parameter:**

- var: name of the variable to store
- ip: ip address to set the variable for

### 7.33.2 `RMV_set4IP`

**Description:** creates or updates a variable for a special ip

**Parameter:**

- var: name of the variable to store
- value: value to set
- ip: ip address to set the variable for

### 7.33.3 `RMV_get4IP`

**Description:** gets the value of a variable for the given ip

**Parameter:**

- var: name of the variable to get the value from
- ip: ip you want to get the value for

### 7.33.4 `RMV_set`

**Description:** creates or updates a variable for the ip of the calling client

**Parameter:**

- var: name of the variable to store
- value: value to set

### 7.33.5 `RMV_get`

**Description:** gets the value of a variable for the ip of the calling client

**Parameter:**

- var: name of the variable to get the value from

### 7.33.6 `RMV_rm4IP`

**Description:** removes a variable for a selected ip

**Parameter:**

- var: name of the variable to get the value from
- ip: ip you want to delete the value from



### 7.33.7 RMV\_rm

**Description:** removes a variable for the ip of the calling client

**Parameter:**

- var: name of the variable to get the value from

### 7.33.8 RMV\_rm\_old

**Description:** removes all vars older than \$time seconds

**Parameter:**

- time: time in seconds

## 7.34 `./inc/scredit.php`

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: Functions for the embedded script editor.

### 7.34.1 `SCREDIT_correctScriptFilename`

**Description:** Corrects the given filename to have it a valid prefix and suffix.

**Parameter:**

- filename: The filename to check and correct.

### 7.34.2 `SCREDIT_showEditor`

**Description:** Shows a script editor with syntax highlighting if JavaScript is enabled or a normal textarea input dialog.

### 7.34.3 `SCREDIT_newScriptTemplate`

**Description:** Returns a template for a basic script.

**Returns:**

- Text of the script template.

## 7.35 `./inc/server.php`

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)  
Description: functions for getting information from the server

### 7.35.1 `SERVER_importGPGPackageSignKey`

**Description:** Imports the m23 GPG package sign key.

### 7.35.2 `SERVER_logLocalScreenSessionToFile`

**Description:** Logs the output of a local screen session to a file.

**Parameter:**

- session: name screen session to log.
- user: user the script runs under

**Returns:**

- Full path to the log file.

### 7.35.3 `SERVER_setSSLCertCheckDisabled`

**Description:** Sets, if the SSL certificate check is disabled globally for all clients.

**Parameter:**

- : disableSSLCertCheck: true, if the check is disabled otherwise false.

### 7.35.4 `SERVER_isSSLCertCheckDisabled`

**Description:** Determines, if the SSL certificate check is disabled globally for all clients.

**Returns:**

- : true, if the check is disabled otherwise false.

### 7.35.5 `SERVER_setServerSetting`

**Description:** Sets the value of a server setting.

**Parameter:**

- : var: Name of the setting.
- : val: Value of the setting.

### 7.35.6 `SERVER_getServerSetting`

**Description:** Gets the value of a server setting.

**Parameter:**

- : var: Name of the setting.

**Returns:**

- : Value the setting.

### 7.35.7 SERVER\_existsServerSetting

**Description:** Checks, if a named server setting exists in the DB.

**Parameter:**

- : var: Name of the setting.

**Returns:**

- : True if the setting exists.

### 7.35.8 SERVER\_killPID

**Description:** Kills a process running under a given PID or sends a signal.

**Parameter:**

- : pid: The PID of the process to kill.
- : signal: The signal to send to the process.

**Returns:**

- : True if the process was killed or got the signal.

### 7.35.9 SERVER\_killBackgroundJob

**Description:** Kills a job (that runs in screen) with a given name.

**Parameter:**

- job: Name of the job that should be killed.
- user: User the job runs under.

### 7.35.10 SERVER\_insertLineNumber

**Description:** Inserts a text AT or AFTER a line number or creates a new file with the given name, if it doesn't exists.

**Parameter:**

- file: the name of the file
- lineNumber: reference line number for inserting
- insertText: text to insert
- mode: The access mode the newly created file should have.
- insertMode: "0" insert AT, "1" insert AFTER line number
- addIfNotExists: set to true, if the the line should be added only if the line doesn't exist. false, if the line should be added on every execution.

### 7.35.11 SERVER\_addAdmin

**Description:** Adds an administrator with all access rights.

**Parameter:**

- newadmin: Name of the new admin to create.
- password: Password for the admin account.

**Returns:**

- : true, if the deletion was sucessfully otherwise false.

### 7.35.12 SERVER\_delAdmin

**Description:** Deletes an administrator with all access rights.

**Parameter:**

- name: Name of the admin to delete.

**Returns:**

- : true, if the deletion was successfully otherwise false.

### 7.35.13 SERVER\_fileExists

**Description:** Checks if a file exists, that the Apache user has never access to.

**Parameter:**

- : file: Name (with full path) of the file to check.

**Returns:**

- : True, if the file exists other wise false.

### 7.35.14 SERVER\_getPublicSSHKeyOfm23Server

**Description:** Returns the public SSH key of the m23 server.

**Returns:**

- : Public SSH key of the m23 server.

### 7.35.15 SERVER\_changeHtpasswd

**Description:** Changes the password of a user in a htpasswd file.

**Parameter:**

- : htpasswdFile: htpasswd file that contains user names and crypted passwords.
- : username: Name of the user to change
- : password: The according new password

**Returns:**

- : True if the password was changed successfully.

