![STARFACE COMFORTPHONING]

STARFACE
ADMINISTRATION MANUAL

www.starface.com

STARFACE Administration Manual for Version 6.5.0.X / Edition 3

Table of Contents

1 About This Manual

This administration manual deals with the topics of installing, configuring and managing the STARFACE telephone system. This document's target group is administrators and users who already have basic knowledge in the fields of telephony, VoIP and network technology.

The user manual for STARFACE, which gradually guides users through the use of STARFACE and its user interface, is available as a counterpart to this manual. The user manual is available to download for free.

If you have further questions or require additional information, particularly regarding adaptations and extensions to your STARFACE telephone system, please contact one of our certified STARFACE partners.

Please note that STARFACE is a software product which is being continuously further developed and improved. The version of the manual delivered with the product may not, therefore, correspond to the software version as regards content. Installing updates or patches may also change the functional scope or appearance of certain operating elements. We therefore recommend that you use the STARFACE Online Help if in doubt. We expressly reserve the right to make changes and further developments in the name of technical progress. We are more than happy to receive content-related suggestions or information relating to errors in the manual at any time.

We are delighted to be able to welcome you as a new member of the growing STARFACE community, and hope you have lots of fun with and wish you every success in your everyday work with STARFACE.

1.1 Special Font Styles in This Manual

The STARFACE interface's different actions and labels are identified within the text using the following formatting:

Buttons on the STARFACE web interface   Sample text

Labels on the web interface: **Sample text**

Keyboard entries and file paths: */path1/folder1/*

Cross-references within the manual   "1.1.1 – Chapter"

Telephone keys: ∗ 1 2
3

Notes and important comments:

> **Note:** Sample text

1.2 The Most Important Operating Elements and Icons

The following control elements can be found time and again in the different sections of the STARFACE web interface, and there is a standardized function behind the corresponding icon.

This is why the icons are only listed here centrally and are not described over and over again in the relevant chapters.

        Calling up the Online Help

        Edit

✕	Delete entries
▶, ▼	Open / close sub-menus
⊞	New element
✚	Add detail
☑	Property activated
⊟	Property partially activated
👤	Select user icon / user entry
👥	Group icon
👥	Conference room
📦	Module (configuration)
📖	Select address book entries
▷	Show more actions
((↘	Listen to calls / announcement on the telephone
‖, ═	Contact areas for positioning using Drag & Drop
⊠	Close dialog / window
▶	View options for list columns
⟪ ⟨ Page 2/3 ⟩ ⟫	Scrolling forward and backward in lists
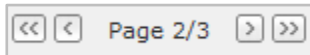
2 Notes on the Operating Modes

In principle, there are 3 different ways of using a STARFACE, which differ, among other things, in terms of the necessary technical prerequisites, the procurement costs and the operating costs. You can receive competent advice from your STARFACE sales contact regarding this matter.

This section of the manual provides information on how the different technical implementations can be started for the first time.

2.1 STARFACE as a Hardware Appliance

If you have a STARFACE appliance, start up the device as described in the quick guide supplied. It also lists the individual steps for wiring the telephone system.

If the hardware appliance is equipped with a Sirrix ISDN card, it must be noted that there are differences in the wiring between the card and the network connection or ISDN terminal device depending on the version of the ISDN card.

> **Note**: You must read the manual provided under Documentation Relating to the Sirrix Cards for this purpose.

2.2 STARFACE as a VM Edition

The STARFACE VM edition is a pre-installed system for the VMware or Microsoft virtualization platforms. This VM edition can be downloaded for free from the STARFACE website. With regard to start-up, please read the VM documentation first of all and then "4 – Configuring STARFACE for the First Time".

2.3 STARFACE as a Cloud Service

STARFACE hosted in the cloud service already has a basic configuration, so you can start creating users and dealing with further system administration directly ("5 – General Information Relating to STARFACE Administration"). You will obtain the Internet address for the cloud instance, as well as the access data, from the commissioned STARFACE partner companies.

3 Prerequisites

In this chapter, the prerequisites that have to be met to be able to use STARFACE correctly are documented.

3.1 Internet Browser

The graphic web interface is used to operate and configure STARFACE. It can be used from any computer with an Internet or network connection. To do this, you call up the STARFACE IP address in an Internet browser.

In principle, any of the common browsers which support JavaScript, HTML5 and cookies are suitable for this.

3.2 Firewall Settings

The network's firewall must have the following ports open in both directions for the STARFACE IP address if the underlying functions are to be used.

Port	Protocol	Description
80	TCP	Access to STARFACE via http
80	TCP	Access to the STARFACE address book in the UCC client
123	UDP	Synchronization of the system time using an external NTP server
443	TCP	Access to STARFACE via https
443	TCP	Access to the STARFACE address book in the UCC client
1902	UDP	User authentication via Active Directory
3090	TCP / UDP	Set-up and use of the system network
5060	UDP	Use of SIP (e.g. setting up calls)
5060	TCP	Use of SIP (e.g. setting up calls)
5061	TCP	TLS encryption in the STARFACE UCC client and for encrypted connections belonging to some SIP providers
5222	TCP	UCC and mobile client login onto the XMPP server
10,000 to 20,000	UDP	Incoming RTP audio data
1025 to 65,535	UDP	Outgoing RTP audio data
50080	TCP	Autoprovisioning (all 3 types) and telephone menus (unencrypted)
50081	TCP	Autoprovisioning (all 3 types) for Openstage and Snom (with TLS)

Table 1 – Overview of the ports used

The following server addresses must be accessible from STARFACE:

Address	Port	Protocol	Description
license.starface.de	80	HTTP	Access to the STARFACE license server
license.starface.de	443	HTTPS	Access to the STARFACE license server
license.starface.de	8383	HTTPS	Access to the STARFACE license server
update.starface.de	80	HTTP	Access to STARFACE updates
update.starface.de	443	HTTPS	Access to STARFACE updates
starface-cdn.de	80	HTTP	Access to STARFACE updates
starface-cdn.de	443	HTTPS	Access to STARFACE updates
www.starface-cdn.de	80	HTTP	Access to STARFACE updates
www.starface-cdn.de	443	HTTPS	Access to STARFACE updates
siptrunk.de	443	HTTPS	Access to the provider portal

Table 2 – Overview of the necessary server access instances

The following IP addresses must be accessible from STARFACE if a STARFACE Connect line is to be used:

- 37.120.180.58

- 37.120.180.6

- 37.120.181.198

- 37.120.181.229

- 85.184.250.15

- 85.184.250.155

4 Configuring STARFACE for the First Time

At this point, it is assumed that, if you are using a STARFACE cloud service, you have already been informed of the access option by your STARFACE partner and that you are aware of the IP address of the virtualized STARFACE VM.

All STARFACE appliances are configured in their basic settings so that they expect to be assigned an IP address via DHCP. There are several ways of finding out this IP address:

- In the case of all STARFACE appliances with LC display, the current IP address is shown in the display on the front of the housing following completion of the booting process.

- Certain STARFACE appliances offer a VGA monitor connection, which can be used to connect a monitor directly. The appliance's IP address can also be read off by it directly.

- If a USB stick is connected to any STARFACE appliance, it automatically writes a file named "pbxurl.txt" to the connected stick. The file can then be read out and receives the current STARFACE IP address.

To configure STARFACE, enter the system's identified IP address into the web browser's address line as follows:

http://123.123.123.123/

whereby 123.123.123.123 is representative of the IP address to be entered.

The STARFACE Initial Configuration menu now opens in the browser. At this point, you can first of all select the language setting for the subsequent configuration in the top right-hand corner using the drop-down menu.

4.1 Optional System Restore

To perform a system restore at this point, select the corresponding button, then select a backup file on your local computer to upload to STARFACE.

Only backup files from the same or a lower version of STARFACE can be installed.

> **Note:** At this point, we also recommend always updating to the latest version of STARFACE within the release. An update is always only possible within the release without an installed license.

4.2 Making Basic Settings

The system's language setting made at this point applies to all administrative e-mails, prompts, the Login area and the web interface of all users who have not chosen their own preferred language in Settings. This language is also used on terminal devices if a user cannot be identified (e.g. in the event of a failed login).

When a country is selected, the corresponding country code is automatically adopted. Please also amend the area code accordingly afterwards.

> **Note:** The area code is indicated without a leading digit (prefix).So, for example, in Germany, Austria and Switzerland, it does not have a leading 0.

The internal call number range indicates which numbers on STARFACE are available for users, groups, conference rooms and module configurators. This number range can be freely selected in terms of format and extension (e.g. 10 to 999 or 500 to 520), whereby there is a restriction that there may be no one-digit internal numbers.

> **Note:** It is recommended to select the internal call number range so that it is made up of two or three digits, and to coordinate the selection of larger internal number ranges with your Sales or Technical contact beforehand.

4.3 Creating Users for the Administrator

At least one administrator account must be created to manage STARFACE. Additional user and administrator accounts can be created and managed later in the administration interface.

The login ID must be unique for each user / administrator, so two users / administrators cannot have the same login ID. Only the digits 0 to 9 can be used as characters, because a user must also be able to log in with the number keys on a telephone.

The password must be made up of at least eight characters and should contain numbers, uppercase letters, lowercase letters and special characters for security reasons.

> **Note:** The length of the password has an enormous influence on its security, so longer passwords are always preferable.

Finally, all the initial configuration values entered are saved and summarized in an overview.

5 General Information Relating to STARFACE Administration

All of the important system settings can be edited in the STARFACE Administration section. The Administration section is opened using the Configuration button on the main menu bar.

Figure 1 – Selecting the Administration section

Note: Cookies and pop-ups must be permitted and JavaScript must be activated to operate STARFACE via the web browser.

System Status	Overview of the current system settings / messages
Users	Creating and editing user accounts
Groups	Creating and editing groups
Phones	Connecting terminal devices
Modules	STARFACE modules
Voicemail	Setting up and managing voicemail boxes
Conference	Basic settings for moderated conferences
Addressbook	Settings for the address book
Phone Numbers	Overview of the assigned internal / external call numbers
Lines	Lines on STARFACE (SIP providers, ISDN, NGN and analog)
Routing	Outgoing routing rules and cost-optimized routing (COR)
Server	General server settings (e.g. time / date or licenses)
Statistic	Exporting connection data and creating statistics
Interconnection	Setting up and configuring the system network
Security	STARFACE security settings
Extended Settings	On-hold music, XMPP server, macros and Active Directory

Figure 2 – List of items in the Administration section

The menu bar, the buttons of which can be used to open the individual setting sections, can be found on the left-hand side of the Administration section. The following chapters describe their functions in the order in which they are positioned in this menu bar.

6 System Status

In this section, there are various overviews available to the administrator.

Using the ⬚ button in the top right-hand corner, it is possible to open the currently selected tab in a new browser window and to use STARFACE independently of the other browser windows.

6.1 Reports

In this section, the following messages are listed, whereby the most recent message is always displayed first:

- Automatic entries in the blacklist

- E-mail could not be sent

- Error messages when a backup is created

- RAID system error messages

- Low disk space available on the hard drive

- Password checker messages

- Error messages associated with licenses

- Mail delivery not possible due to low disk space

- Availability of new updates for STARFACE

- Problem with downloading a provider profile from siptrunk.de

- Message on automatic sending of the error report if a severe system error occurs

Using the ▣ button, 3 different types of note can be left for individual messages.

- Confirm

- Solve

- Edit

These three 3 items are only notes documenting handling of the message. No direct processing takes place through adding a note. There are two other options available:

- Resend

- Delete

The "Resend" item is only available when e-mails have failed to send and triggers repetition of the sending process. The "Delete" selection item permanently deletes a message from the overview.

6.2 System Summary

In this tab, the general information relating to STARFACE is summarized and can be read out and off at a glance.

Licenses: All of the important license information relating to STARFACE (also see "17.8 – Licenses").

Hardware: All of the important information concerning the hardware used.

Configuration: All of the important key data of the current STARFACE configuration.

Enabled Module Configurations: Overview of the active module configurations (see "10 – Modules").

An information message is identified by a warning triangle icon ⚠ and can have the following causes, for example:

- -Installed version is higher than the system's licensed version

- -No server license has been entered

- -Update option has expired (refers to the option's validity date)

- More users have been created than are licensed

- Routing priority is "COR Rule", "LBR Rule" or "Line + COR", and no COR rules are configured

- Routing priority is "Static" or "Line", but COR / LBR rules are configured in spite of this

- No emergency call numbers are configured

- No internal and/or external conference numbers are configured

- XMPP domain was entered

6.3 Utilization

In this tab, the current utilization of the CPU(s) and the STARFACE working memory are displayed. Use of the various services can also be read out. The view updates itself once per second to deliver current data at all times.

> **Note:** In the event of high system utilization, the frequency of this tab updating is automatically lowered so as not to additionally increase the system load.

6.4 Diagnostics

A PCAP file which can be used to diagnose problems on the telephone system, for example, can be created in this tab.

The maximum recording file size should be defined first of all (minimum = 1 MB / maximum = 1000 MB / 0 = 1000 MB). If the current PCAP file reaches this size, it is deleted and replaced by a new PCAP file.

If the "Log Only SIP and RTP" checkbox is active, only the data traffic which runs via the following ports is recorded:

- 5060

- 5061

- 10,000 to 20,000

During this process, all the data packages received and sent by the telephone system are written to the PCAP file. If this checkbox is not active, all the data traffic on the telephone system is recorded without any port restrictions.

Using the Start button, data traffic recording can be started. A currently active recording is indicated by means of a corresponding note displayed in the tab.

Once recording has been stopped using the Stop button, it can be downloaded using the same button. It is only ever possible to download the current PCAP file.

7 Users

The number of maximum user accounts which can be created is limited by the number of user licenses integrated into STARFACE. If you have user licenses, please register them beforehand under Server in the Licenses tab (also see "17.8.1 – Installing New Licenses").

7.1 Creating a New User Account

The following key data is very important for a user on STARFACE and the fields are therefore also defined as mandatory:

- Login ID
- Password
- First name
- Last name
- E-mail
- Internal call number

If telephones and lines are already configured at this time, one or more external call numbers or telephones can also be directly assigned to the user account during the creation process. It is also possible to set the user account permission for administration at this point.

After clicking on Save or Apply, you can reconfigure or modify the user account ("7.2 – Configuring User Accounts").

7.1.1 Importing User Accounts

The import function offers the option of creating a large number of user accounts at the same time. To do this, the data must be available in a CSV file and uploaded.

To create an import CSV file, there is a template available for download in the web interface under Import. The correct field headings are already entered in this template file. There is also a sample user, which can be used for testing imports or as a template, within the template file.

When editing the template, it must be ensured that the file is saved with UTF-8 coding.

7.1.1.1 The Fields of the Import File

- login   The user's unique login ID
- firstname   The user's first name
- lastname   The user's last name
- external   External telephone number in the fully qualified format without leading 00
- internal   The user's internal telephone number
- mail   The user's unique e-mail address
- password   The user's password

> **Note:** The external telephone number must not start with a + or another character; rather, It must be fully qualified and be indicated without any leading zeros (e.g. 4955667788).

The possible entries for the user rights are listed in the table below. To set the standard permissions, all the permission fields must remain empty.

Main Right	Subordinate Right	Standard	Column Name during Import
Login		Yes	login_perm
Callmanager		Yes	callman_perm
Redirect		Yes	redirect_perm
	Group forwarding	Yes	group_redirect_perm
Call Lists		Yes	calllist_perm
Addressbook		Yes	address_perm
Voicemail		Yes	voice_perm
Settings		Yes	setting_perm
Preferences		No	admin_perm
	Users	No	admin_user_perm
	Groups	No	admin_groups_perm
	Phones	No	admin_phones_perm
	Modules	No	admin_modules_perm
	Miscellaneous	No	admin_misc_perm
Instant Messaging		Yes	im_perm
Remote Connect		No	remote_perm
Conferences		Yes	conference_perm
Fax		Yes	fax_perm
Keys		Yes	fkey_perm
	Show "On the phone with"	No	fkey_shw_act_call_perm
	Show incoming caller	Yes	fkey_shw_inc_call_perm
	Show call forwarding	Yes	fkey_shw_fwd_state_perm
	Show chat status	Yes	fkey_shw_im_state_perm
	Activate modules	No	fkey_module_key
IFMC		Yes	ifmc_use_perm
	Modify	Yes	ifmc_edit_perm
E-mail Notifications		No	admin_mail_perm
Phone Login		Yes	phone_login_perm
UCI		Yes	uci_perm
	UCC Premium Functions	Yes	uci_autoprovisioning_perm
	Windows terminal server	No	winclient_terminal_server_perm
Provider Actioncodes		No	admin_actioncodes

Table 3 – Overview of rights (order as in the web interface)

Note: The "Remote Connect" right still has no function at present and is not taken into account at any point in the STARFACE configuration process.

To explicitly grant a right, set the value 1. To explicitly deny a right, use 0 or leave the field empty. The administration permission (admin_perm) is only observed when at least one of its sub-permissions (admin_…) are set too.

The admin_mail_perm is not included in the administration rights, however.

Note: As soon as a value is set for a permission, all other permissions in the entire file must also be explicitly given or refused.

In this case, empty fields do not set the standard permission listed above; instead, they reject the permission.

An abridged example of the fundamental key data looks like this in a text editor:

login,firstname,lastname,external,internal,mail,password,(…)

0028,John,Sample,49721334455,28,user1@example.com,Password1,(…)

0029,Test,User,43559922,29,user2@example.com,Password2,(…)
0008,Max,Muster,41338877,24,user3@example.com,Password3,(…)

Each row stands for a user data record. The optional external call numbers have been omitted here. But there must be an empty "cell" between two commas.

An abridged example of set permissions might look like this:

(…),login_perm,callman_perm,**redirect_perm**,(…),**voice_perm**,(…),**fax_perm**,**(…)**
(…),1,1,**0**,1,1,**0**,1,1,0,0,0,1,1,**0**

At the three items highlighted in red, the values deviate from the standard permissions. So, this user does not receive the permission for call redirections, use of the voicemail box and fax display.

> **Note:** Invalid user accounts are listed in an overview and are not imported.You can then either cancel the entire import or only import the valid data records by clicking on Import.

7.2 Configuring User Accounts

Figure 3 – Overview of configured users

The main User Administration view offers an overview of the already existing user accounts and their most important key data.

- Name "7.2.1 – User Data"
- Internal and external call numbers "7.2.4 – Phone Numbers"
- Primary telephone "7.2.3 – Phones"
- DND status "7.2.3 – Phones"

A user account can be edited by clicking on ✎ or by double-clicking on the corresponding row. The following sections describe the setting options of the individual User Account Administration tabs.

7.2.1 User Data

Here, you will find all the important key data relating to a user account, and this data, including the login ID, can also be subsequently modified in this tab by an administrator.

If the access data (login ID and/or password) is changed, the user automatically receives an e-mail notification with the changed access data.

Using the **E-mail on missed calls:** checkbox, the function of the user being informed by e-mail of any missed calls can be activated here. This information does not related to missed group calls.

> **Note:** With the exception of the login ID, the user can also subsequently modify the stored data in their settings.

7.2.1.1 Edit Image

The avatar is used to show the user on the busy lamp field function keys and on telephones which support the "Picture CLIP" feature. The selected image file may not exceed the maximum size of 3 MB and must be available in the "jpg", "png" or "gif" format.

The graphic is automatically scaled to the suitable dimensions during the upload process. An image which has already been uploaded can be deleted here if an avatar is no longer to be used here.

7.2.1.2 User Language

The setting selected in the drop-down Language menu only applies to this user and adjusts the language in the following sections:

- STARFACE user interface

- Telephone menus on the user's telephones

- All system messages which the user receives by e-mail

- Announcements on STARFACE

Any change made to the user language by the administrator only becomes visible for the user once they have logged back into the web interface.

7.2.1.3 Fax Preferences

These settings apply to sending faxes using the fax printer in the STARFACE UCC client. If no information is saved here for the user, STARFACE uses STARFACE FAX as the sender name and does not set a sender number.

> **Note**: The sender's number must be in the international format and entered without any spaces or special characters.

There are two options for tracking sent faxes:

- Transmission report: A send report is also saved in the user's fax lists for the respective sent and received faxes using this option.

- Transmission result by e-mail: The send report and the faxed document are sent to the sender's e-mail address.

If the options are active, they are also executed if fax transmission fails.

7.2.2 Redirect

Redirection rules can be defined for the user's call numbers using this tab. A distinction is made between 3 different redirection types in this regard:

- **Always**: Redirection takes place immediately, and the incoming call is immediately forwarded to the configured destination.

- **Busy:** If the called user is already on a call, the incoming call is immediately forwarded to the redirection destination.

- **Timeout:** If the incoming call is not answered within the saved time period, it is forwarded to the redirection destination.This redirection takes place even if the user is unavailable, i.e. if the user's telephone is not available.

> **Note:** Activating the **Call waiting** function causes Redirections When Busy to become ineffective.

To activate a redirection for a certain number, the checkbox on the far left must be selected. Any internal or external call number is specified as the redirection destination.

In the "Call number / Name" field, it is also possible to search for a name and select the redirection destination from the results. During this process, the internal users on the telephone system and also in the address books are searched for the entered name.

> **Note:** If one digit is set in the line settings for the outside line, it does not need to be entered for redirections to external call numbers in the **Call number / Name** field.

It is also possible to specify a configured line prefix (e.g. **1*) to select an external number using a certain line.

Figure 4 – Configuring redirection when a set time is exceeded

The ⚏ icon indicates a group's call number. Only members of the respective group with corresponding rights can see a redirection such as this.

It is also possible to select a voicemail box from the drop-down menu as a redirection destination. During this process, it must be ensured that the user's call numbers can only be forwarded to voicemail boxes which the user has access to.

Exceptions to this rule are group voicemail boxes, because they can only be selected as a destination when a group call number is redirected.

7.2.3 Phones

Figure 5 – Sample configuration in the "Phones" section

Display number: Here, the call number which signals an external number during an outgoing call can be defined using the drop-down menu.

If the routing priority is set to **Lines** in Routing (also see "16.1 – Properties"), the call number selected here determines which line is used for an outgoing call.

Primary phone: With this setting, for a user with several telephones, it is determined via which Call Manager telephone in the STARFACE web interface or the STARFACE UCC client the outgoing connections are established by default.

Call waiting: If this option is active, the user is acoustically informed of another incoming call during an active telephone call.

> **Note:** Activating the **Call waiting** function causes Redirections When Busy to become ineffective.

DND: If this function is activated, the user is no longer available on any of their call numbers, and all incoming calls are rejected. If redirection once a set time has elapsed is not set up for the called number, in this case redirection takes place immediately and not once the configured time has elapsed.

With **+**, the selection of all of STARFACE's available telephones is opened, and in principle all of the available telephones are displayed even if they have already been assigned to another user. Once the telephones have been selected, all of the user's call numbers are active for this device.

Active: In the list of telephones, the individual call numbers can be activated or deactivated based on the telephones. By selecting the checkbox, the telephone responds in future if the corresponding call number is called.

So, for example, a telephone can only ring when an internal number is called, while another telephone only responds when an external number is called.

> **Note:** The "FMC/<Number>" device name identifies an external number connected via IFMC (also see "7.2.5 – IFMC").

The checkbox is configurable if the number has one of the following call number properties:

- Standard call

- Group number (telephone calls)

The checkbox is not configurable if the number has one of the following call number properties:

- Fax number (e.g. fax2e-mail software)

- Group fax number

- Conference room

- Number of a module (e.g. Chefsekretärin)

The use of a non-configurable number is indicated using the known icons (also see "1.2 – The Most Important Operating Elements and Icons"). The shown icons are displayed instead of the checkbox.

7.2.4 Phone Numbers

The + button opens the list of available internal and external call numbers. Only the internal numbers which have not yet been assigned to another user, group, conference room or module configuration are shown in this list.
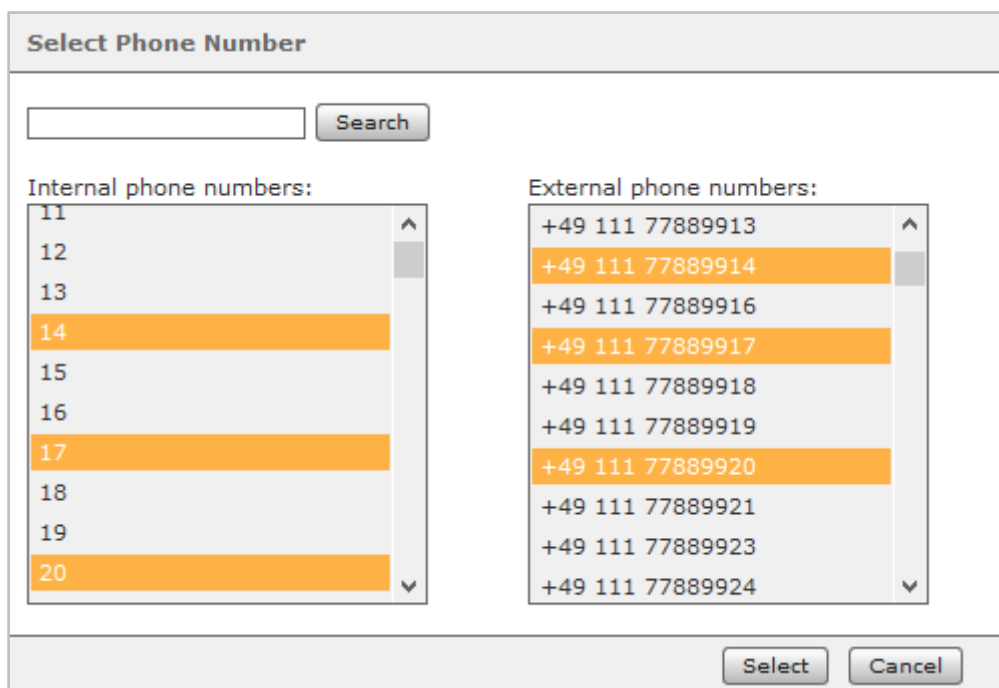
Figure 6 – Adding several call numbers

Display number: Here, the telephone number signaled using an external telephone number during an outgoing call can be defined using the drop-down menu.

Primary internal Number: This selection is used to assign the function keys.

Primary external Number: The call number selected here is used in the system network as an alternate number if the user cannot be reached using the internal call number. Additionally, the country and area codes of the call number specified here are amended if a call is made to the local network without fully qualified number information.

7.2.4.1 Call Number Properties

Standard Call: The number is treated as a regular telephone number.

Conference Room: The number is permanently reserved as a conference room. This setting is independent of the planned conferences ("12 – Conference").

The conferences managed using this number can also be managed using the key commands on the telephone (also see "22.4.4 – Shortcuts for Managing Moderated Conferences"), but are not monitored / tracked in the web interface.

Software Fax: The number is identified as a fax number, but unlike with the fax2e-mail software, the user can only view incoming faxes in the STARFACE web interface's fax lists.

Software Fax2Mail: This number is identified as a fax number where all the incoming faxes are forwarded to the user's e-mail address as PDF files. However, the faxes can still be viewed in the STARFACE web interface's fax lists.
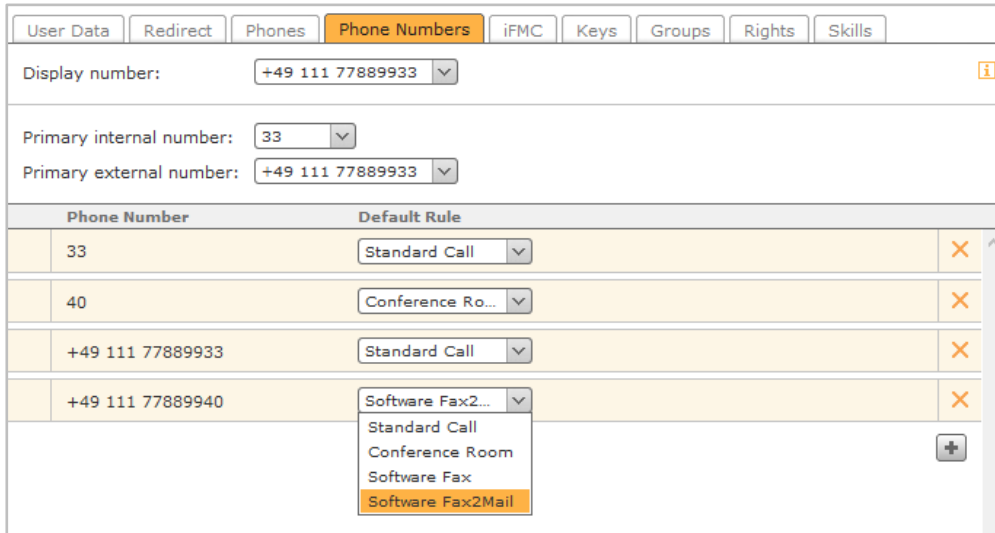
Figure 7 – Changing a call number property

Note: In this drop-down menu, other selection items may be available e.g. due to module configurations. Please note the respective module descriptions.

7.2.5 IFMC

The IFMC function allows the user to integrate one or more terminal devices which are not connected using STARFACE (e.g. smartphones) by entering an external call number.
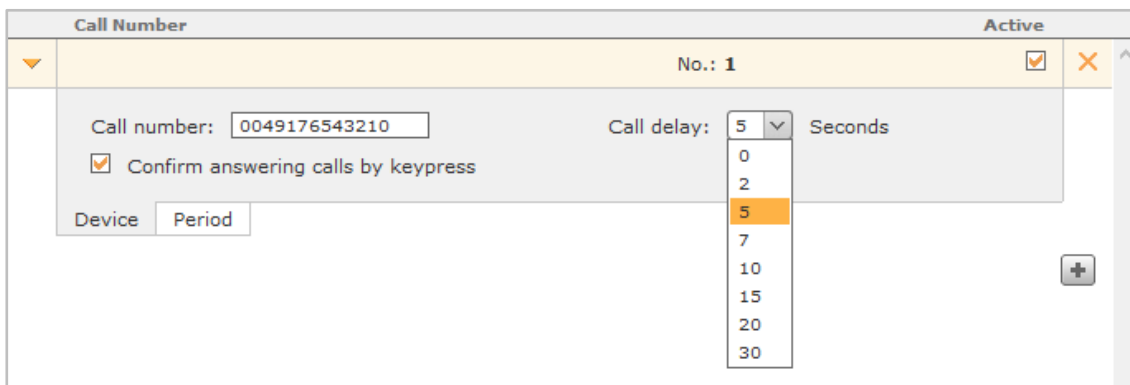
Figure 8 – Configuring an IFMC

A fully qualified destination call number must be saved to use IFMC, and this call number can only be entered once in STARFACE as a whole as an IFMC call number.

Call delay: This configuration setting enables incorporation of a certain time delay which creates a timeframe to e.g. answer an incoming call using the telephone connected to STARFACE first of all.

The selected call delay only takes effect if the user is not assigned telephones connected to STARFACE. In this situation, the IFMC number is called immediately.

If two IFMC numbers are entered, the relationship (e.g. 10-second difference) is maintained between the two call delays. The first IFMC number is called immediately, while the second one is called after 10 seconds.

Confirm answering calls by keypress: If this checkbox is active, during incoming calls on the IFMC terminal device a voice message is played back, and the actual call can be answered by pressing a number.

Once the IFMC configuration has been created in the **Phones** section, another terminal device named "FMC/<Configured Number>" which can be configured just like a normal telephone can be created.

When using IFMC, note the number of voice channels made available by your provider. So, for example, an outgoing IFMC call to a cell phone number still only occupies one additional voice channel if the corresponding user's number is called.

7.2.5.1 Time Control of IFMC Use

Figure 9 – Sample configuration for using the IFMC time control

To use the IFMC functionality in a time-controlled manner, in the **Period** section of the IFMC configuration it is possible to create freely configurable schedules based on weekdays and freely selectable time periods.

7.2.6 Keys

The function keys offer STARFACE users a simple and quick way of accessing frequently used standard functions and actions, such as:

- Calling predefined telephone numbers (internal or external)

- Call transfer (call grabbing)

- Switching call redirect on and off

- Logging into and out of a group

- Initiating automatic callback

- Parking calls

- Activating and deactivating ringer cutoff function / DND

Many of the options displayed by the function keys cannot only be used in the STARFACE web interface of the STARFACE UCC client; they can also be displayed on the telephone's function keys.

The configuration and use of the function keys in the STARFACE web interface and in the STARFACE UCC client are, however, independent of the user's telephone model.

The transfer of the key assignment on the user's telephone is optionally carried out when the configuration is saved or applied. But whether the function keys can be used on the telephone depends on the telephone model.

Autoprovisioning in STARFACE must be activated for the key transfer. If a new user is logged onto a telephone, the function keys there only update if the telephone model supports the "Hot Desking BLF" option, otherwise the function keys are only available following a telephone restart.

A key type can be added from the selection list on the right-hand side either using Drag & Drop or using the Add Key button in the bottom left-hand window.
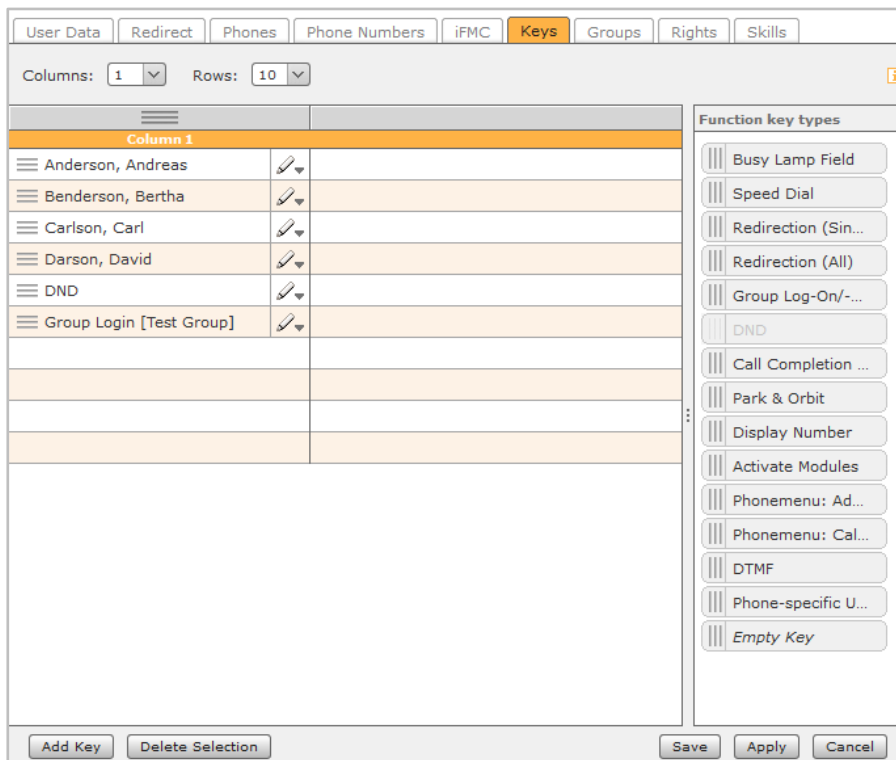
Figure 10 – Example of created function keys

Note: Some types of function key are only available when certain prerequisites are met. So, for example, the "Group Log On / Off" key type is only available if the user is also a member of a group.