### 7.35.16 SERVER\_delFromHtpasswd

**Description:** Removes a user with password to a htpasswd file.

**Parameter:**

- : htpasswdFile: htpasswd file that contains user names and crypted passwords.
- : username: Name of the user to remove

**Returns:**

- : True if the new user was added successfully.

### 7.35.17 SERVER\_addToHtpasswd

**Description:** Adds a new user with password to a htpasswd file.

**Parameter:**

- : htpasswdFile: htpasswd file that contains user names and crypted passwords.
- : username: Name of the new user to add
- : password: The according password for the new user

**Returns:**

- : True if the new user was added successfully.

### 7.35.18 SERVER\_dhcpServerInNetWarn

**Description:** Shows an error message if there is found another DHCP server on the net.

**Returns:**

- : false, if the IP address is static.

### 7.35.19 SERVER\_sendScriptToSF

**Description:** Uploads a script to m23.sf.net for public use.

**Parameter:**

- name: Name of the script.
- author: Name of the script author.
- description: Short descriptive text for the purpose of the script.
- script: Source code of the script.

### 7.35.20 SERVER\_dynamicIPWarn

**Description:** Shows an error message if the m23 server has a dynamic IP address.

**Returns:**

- : false, if the IP address is static.

### 7.35.21 SERVER\_tmpNotWritable

**Description:** Shows an error message if /tmp is not writable.

**Returns:**

- : false, if /tmp is writable.

### 7.35.22 SERVER\_rootFreeSpace

**Description:** Shows an error message if the free space of the root partition is low.

**Returns:**

- : false, if there is enough space.

### 7.35.23 SERVER\_isProgramRunning

**Description:** checks if a certain program is running and returns true, if yes "no" otherwise

**Parameter:**

- progname: the name of the program (e.g. "apache" for the Apache web server)

#### 7.35.24 SERVER\_checkPackageInstalled

**Description:** checks if a certain package is installed

**Parameter:**

- pkgName: the name of the package

#### 7.35.25 SERVER\_daemonStartStop

**Description:** starts, stops and restarts daemons

**Parameter:**

- daemonScript: the file name of the script, that handles the real starting, stopping and restarting and understands the \$action
- action: start, stop or restart

**Returns:**

- : true on successfully execution otherwise false.

#### 7.35.26 SERVER\_getAptGetInstallCommand

**Description:** Returns the apt-get commands to install a tool on the server.

**Parameter:**

- pkgName: name of the software package

**Returns:**

- : apt-get commands to install a tool on the server.

#### 7.35.27 SERVER\_installTool

**Description:** installs a tool on the server

**Parameter:**

- pkgName: name of the software package

**Returns:**

- : true on successfully execution otherwise false.

#### 7.35.28 SERVER\_installToolInBackground

**Description:** Installs a tool on the server in background.

**Parameter:**

- pkgName: name of the software package

#### 7.35.29 SERVER\_programmStatus

**Description:** shows a row with information about the status of a certain program, with the possibility to start, stop or restart the program.

**Parameter:**

- progname: the name of the programm (e.g. "apache" for the Apache web server)
- daemonScript: set it to the script that should be used for starting, stopping and restarting. If the script name isn't set, this is a normal tool and NOT a daemon.
- canBeInstalled: set to "true" if the programm can be installed by the package name

### 7.35.30 SERVER\_apacheInfo

**Description:** returns an information string for the Apache server

### 7.35.31 SERVER\_mysqlInfo

**Description:** returns an information string for the MySQL server

### 7.35.32 SERVER\_dhcpInfo

**Description:** returns an information string for the DHCP server

### 7.35.33 SERVER\_LDAPInfo

**Description:** Returns an information string for the LDAP server.

### 7.35.34 SERVER\_programmStatusTableHeader

**Description:** shows the header of the table needed for the programm status lines

### 7.35.35 SERVER\_runInBackground

**Description:** Runs a script with "screen" in the background under a given user

**Parameter:**

- jobName: name of the job screen should show
- cmds: the commands of the script
- user: user the script should be run under
- runInScreen: Set to true if the execution should be done in "screen". False executes it under the normal BASH.

### 7.35.36 SERVER\_runningInBackground

**Description:** Returns "true" if a lock file for a given job name is existing.

**Parameter:**

- jobName: name of the job

### 7.35.37 SERVER\_runningInScreen

**Description:** Returns "true" if a screen session with a given name exists for a given user.

**Parameter:**

- jobName: name of the job.
- user: User the screen session is run under.



### 7.35.38 SERVER\_addLineToFile

**Description:** Adds (if the search pattern can't be found) a line to a file on the server

**Parameter:**

- file: name of the file to edit
- search: the search pattern
- add: the line to add

**Returns:**

- : true on successfully execution otherwise false.

### 7.35.39 SERVER\_deleteFile

**Description:** Deletes a file from the server.

**Parameter:**

- fileName: Name of the file to delete.

**Returns:**

- : true on successfully execution otherwise false.

### 7.35.40 SERVER\_getFileContents

**Description:** Get the contents of any file (even if only readable by root).

**Parameter:**

- fileName: Name of the file to read.

**Returns:**

- : Contents of the file

### 7.35.41 SERVER\_putFileContents

**Description:** Stores a text to a file and changes it's mode, user and group.

**Parameter:**

- fileName: Name of the file to put the text to.
- text: The contents the file should have.
- mode: The access mode the file should have.
- user: The owner of the file.
- group: The owning group of the file.

**Returns:**

- true on success and false otherwise.

### 7.35.42 SERVER\_delLineFromFile

**Description:** Deletes lines from the file that match the search pattern

**Parameter:**

- file: name of the file to edit
- search: the search pattern

**Returns:**

- : true on successfully execution otherwise false.

### 7.35.43 SERVER\_addEtcHosts

**Description:** Adds a host to /etc/hosts and /etc/backuppc/hosts (if it doesn't exists allready)

**Parameter:**

- hostname: name of the host to add
- ip: its IP

### 7.35.44 SERVER\_delEtcHosts

**Description:** Deletes a host entry from /etc/hosts and /etc/backuppc/hosts

**Parameter:**

- hostname: name of the host to delete

### 7.35.45 SERVER\_getInstallationMedium

**Description:** Tries to figure out how the m23 server was installed

**Returns:**

- : CD, Internet or Unknown source.

### 7.35.46 SERVER\_getOS

**Description:** Returns the version string of the distribution.

**Returns:**

- : version string.

### 7.35.47 SERVER\_checkDownload

**Description:** Downloads a special file from m23.sf.net and checks if the size and md5 sum are matching.

**Parameter:**

- : useProxy: Set to true if the local proxy should be used.

**Returns:**

- : Status information if file size and md5 sum are matching.

### 7.35.48 SERVER\_checkDiskFree

**Description:** Reports the free space of all mounted media.

**Returns:**

- : Output of "df".

### 7.35.49 SERVER\_checkRunInVM

**Description:** Checks if the m23 server is executed in a virtual machine or on native hardware.

**Returns:**

- : VMWare, VirtualBox or native.

### 7.35.50 SERVER\_checkKernel

**Description:** Returns the kernel information string of "uname -a".

**Returns:**

- : Kernel information string.

### 7.35.51 **SERVER\_multiMkDir**

**Description:** Creates a directory and all needed directories on the way to the destination path.

**Parameter:**

- path: The complete path to create.
- mode: The access mode of the path to create (should start with "0" e.g. 0777)

### 7.35.52 **SERVER\_commandAvailable**

**Description:** Checks, if a given command is available for the given user.

**Parameter:**

- user: user the command should be run under.

**Returns:**

- : true when the command is available otherwise false.

## 7.36 `./inc/sourceslist.php`

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: function to generate the sources.list for the client

### 7.36.1 `SRCLST_getAddToFile`

**Description:** Returns addToFile paramters from the given sources list as an associative array, where file name and file contents are seperated.

**Parameter:**

- `sourceName`: The name of the package source list

**Returns:**

- : Associative array with file name and file contents (e.g. `[0] => Array ([file] => file1.txt, [text] => text1), [1] => Array ([file] => file2.txt, [text] => text2), ...`)

### 7.36.2 `SRCLST_getRelease`

**Description:** Gets a release from the sourceslist table.

**Parameter:**

- `name`: the name of the package source list

**Returns:**

- Release name of choosen sources list.

### 7.36.3 `SRCLST_genList`

**Description:** generates the sources.list file for the client

**Parameter:**

- `clientName`: the name of the client

### 7.36.4 `SRCLST_saveArchitectures`

**Description:** Saves the architectures for package source list.

**Parameter:**

- `sourceName`: the name of the package source list
- `archs`: Associative array with the supported CPU architectures.

### 7.36.5 `SRCLST_saveList`

**Description:** saves the package source list

**Parameter:**

- `name`: the name of the package source list
- `list`: the list of sources as simple text
- `description`: a descriptive text for the list
- `distr`: the name of the distribution the list is for
- `release`: the name of the release the list is for

### 7.36.6 SRCLST\_querySourceslists

**Description:** returns the result of the DB query after sourceslists for a special distribution

**Parameter:**

- distr: the distribution the sources list is for or "\*" for all distributions

### 7.36.7 SRCLST\_genSelection

**Description:** generates a HTML selection with the names of alls package sources

**Parameter:**

- selName: the name of the selection
- first: the package source that should be shown first
- distr: the distribution the sources list is for or "\*" for all distributions

### 7.36.8 SRCLST\_getValue

**Description:** gets a value from the sourceslist table

**Parameter:**

- name: the name of the package source list
- var: the name of the table row

### 7.36.9 SRCLST\_loadSourceListFromDB

**Description:** loads and returns the the package source list from the DB.

**Parameter:**

- name: the name of the package source list

### 7.36.10 SRCLST\_loadSourceList

**Description:** Loads and returns the package source list and tries to find a valid mirror for m23debs.

**Parameter:**

- name: the name of the package source list

**Returns:**

- package source list

### 7.36.11 SRCLST\_getDescription

**Description:** returns the the package source description

**Parameter:**

- name: the name of the package source list

### 7.36.12 SRCLST\_delete

**Description:** deletes package source

**Parameter:**

- name: the name of the package source list

### 7.36.13 SRCLST\_checkList

**Description:** checks a package info and returns the output of the OS package update function

**Parameter:**

- sourceName: the name of the package source list

### 7.36.14 SRCLST\_packageInformationChangeInformationHumanReadable

**Description:** Returns the time point when the package information was changed last.

**Parameter:**

- distr: the short name of the distribution
- sourceName: the name of the package source list

**Returns:**

- : Time when the package information was changed last.