If an extension or add-on module is used for a telephone, it is automatically filled with function keys as soon as all the available keys on the user's telephone are filled. If no function keys are to be transferred to a telephone, these keys must be filled with function keys of the "Empty Key" type.

7.2.6.1 Busy Lamp Field

This type of function key is linked to another user's or a group's primary internal call number. As a result, different user / group statuses can be easily read off using the busy lamp field:

- Telephony (available / active incoming call / busy / wrap-up time)

- Set redirects

- DND

- Avatar image

- The user's status message

This type of function key is also available in the Call Manager. In different, color-coded scenarios, selection of the busy lamp field triggers another action. The different possibilities are:

Signaling	Description	Action when Key is Pressed
Green	User is free	Call
Yellow	Incoming call for the user	Call transfer / call grabbing
Red	User is on the phone	Call waiting (if activated)
Blue	Wrap-up time in the queue	Call
Gray	User not available	Cancellation or drop point

Table 4 – The function key's signaling behavior

7.2.6.2 Speed Dial

This type of function key is used for assignment with call numbers outside of STARFACE. These numbers can be entered manually and selected from the address book. Also, control codes can be transferred to the provider, to e.g. install a redirection or use another service feature.

This type of function key does not have a status indicator and is also available in the Call Manager.

> **Note**: A potentially existing outside line does not have to be entered.

7.2.6.3 Redirection (Single)

With this function key, Always redirections which have already been set up for individual call numbers can be switched on and off. If the corresponding rights are set for the user, Always redirections for group call numbers can also be controlled using this key type.

> **Note**: Only the STARFACE Always redirections can be controlled with this option.

The function key's signaling behaves as follows:

Signaling	Description	Action when Key is Pressed
Off	Redirections inactive	Switch on redirections
On	Redirections active	Switch off redirections

Table 5 – The function key's signaling behavior

7.2.6.4 Redirection (All)

If this function key is configured, it is possible to select between the 3 following types of redirection:

- Always

- Busy

- Timeout

With this function key, all the redirections of a specific redirection type which are set up are activated or deactivated. Activation or deactivation applies to all call numbers assigned to the user, with the exception of group call numbers.

The function key's signaling behaves as follows:

Signaling	Description	Action when Key is Pressed
Off	Redirections inactive	Switch on redirections
On	Redirections active	Switch off redirections

Table 6 – The function key's signaling behavior

7.2.6.5 Group Log On / Off

With this function key, the user can log into or log out of in one or more groups. The function is only available for groups which the user is also a member of.

Signaling	Description	Action when Key is Pressed
Off / green	Not logged in	Logging into the group
On / red	Logged in	Logging out of the group

Table 7 – The function key's signaling behavior

Note: It is advisable not to assign more than 5 groups in parallel to a function key of this type.

7.2.6.6 DND

With this function key, the ringer cutoff function is activated on STARFACE so that all the incoming calls are rejected for the user. Unlike the ringer cutoff key on the local telephone, this ringer cutoff function then applies to all of the user's telephones and call numbers.

If a redirection upon timeout is not set up for the called number, in this case redirection takes effect immediately and not once the configured time has elapsed.

This type of function key can only be assigned to a function key once. The corresponding possible selection is therefore inactive or grayed-out in the list of function key types following creation of the first key.

Signaling	Description	Action when Key is Pressed
Off	Ringer cutoff function inactive	Ringer cutoff function is activated
On	Ringer cutoff function is active	Ringer cutoff function is deactivated

Table 8 – The function key's signaling behavior

7.2.6.7 Call Completion on Busy

With this function key, the STARFACE automatic callback function can be triggered. The function key flashes when the destination call number of an external and external call is busy. The user can now activate the STARFACE automatic callback function. This option is also still exists up to 30 seconds after the attempted call has already ended.

STARFACE will now attempt to reach the destination call number 5x every 10 seconds in a first step. If these first 5 attempts are unsuccessful because the destination number is still busy, for example, the attempt repeat interval is increased to 20 seconds and continues to run for 60 minutes. Once these 60 minutes have elapsed, the automatic callback function deactivates automatically.

This type of function key can only be assigned to a function key once per user. The corresponding possible selection is therefore inactive or grayed-out in the list of function key types following creation of the first key.

Signaling	Description	Action when Key is Pressed
Off	"Call Completion on Busy" inactive	No action
Flashing	"Call Completion on Busy" possible	"Callback When Busy" is activated
On	"Call Completion on Busy" active	"Callback When Busy" is deactivated

Table 9 – The function key's signaling behavior

7.2.6.8 Park & Orbit

With this function key, calls to predefined waiting places can be postponed. STARFACE provides 100 waiting places (00 to 99) on which only one call can be parked. A dedicated function key must be created for each of the waiting places.

Unlike normal call holding, here other users also have access to the waiting places and can independently take over the calls parked there. But to do this, the users must have function keys with the corresponding waiting place numbers.

Signaling	Description	Action when Key is Pressed
Off	Waiting place is free	Call is parked
Flashing	Caller waiting in orbit	Call is answered

Table 10 – The function key's signaling behavior

Note: Only parked calls can be picked up from orbit using the function keys in the STARFACE web interface. Calls can only be parked directly on the telephone.

7.2.6.9 Display Number

With this function key, the user can configure which call numbers are displayed to the call destination. It is also possible to suppress the call number.

Figure 11 – Selecting call number signaling

Signaling	Description	Action when Key is Pressed
Off	Call number is not displayed	Stored call number is set
On	Call number is signaled	The call number is suppressed

Table 11 – The function key's signaling behavior

7.2.6.10 Activate Modules

With this function key, existing module configurations can be activated or deactivated.

Signaling	Description	Action when Key is Pressed
Off	Module inactive	Activate module configuration
On	Module active	Deactivate module configuration

Table 12 – The function key's signaling behavior

Note: This type of function key is only available if the user has the corresponding rights.

Figure 12 – Creating a function key of the "Activate module" type

7.2.6.11 Phonemenu: Addressbook

With this function key, access to the STARFACE address books can be set up.

Figure 13 – Creating a function key of the "Phone Menu: Address Book" type

Note: This function key can only be used on telephones and is not available on the STARFACE web interface and in the STARFACE UCC client.

With the initial **View** drop-down menu, it can be selected whether access to the address book is to take place as read-only (Contact List) or as a search (Contact Search).

Note: The search is carried out as a full-text search. So, that way, not only are all the address book entries starting with "fo" shown during a search for "fo", but rather all data records containing the search parameter "fo" are shown too.

In the second **Directory** drop-down menu, it is configured which of the STARFACE address books are listed or searched.

7.2.6.12 Phonemenu: Call Lists

With this function key, access to the respective user's different call lists can be set up. At present, there are only the user's 3 call list listed below to choose from.

Figure 14 – Creating a function key of the "Phonemenu: Call Lists" type

> **Note**: This function key can only be used on telephones and is not available on the STARFACE web interface and in the STARFACE UCC client.

7.2.6.13 DTMF

With this function key, individual DTMF tones or even a sequence of DTMF tones which are supposed to indicate in an active call, for example, can be configured. The most common area of application is opening of a door lock by a defined sequence of DTMF tones.

> **Note**: This function key can only be used on telephones and is not available on the STARFACE web interface and in the STARFACE UCC client.

7.2.6.14 Phone-Specific URL

With this function key, the call to a freely configurable URL can be displayed via http. So, for example, a Raspberry Pi can be addressed, which in turn triggers another action during a URL call.

Which protocol can be used for the reply depends on the respective phone type. In the following overview, the telephone manufacturer is mentioned first of all, followed by the protocol:

- Aastra   XML

- Alcatel   HTML/XHTML

- Gigaset   XML

- Snom   HTML/XHTML

- Tiptel   HTML/XHTML

- Yealink   HTML/XHTML

> **Note**: We recommend that only experienced administrators use this type of function key while additionally observing the manufacturer's documentation.

7.2.6.15 Empty Key

This function key is used for visual structuring purposes and can be used to display headings for the department or separators, for example.

7.2.6.16 Moving and Removing Function Keys

You can select one or more function keys by clicking the mouse while pressing and holding the Ctrl key; several function keys can also be highlighted by dragging the mouse over the area of the keys while pressing and holding the left button. The selected area is highlighted in orange during the dragging process.

The selected function keys can now be moved to the contact areas on the left ☰ and arranged using Drag & Drop. In the same way, complete columns can be swapped with one another using their contact areas above the column heading.

To remove highlighted function keys, right-click in the marked area and then click on the Delete Selection option. Alternatively, individual function keys can be deleted using the ✎▾ editing menu.

7.2.7 Groups

All groups created on STARFACE and of which the respective user is not yet a member are listed in the left column. By double-clicking on the group name, or by using the arrow keys shown, the user can therefore be added to or removed from a group.

7.2.8 Rights

The user is assigned or deprived of individual rights by selecting the checkboxes. If the rights are changed, the user is informed of this if they are logged into the STARFACE web interface at this time, and they must log back in.

You will find a list of individual rights under "7.1.1.1 – The Fields of the Import File".

If the **Administration** Permission option was selected when creating the user account, the user has all the permissions from the Administration section.

With regard to configuration of the rights, the following special features must be observed:

- The "Remote Connect" right still has no function at present and is not taken into account at any point in the STARFACE configuration process.

- The "UCC Premium functions" right indicates whether the respective user has activated the softphone functionality subject to licensing or not when logging into the UCC client. If the softphone functionality was activated by the user, a corresponding license is required to use it. Even if this right is revoked, it can always be reactivated by the user.

7.2.9 Skills

In this tab, skills which can be used in an iQueue when Skill-Based Routing is activated can be configured for a user.

New skills can be added using the **+** or **+** New Skill buttons. The following menu opens when one of the two buttons are selected:

The newly configured skills are saved using the Save button. The changes made are discarded using the Cancel button. The skills created in this way are now available to and can be added to all users.

Existing skills can be edited at any time using the ✎ button.
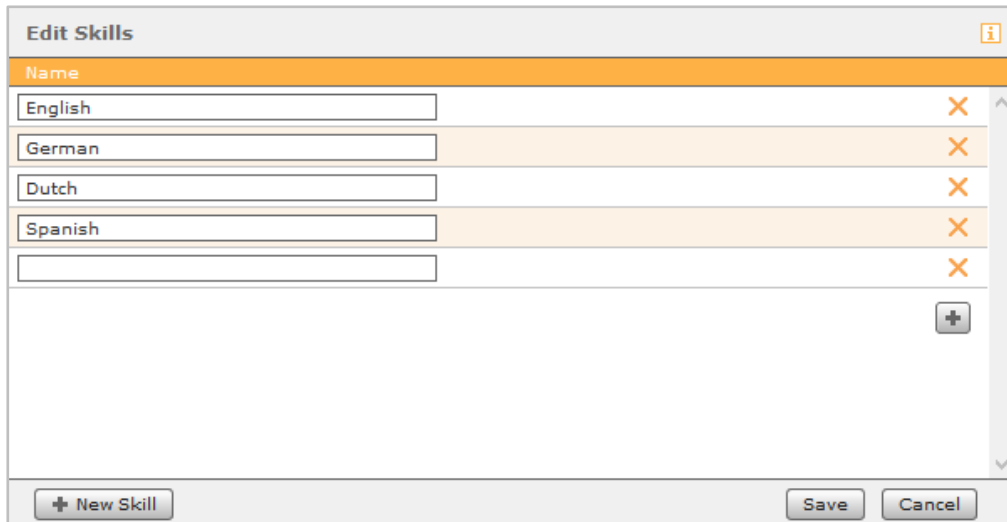
Figure 15 – Example of configured skills

Note: It must be noted that changes (e.g. adjustment to the name) made to a certain skill are always valid for all users.

8 Groups

The groups are used on STARFACE to logically summarize several users and make them available e.g. on the same call number.

8.1 Creating a New Group

Figure 16 – Configuring a new group

Group name: A freely selectable name for the group can be entered here. We recommend using as meaningful a group designation as possible here.

Ringing strategy: There are several possible configurations for how a group behaves during an incoming call in STARFACE. In this regard, it must be noted that only telephones which are also actively configured for the group call number are addressed (also see "7.2.3 – Phones").

- Ring All Group: The telephones of all active group members ring in parallel to one another.

- Broadcast: The telephones of all active group members answer the incoming call and independently switch to loudspeaker mode so an announcement can be displayed, for example. It must be noted that not all telephone models support the Auto-Answer functionality necessary for this.

- Call Hunting Group: The incoming call is only forwarded to one group member. If the call is not answered by this user within 15 seconds, the call is forwarded to the group's next active member, and so on.

The Call Hunting order corresponds to the member list in a group's **User Assignment** tab and can also be changed there (also see "8.5 – User Assignment").

> **Note:** All active members of the group are addressed using this ringing strategy until the call is redirected once a set time has elapsed.

- iQueue: The incoming call is handled according to configurable rules (also see "8.6 – iQueue").

- Software Fax: The group's call numbers are marked as fax numbers and all incoming faxes can be viewed in the STARFACE web interface by group members.

- Software Fax2Mail: The group's call numbers are marked as fax numbers and all incoming faxes can be viewed in the STARFACE web interface by group members. Additionally, the incoming faxes are sent to all group members' e-mail addresses as a PDF file.

Group ID: This ID can be freely made up of numbers and is used if logging into a group takes place using the keyboard on a telephone.

Chat group: If this checkbox is activated, the group members are shown as a group in different messaging programs which can be connected using XMPP, and there is the option of sending a collective message to all group members.

Only if this checkbox is activated can a group chat be initiated in the UCC client for Windows or Mac using the group's busy lamp field.

Voicemail box: If this checkbox is activated, a group voicemail box is also automatically created when a new group is created.

Password: This password can be freely made up of numbers, but is not used on STARFACE at present.

8.2 Configuring a Group

Once a group has been created, in the **Group Data** section all the settings which were already made when the group was created can be subsequently applied or modified. The only exception to this rule is the automatic creation of a group voicemail box.

8.3 Redirect

A group's redirections are configured according to the same rules as those applied to an individual user (also see "7.2.2 – Redirect"). If there are no users active in the group, redirection takes effect upon timeout.

8.4 Phone Numbers

In this tab, more call numbers can be added to or removed from the group at a later time.

8.5 User Assignment

New users can be added to a group by selecting **+** or **+ Add Person**. The Logged On checkbox indicates whether the user is switched to active in the group and whether group calls are assigned to them or not.

If a group member logs out of the group, e.g. using a function key, this view is also updated and the Logged On checkbox is no longer ticked.

The order of group members visible here indicates which users are called one after another due to the **Call Hunting Group** ringing strategy (also see "8.1 – Creating a New Group").

The order of users can be changed by dragging the ☰ button while pressing and holding the left mouse button.

8.6 iQueue

The iQueue is a special ringing strategy where incoming calls are held in a call queue until they can be assigned to a group user. It is also possible to work with various ringing strategies and announcements.

> **Note:** The iQueue replaces the "Group with Call Queue" module from STARFACE version 6.0.

The standard iQueue cannot be configured and can only be used with the permanently saved settings. The iQueue settings can only be adjusted once a paid module license has been installed.

> **Note:** Using the "Default Settings" button, the entire iQueue configuration can be reset to the default settings.

8.6.1 Configuring the Queue Rules

The various key data concerning waiting times in the iQueue can be configured in the **Queue Rules** tab. Other time-controlled redirection rules are not taken into account for an iQueue group.

Maximum queue length: Here, you can specify the maximum number of callers in the call queue.If the number is exceeded, if it is active the Redirect When Busy feature takes effect for additional callers, or they will here the busy tone.

Maximum waiting time: If the waiting time set here is exceeded, the Redirect When Time Exceeded feature takes effect or, if it is not active, the connection is automatically disconnected. The waiting time is unlimited with the default setting of 0 seconds.

Wait for agents: This option regulates what should happen if all the members of a group are logged out or if no members are available.

If the checkbox is activated, the caller will be held in the call queue until a group member logs into the group and answers the call or until the maximum waiting time has elapsed. If the checkbox is deactivated, the Redirect When Time Exceeded feature takes effect immediately (if it is configured).

> **Note:** Within the iQueue, the group members or STARFACE users are also frequently referred to as "agents".

8.6.2 Configuring the Agent Settings

Ringing duration: The ringing duration is the time after which an attempted call to the agent is canceled. In the case of the **Last recent** call strategy, this is the time after which the next agent receives the call. After 120 seconds, there is a very brief interruption to the attempted call to the agent before it is continued.

Ringing pause: This determines the minimum timeout in seconds which an agent receives after every call (ringing). During this break, the agent cannot be called, regardless of the call strategy and of when they answered the last call. If the agent has just processed (answered and ended) a call, and if the ringing break is longer than the rework time set below, the ringing break takes effect.

Agent intermission: Ringer cutoff time in seconds for agents who have just ended a call. If the ringing break set above is longer than the rework time, the ringing break takes effect.

A distinction is made between two different ringing strategies in the iQueue:

Parallel: In the event of parallel ringing, all the agents receive the call at the same time.

Last recent: The caller is connected to the agent who has not been assigned a call for the longest time.If an agent is also working in other iQueue groups at the same time, their calls and break times will also be taken into account there.

Concurrent calls: This is an option for the **Last Recent** call strategy and determines how many callers can be connected to the call queue at the same time. A meaningful value here is within the range of 1 and the number of agents.