### 7.36.15 SRCLST\_packageInformationChangeTime

**Description:** Returns the time point when the package information was changed last.

**Parameter:**

- distr: the short name of the distribution
- sourceName: the name of the package source list
- changedBefore: Amount of seconds before the package information was changed.

**Returns:**

- : Time when the package information was changed last.

### 7.36.16 SRCLST\_packageInformationOlderThan

**Description:** Checks if a package info is older than a selected amount of minutes or if the package info directory is too smal.

**Parameter:**

- minutes: the amount of minutes the package information can be older to return true
- distr: the short name of the distribution
- sourceName: the name of the package source list

**Returns:**

- : true when package info is older than a selected amount of minutes or if the package info directory is too smal, otherwise false.

### 7.36.17 SRCLST\_getStorageFS

**Description:** Returns a file systems that can be used to install the OS and to store data. A wished file system is given and an alternative FS is returned, if this FS is not supported.

**Parameter:**

- fs: File system to probe.
- sourceName: The name of the package source list

**Returns:**

- : File systems that can be used to install the OS and to store data

### 7.36.18 SRCLST\_supportedFS

**Description:** Returns an array with file systems that supported by the OS.

**Parameter:**

- sourceName: The name of the package source list

**Returns:**

- : Array with file systems supported by the OS.

### 7.36.19 SRCLST\_alternativeFS

**Description:** Returns the alternative file system that is supported by the OS.

**Parameter:**

- sourceName: The name of the package source list

**Returns:**

- : File system.

### 7.36.20 SRCLST\_getParameter

**Description:** Returns special parameter(s) from the given sources list.

**Parameter:**

- sourceName: The name of the package source list
- parameter: The name of the parameter.

**Returns:**

- : Values for the given parameter in an array.

### 7.36.21 SRCLST\_getMirror

**Description:** returns the mirror from the sources list

**Parameter:**

- sourceName: the name of the package source list

**Returns:**

- URL to the mirror

### 7.36.22 SRCLST\_getDesktopList

**Description:** returns an array with all supported desktops

**Parameter:**

- sourceName: the name of the package source list

### 7.36.23 SRCLST\_showDesktopsSel

**Description:** returns a selections with all desktops supported by the sources list

**Parameter:**

- sourceName: the name of the package source list
- selName: the name of the selection
- first: the desktop that should be shown first

### 7.36.24 SRCLST\_doesDistrSupportEFI

**Description:** Checks, if a sources list contains a distribution that supports EFI.

**Parameter:**

- sourceName: the name of the package source list

**Returns:**

- true, if the distribution supports EFI, otherwise false.

### 7.36.25 SRCLST\_getListnamesWithEfiSupport

**Description:** Gets a list with all sources lists that support EFI.

**Returns:**

- Array with all sources lists that support EFI.

### 7.36.26 SRCLST\_clientUsesEfiButSourcesListDoesntSupportEfi

**Description:** Checks, if the client uses EFI and the choosen sources list doesn't.

**Parameter:**

- client: Name of the client.
- sourceName: The name of the package source list.

**Returns:**

- : true, if the client uses EFI and the choosen sources list doesn't, otherwise false.

### 7.36.27 SRCLST\_showErrorIfClientUsesEfiButSourcesListDoesntSupportEfi

**Description:** Shows an error message, if the client uses EFI and the choosen sources list doesn't.

**Parameter:**

- client: Name of the client.
- sourceName: The name of the package source list.

**Returns:**

- : false, if the client uses EFI and the choosen sources list doesn't, otherwise true.

### 7.36.28 SRCLST\_showAlternativeArchitectureSelection

**Description:** Shows a list with available CPU architectures of the sources list, in case that the wanted architecture is not available in the sources list. The alternative architecture will be written to the arch option of the client.

**Parameter:**

- sourceName: The name of the package source list.
- wantedArch: The CPU architecture of the m23 client.
- client: Name of the client.

**Returns:**

- : A CPU architecture supported by the package source list.



### 7.36.29 SRCLST\_isArchAvailable

**Description:** Checks if a given architecture is supported by the sources list.

**Parameter:**

- `sourceName`: the name of the package source list
- `arch`: Architecture to check for.

**Returns:**

- `true`, if the architecture is supported, `false` otherwise.

### 7.36.30 SRCLST\_getArchitectures

**Description:** Returns a list of all CPU architectures supported by the sources list.

**Parameter:**

- `sourceName`: the name of the package source list

**Returns:**

- Associative array with the supported CPU architectures as variable AND key.

### 7.36.31 SRCLST\_showEditor

**Description:** shows an editor for sources lists

**Parameter:**

- `poolName`: if it is set, the editor shows a package download dialog for the selected pool

### 7.36.32 SRCLST\_getListnames

**Description:** Returns an array that contains all sourceslist names

**Parameter:**

- `distr`: the distribution the sources list is for or "\*" for all distributions

### 7.36.33 SRCLST\_cleanList

**Description:** Returns an array with all lines of the sources list that contain Debian sources

**Parameter:**

- `list`: the contents of the sources list

### 7.36.34 SRCLST\_matchList

**Description:** Returns the name of the sources list that matches the searched sources list contents for the distribution or false

**Parameter:**

- `distr`: the distribution to search the name of the sources list under
- `search`: the contents of the sources list to search

### 7.36.35 SRCLST\_possiblem23debsMirrors

**Description:** Returns an array with mirrors for m23 debs.

**Returns:**

- Array with mirrors for m23 debs.

### 7.36.36 SRCLST\_checkm23debsMirror

**Description:** Checks, if the url contains a valid mirror for m23debs.

**Parameter:**

- url: URL of the (possible) m23debs mirror.

**Returns:**

- true, if the url contains a valid mirror for m23debs, otherwise false.

### 7.36.37 SRCLST\_getWorkingm23debsMirror

**Description:** Get the url of a working m23debs mirror.

**Returns:**

- Url to a working m23debs mirror or false, if none could be found.

## 7.37 *./inc/update.php*

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: functions for updating the server

### 7.37.1 **UPDATE\_doUpdate**

**Description:** downloads and executes the update script.

**Parameter:**

- URL: url to fetch the update file from

### 7.37.2 **UPDATE\_running**

**Description:** checks, if an update is running (returns true otherwise false)

### 7.37.3 **UPDATE\_getUrl**

**Description:** returns a correct URL to the update source

**Parameter:**

- base: URL to the update script
- command: "info" or "cmd"
- version: m23 version
- patchLevel: patch version number

### 7.37.4 **UPDATE\_getInfo**

**Description:** returns the information text from the URL

**Parameter:**

- URL: URL to the information text
- refreshTime: The time in minutes the file is downloaded again.

## 7.38 ./inc/vm.php

Author: Hauke Goos-Habermann (HHabermann@pc-kiel.de)

Description: Functions for managing virtual clients.

### 7.38.1 VM\_captureVMScreenAsMovie

**Description:** Enables/disables capturing the screen of a VM to a movie file.

**Parameter:**

- type: VM\_SW\_VBOX for VirtualBox OSE
- vmname: Name of the VM.
- enable: true for enabling the capturing, false for disabling.
- movieFile: File to store the capturing in.
- width: Width of the movie.
- height: Height of the movie.
- rate: Bitrate of the movie.
- fps: Frames per second

**Returns:**

- BASH code for enabling/disabling the capturing of the VM's screens to a movie file.

### 7.38.2 VM\_CloudStackDeleteClientVM

**Description:** Deletes a virtual machine for use with m23 in CloudStack, only a cloudstack admin can recover it

**Parameter:**

- virtualMachineId: CloudStack ID of the virtual machine
- VMDeletionOK: True if VM was successfully deleted, false otherwise

**Returns:**

- ErrorMessage or Success messages, sets parameter VMDeletionOK (true if all went well, false if an error occurred)

### 7.38.3 VM\_isCloudStackClient

**Description:** Checks, if the client is run in CloudStack

**Returns:**

- true, when the client is run in CloudStack otherwise false.

### 7.38.4 VM\_CloudStackCheckConstants

**Description:** Checks, if the given constant values are valid.

**Parameter:**

- CLOUDSTACK\_API\_ENDPOINT: The API endpoint.
- CLOUDSTACK\_API\_KEY: The API key.
- CLOUDSTACK\_SECRET\_KEY: The secret API key.

**Returns:**

- true, when the constant values are valid otherwise false.

### 7.38.5 VM\_CloudStackConfigGUI

**Description:** Shows a dialog for editing the CloudStack config file and uploading the m23 client ISO.

### 7.38.6 VM\_CloudStackWriteConfFile

**Description:** Writes the CloudStack config file or writes a basic config file, if it does not exist.

**Parameter:**

- overwrite: Set to true, if the config file should be overwritten in any case.
- CLOUDSTACK\_API\_ENDPOINT: The API endpoint.
- CLOUDSTACK\_API\_KEY: The API key.
- CLOUDSTACK\_SECRET\_KEY: The secret API key.
- CLOUDSTACK\_SERVICE\_OFFERING\_ID: The virtual CPU and RAM combination to use for a new VM.
- CLOUDSTACK\_TEMPLATE\_ID: The ID of the m23 client installation ISO.
- CLOUDSTACK\_NETWORKIDS: The ID of the network to use.
- CLOUDSTACK\_DISK\_OFFERING\_ID: The virtual hard disk type.

### 7.38.7 VM\_CloudStackUploadIso

**Description:** Uploads and registers a new bootable ISO file into cloudstack from a given website

**Parameter:**

- isoName: the name you choose for the ISO file
- isoUrl: the url from where you want cloudstack to download the ISO file
- zoneID: The ID of the CloudStack zone.
- isoUploadSuccess: is set to True if action succeeded, false otherwise
- isoID: is set to Cloudstack-Iso-ID if action succeeded, otherwise not set

**Returns:**

- textmessage about result (error message or success message) and sets isoUploadSuccess to True if action succeeded, false otherwise, sets isoID to Iso-ID

### 7.38.8 VM\_CloudStackEnablePortForwarding

**Description:** creates a port forwarding rule for a virtual machine, with private port and public port being the same

**Parameter:**

- virtualMachineId: the cloudstack ID of the virtual machine to which the rule shall apply
- pFSuccess: is set to true, if the rule was created

**Returns:**

- textmessage about result (error message or success message) and sets pFSuccess to True if action succeeded, false otherwise

### 7.38.9 VM\_CloudStackDisablePortForwarding

**Description:** deletes a port forwarding rule for a virtual machine, with private port and public port being the same (CLOUDSTACK\_X2GO\_PORTNUMBER)