Number of Unanswered Calls: An agent who receives calls based on the longest timeout but who does not answer them can be automatically logged out of the group using this option and based on the number of unanswered calls. The next agent in the order can therefore be moved up.

> **Note:** If an agent rejects an incoming call in the iQueue, this rejected caller is not put through to them again. But more incoming calls from other callers are still put through.

8.6.3 Configuring the On-Hold Music and Announcements

In the iQueue default setting, a call is automatically added to the call queue and the caller hears the on-hold music and the intermediate announcements if necessary. However, if the **Off** option is active here, the line for the caller rings until the call is answered by an agent or the connection is automatically disconnected by the telephone exchange.

Due to this setting (**Off**), therefore, the caller does not have the impression of being in a call queue, but rather of being on a normal call.

> **Note:** All the announcements are always played back in full before the call is processed further, so it is advisable to choose announcement texts that are not too long.

Intermediate: An intermediate announcement with different content can be played back at a freely selectable time interval for waiting callers.

- **None**: No intermediate announcement is played back.

- **"Hold the line":** All of our employees are on calls at the moment. Please hold the line and you will be connected to our next available employee.

- **Position**: You are currently caller number …. or your call is now first in the queue and will be answered by our next available employee

- **Position + Hold**: The position announcement and waiting announcement are played back one after the other.

Your Own Language Files: A language file can also be uploaded in WAV format as a welcome announcement and an end message for the call queue.

The welcome announcement is played back as soon as the caller arrives in the call queue. The end message is played back once the maximum hold time has elapsed once the call has been completed in full. If a call is forwarded once the maximum hold time has elapsed, the end message is not played back.

> **Note:** You can change the on-hold music for all groups in the Administration extended settings or create it yourself.

8.6.4 Configuring the Evaluation

In the Statistic tab of the iQueue configuration, it can be defined whether, when and how the iQueue group's archived report data and audio recordings are transferred.

Create report files: This checkbox activates the general creation of report files. The structure of the report files is described below.

Enable live interface: If this interface can be activated, regardless of the creation of report files, it is possible to access the iQueue group's current information using XML-RPC from other platforms. You will find the documentation for the XML RPC interface here.

Enable history interface: If this interface can be activated, regardless of the creation of report files, it is possible to access the iQueue group's saved connection data using XML-RPC from other platforms. You will find the documentation for the XML RPC interface here.

Execution: Mail is delivered or report and audio files are transferred at the time set here or at the interval set here.

The scope with regard to content also depends on this setting, so in the event of daily execution the data stock from the last 24 hours is sent, while in the event of weekly execution the stock from the last week is sent, and so on.

Transfer of reports: Here, one of the two options available for selection must be selected so that the evaluation can take place. But both options can be selected too.

The collected data (CSV files for the report data and WAV files for audio recordings) is packed into a ZIP archive and transferred / sent.

The first possible transfer option is sending the collected data by e-mail; only a valid e-mail address needs to be specified for this.

> **Note:** Depending on the implementation interval and the call volume in the iQueue group, very large data volumes can be generated. Many e-mail servers / providers, and also client programs, set a maximum file size for e-mails, and send and receipt is rejected if this maximum size is exceeded.

The second option is transferring the collected data in a Windows Fileshare. Once the corresponding checkbox has been selected, access to the Windows Share, which is valid for the entire evaluation configuration, must be set up using ✎.

The available configuration fields are:

User: The user name used must be entered in this field. Depending on the destination system's configuration, the domain may have to be specified too, e.g. as domainname/username or username@domainname

Password: The password for the user entered above must be stored in this field.

Server: The destination system's IP address is stored in this field. There is no need to state the protocol used.

Share: The name of the share on the destination system is entered in this field. Possible sub-directories can be attached with /.

Security: The authentication procedure used can be selected from this drop-down menu. The default option, "ntlm", is designed for compatibility with most destination platforms, but is not recommended with regard to security.

Please find out about the suitable procedure from the destination system administrator.

Audio recording: If this checkbox is activated, all of the telephone calls managed using the iQueue group are recorded and stored locally on STARFACE once the call is complete.

The audio recordings can be accessed by using the "STARFACE Archivierung" module. Alternatively, the audio recordings can also be transferred to a shared Windows directory using the "Copy in Windows Share" checkbox.

The Windows Share configuration option available here accesses the same central configuration as the point of the same name under **Transfer of reports**.

8.6.4.1 Structure of the "cdr.csv" Report File

The first report file named "cdr.csv" contains an overview of all the incoming calls in the iQueue and of which agent has answered how many calls.

The individual fields are:

- **callId**   The call's unique ID in the database

- **callerNumber:**   The caller's number

- **startDateString**   The time at which the call entered the iQueue

- **waitingTimeSec**   Time in the queue (specified in seconds)

- **talkTimeSec**   Duration of the call with the agent (specified in seconds)

- **agentLogin**   The login ID of the agent who answered the call

- **callerExtern**   Indication of whether an external call has been handled or not

- **answered**   Indication of whether the incoming call has been answered or not

- **lineName**   Name of the line through which an external call is incoming

Below the information provided above, there is a brief overview of which agent has answered how many internal and external calls. It is also possible to read off how long the average call duration was and how many calls were transferred.

8.6.4.2 Structure of the "cdrFax.csv" Report File

The second report file named "cdrFax.csv" contains an overview of the faxes sent to the iQueue and important individual details concerning the respective faxes.

The individual fields are:

- **faxid**   The fax's unique ID in the STARFACE database

- **faxend**   Time at which fax processing was ended

- **file**   Absolute path to the respective fax file on STARFACE

- **pages**   Actual information about the received / sent pages

- **folder**   Database field

- **totpages**   Target information about the received / sent pages

- **successful**   Indication of whether the send / receive was successful or not

- **errorcode**   HylaFAX error code if send / receive was unsuccessful

- **tottries**   Number of retry attempts
- **hylajobid**   The fax's unique ID in HylaFAX
- **faxname**   The fax's name
- **cdrid**   The fax's unique ID in the CDR database table
- **starttime**   The fax's start time
- **ringingtime**   Ringing start time
- **linktime**   Successful connection start time
- **calledcallerid**   Name resolution of the called number from the address book
- **calledcallerid**   Name resolution of the calling number from the address book
- **cdraccountid**   Ownership assignment of the database entry
- **calleraccountid**   Indication of the sender's internal account ID (external call = 0)
- **calledaccountid**   Indication of which account ID has received the fax
- **incoming**   Indication of whether the fax was an outgoing or incoming fax
- **callbacknumber**   Indication of the callback number transferred
- **login**   The user's login ID

8.6.4.3 Structure of the "cdrMonitor.csv" Report File

The third report file named "cdrMonitor.csv" contains an overview of the audio recordings created in the iQueue and important individual details concerning the respective recordings.

- **monitorid**   The recording's unique ID in the STARFACE database
- **monitortimestart**   Recording start time
- **monitortimeend**   Recording end time
- **duration**   Recording duration (specified in seconds)
- **file**   Absolute path to the respective recording on STARFACE
- **cdrid**   The recording's unique ID in the CDR database table
- **starttime**   The recording's start time
- **ringingtime**   Ringing start time
- **linktime**   Successful connection start time
- **calledcallerid**   Name resolution of the called number from the address book
- **calledcallerid**   Name resolution of the calling number from the address book
- **cdraccountid**   Ownership assignment of the database entry
- **calleraccountid**   Indication of the sender's internal account ID (external call = 0)
- **calledaccountid**   Indication of which account ID has received the recording
- **callbacknumber**   Indication of the callback number transferred

- **login**   The user's login ID

8.6.4.4 Structure of the "cdrVoicemail.csv" Report File

The fourth report file named "cdrVoicemail.csv" contains an overview of the voicemail messages assigned to iQueue and important individual details concerning the respective voicemail message.

- **id**   The voicemail message's unique ID in the database

- **voicemailend**   The voicemail message's end time

- **duration**   Duration of the voicemail message (specified in seconds)

- **file**   Absolute path to the respective voicemail message

- **mailbox**   ID of the voicemail box

- **exten**   The caller's number

- **cdrid**   The voicemail message's unique ID in the CDR database table

- **starttime**   Voicemail message start time

- **ringingtime**   Ringing start time

- **linktime**   Successful connection start time

- **calledcallerid**   Name resolution of the called number from the address book

- **calledcallerid**   Name resolution of the calling number from the address book

- **cdraccountid**   Ownership assignment of the database entry

- **calleraccountid**   Indication of the sender's internal account ID (external call = 0)

- **calledaccountid**   Indication of which account ID has received the voicemail message

- **callbacknumber**   Indication of the callback number transferred

- **login**   The user's login ID

8.6.6 Configuring Skill-Based Routing

Skill-based routing is used to assign incoming calls to the suitable member in the iQueue based on the agents' individual skills. The skills should be assigned to the corresponding users in the iQueue group in advance (also see "7.2.8 – Skills").

A paid license must be installed to be able to use skill-based routing in the iQueue. By selecting the "Use skill-based routing" checkbox, the use of skill-based routing can be activated once the license has been successfully installed.

New skills are configured or existing skills are added for the iQueue group using the ⊞ button. Skills which have already been entered are edited using the ✎ button.

> **Note:** It must be noted that changes (e.g. adjustment to the name) made to a certain skill are always valid for all users and iQueues.

Using the "Maximum Time to Wait for Suited Agents" entry field, it is configured how long a caller will wait on an agent with the suitable skill.

If no agents with the suitable skill are available in the iQueue group within the waiting time configured here, skill-based routing is suspended for the caller and they are assigned to an agent according to the normal iQueue rules.

This only applies if the "Maximum Time to Wait for Suited Agents" was configured to be shorter than the "Maximum Waiting Time" in the iQueue group.

8.6.6.1 "Caller Number" Criterion Type

If the "Caller Number" criterion type is configured for a skill using the drop-down menu, an entry must be made in the filter field below. The fully qualified call number for which the configured criterion is to apply must be stored in this entry field.

Some sample applications for the entered call numbers look like this:

Entry	Description
0049	Numbers starting with 0049
0031	Numbers starting with 0031
0049721	Numbers starting with 0049721
00497211510	Numbers starting with 00497211510

Table 13 – Examples of incoming call numbers

In this regard, it must be noted that STARFACE always uses incoming numbers in the international format, i.e. with 0049 at the start of the call number for Germany.

Figure 17 – Example of the configuration of the "Caller Number" criterion type

8.6.6.2 "Called Number" Criterion Type

If the "Called Number" criterion type is configured for a skill using the drop-down menu, one of the iQueue group's internal or external call numbers can be selected in the drop-down menu below.

Figure 18 – Examples of the configuration of the "Called Number" criterion type

8.6.7 Configuring Caller Prioritization

A paid license must be installed to be able to use caller prioritization in the iQueue. By selecting the "Enable Caller Prioritization" checkbox, the use of caller prioritization can be activated once the license has been successfully installed.

Prioritization is carried out using configurable criteria. An incoming call is thus entered higher up in the call queue for each criterion it satisfies.

It is weighted by the number of satisfied criteria first of all, then by the existing waiting time in the queue. Examples are listed below to clarify the basic principle:

Example 1:

+ Call A meets 2 out of 5 configured criteria and waits 7 minutes
+ Call B meets 4 out of 5 configured criteria and waits 2 minutes

Order in the queue:

1) Call B (more criteria than call A / waiting time irrelevant)
2) Call A (fewer criteria than call B / waiting time irrelevant)

Example 2:

+ Call A meets 1 out of 5 configured criteria and waits 7 minutes
+ Call B meets 0 out of 5 configured criteria and waits 2 minutes
+ Call C meets 0 out of 5 configured criteria and waits 5 minutes

Order in the queue:

1) Call A (more criteria than all other calls / waiting time irrelevant)
2) Call C (criteria equal to call B / waiting time longer than call B)
3) Call B (criteria equal to call C / waiting time shorter than for call C)

Example 3:

+ Call A meets 2 out of 5 configured criteria and waits 5 minutes
+ Call B meets 4 out of 5 configured criteria and waits 2 minutes
+ Call C meets 4 out of 5 configured criteria and waits 5 minutes

Order in the queue:

1) Call C (criteria equal to call B / longer waiting time than call B)
2) Call B (more criteria met than call A / waiting time irrelevant)
3) Call A (fewer criteria met than call B / waiting time irrelevant)

New criteria can be added using the **+** button.

8.6.7.1 "Caller Number" Criterion Type

If the "Caller Number" criterion is configured using the drop-down menu, an entry must be made in the filter field below. The fully qualified call number for which the configured criterion is to apply must be stored in this entry field.

In this regard, it must be noted that STARFACE always uses incoming numbers in the international format, i.e. with 0049 at the start of the call number for German numbers or 0041 for numbers from Switzerland.

Some sample applications for the entered call numbers might look like this:

Criterion	Entry	Description
A	0049	Numbers starting with 0049
B	0031	Numbers starting with 0031
C	0049721	Numbers starting with 0049721
D	00497211510	Numbers starting with 00497211510

Table 14 – Example of possible entries

The following number of fulfilled criteria would result from this:

Calling Number	"Number of Hits"	Criterion
004972115104230	3	A and C and D
003177889900	1	B
00493020179130	1	B
00497215994266	2	A and C
09001226688	0	

Table 15 – Examples of incoming numbers

8.6.7.2 "Called Number" Criterion Type

If the "Called Number" criterion type is configured using the drop-down menu, one of the iQueue group's internal or external call numbers can be selected in the drop-down menu below. It is also possible to configure an individual number as a criterion several times and thus to increase the priority of the criterion.

Each configured entry is individually evaluated as a fulfilled criterion.

9 Phones

9.1 Explanation of STARFACE Autoprovisioning

Before a description is provided of the individual configuration options in this section of STARFACE, a general explanation of STARFACE autoprovisioning is provided here.

In principle, the telephones automatically receive the following properties through autoprovisioning:

- SIP account (registering the telephone on STARFACE)

- Access data to protect the telephone configuration

- Function keys

- Language files

- STARFACE user menu for the telephone display

- Firmware updates

Note: Some of the properties listed here cannot be displayed with all telephone models, so the firmware update on the terminal device's web interface must be triggered on a Gigaset N720, for example.

In principle, a distinction is made between 3 types of autoprovisioning.

Zero-Touch: With this form of autoprovisioning, no measures need to be taken by you as the administrator, and the telephones are connected to STARFACE fully automatically. The following conditions must be met for this form of provisioning to work:

- The telephone to be connected is in the same subnet as STARFACE, so the telephone has the IP address 192.168.1.35 and STARFACE has the IP address 192.168.1.100.

- The telephone model to be connected supports Zero-Touch provisioning.

- The corresponding ports were taken into account in the network's security settings (also see "3.3 – Firewall Settings").

One-Touch (Auto): The term One-Touch (Auto) refers to the fact that the action only needs to be performed on STARFACE once. During this process, the STARFACE telephone search must be used to connect the telephones (also see "9.3.1 – Automatic Telephone Search").

One-Touch (Manual): The term One-Touch (Manual) refers to the fact that the telephones only have to be configured once to prepare them for connection to STARFACE.

During this process, the server path to STARFACE must be entered manually on the telephone's web interface. The corresponding path information can be found in the online documentation.

Note: Telephones from the manufacturer Snom are only provisioned by STARFACE once. If a change is made to the telephone later on (e.g. firmware is reset), a new password must be allocated for the corresponding telephone account.

9.2 Settings

STARFACE autoprovisioning can be switched on and off using the Activate and Deactivate buttons. It must be noted that changes made here become active immediately, and there are no further messages / queries.

Applied server address: Using this option, it is centrally controlled which IP address is set on the connected telephones using STARFACE autoprovisioning in order to establish the connection between the terminal device and STARFACE. The possible "Default" selection sets the IP address which is configured on the STARFACE eth0 port.

Enable new phones automatically: By deactivating this option, telephones can be prevented from independently registering via autoprovisioning and from being supplied with access data. The telephones are then listed as detected in the overview list, but they are not registered on STARFACE or functional.

Telephones marked as inactive must be individually shared using the corresponding checkbox in the overview list of configured telephones.

> **Note:** To avoid unauthorized registrations, it is highly recommended to deactivate this for telephone systems which are accessible via a public IP address. This is why the option is deactivated in the basic settings on STARFACE cloud instances.

Firmware auto update: By default, telephones which have autoprovisioning activated automatically obtain the most up-to-date firmware delivered with STARFACE. This distribution process can be deactivated here if necessary.

Update phones now: Using this button, the distribution of the firmware version stored on STARFACE can be launched on all connected telephones.

Authorized MAC Addresses: To only use autoprovisioning for certain telephones or to set up an additional security measure, a MAC address filter can be activated at this point. Therefore, only telephone / terminal device registration attempts are only taken into account by STARFACE for those telephones / terminal devices with a MAC address entered in the list.

If the limitation of MAC addresses is to be temporarily suspended, the checkbox can be deactivated without the existing entries being lost.

> **Note:** If the MAC address restriction is activated later on, all of the telephones already registered on STARFACE will continue to work even if their MAC addresses are no longer entered in the list.

9.3 Configured Terminal Devices

All of the telephones created and other terminal devices (e.g. gateways) are listed here regardless of whether the telephone / terminal device is in operation at present or not. It is possible to search for the telephone's name or for the name of the logged-in user using the search field.

The following information can be read off from the overview list:

- Device Type   The telephone's / terminal device's type

- Phone Name   Name of the SIP account which the telephone / terminal device is
                               registered with

- IP   Last IP address which the telephone / terminal device registered with

- Assigned Users   Name of the user to whom the telephone / terminal device is assigned

- Active   Checkbox indication as to whether this SIP account is allowed to be
                               actively used

Double-clicking on the row or clicking once on 🖉 opens the telephone account's detailed settings (also see "9.3.2 – Overview of a Telephone Account").