**Parameter:**

- virtualMachineId: the cloudstack ID of the virtual machine from which the port forwarding rule shall be deleted
- pFDSuccess: is set to true, if the rule was deleted successfully

**Returns:**

- textmessage about result (errormessage or success message) and sets pFDSuccess to True if action succeeded, false otherwise

### 7.38.10 VM\_CloudStackSendSetVisualURL

**Description:** Sends the visual URL (current client ip:22) to the m23 server, if run under CloudStack.

### 7.38.11 VM\_CloudStackStartVM

**Description:** starts a virtual machine in CloudStack

**Parameter:**

- clientname: CloudStack name of the instance / name of the m23 client.
- startVMOK: true if started successfully or already running, false otherwise

**Returns:**

- textmessage with result of start or error message

### 7.38.12 VM\_CloudStackStopVM

**Description:** stops a virtual machine in CloudStack

**Parameter:**

- clientname: CloudStack name of the instance / name of the m23 client.
- stopVMOK: true if stopped successfully or already stopped, false otherwise

**Returns:**

- textmessage with result of stop or error message

### 7.38.13 VM\_CloudStackGetVMStatus

**Description:** gets the status of a virtual machine

**Parameter:**

- clientname: CloudStack name of the instance / name of the m23 client.

**Returns:**

- textmessage with machine status (like 'Running' or 'Stopped') or FALSE if no status could be retrieved (e.g. if machine doesn't exist)

#### 7.38.14 VM\_CloudStackClientName2ClientID

**Description:** returns the Cloudstack-ID of a client with the given client host name

**Parameter:**

- clientname: Host name of the virtual machine

**Returns:**

- Cloudstack-Client-ID if the clientname can be retrieved, False otherwise

#### 7.38.15 VM\_CloudStackNetBootActivate

**Description:** attaches/exchanges or removes (if any) a network boot ISO to or from the client

**Parameter:**

- clientname: CloudStack name of the instance / name of the m23 client.
- activate: TRUE for attaching ISO, FALSE for removing
- nBASuccess: is set to True if action succeeded, false otherwise

**Returns:**

- textmessage about result (error message or success message) and sets nBASuccess to True if action succeeded, false otherwise

#### 7.38.16 VM\_CloudStackCreateVM

**Description:** Creates a virtual machine for use with m23 in CloudStack

**Parameter:**

- name: Name of the virtual machine, can contain ASCII letters 'a' through 'z', the digits '0' through '9', and the hyphen ('-'), must be between 1 and 63 characters long, and can't start or end with "-" and can't start with digit
- zoneID: zoneID for CloudStack

#### 7.38.17 VM\_CloudStack\_getServerIP

**Description:** Gets the external m23 server IP if the m23 server is run as CloudStack VM.

**Returns:**

- External m23 server IP.

#### 7.38.18 VM\_GUIstepCreateCloudStackVM

**Description:** Shows a dialog to create a new VM in CloudStack.

#### 7.38.19 VM\_CloudStack\_available

**Description:** Checks, if the CloudStack configuration file is included and contains the needed constants.

**Returns:**

- true, if the CloudStack are present.

### 7.38.20 VM\_CloudStack\_getObject

**Description:** Gets a new CloudStackClient object.

**Parameter:**

- CLOUDSTACK\_API\_ENDPOINT: The API endpoint.
- CLOUDSTACK\_API\_KEY: The API key.
- CLOUDSTACK\_SECRET\_KEY: The secret API key.

**Returns:**

- New CloudStackClient object.

### 7.38.21 VM\_CloudStack\_getVersion

**Description:** Gets the version of CloudStack.

**Returns:**

- CloudStack version.

### 7.38.22 VM\_shutdownAndDisableNetbootAfterInstall

**Description:** Reboots an VM and disables network booting.

**Parameter:**

- vmname: Name of the VM.

### 7.38.23 VM\_rebootAndActivateNetboot

**Description:** Reboots an VM and activates network booting.

**Parameter:**

- vmname: Name of the VM.

### 7.38.24 VM\_shutdownAndDisableNetbootAfterInstall

**Description:** Shuts down an VM and disables network booting.

**Parameter:**

- vmName: Name of the VM.

### 7.38.25 VM\_shutdownAndDisableNetboot

**Description:** Generates a BASH command to shut down an VM and to disable network booting.

**Parameter:**

- type: VM\_SW\_VBOX for VirtualBox OSE
- vmname: Name of the VM.

**Returns:**

- BASH code to shut down an VM and to disable network booting.



### 7.38.26 VM\_rebootChangeBootDevice

**Description:** Generates a BASH command to reboot an VM and to disable network booting.

**Parameter:**

- type: VM\_SW\_VBOX for VirtualBox OSE
- vmname: Name of the VM.
- visual: If set to true, the VM should be run in visual mode otherwise in headless mode.

**Returns:**

- BASH code to reboot an VM and to disable network booting.

### 7.38.27 VM\_getVBoxVersion

**Description:** Get the currently installed VirtualBox version of the host.

**Parameter:**

- clientNameOrIP: The name of the client or localhost or an IP.

**Returns:**

- The version number of VirtualBox.

### 7.38.28 VM\_setVBoxAddonAsDefault

**Description:** Sets a choosen VirtualBox addition package version as default.

**Parameter:**

- version: Version number of the VirtualBox addition to set as default.

### 7.38.29 VM\_downloadedVBoxAddons

**Description:** Lists all VirtualBox addition package versions that can be downloaded from the m23 server.

**Returns:**

- Associative array with their version numbers of all VirtualBox addition packages that can be downloaded from the m23 server.

### 7.38.30 VM\_getVBoxAddonDefaultVersion

**Description:** Gets the version number of the VirtualBox addition package.

**Returns:**

- The default version of the VirtualBox addition package.

### 7.38.31 VM\_generateVBOXaddonDownloadCMD

**Description:** Generates the download commands to download a VirtualBox addition ISO and to extract the addition installers for Linux.

**Parameter:**

- version: Version number of the VirtualBox addition to download and extract.

### 7.38.32 VM\_downloadVBOXaddons

**Description:** Downloads the VirtualBox addition ISOs and extracts the addition installers for Linux.

**Parameter:**

- checkedVersions: Array with all version numbers of the VirtualBox additions to download.

### 7.38.33 VM\_VBOXaddonDownloadDialog

**Description:** Shows a dialog for downloading the VirtualBox additions to the m23 server.

### 7.38.34 VM\_wasVBoxAddonDownloaded

**Description:** Checks, if the VirtualBox addition for a selected version was downloaded to the m23 server.

**Parameter:**

- version: Version number of the VirtualBox addition to look for.

**Returns:**

- True, if the addition is there.

### 7.38.35 VM\_listDownloadableVBoxAddons

**Description:** Returns an array with the version numbers of all VirtualBox addition ISOs that are 2.0.0 and above.

**Returns:**

- Array with the version numbers of all VirtualBox addition ISOs that are 2.0.0 and above as key and value.

### 7.38.36 VM\_stopVM

**Description:** Generates a BASH command to stop a virtual machine.

**Parameter:**

- type: VM\_SW\_VBOX for VirtualBox OSE
- vmname: Name of the VM.

**Returns:**

- BASH code to stop a virtual machine.

### 7.38.37 VM\_pauseVM

**Description:** Generates a BASH command to pause a virtual machine.

**Parameter:**

- type: VM\_SW\_VBOX for VirtualBox OSE
- vmname: Name of the VM.

**Returns:**

- BASH code to pause a virtual machine.

### 7.38.38 VM\_resumeVM

**Description:** Generates a BASH command to resume a virtual machine.

**Parameter:**

- type: VM\_SW\_VBOX for VirtualBox OSE
- vmname: Name of the VM.

**Returns:**

- BASH code to resume a virtual machine.

### 7.38.39 VM\_webAction

**Description:** Executes an action for a VM controlled by the web UI.

**Parameter:**

- vmName: Name of the VM.
- action: Action for the VM given by the URL parameter.

**Returns:**

- True if the command can be executed otherwise false.

### 7.38.40 VM\_delete

**Description:** Deletes a virtual machine from a VM host.

**Parameter:**

- vmname: Name of the VM.

**Returns:**

- true if it's an VM or false if not.

### 7.38.41 VM\_vmSwNr2Name

**Description:** Converts the VM software constant (VM\_SW\_\*) to the human readable name.

**Parameter:**

- vmType: Code number of the virtualisation software.

**Returns:**

- Human readable name of the VM software.

### 7.38.42 VM\_getHTMLStatusBlock

**Description:** Generates and returns a status block in a HTML table with informations (VM host, VM software, VM power switch state, visual console URL and password, VM NICs) about the selected VM client.

**Parameter:**

- clientName: Name of the VM client.

**Returns:**

- HTML table with information about the VM.

### 7.38.43 VM\_activateNetboot

**Description:** (De)Activates network booting of a VM.

**Parameter:**

- vmName: Name of the VM.
- activate: true for booting from network, false for booting from the HD.

**Returns:**

- The message of the VM management tool or false if it's not a VM.

#### 7.38.44 VM\_convertSwitchStatusInfo

**Description:** Returns the status of a VM guest in several ways.

**Parameter:**

- status: Status of the VM guest (one of VM\_STATE\_\*)

**Returns:**

- Associative array with: \$out['text']: The status as text in the current language. \$out['icon']: The icon of the given status (as traffic lights). \$out['imgTag']: The status as traffic light in an HTML img tag with the written status as title.

#### 7.38.45 VM\_getSWandHost

**Description:** Gets the VM software and VM host of a m23 client.

**Parameter:**

- clientName: Name of the virtualised client.

**Returns:**

- \$out['vmSoftware']: The VM software used for the guest. \$out['vmHost']: The name of the VM host.

#### 7.38.46 VM\_getStatus

**Description:** Returns the current status of a VM guest.

**Parameter:**

- clientName: Name of the virtualised client.

**Returns:**

- Array with the current state of the VM or false if the client is no VM guest.

#### 7.38.47 VM\_GUIstepCreateGuest

**Description:** Shows a dialog to create a new VM on the chosen host.

#### 7.38.48 VM\_GUIstepCheckHost

**Description:** Shows a dialog part with information about the chosen VM host.

#### 7.38.49 VM\_GUIstepSelectHost

**Description:** Shows a dialog part for choosing the VM host.

**Parameter:**

- VM\_software: Code number of the virtualisation software.

**Returns:**

- Gives back the VM host or false if there is no host for the chosen virtualisation solution.

### 7.38.50 VM\_getAllVMHosts

**Description:** Returns a list of all VM hosts with a chosen virtualisation software.

**Parameter:**

- VM\_software: Code number of the virtualisation software.

**Returns:**

- Associative array with the hostname as key and value.