Clicking on ✕ deletes the telephone entry from STARFACE.

9.3.1 Automatic Telephone Search

Selecting the Search button causes the **Automatic Scan for Telephones** sub-page to open, and autoprovisioning of the "One-Touch (Auto)" type can be carried out.

Autoprovisioning of the "One-Touch (Auto)" type cannot be carried out with the following telephones:

- Telephones of the Gigaset DE series

- All telephones from the manufacturer Snom

- All telephones from the manufacturer Yealink

- The Tiptel 28 XS

The Search now button starts a search for new telephones / terminal devices in the entire STARFACE subnet range (e.g. 192.168.1.1 to 192.168.1.255). All newly detected telephones / terminal devices are automatically entered into the overview list of configured telephones.

If telephones / terminal devices which are already configured were found, for every telephone / terminal device a decision can be made as to whether the existing configuration should be overwritten or not.

If STARFACE has several IP addresses, the **Applied server address** drop-down menu can be used to set which IP address should be used as the basic setting.

9.3.1.1 Specifying the IP Search Range

If a search is to be carried out for new telephones / terminal devices, but not in the entire subnet, you can limit the IP address range to be searched. You can also adjust the IP range for the search in another IP subnet. Clicking on Specify IP range search causes the **Subnet** dialog box to open.

Figure 19 – Adjusting the IP address ranges to be searched

By changing the start and end IP addresses, the IP address range to be searched can be changed here. The network is therefore searched for new telephones / terminal devices from the IP address in the **Start** fields (e.g. 192.168.15.230) to the IP address in the **End** fields (e.g. 192.168.15.240).

Clicking on OK applies the restricted IP address range. The new search must now be started with Search now.

9.3.2 Overview of a Telephone Account

This chapter describes what key data and detailed information you can read out within an individual telephone account on STARFACE and which possible settings can be made at this point.

9.3.2.1 Details

Device Type: Here, you can see which predefined STARFACE device profiles were automatically selected for this telephone account.

Functionality: At this point, it is possible to configure whether the set-up account belongs to a telephone, a fax machine or an IPC functionality.

The **Fax** setting must be selected for fax machines connected via ATA adapters, e.g. if an analog Patton or Grandstream Gateway is being used.

The **IPC** setting is provided for terminal devices of IPC's trading communication systems. Unlike with SIP telephones, the terminal device's fixed IP address is specified in the **Restrict to IP** field instead of a password.

Phone name: The telephone name stored here is the "username" of the SIP account, so to speak, and should be selected so that it is as meaningful and unique as possible.

The automatically generated telephone name always includes an abbreviation which applies to a note on the telephone model and can be applied without any problems as a general rule.

> **Note:** It is recommended to use a telephone name at least 5 digits long.

Password: The password should be selected so that it is as long and complicated as possible, and we recommend using a password generated using the Random Password button.

Emergency Call: If the telephone account is not operated in the same area code as STARFACE, another location must be selected here, because an emergency call is always connected to the respective location's local area network and within its prefix range. Additional emergency call locations are created and configured in the line range (also see "15.3 – Emergency Calls").

Overwrite device config: If this function is activated, changes to the SIP account made above are automatically transferred to the telephone's / terminal device's first line / connection.

But the following aspects must be taken into account during this process:

- Autoprovisioning must be active on STARFACE.

- This function only takes effect when the device's HTTP access is not protected by access data other than that specified by the system.

- The automatic configuration always only affects the first line of an SIP telephone. If the telephone is already registered e.g. on another telephone system via this first line, this configuration is overwritten.

- If the existing SIP account is not on the first line of the SIP telephone, its settings are not changed by automatic overwriting. The account is also created on line 1. This can lead to problems, because the telephone will try to register on the server using both lines.

> **Note:** The setting is not saved permanently; rather, it only affects one configuration process. The field is active again by default the next time the configuration view is opened.

9.3.2.2 Extended Settings

NAT: The **Default** setting means that the global STARFACE setting is adopted from the Network section ("17.3.2 – Network Settings"). It is recommended to always use **Default** or **Yes** here, particularly if the telephone / terminal device is outside of the local network.

Codecs: A codec ensures the conversion of analog (voice) information to digital data and vice versa (encoding and decoding).

The G.711 codecs **alaw** and **ulaw** are used as default settings for most telephone models. The G.711 codecs have a good voice quality and a very short delay time of just 2 ms, but they require a (relatively) high bit rate of up to 84 kbit/s.

The broadband codec G.722 (≙ high-definition voice) offers a far higher voice quality than G.711 with its frequency range of 50 to 7000 Hz at a lower transmission rate (64 kbit/s). Many of the telephones supported by STARFACE also work with G.722.

It is possible to explicitly assign one or more codecs to a telephone account; several codecs are entered and separated by commas. For example:

g722,alaw,ulaw

But it should be ensured beforehand that the respective telephone model supports the codecs and that use of the codecs is activated on the telephone itself.

Generally speaking, STARFACE supports the use of the following codecs:

- alaw

- ulaw

- g722

- g726

- gsm

- h63

- h263p

Door Intercom: Here, information on whether the telephone account is a door intercom or not can be activated or deactivated.

Camera URL: If it is a door intercom with camera, the IP address and the file path for accessing the door camera's image data can be stored here.

The camera image is displayed in the Callmanager of the STARFACE web interface and in the STARFACE UCC client. Some telephones (e.g. Gigaset PRO DE700 IP or Gigaset PRO DE900 IP) are also shared for use of a camera image.

Examples of camera URLs:

http://IP address of the door intercom/jpg/image.jpg for Baudisch

http://IP address of the camera enu/camera320x240.jpg for 2N EntryCom IP

When integrating a door intercom, please also always observe the manufacturer's documentation and further articles in the STARFACE Wiki.

DTMF: The DTMF code for opening the door using the telephone keys is stored here. Additionally, in the Call Manager a link is assigned with the key code via which the door can be opened at the mere click of a mouse.

> **Note**: The "Opening Doors using DTMF" functional feature can be used independently of the use of a door camera and also with door intercoms which do not have a camera.

9.3.3 Manually Setting Up a Telephone Account

If a telephone account is not automatically created by STARFACE, you can create one manually using the +Manually button in the **Configured Phones** tab.

The telephone name, the password and the STARFACE IP address form the key data for the SIP account, which has to be stored on the telephone. You will find a description of the individual fields under "9.3.2.1 – Details".

> **Note:** The "Standard SIP" device type can be used as a basic setting for telephones which support SIP, but no STARFACE functionalities such as the function keys are available with this device type.

The field corresponding to the **Telephone Name** has different designations such as user ID, permission name, authentication name or username in the different telephone types' configuration interfaces.

9.3.3.1 Defining a New Device Type

If the desired device type is not available in the STARFACE default list and the "Standard SIP" device type cannot be used either, it is possible to add your own device types. This is done by selecting New… from the **Device Type** drop-down menu.

The new configuration can be set up in the **New Phone Type** dialog window that opens.

> **Note:** The configuration of a new device type requires more in-depth knowledge of SIP telephony and of how Asterisk works, and it is recommended that only experienced administrators perform such configuration work.

Figure 20 – Configuring a new device type

In the entry mask, the options for the following fields:

- type

- dtmfmode

- canreinvite

- nat

- qualify

are already preset, and all the other fields can be filled out as options. In detail, the available configuration options are as follows:

type: This configuration field defines the connection type between the terminal device and STARFACE.

- peer   The terminal device can receive calls via STARFACE, but cannot initiate them.

- user   The terminal device can only initiate calls via STARFACE, but cannot receive them.

- friend   The terminal device can receive and initiate calls via STARFACE.

host: Here, the "Dynamic" entry should be used (without quotation marks) instead of specifying an IP address, because some device types can only log in with the "Dynamic" setting.

dtmfmode: This configuration field sets the tone dialing default used by the telephone. This specification depends on the telephone to be set up. Please also observe the documentation provided by the telephone manufacturer.

permit: IP addresses over which the terminal device can register on STARFACE can be entered at this point. During this process, it is possible to enter either an individual IP address (e.g. 192.168.0.1) or a network mask (e.g. 192.168.0.2 / 255.255.255.0). Multiple entries must be separated by a comma.

deny: This configuration field is the counterpart to **permit** and connects the IP addresses specified here.

mask: If IP addresses are entered under **permit** and **deny** without network masks, a network mask can be (e.g. 255.255.255.0) can be stored here centrally for both fields.

canreinvite: In the meantime, this option has no function on STARFACE.

restrictcid: In the meantime, this option has no function on STARFACE.

nat: The settings which are possible here for the NAT correspond to the information provided in "9.3.2.2 Extended Settings".

template: In the meantime, this option has no function on STARFACE.

allow: All explicitly permitted codecs can be entered here and separated by commas (e.g. alaw,ulaw).

disallow: All explicitly denied codecs can be entered here and separated by commas (e.g. gsm,hs63).

insecure: In this configuration field, only the two **port** and **invite** entries can be made, and both details should always be provided.

trustrpid: By specifying the **Yes** option, the Remote Party ID is used for setting up calls instead of the Caller ID.

progressinband: This option controls how ringing is signaled:

- Yes   Ringing is signaled using the RTP audio channel.

- No   Ringing is signaled using the RTP audio channel if it already exists.

- Never   The terminal device generates the ringing signal.

promiscredir: This option controls whether local redirections which are only set on a terminal device are taken or not. There are two specifications here: **Yes** and **No**.

port: The preset default port number for the SIP protcol is 5060.If an entry is made here, this port specification can be replaced by another port number to be used exclusively for SIP.

qualify: There are different configuration options here using the drop-down menu:

- Yes   STARFACE tests whether the terminal device is still available at intervals of 2000 ms.

- 500   STARFACE tests whether the terminal device is still available at intervals of 500 ms.

- 1000   STARFACE tests whether the terminal device is still available at intervals of 1000 ms.

- 1500   STARFACE tests whether the terminal device is still available at intervals of 1500 ms.

- 25000   STARFACE tests whether the terminal device is still available at intervals of 25000 ms.

- No   The availability of the terminal device is not checked.

If the terminal device does not respond within this timeframe, STARFACE shall consider it to be unavailable. Afterwards, no more calls are forwarded to the terminal device until the check has been successful.

defaultip: This specification sets the default IP address, to which an INVITE package is sent for an unregistered terminal device. This option takes effect only if the **peer** selection is made for **type**.

rtptimeout10: Here, it can be configured how long an active call still exists for after no more audio RTP data is exchanged between the people on the call. The duration is specified in seconds.

rtpholdtimeout10: Here, it can be configured how long a call set to on hold is on hold for. The duration is specified in seconds and should be higher than the entry under **rtptimeout10**.

fromdomain: The server's domain name, which can be entered here, is required for connections to some SIP networks.

fromuser: The username, which can be entered here, is required for some SIP networks.

9.4 ID Display

The calling number display on the telephone can be influenced using the **Call number display** drop-down menu. The following 3 possible selections are available:

- With international and area code   (e.g. 0049721112233)

- With area code only   (e.g. 0721112233)

- Without codes   (e.g. 112233)

The setting made using the drop-down menu has no effect on incoming international call numbers which deviate from STARFACE's configured country code. If 0049 is configured as the country code on STARFACE, for example, all call numbers with the country code 0041 or 0043 are always displayed in a fully qualified manner. In this way, it is ensured that unrestricted callbacks are possible.

9.4.1 Configuring the Different Call Displays

In this section, changes should only be made by experienced STARFACE administrators. It is also recommended to perform a backup before making changes to this section (also see "17.6 – Backup").

Certain changes can have further-reaching effects on STARFACE which extend to the non-functionality of individual features, terminal device types and modules.

The meaningfully labeled sub-points stand for a certain display scenario. A display scenario always consists of one or more of the following display elements:

- Called number

- Called name

- Caller's first name

- Caller's last name

- Caller number

- Call transfer first name

- Call transfer last name

- Call transfer call number

- Free text input

The display elements used can be individually summarized for every display scenario.

In the simplest case, only the order of the display elements already existing in a display scenario are changed using the:

▼　　　Move down

▲　　　Move up

buttons. It is also possible to add new display elements using the ➕ button. Its type can be changed using the respective drop-down element's drop-down menu.

> **Note:** Personal text must be entered under the "Free text input" display element.

The standard values can be restored in all individual sub-items at any time using the Reset button.

The standard values are set in all sub-items using the Restore button.

9.5 Extended Settings

Authentication for phone menus: Access to the STARFACE users' telephone menus is protected ex works by means of a safety mechanism. However, this leads to the telephone menu being impossible to use on some telephone models, because they do not support this access protection.

To nevertheless use the menu on devices such as this, you can deactivate authentication globally for all device types here.

> **Note**: Deactivating authentication for telephone menus is a considerable security risk, particularly in the case of telephones which are directly accessible over the Internet.

Enable encryption to supported phones: If this checkbox is activated, data transfer between the telephone system and the telephones that support this option is encrypted.

Manufacturer-specific Settings: The passwords for Administrator mode and, if available, the User mode of the various telephone models supported by STARFACE can be centrally updated here.

The stored passwords correspond to the default passwords set by the respective manufacturers following the basic installation and should be changed under all circumstances for security reasons. The changed access passwords are automatically distributed the next time the telephones are registered on STARFACE.

> **Note**: Please observe the manufacturer's respective documentation for using the Administration and User modes on the telephones.

Digest Authentication: The access data is not transferred in plain text, but is instead transferred to the telephone in encrypted format, due to the selectable special option on the Snom terminal devices.

9.6 IP Range restrictions

In this tab, an IP restriction can be configured so that only telephones and terminal devices which have a corresponding IP address can be connected to the telephone system.

Entire subnets and address ranges can be shared for access during this process. Some examples of the entries might look like this:

- 192.168.38.0/24

- 192.168.10.*

- 172.168.*.*

- *.*.*.155

> **Note**: Only IPv4 information is supported at present.

10 Modules

The STARFACE modules offer additional features and functions such as time-controlled redirection of calls or archiving of faxes, for example.

The standard modules contained in STARFACE also undergo extensions to the functional scope and different adaptations due to new versions of STARFACE.

There are also different modules which have been created by third-party providers and which illustrate additional STARFACE extensions.

10.1 Creating a New Module Configuration

The selection list of existing modules is opened using the New Configuration button. The standard modules existing in every STARFACE installation are called:

- Ansage vor Melden

- Call-Through

- Chefsekretärin

- Memo an mich

- STARFACE Archivierung

- Voicemail Abfrage

- Zeitgesteuerte Umleitung

A new module configuration is created by selecting the suitable checkbox and clicking on Create.

10.1.1 Logging the Module Configuration

One thing that all module configurations have in common is the tab with the designation **General**, in which a name can be stored for the module configuration and, optionally, a brief description too.

The extent of logging (log level) can be set independently for each module configuration in the **Log File** section. The saved log level determines which entries are written to the log file. If, for example, it is defined in a module that certain results are logged as INFO, the level INFO or higher must be set and saved in the module configuration so that the results can also be recorded for this module configuration.

The scope of the different log levels cumulates in ascending order:

- The WARN level logs warnings and entries of the ERROR level

- INFO also logs messages of the ERROR and WARN levels, etc.

The number of rows shown refers to the last rows of the log file, which are however output in a chronologically descending order for better legibility. However, the specification does not determine the number of entries actually to be saved.

Downloading always supplies all of a module configuration's recorded entries and takes the form of a ZIP archive, which can contain up to three text files. This is justified by the maximum log file size of 10 MB. If this is exceeded, logging takes place in another file. Up to three 10 MB files can be created at most before the first file is overwritten.

> **Note**: In contrast to the module configurations, the module log files are not taken into account during backups and have to be backed up independently.

10.1.2 Ansage vor Melden

Audio files such as announcements can be played back using this module if calls are made to a certain call number. It is also possible to play back on-hold music for the caller instead of the classic dial tone.

The audio file to be played back can be selected in the **Announcement** section if the call number configured further down is to be called.

> **Note**: The audio file is always played back in full before the incoming call is forwarded to the destination. Parallel ringing at the destination call number does not take place.

If the checkbox is set at **Ignore internal calls**, the settings made only apply to incoming external calls, and an internal caller will not hear any announcements or potentially modified on-hold music.

New call numbers to which the module configuration should be applied can be added using the button. The complete call number does not always have to be specified during this process; instead, "wildcards" can also be used. The wildcard * stands for several arbitrary digits, and ? stands for one digit exactly.

Some sample applications might look like this:

- 0788151042*   Calls starting with 0788151042

- *1075   Calls ending in 1075, regardless of the digits before

- 0721042??   Calls starting with 0721042 and with two 2 further digits

- ??????55   Calls which indicate 6 arbitrary digits first of all and then the number 55

Figure 21 – Sample configuration for the "Ansage vor Melden" module

Once the announcement audio file has been played back in full, the caller hears the classic dial tone until the phone call is answered.

Alternatively, instead of the dial tone, on-hold music can be activated using the **Music on hold instead of dial tone** checkbox. The name of the desired queue music must then be entered under all circumstances in the **Music on hold** field.

The name of the STARFACE default queue music is "Default". (Without quotation marks). The name of alternative on-hold music can also be entered ("21.1 – Music On Hold").

10.1.3 Call-Through

A predefined call number can be signaled outwardly with this module. To this end, the module configuration is called, the call's actual destination call number is specified, and the module then sets up an outgoing call to the entered destination call number, whereby the number stored in the module configuration is signaled.

As a result, field sales staff with their own cell phone, for example, can set their office number as the call destination instead of their cell phone number.

Internal and external call numbers on which the module configuration is subsequently available can be assigned to the module configuration in the **Phonenumbers** tab using the [+] button.

The following settings can be made in the **Configuration** tab:

Authentication code: Here, a sequence of digits which are used as a PIN for all incoming calls to the module configuration can be defined. The length of the code is limited to 20 characters.

> **Note**: We always recommend using an authentication code at least 4 digits long to suppress misuse of the Call-Through module configuration.

Trusted callers: The permissible call numbers of trusted callers can be entered at this point to further restrict access to the module configuration.

The complete call number does not always have to be specified during this process; instead, "wildcards" can also be used. The wildcard * stands for several arbitrary digits, and ? stands for one digit exactly. Some sample applications might look like this:

- 0721*   Calls starting with 0721 are allowed.

- *1075   Calls ending with 1075 are allowed.

- 01??????? Calls starting with 01 and transferring 7 more digits are allowed.

Signaling number (Call-Through): The number entered here is signaled outwardly to the call destination by the module configuration.

With Call-Back: The module's method changes if this option is activated. The incoming calls to the module configuration are "rejected" by a busy tone, whereupon STARFACE calls the caller back directly. From this point, the module continues to work as usual, but no further costs are incurred for the caller.

IVR: The IVR (interactive voice response) refers to the voice announcements for navigating through the module's menus during an incoming call, e.g. the prompt to enter the authentication code.

Without voice menu: The voice menus can be deactivated with this checkbox, so the caller has to e.g. already know in advance at which time the destination call number has to be entered and confirmed with the # key. A caller who is unfamiliar with the module process therefore has a far lower chance of using the module correctly.

Time before call placement: The time (in seconds) waited from the entry of the last digit before the outgoing call to the actual destination call number is automatically triggered can be determined in this drop-down menu. So no buttons have to be pressed specifically to confirm the destination call number.

Language: This drop-down menu allows you to select whether the voice menus are played back in German or English.

10.1.4 Chefsekretärin

This module is used to redirect different callers (or caller groups) to two separate destination numbers.

In the **Configuration** tab, one destination number each for the two fields:

Target number for wanted callers
Target number for unwanted callers

must be entered.

The destination number which all of the callers mentioned in the whitelist are forwarded to is specified in the first field. The destination number which the callers entered in the blacklist are forwarded to is stored in the second field.

Note: The whitelist is always checked before the blacklist, and the calls are forwarded accordingly.

Once the module configuration has been saved, a new selection item is available in the Call Number Properties drop-down menu (also see "").

Figure 22 – Assignment of the new call number property

10.1.5 Memo an mich

This module offers the opportunity to record a voice file on a telephone over a configured call number. The recording is then sent by e-mail. This module is particularly suitable for recording announcement

texts which are used in other modules. During the recording itself, the caller is forwarded to a voice menu with different options and key entries.

Internal and external call numbers on which the module configuration is subsequently available can be assigned to the module configuration in the **Phonenumbers** tab using the 🔳 button.

There are two options in the last tab, **Properties**:

E-mail addresse: The recorded voice file is sent to the e-mail address stored here.

Salutation in e-mail: The salutation used for the e-mail sent by the module can be entered in this free text field.

Maximum duration (Sec): This option specifies the maximum length of the voice file in seconds and must always be defined to be greater than 0.

10.1.6 STARFACE Archivierung

This module archives call lists (CDR), faxes, voice messages and call recordings in a Windows Share (network share) in a time-controlled manner. The content is deleted from STARFACE following successful archiving.

In the **Basic Settings** tab, the following information must be provided first of all under **Details of the Windows share for archiving**:

- Transfertype   Transfer type (smb or sftp)

- Address   The destination system's IP address

- Fileshare   The name of the network share as stored in the destination system

- Subfolder   The sub-directory on the destination system (optional)

- Username: The username as expected by the destination server (e.g. with domain)

- Password: The share user's password

Under the **Notifications** heading, an e-mail address to which information about the disk space on STARFACE before and after archiving and about occurring error messages can be stored as an option in the **E-mail address** field.

The **CDR**, **Fax**, **Voicemail** and **Recordings** tabs each offer the same possible configurations:

Number of days: This drop-down menu is used to select how long the data remains on STARFACE before being archived. If the deadline is set to value 0, all data of the corresponding sections is always affected.

Permanent values can be selected from the drop-down menus for the archiving start and implementation interval.

In this example, e.g. all of the call recordings which are older than 64 days are archived once per week at 2.30 a.m.

Figure 23 – Example of the configuration of the "STARFACE Archivierung" module

The archiving process starts on 05/16/2018 and would start the next time on 05/23/2018 after one week.

An internal STARFACE monitoring process prevents STARFACE Archivierung and backup creation from being started in parallel with one another. The process started first runs until it ends, and the second process starts one hour later. It is recommended to make a clear temporal separation here.

10.1.7 Voicemail Abfrage

This module enables the STARFACE voicemail boxes to also be queried using external call numbers. One or more call numbers on which this module configuration is to be available can be stored in the **Phonenumbers** tab.

In the **Mailbox assignment** tab, it should first of all be determined which incoming call numbers have access to which voicemail box. The authorized call numbers must be specified in the left column of the table in the 0049XXX format, and the voicemail boxes along with their mailbox ID ("11 – Voicemail") must be specified in the right column of the table.

If a caller's number is not listed in the assignment, it can still query a mailbox using its ID and the password.

> **Note**: Voicemail boxes without password protection cannot be accessed in the manner described above.

If the **Password query:** checkbox is activated, callers with a call number stored in the module configuration must also enter the voicemail box's password in the event of access.

> **Note**: Here, too, voicemail boxes without password protection cannot be accessed in this way.

10.1.8 Zeitgesteuerte Umleitung

Time-controlled redirections can be defined for freely configurable call numbers with different destinations using this module. The configurable items are:

Legacy mode: If this checkbox is activated, fully qualified call numbers (incl. country and area codes) do not have to be specified. When the incoming call is being processed by the module, a wildcard (*)

is automatically prefixed to the specified call number. The module's behavior is therefore displayed as it was before STARFACE version 6.0.X.X.

Redirection for: The call numbers for which redirection is to be configured are stored at this point.

The complete call number does not always have to be specified during this process; instead, "wildcards" can also be used. The wildcard * stands for several arbitrary digits, and ? stands for one digit exactly. Some sample applications might look like this:

- *151042*   All calls to an arbitrary number containing 151042 are redirected.
- *1075   All calls ending in 1075 are redirected.
- *   All calls are redirected.

Exceptions: Call numbers for which redirecting does not take effect can be stored at this point. The wildcards mentioned above can be used here too.

Redirection from: Information about the caller numbers which redirection applies to can be stored here. It is possible to permit the numbers determined using **Exceptions** during this process. The wildcards mentioned above can be used here too.

Ignore Internal calls: If this checkbox is activated, calls from internal telephones or internal call numbers are not redirected.

Redirection periods: The time period in which time-controlled redirection applies is configured in this entry field. Time information with up to three conditions consisting of the date, weekdays and time can be configured in each row.

These conditions are separated by spaces and each row is evaluated as a whole. The rows are checked from top to bottom, and as soon as the conditions in one row have been met, the other rows are not checked further.

Some sample applications are:

- 06/01/2018 – 06/30/2018   Applies from 06/01/2018 to 06/30/2018 (00.00 a.m. to 11.59 p.m.)
- 06/15/2018   Applies to the whole of 06/15/2018 from 00.00 a.m. to 11.59 p.m.
- Monday   Applies to every Monday from 00.00 a.m. to 11.59 p.m.
- Saturday – Sunday   Applies to every Saturday and Sunday from 00.00 a.m. to 11.59 p.m.
- 11.00 – 13.00   Applies every day from 11.00 a.m. to 1.00 p.m.
- Saturday 11.00 – 15.00   Applies every Saturday from 11.00 a.m. to 3.00 p.m.

Due to the combination of different conditions, very complex time controls can also be displayed:

Date/time language: Set the language used here to correctly process the time / date. The entered time information must correspond to the respective language format. This means dd.mm.yyyy for date information in German and mm/dd/yyyy for date information in English.

Redirection target: This drop-down menu defines to which redirection destination the incoming calls are redirected. The following options are possible:

Mailbox: If this option is selected, the number of the voicemail box to which the call is redirected must be specified in the **Mailbox No.:** field. You can find the mailbox number in the voicemail list in the format *9XXX, whereby XX illustrates the voicemail box number.

Ansage: If this option is selected, an audio file of the "wav" type (mono, 16 kHz, 16 bit, PCM) must be uploaded using the Upload File button. This audio file is then played to the redirected caller.

Number: For this option, an internal or external call number to which the caller is redirected must be stored in the **Phone Number** field. If an external call number is configured as a destination, it must always be specified in the fully qualified format (e.g. 0049721778899).

Audio + Number: The uploaded announcement file is played back first of all, and then the caller is forwarded to the entered internal or external number. If an external call number is configured as a destination, it must always be specified in the fully qualified format (e.g. 0049721778899).

Audio + Mailbox The uploaded announcement file is played back first of all, and then the caller is forwarded to the entered mailbox number.

> **Note**: The English language options in the drop-down menu can be used as equivalents to the German language options. They are used to prepare for the module's internationalization.

10.2 Modules' Execution Order

Different module configurations have potentially equal and thus competing access to incoming calls.
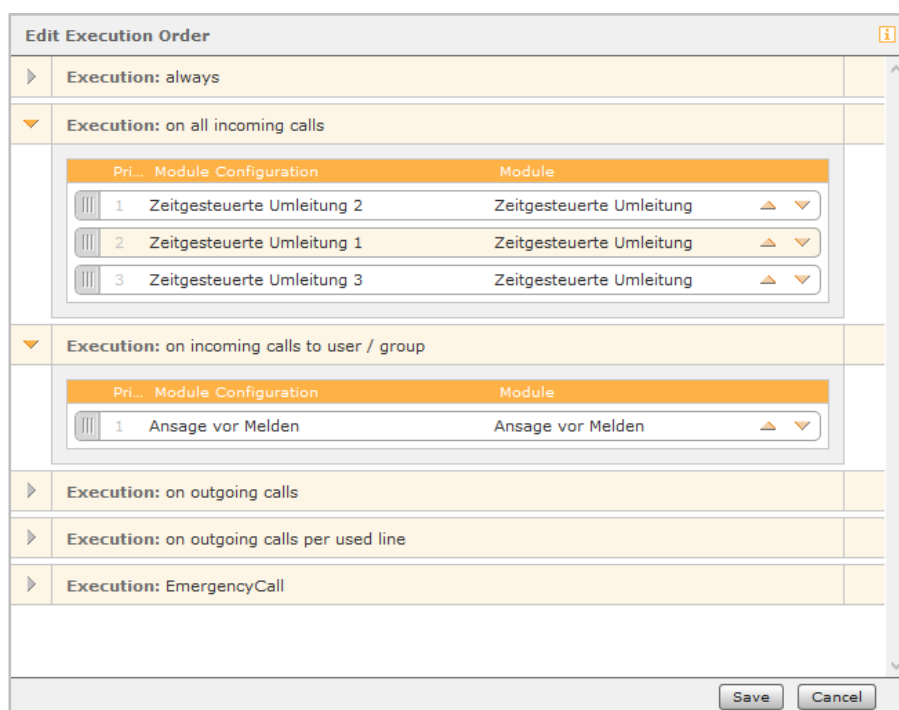
Figure 24 – Example of the change to the module configurations' execution order

Using the Execution Order button, it is possible to define a clear execution hierarchy here and therefore guarantee smooth processing of the module configurations.

The execution order is adjusted using the arrow keys or Drag & Drop. The execution lists only contain the relevant module configurations. They must not, therefore, be added independently. If an execution list does not contain any entries, there are also no competing module configurations.

10.3. Module Library

The module library contains the modules delivered with STARFACE and can be arbitrarily extended with internally created and imported modules.

Modules are listed in the overview list with the following information:

Status

✅: The module is up-to-date and functional

🔴: The module contains errors or is not intended for the system version.

🔲: The license required for the module is valid and was successfully registered.

🔲: The module requires a license. The license was either not registered or has expired.

Name: The module's name

Vendor: The module creator's name

Version: The module's version number

🔒: The module is protected by an internal password and cannot be edited, copied or downloaded. Click on this icon to enter the password.

🔓: The password protection is temporarily suspended. The module can be edited, copied and downloaded during the current STARFACE session. Clicking the icon with the mouse closes the module again!

📑: Create an identical copy (clone) of the module. The copy is added to the list below the original and can be edited and modified independently of the original.

⬇: Module download. A module download is used for local storage purposes, e.g. to use it on or forward it to another STARFACE installation.

✏: Edit this module in the Module Designer.

❌: Delete this module.

10.3.1 Importing a Module

To import a new module, only the Import Module button below the current module list has to be selected.

The corresponding dialog opens. You now have two options:

- The new module's license key is entered, and STARFACE downloads the module data directly from the STARFACE server.

- A module file which you received directly from the module creator is selected. The file has the extension "sfm" or "zip", and for modules which require a license, the module license key must installed afterwards ("17.8 Licenses").

> **Note**: When importing an existing module using the file upload process, it is replaced by the uploaded module version regardless of the version number.

11 Voicemail

Once the button of the same name has been selected, the overview list of voicemail boxes already created is shown.

> **Note**: In this documentation, the two terms "Voicemail box" and "Mailbox" do not refer to different configuration items; rather, they are synonymous with one another.

The readable data in the overview list is:

Name: The freely definable name of the mailbox.

Assigned Users: The user(s) who are assigned to this mailbox.

Assigned Groups: The group(s) assigned to this mailbox.

Number: The number of a voicemail box is always made up of *9 and the ID automatically generated when the mailbox is created. This automatically generated ID cannot be changed later on and can be between 1 and 4 digits long.

> **Note**: With the number mentioned above, received voicemail messages can be listened to directly on the telephone using the:
>
> 9* + mailbox ID
>
> Shortcut (also see "22.4 – Shortcuts on the Telephone").

11.1 Creating a New Voicemail Box

A new mailbox is created using the + New Voicemail Box button. The following possible configurations are available:

Figure 25 – Example of the configuration of a new voicemail box

Mailbox name: The name of the mailbox can be freely defined and should be selected so that it is as meaningful and unique as possible.

Password: The password allocated at this point may consist of a maximum of 6 digits and must be entered when querying the mailbox using a shortcut on the telephone, for example.

No recording: If this checkbox is selected, you are therefore deactivating the voicemail box's voice recording and only the announcement audio file is played back.

Maximum duration: Using this drop-down menu, it can be configured how long the maximum recording duration for an individual voice message is.

Using the two + Add User and + Add Group buttons, a new user or an entire group can be authorized for access to the mailbox.

By selecting the **Send Messages by E-Mail** checkbox, it can be set as an option that all voice messages incoming to the voicemail box are sent to the user or to all users in a group by e-mail.

Under the **User-defined name of Mailbox** heading, a different mailbox name can be saved as an option for every user.

Note: There is no way to save a different mailbox name at group level.

11.1.1 Managing Announcements

In principle, a distinction is made between two types of announcement. Firstly, when a busy redirection forwards the call to the voicemail box, and secondly when a time-exceeded redirection forwards the call to the voicemail box.

If the default STARFACE announcements are not to be used for this, it is also possible to use your own announcements. You gain access to the existing announcements on STARFACE using the Manage Announcements button.

The following aspects must be noted in the announcements' overview list:

- If an administrator creates an announcement, all administrators can manage it. The announcement can be used by all users and all administrators.

- If a user creates an announcement, all administrators and the creating user can use it. The announcement can only be used by the user who created it and by all administrators.

If a brand-new announcement has to be created, the + New Announcement button must be selected to do this.

Figure 26 – Selecting a telephone to record a new announcement

Here, you can now use the Record button to call a STARFACE telephone and record an announcement text. As soon as a name is entered for the new announcement, the process can be saved.

An existing audio file can which was created e.g. using the "Memo an mich" module can also be uploaded (also see "10.1.5 – Memo an mich").

Note: The announcement named "default" corresponds to the STARFACE default announcement and cannot be changed.

12 Conference

Some basic settings have to be made before the moderated conference function can be used on STARFACE.

First of all, the internal and external call numbers on which the participants can access the conference have to be defined. When individually planning conferences using the corresponding function windows in the main menu, a PIN is automatically generated for each invited participant. This is required to gain access to the conference if the participants are not added to the conference by calling.

The **Server address for web Llink** states an internal or external IP address which is inserted into the e-mail as a web link. The participants can follow the conference in the web browser using this web address.

The existing invitation text is a general template which is available in various languages and can be adapted to your own requests and requirements. Different **Template variables** are available for automated creation of the invitation texts. They are dynamically replaced by values such as the conference PIN, call number, time, etc., when the invitation e-mail is sent to the conference participants. To insert a variable, all you have to do is select the desired point in the text and select the suitable entry from the drop-down menu.

The following variables are available:

- Time
- Date
- PIN
- Conference name
- Participant's name
- External phone number
- Web link
- Internal phone number
- STARFACE initiates call

The e-mails with an invitation to the conference are always sent to the participants once a new conference has been created.

An e-mail is also sent:

- if changes, such as a time change, are subsequently made to conference details
- as a reminder 15 minutes before the conference starts
- as an invitation to the next appointment if the conference is recurring (once a current conference appointment has ended)

> **Note**: If changes are made to the conference management, e.g. new call numbers being allocated, the participants in conferences which have already been planned are not notified by e-mail. In these cases, the conference plan must be opened again and saved with a change.