### 7.38.51 VM\_setVisualURL

**Description:** Sets the URL to connect to the visual management console.

**Parameter:**

- VMguest: Name of the guest that is run in the virtualisation software.
- url: The URL to connect to the visual management console (e.g. 192.168.1.23:23 with VNC).

**Returns:**

- MySQL resource or false on error.

### 7.38.52 VM\_setHostInDB

**Description:** Sets the password for the login to the visual management console on the host for all guests, the host flag and the type of used virtualisation software.

**Parameter:**

- VMhost: Name of the host with the virtualisation software.
- password: Password to set.
- vmSoftware: Type of the virtualisation software.

**Returns:**

- MySQL resource or false on error.

### 7.38.53 VM\_setGuestInDB

**Description:** Makes the client a VM guest in the DB.

**Parameter:**

- clientName: Name of the m23 client (VM guest)
- VMSoftware: Type of the virtualisation software.
- VMHostName: Name of the m23 client (VM host)

**Returns:**

- MySQL resource or false on error.

### 7.38.54 VM\_statusIcons

**Description:** Returns HTML codes that include the VM status icons of the client.

**Parameter:**

- param: Client's parameter array.

**Returns:**

- HTML codes with included status icons.

### 7.38.55 VM\_createDiskImage

**Description:** Creates a new empty virtual harddisk image file.

**Parameter:**

- type: VM\_SW\_KVM for KVM or VM\_SW\_VBOX for VirtualBox OSE
- vmname: Name of the VM.
- diskname: Name of the image file without extension.
- size: Size of the image file in MB.

**Returns:**

- BASH code to create a virtual disk image.

### 7.38.56 VM\_delVMCMD

**Description:** Deletes a virtual machine.

**Parameter:**

- type: VM\_SW\_VBOX for VirtualBox OSE
- vmname: Name of the VM.

**Returns:**

- BASH code to delete a virtual machine.

### 7.38.57 VM\_activateNetbootCMD

**Description:** Generates a BASH command line to (de)activate network booting of a VM.

**Parameter:**

- type: VM\_SW\_VBOX for VirtualBox OSE
- vmName: Name of the VM.
- activate: true for booting from network, false for booting from the HD.

**Returns:**

- BASH code to delete a virtual machine.

### 7.38.58 VM\_createVM

**Description:** Creates a virtual machine.

**Parameter:**

- type: VM\_SW\_VBOX for VirtualBox OSE
- vmName: Name of the VM.
- ramSize: Size of the memory in MB.
- diskName: Name of the virtual harddisk file.
- mac: MAC address of the virtual network card. It can be in the format 12:23:34:45:56:78 or 122334455678.
- netDev: Device of the real network card that is used to let the VM communicate with the outer world.

**Returns:**

- BASH code to create a virtual machine.

### 7.38.59 VM\_insertBootISO

**Description:** Inserts a bootable ISO into a VM.

**Parameter:**

- type: VM\_SW\_VBOX for VirtualBox OSE
- vmName: Name of the VM.
- iso: ISO file with full path.

**Returns:**

- BASH code to insert a bootable ISO into a VM.

### 7.38.60 VM\_startVMInExistingXSession

**Description:** Starts a virtual machine in an existing X session.

**Parameter:**

- type: VM\_SW\_VBOX for VirtualBox OSE
- vmName: Name of the VM.

**Returns:**

- BASH code to start a virtual machine and finding the DISPLAY number of the user who runs this script.

### 7.38.61 VM\_startVM

**Description:** Starts a virtual machine.

**Parameter:**

- type: VM\_SW\_VBOX for VirtualBox OSE
- vmName: Name of the VM.
- vnc: Set to true if the VM should be accessible since the booting via VNC.

**Returns:**

- BASH code to start a virtual machine.

### 7.38.62 VM\_startVMCommandFile

**Description:** Writes a command file with the command(s) to start the VM.

**Parameter:**

- vmName: Name of the VM.
- cmd: Bash code to start the VM.

### 7.38.63 VM\_stopVMCommandFile

**Description:** Removes automatical starting of a VM by removing the command file.

**Parameter:**

- vmName: Name of the VM.

### 7.38.64 VM\_status

**Description:** Gets the current status of a virtual machine.

**Parameter:**

- type: VM\_SW\_VBOX for VirtualBox OSE
- vmName: Name of the VM.

**Returns:**

- BASH code to get the current status of a virtual machine or array containing the status of the VM.

### 7.38.65 VM\_parseVBOXdisk

**Description:** Parses a harddisk/DVD/floppy status line of VirtualBox.

**Parameter:**

- param: Parameter line that may contain the complete path to the image file or "empty".

**Returns:**

- Name of the assigned image or false if the medium is empty.

### 7.38.66 VM\_parseVBOXstate

**Description:** Parses the status (on, off, paused) line of VirtualBox.

**Parameter:**

- param: Parameter line that contains the status string of the VM.

**Returns:**

- VM\_STATE\_OFF, VM\_STATE\_PAUSE, VM\_STATE\_ON or false if the line could not be parsed.

### 7.38.67 VM\_parseVBOXNic

**Description:** Parses the status line of a virtual network card.

**Parameter:**

- param: Parameter line that contains the status string of the VM.

**Returns:**

- Array with the current state of the network device.

### 7.38.68 VM\_parseStatus

**Description:** Parses the complete status of a VM.

**Returns:**

- Array with the current state of the VM.