13 Address Book

In the **Configuration** tab, it is possible to select whether the STARFACE address books should be used or whether existing directories should be connected via an LDAP.

13.1 Using the STARFACE Address Book

If the STARFACE address directories are to be used, there are 3 predefined folders:

- All   Contacts from all of the address books created, with the exception of the private ones.

- Users   All of the users created on STARFACE.

- Private   Private address book individual to the user.

> **Note**: No name resolution takes place for calls to the private address books.

Using the New Folder button, it is possible to create new address directories, such as a directory for customer contacts and a separate directory for business contacts. The **Write Access** checkbox indicates whether the contained contact data can be edited and new entries can be created.

The layout of the address book view and the view of individual contact data records is configured in the **Layout** tab. The layout of the STARFACE address book is already ready for use, but it can be modified in any way.

13.2 Configuring the LDAP Connection

The following key data are required to connect an address directory via LDAP:

- Server address (with port specified in the port number format as an option)

- User name

- Password

- Base folder of the LDAP server

The user account used must have read rights for the base folder and write and read rights for the address book directories.

LDAP syntactically uses what are known as "distinguished names" (DNs) as unique identifiers. These are made up of comma-separated units such as DC= (domain controller) or CN= (common name) which display the directory path. The username and base folder must be entered in this syntax. The directory of an organizational unit (OU=) is expected as the base folder.

Example:

Server address: 192.168.1.100 or 192.168.100:712
Username: CN=ldapuser,CN=users,DC=domain,dc=de
Password: xxxxxx
Base folder: OU=addresses,DC=domain,DC=de

> **Note**: In the case of a AD Win Server 2012, the base folder must be the contacts' topmost OU (e.g. OU=contacts,DC=domain,DC=tld)
>
> The user can be in a different OU, but must then be specified in a fully qualified manner (e.g. CN=administrator,OU=users,DC=domain,DC=tld).

Using the "Search Mode" checkbox, it is possible to select whether the search in the LDAP address book is carried out with many wildcards ("exact" selection) or with fewer wildcards ("fast" selection).

13.3 Layout

Several templates are available to choose from in the **Layout** tab:

- Extended international addressbook

- Internal addressbook

- MS Active Directory

- LDAP

These templates can also be adjusted individually by changing the field order or adding new fields, for example.
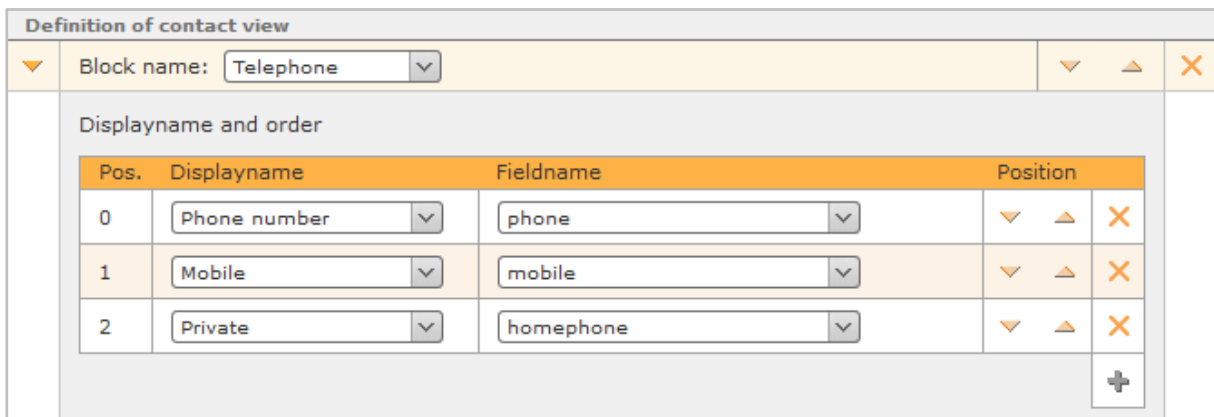
Details which are viewed by default when the address book is opened are defined under **Definition of list view**. The right column is provided for telephone numbers, because this column is accessed for name resolution. Only the names selected here can be assigned to the STARFACE call lists and to the Call Manager, and they can only be called up from the address book by directly clicking the mouse.

The sections and contact fields for the detailed view (icon = ⊞) and the editing view (icon = ✎) in the address book can be defined under **Definition of Contact View**.

13.4 Using the Address Book in the UCC Client

To be able to use an address book connected using an Active Directory or LDAP in the STARFACE UCC client for Windows / Mac, it is absolutely essential to configure the address book's contact view.

Below is an example of the configuration of the contact view. In this example, a new block was added for the telephone numbers. The names of the fields depend on the LDAP used and may therefore deviate from the field names shown here.

Figure 27 – Example of configuration of the contact view

14 Phone Numbers

This list view is used to provide an overview of the internal and external call numbers which have already been specified. Their allocation to the different objects in STARFACE can be read off using the following icons:

- User
- Group
- Conference room
- Module configuration

To make a change, all you have to do is double-click on the corresponding row or on the ✎ icon. Then, the **Phone Numbers** tab of the relevant user, group, etc., opens and the number assignment can be changed.

15 Lines

The STARFACE lines are configured in this section.

15.1 General

The settings made in this tab apply to all lines in the **Lines** tab, to the extent that no deviating configuration is stored for the individual lines.

The following fields are filled by selecting the default country profile in the "Country" drop-down menu:

- Exit-Code

- Country code

The "Area code" entry field must always be completed manually.

> **Note:** In some country profiles, it is possible to choose between different exit codes.

Additionally, country specific emergency call numbers are blocked, so they can no longer be allocated to users, modules, etc. An overview of the respective blocked emergency call numbers can be found under Overview of the Country-Specific Emergency Call Numbers

The digits which can be selected in the "Prefix" drop-down menu can be used to distinguish between internal and external numbers. The digits must always also be entered during external dialing processes.

From a technical standpoint, in the Telephony section there is no added value to distinguish between internal and external calls in this way.

Figure 28 – Example of general line data

If the "Callnumber normalization" checkbox is active, the call number is amended to include the international format (e.g. 0049721556677) for all outgoing calls. This ensures that the respective provider can handle the call number correctly. Normalization affects all configured lines and all line types.

> **Note**: Call number normalization should only be deactivated in special cases, e.g. if the respective country's system does not provide numbers in the international format.

The internal call number ranges and individual call numbers which are available on STARFACE for users, groups, conference rooms and module configurations are configured under the "Internal Numbers" heading.

These number ranges can be freely selected in terms of format and extension (e.g. 10 to 30 and 500 to 520). If the internal number range is changed once later on, the call number assignments already made are retained.

> **Note**: There may be no one-digit internal call numbers

The configuration of a drop point defines which internal call numbers all calls which are not handled correctly for various reasons are forwarded to. The following calls are forwarded to the drop point, for example:

- Calls to an internal or external number which are not assigned to a user, etc.

- Calls to a user who is not logged onto a telephone

This prevents calls from being dropped on STARFACE.

15.2 Lines

STARFACE makes a distinction between different line types, whose availability depends on which STARFACE appliance is being used and which ISDN cards are installed.

In principle, the following line types can be created using the + button:

- SIP provider connection

- ISDN external

- ISDN internal

- Analog internal

- NGN provider connection

15.2.1 Creating a Line for SIP Providers

If a new SIP provider line is created, the suitable provider profile must be selected from the "Provider" drop-down menu. The provider profiles downloaded from SIPTRUNK.DE are indicated with the remark "Verified". It is recommended to only use verified provider profiles, because only these profiles are also covered by Starface Support.

> **Note**: When using the respective provider profile, the applicable data protection law must be observed under all circumstances. It must be independently checked whether the data transferred to the provider satisfies the requirements set forth in data protection regulations.

If the desired SIP provider product is not listed, it is possible to create your own provider profile (also see Creating an SIP Provider Profile for this purpose).

If the provider or their product being used provides for authentication, the access data can also be entered under Username and Password at this point in the configuration process. Successful authentication is indicated by means of a green line status and the remark "Registered".

On STARFACE, it is checked every 60 seconds whether the line is still correctly registered as a line monitoring mechanism for an SIP provider. If this is not the case, re-registration of the line to the SIP provider is triggered automatically.

> **Note**: If an NGN line is configured on STARFACE, the information regarding the route used for NGN lines must be observed.

15.2.2 Externally Creating a Line for an ISDN Connection

If a new line is created for an external ISDN connection in the direction of an ISDN provider, for example, a line name which is selected to be as meaningful and unique as possible must be allocated first of all. Then the installed card to be used for the connection must be selected from the drop-down menu under Card Type.

Generally speaking, a conventional patch or ISDN cable can be used for wiring the ports to the selected ISDN card to the endpoint (e.g. the NTBA).

If the hardware appliance is equipped with a Sirrix ISDN card, it must be noted that there are differences in the wiring between the card and the network connection or ISDN terminal device depending on the version of the ISDN card.

> **Note**: You must read the manual provided under Documentation Relating to the Sirrix Cards for this purpose!

These are assigned to the newly created line by activating the checkbox below the wired ports. The status of each port is indicated by a color:

- Green   Ports which are already connected and are connected to a telephone line.

- Yellow   Ports which are not connected but are configured (e.g. if the cable was removed).

- Dark gray   Ports which are not configured or are connected to the ISDN provider.

> **Note**: If a port is already occupied by another ISDN line, the port is grayed out in a light gray color and does not have a checkbox.

15.2.3 Internally Creating a Line for an ISDN Connection

If a new line is created for an internal ISDN connection, a line name must be allocated first of all. Then the installed card to be used for the connection must be selected from the drop-down menu under **Card Type**.

A generally crossed ISDN cable must be used for wiring the ports at the selected ISDN card to the endpoint (e.g. the ISDN telephone). Please also always observe the documentation for the ISDN terminal device during this process.

These are assigned to the newly created line by activating the checkbox below the wired ports. The status of each port is indicated by a color:

- Green   Connection to the terminal device possible

- Yellow   Ports which are not connected but are configured (e.g. if the cable was removed).

- Dark gray   Connection to the terminal device not possible

> **Note**: Depending on the type, age, model, etc., of an ISDN terminal device, the port's status may not be set correctly, even though the functionality of the terminal device is available.

15.2.4 Internally Creating a Line for Analog

At present, STARFACE only offers internal analog connections using STARFACE COMPACT. The process of creating a new internal analog line on a STARFACE COMPACT is described in separate documentation.

> **Note**: Internal analog patterns can be implemented using external gateways (e.g. from the manufacturer Patton).

15.2.5 Creating a Line for an NGN

If a new NGN line has to be created, a line name which must be selected to be as meaningful and unique as possible has to be allocated first of all. Then, in the graphic interface to the right, the checkbox can be used to select which of the available network connections can be used for the NGN connection.

The following information must always be stored too:

Username: You receive the username from your NGN provider.

Password: You receive the password from your NGN provider.

NGN route: The route must be specified by the NGN provider in the CIDR notation.

> **Note**: It must be ensured that the route entered is also used by all SIP lines which are configured with the same provider profile.

15.2.6 Creating a Line for "STARFACE Connect"

A preconfigured SIP line named "STARFACE Connect" can be found on each STARFACE from version 6.2.
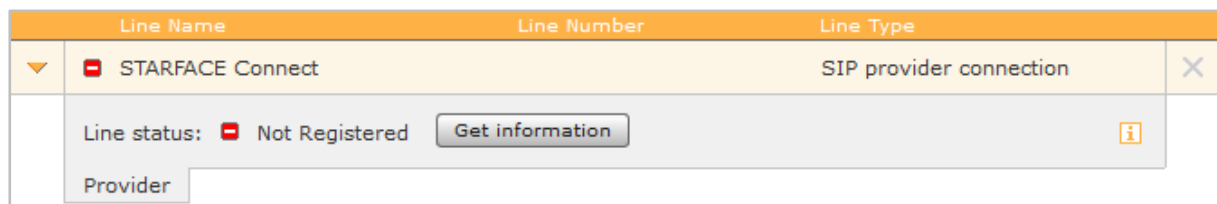
Figure 29 – Unregistered STARFACE Connect line

There is an FAQ page for all key questions relating to STARFACE Connect.

The SIP line is not registered by default and must be activated using the **Get information** button. The STARFACE Connect customer portal is called up as an external web page for this purpose. The line can be activated on this web page, and the contractual conditions can be found there too.

Some special features must be noted with regard to the line:

- The line's name cannot be changed

- The line cannot be deleted

- Only German landline and cell phone numbers can be reached using this SIP line

- The "CLIP no Screening" feature is always active for the line

> **Note**: Emergency calls are always forwarded to the emergency call center which belongs to the respective registration address., regardless of which call number is signaled using the line.

Once the line has been activated and the call numbers have been assigned on the external web page, the line's status will change to "green".

The line's general configuration can be edited using the **Configure now** button; also during this process the STARFACE Connect customer portal is called up again as an external web page.

Figure 30 – Example of a STARFACE Connect line

Using the two checkboxes available, an additional routing can be pre-connected to the normal STARFACE routing (also see "16 – Routing"), so that all the calls to German landlines or German cell phone networks are managed using this line.

With the "Use Line in configured Routing" checkbox, it is configured whether the STARFACE Connect line is taken into account or not in the normal STARFACE routing (also see "16 – Routing").

Unlike all the other line types, only restricted possible configurations are available in the two "Phone Numbers" and "Extended" tabs.

No changes can be made in the "Phone Numbers" tab; rather, only the shared numbers can be read off.

In the last tab, "Extended" only the following options are available:

Line prefix: If several lines are configured, an additional prefix can be created using the line prefix. The connections can thus be established in a targeted manner using a certain line. It must be noted that only one-digit numbers can be entered as prefixes. The ** * characters shown must also be entered during the dialing process.

Max. connections: At this point, the maximum number of simultaneous connections per line can be entered. The default value of 0 sets the number to unlimited. The information provided here refers only to outgoing calls in this regard.

15.2.7 Configuring the Number Range

The call numbers for the line are stored in this section. One of the two call number types can be added using the + button:

Single number: This type of call number displays numbers which are too different to be recorded in a call number block. This is either because they are completely distinct (e.g. 778899 and 122233), because no related blocks are created or because the blocks are incomplete.

Number block: Generally speaking, there is always a complete call number block which can be entered with this type of call number (e.g. 5544-1 to 5544-20) at a connection.

Figure 31 – Example of a possible call number configuration

15.2.8 General Extended Settings

The options and entry elements in the **Extended** section differ depending on the line type. The following possible configurations are available for all line types:

Line prefix: If several lines are configured, an additional prefix can be created using the line prefix to be able to establish connections using a specific line in a targeted manner. It must be noted that only one-digit numbers can be entered as prefixes. The ** * characters shown must also be entered during the dialing process.

Deposit: An internal number can be entered here for each line as an alternative drop point. If **Default** remains set, the specification from the **General** tab is applied.

CLIP no Screening: The "CLIP no Screening" for outgoing telephone calls enables sending of an alternative call number to be displayed to the call receiver. Not only does this feature have to be shared on STARFACE; it must also be activated by the provider.

Call number prefix: If the checkbox is activated under **CLIP no Screening**, this option can be used to configure which part of the outgoing call number is not transferred to the provider. It is then expected that the provider always amends the outgoing number accordingly.

Manual Configuration: By activating this checkbox, it is possible to directly intervene in STARFACE's incoming call handling process. We recommend that this option is only used by administrators who have extensive experience relating to STARFACE and Asterisk.

15.2.8.1 Additional Settings for SIP Providers

The following possible configurations are only available when the line is an SIP provider line:

Max. connections: At this point, the maximum number of simultaneous connections per line can be entered. This number depends on the provider and the contract concluded. The default value of 0 sets the number to unlimited.

> **Note**: The information provided here refers only to outgoing calls.

The **Call number prefix** configuration point is not available for SIP lines; instead configuration takes place in the respectively used provider profile.

15.2.8.2 Additional Settings for ISDN External

The following possible configurations are only available when the line is an external ISDN line:

Connection: The type of connection depends on your ISDN contract and the ISDN card used.

- A base connection, also referred to as a BRI or a BC, can either be a system connection or a point-to-multipoint connection.

- The primary multiplex connections, also referred to as PRI, PMxA, S2m, E1, T1 or J1, use the system connection option.

> **Note**: The connection type setting is decisive for the ISDN line's functionality. If a connection type is selected incorrectly, the line's status indicator may show a green signal even through the line is not working.
>
> Please find out about your connection type in the documents supplied by your ISDN provider.

Number format: This option defines what STARFACE expects the number format to be like for incoming calls from the direction of the ISDN provider.

> **Note**: Particularly when it comes to Austrian ISDN providers, it should be carefully checked in the log files what format the incoming call number is signaled in.

The default setting (Default) corresponds to standard which is generally customary in the respective country and is generally set using the Country setting in the General tab. But depending on the provider, there may be deviations in terms of the format of incoming call number signaling.

The following possible settings are available:

International	International call number format	E.g. 49 30 1234 567
National	Call number with area code	E.g. 30 1234 567
Subscriber	Connection or main number with extensions	E.g. 1234 567
Unknown	Only the extensions	E.g. 567

The spaces in the examples listed above are only used to improve legibility and are not part of the signaling process.

Echo Cancellation: Echo cancellation is a way of suppressing echo effects when signals are being sent and received at the same time. The selection points available depend on the card installed and the line type.Generally speaking, the following possible selections are available:

- Off

- Hardware

- Oslec

- Aec

- Speex

- Mg2

- Fir

- Kb1

- Sec

- Sec2

15.2.8.3 Additional Settings for ISDN Internal

The same possible settings as for the external ISDN lines are available here. The only exception to this rule is the "Number format" option, which is not available here.

15.2.8.4 Additional Settings for Analog Connections

The following possible configurations are only available when the line is an internal analog line:

Echo Cancellation: Echo cancellation is a way of suppressing echo effects when signals are being sent and received at the same time. The selection points available depend on the card installed and the line type. Generally speaking, the following possible selections are available:

- Off

- Hardware

- Oslec

- Aec

- Speex

- Mg2

- Fir

- Kb1

- Sec

- Sec2

Signaling: This option indicates how call hanging-up is signaled to the connected terminal device. The setting depends on the connected terminal device, whereby Kewlstart is correct for internal lines to terminal devices in most cases.

> **Note**: Please also always observe the documentation for the connected terminal device.

15.2.8.5 Additional Settings for NGN Connections

The following possible configurations are only available when the line is an NGN line:

Max. connection: At this point, the maximum number of simultaneous connections per line can be entered. This number depends on the provider and the contract concluded. The default value of 0 sets the number to unlimited.

> **Note**: The information provided here refers only to outgoing calls.

15.3 Emergency Call

Arbitrary emergency call and premium rate numbers can be defined using the + or New Emergency Number button. The name of the emergency call line should be selected so that it is as unique and meaningful as possible. The call numbered is entered in the right field, and at least one telephone line must be assigned to each number

Additional lines can be added with the + button. During this process, if there are several entered lines it must be ensured that the lines' priority will always be specified from top to bottom.

> **Note**: The official emergency call numbers 110 and 112 cannot be allocated to STARFACE as internal call numbers; instead, they are only used for the emergency call numbers. Additionally, various premium rate numbers can also not be allocated as internal numbers, including the likes of the public authorities' number 115 (also see Overview of Country-Specific Emergency Call Numbers).

If telephones are operated on STARFACE in different area code ranges, the devices must be assigned to these locations. When an emergency call is dropped, this should help to ensure that the call is connected to a local emergency call authority.

New locations can be added by clicking on the ✎ editing icon in the top right-hand corner. It is then possible to switch between the various location profiles using the drop-down menu.

> **Note**: A line with the associated area code must be configured for each location, and the corresponding location profile must be set up in the telephone settings for each device which is not operated at the main location (also see "9.3.2.1 – Details").

An example might look like this:

STARFACE is operated in Berlin (area code 30) and Berlin is therefore the main location (default). However, some telephones are located in a branch office in Hamburg (area code 40) and are also connected to STARFACE.

In this situation, the process would be as follows:

- Set up the emergency call numbers in the **Default** location profile and assign the line with the Berlin area code to it.

- Then create the "Hamburg" location profile.

- Also set up the emergency numbers in the "Hamburg" location profile and assign a line with a Hamburg area code to it.

- Now, the "Hamburg" emergency call location has to be set up for the corresponding telephones (also see "9.3.2.1 – Details").

16 Routing

All of the settings made in this section relate to the routing of outgoing calls on STARFACE and have no influence on incoming calls. Routing is used to control which of the existing lines are used for an outgoing call, or the order in which the existing lines are used.

Completion of the numbers during calls to the local area network are also influenced by routing.

16.1 Properties

In this tab, the **Routing priority** drop-down menu can be used to define which routing is used for the outgoing calls. In detail, these are:

Static: STARFACE automatically selects one of the existing lines and attempts to set up the call once using this line. If a line on which the call number to be signaled is not configured is selected, the call number display is suppressed.

> **Note**: If the "CLIP no Screening" feature is activated on STARFACE for the automatically selected line, the call number display is not suppressed.

This option is the STARFACE basic setting and only works reliably in very simple scenarios, e.g. with just one line.

> **Note**: It is always recommended to select another routing priority such as **Line** or **COR rule**.

Line: In the case of this routing priority, the line used for the outgoing call is determined by the call number to be signaled (also see "7.2.3 – Phones"). The call is set up using the line on which the call number is configured.

Only one attempt is carried out, and if it is unsuccessful, the outgoing call is canceled.

COR Rule: If this option is selected, the rules defined in the **Cost Optimized Routing – Location Based Routing** tab shall apply. If a line on which the call number to be signaled is not configured is selected for the outgoing call, the call number display is suppressed by the provider or the outgoing call is even rejected.

During local area dialing, e.g. to the number 1234, the dialing user's primary call number is used to complete the country and area codes. If a primary external call number is not configured for a user, the STARFACE general management section is used to complete the country and area codes.

> **Note**: If the "CLIP no Screening" feature is activated on STARFACE on the line specified by the rules, the call number display is not suppressed.

LBR Rule: If this option is selected, the rules defined in the **Cost Optimized Routing – Location Based Routing** tab shall apply. If a line on which the call number to be signaled is not configured is selected for the outgoing call, the call number display is suppressed by the provider or the outgoing call is even rejected.

During local area dialing, e.g. to the number 1234, the STARFACE general management section is used to complete the country and area codes.

> **Note**: If the "CLIP no Screening" feature is activated on STARFACE on the line specified by the rules, the call number display is not suppressed.

Line + COR: In the case of this routing priority, an attempt is made to assign a line to the outgoing call using the **Line** setting described above. If this assignment is not possible, or if the corresponding line is not available, the COR rules are applied.

Under the **Routing during unavailability** item, the drop-down menu can be used to select how calls to users who do not have an available telephone and who have not created any call redirection definitions are handled. The following options are available to choose from:

to deposit: The caller is immediately forward to the drop point whose number was entered in the line configuration. The call is rejected if no drop point is configured.

Reject: The call is rejected and not forwarded.

16.2 Cost-Optimized Routing

A new COR rule can be created using the + or + New Rule button.

Figure 32 – Example of a COR rule

Phone number: The fully qualified call number to which the created COR rule is to apply must be stored at this point.

In this regard, it must be noted that STARFACE always dials outgoing numbers in the international format, i.e. with 0049 at the start of the call number for German numbers or 0041 for numbers in Switzerland.

The "best match" rule also applies when using the COR rules. This means that, if there are several COR rules which would apply to a selected number, the COR rule which has the most matching digits is used.

> **Note**: COR rules for cell phone numbers must also be entered with the leading international prefix, i.e. as 0049175, for example.

Some sample applications for the entered call numbers might look like this:

- 0049   This rule applies to all outgoing calls in Germany

- 0031   This rule applies to all international calls in the Netherlands

- 0900   This rule applies to all calls to numbers starting with 0900

Name: A name which is as unique and meaningful as possible should be selected for the COR rule.

A COR rule is time-controlled using the day-based checkboxes and the freely selectable "From – To" time period.

It is also possible to display several time periods within a COR rule; to do this, a new time period must be created using the + New Time Frame button. This new time period may not overlap with one of the other periods within the COR rule.

Under **Specify line sequence**, the sequence of the lines used can be stored for each configured time period. The order of the configured lines determines their priority. This means that an attempt is made to establish a connection using the topmost line first of all, then using the second line, etc., until all of the assigned lines have been run through.

If the outgoing calls fail on all of the specified lines, the outgoing call is canceled.

Note: If no lines are assigned to a COR rule, no outgoing calls can be made on the configured call numbers.

Call-by call numbers which are prefixed to the number actually called during a connection establishment process can be stored in the **Pre- Preselection** field. If, for example, the number 072112233 is selected and the added pre-prefix "888" is added, this results in 888004972112233.

17 Server

The various tabs enable administration of all the key STARFACE functions. These include:

- STARFACE status overview, language settings and software update

- Configuration of the date and time

- Network settings

- Mail server configuration

- Web server configuration

- Creating and managing backups

- STARFACE log files

- License management

17.1 State

Under **Software Version**, some system information, e.g. which version of STARFACE is currently installed, or details on when STARFACE was last updated, is provided in the top part of this tab.

If the checkbox is activated under **E-mail notification of new updates**, it is checked once per week whether there are new updates for STARFACE. If new updates are available, all of the administrators are informed of this by email.

Language: The language setting applies to administrative e-mails, the Login area and the web interface of all users who have not chosen a different language in their settings. This language is also used on telephones if no users are logged in.

The following actions can be triggered using the respective buttons in the **Server Status** section:

- Services Restart   Restarts all of the important services (database, telephony, etc.)

- Server Restart   Restarts STARFACE as a whole.

- Server Shutdown   Shuts STARFACE down

Once one of the buttons have been selected, an overview of how STARFACE is currently being used is shown, and this must be confirmed before the desired action is carried out.

17.1.1 Performing System Updates

Generally speaking, the search for new versions of STARFACE is triggered using the Search now button. If a newer version than the one currently installed is found, the corresponding release note is shown. Whether the version shown can also be installed is directly linked to the installed licenses and the existence of an update contract (also see "17.8 – Licenses").

> **Note:** It is therefore necessary for STARFACE to be able to access the necessary server addresses.

Which of the available versions are to be installed can be selected. At the same time, it is shown whether all of the installed modules are compatible with the new version of STARFACE. If more recent versions of the modules are available, they are automatically selected using the checkbox and are updated as part of the system update. Warning messages are also issued if a module is not shared or updatable, for example.

A backup is automatically carried out before the update is installed. If an error occurs during the installation, the previous STARFACE state is restored without any data loss. Depending on the extent of the backup, the process may last several minutes. To complete the update, STARFACE is restarted, and in the update view it is possible switch back to the login screen for the STARFACE web interface.

There are two possible ways of carrying out the installation process:

Performing Download and Installation Together

1. The "Separate Download and Installation" checkbox is not selected.
2. Search for a new version using the button
3. Select the version to install
4. Wait for the new version to download and install

Note: In this installation variant, STARFACE is completely unavailable while the new versions is being downloaded and installed. So no incoming or outgoing calls, redirections, etc. can be made.

Separate Download and Installation

1. The "Separate Download and Installation" checkbox must be selected
2. Search for a new version using the button
3. Select the version to install
4. Specify the time for starting the download
5. Wait until the download in the background has ended
6. Start the installation process at any time using the "Install Now" button

Note: In this installation variant, STARFACE is not completely available during the actual installation process. So, no incoming or outgoing calls, redirections, etc. can be made. The download runs in the background and can also be set to low-load times.

17.2 Time / Date

There are the following settings on STARFACE with regard to time and date.

Time zone: The corresponding time zone in which STARFACE is being operated must be selected in this drop-down menu. All of the time zones existing in the world are available in this regard.

Share NTP service over network: Activating this checkbox causes STARFACE to provide the NTP service and thus its time setting for SIP telephones and computers within the local network. However, this option must be activated on the terminal devices.

You can choose between the two following options under NTP settings:

Specify manually: The time and date information must be set manually here.

Specify automatically: If this option is selected, you can choose between freely accessible NTP servers and pools which have already been stored. It is advisable to select several servers which handle their list position accordingly. Selecting several servers should help to ensure that the system time is reliably set even when a server is not available.

More addresses can be added using the last selection option, **new ….**

Note: If the time settings are changed, the services must be restarted.

17.3 Network

In this tab, the various settings for the STARFACE network connection can be made. The different possible configurations are:

17.3.1 SIP Settings

Behind NAT?: Here, it must be specified whether STARFACE is located behind an NAT (a network address translation) or not. Generally speaking the checkbox for **yes** must be selected here.

The interaction between STARFACE and the NAT very much depends on the network's architecture, and the settings should not be changed in a functional system configuration. Conversely, non-functional connections are caused by the interaction of firewalls, routers and STARFACE.

External address: The automatically detected, external STARFACE IP address can be entered here using the Use This IP button. This entry is particularly important if telephones are connected over the Internet, for example. A domain name can also be entered at this point.

> **Note:** If a domain name is entered, it is resolved before it is entered in the internal STARFACE configuration. It must be ensured that the domain name is correctly resolved with the external IP address.

17.3.2 Network Settings

Gateway IP: The IP address of the router / computer / etc. over which the internal network is connected to the Internet must be entered here.

Hostname: This entry defines the STARFACE computer name. It should always be unique within the network.

The function of DNS servers is to resolve URLs into IP addresses. The server addresses determined during the STARFACE installation process are entered here and are automatically updated.

17.3.3 Proxy Settings

If a proxy is being operated in the network that STARFACE is running in, the necessary settings can be made here so that STARFACE has access to updates (HTTP) and to license management (HTTPS). The availability of the web interface is also provided without proxy settings. The checkboxes under **HTTP** and **HTTPS** can be used to specify which access instances the proxy is used for.

Address: The proxy's IP address.

Port   Port 80 is used by default if the proxy is not configured differently.

Requires authentication: This checkbox must only be set if the proxy used expects authentication. The username and password can be entered directly below if necessary.

17.3.4 Network Adapters

An overview of the available network adapters is available here. At this point, it is also possible to select using the **Protocol** checkbox whether the corresponding network adapter has a static or a dynamic IP address.

Figure 33 – Example of eth0's static configuration

If **Activate** is not checked, the respective network adapter is deactivated. As a result, the corresponding connection can then also be used for an NGN line (also see "15.2.5 – Creating a Line for an NGN").

17.4 Mail Server

In this tab, it is configured whether the e-mails sent by STARFACE are sent over the internal STARFACE mail server or over an external mail server.

> **Note:** It is always recommended to enter an external mail server, because the internal STARFACE mail server uses a send mail functionality which can be blocked by various security protocols time and again.

An alternative sender e-mail address for the STARFACE e-mails can also be entered, so that possible replies are sent to an active e-mail inbox, for example.

Figure 34 – Example of setting up an external mail server

> **Note:** If STARFACE is operated as a cloud service, the sender e-mail address must be adapted in any case.

Sending of a test e-mail can be initiated using the Test button in order to check an existing or newly set-up configuration.

Send HTML-E-Mails: If this checkbox is activated, all of the sent emails are provided with STARFACE's HTML branding. If this checkbox is deactivated, all of the sent e-mails are sent as plain-text e-mails.

The following settings must be made to use an external mail server:

SMTP server: The IP address or the host name of the SMTP server which is to be used for sending e-mails must be entered here. To use a port other than the default port number, 25, it must be entered after the IP address with a colon (e.g. 101.202.303.404:88).

User name: The username which is to be used to access the mail server must be entered at this point.

Password: The password which is to be used to access the mail server must be entered at this point.

Encryption: If this option is activated, TLS encryption is used for access to the mail server.Port 993 is used by default for TLS access, and the same must also be entered under **SMTP server**.

> **Note:** The TLS encryption requires a valid server certificate. Self-signed certificates are not accepted.

Most SMTP servers expect the sender to be "logged in" before sending e-mails. This can be done with a username and password using **SMTP with AUTH**,

or with **SMTP after POP3**, which is rarely used nowadays. During this process, the incoming mail server (POP3) is checked for new messages first of all. To use this option, set **SMTP with Authentication** to "no" and then activate **SMTP after POP3** and enter the POP3 server's address.

17.5 Web Server

The HTTPS service is also activated by default for the STARFACE web server in addition to the HTTP service. Both services are available on the default port numbers (80 and 443), and they can also be changed in the respective fields.

The **Force redirect to HTTPS** option makes access to the STARFACE web interface only possible over HTTPS.

> **Note:** If the HTTP service is deactivated or if the default port 80 is modified, problems with independent connections can occur with the address book on SIP telephones, for example.

A certificate is required for the web server to use HTTPS. A provisional certificate is already stored in STARFACE.

An entry mask opens when the New Certificate button is pressed. Two pieces of information are required under all circumstances in this mask:

- Server name   This information refers to the domain for which the certificate is to be valid.

- Days of validity   This information refers to how long the certificate is to be valid for in days.

The domain name must be complete and correct, e.g. companyname.net (without https://). Generally speaking, a certificate is not valid for possible sub-domains, but what are known as "wildcard certificates" are an exception to this rule.

To meet the purpose of a server certificate, the certificate must be signed by a certificate authority (CA). A selection of recognized certificate authorities can be found in the settings of the web browser used.

> **Note:** Please also note the respective certificate authorities' requirements and conditions for this process.

An encrypted file of the certificate is generated using the Certificate Request button. The content of the window must be copied and sent to the selected certificate authority by e-mail. The certificate authority checks the application and sends the signed certificate back, generally by e-mail.

The signed certificate is imported using the Import Certificate Response button; a new window with two text boxes opens during this process. The certificate authority's signed certificate is copied to the top text box, while the certificate authority's root certificate is copied to the bottom text field.

17.6 Backup

The STARFACE backup can be created in this tab, and it is also possible to reinstall a backup file. The list of backup times can be viewed too.

17.6.1 "Default" Preconfigured Backup Process

There is a preset backup configuration named "Default" on each STARFACE. This backup process backs up all STARFACE data once per day at 1.00 a.m.

During this process, the backup file is saved on the local STARFACE hard drive.

The backup file is saved with the extension ".sar" and can be found on the local STARFACE hard drive in the "/home/starface/backup/Default/" directory.

The last 7 backup files are saved, so the data from the last seven days is available. If there is a problem with creating or saving the backup files, this is noted in the **Protocol** tab.

> **Note:** It is recommended to adapt the preset backup process according to your actual needs or to replace it with a backup process you created yourself.

17.6.2 Creating a New Backup Configuration

A new backup configuration can be created using the Create, New Schedule or + button. The Configuration is carried out in 4 steps.

17.6.2.1 First Step

The configurable items in the first step are:

Name: A name for the backup configuration which is as meaningful and unique as possible should be entered here.

Report to: If an error occurs, the backup configuration messages are sent to the e-mail address stored here.

Backup interval: This drop-down menu is used to control how often a backup configuration is to be executed in a time-controlled manner. The **Manual** selection means that the backup process is not started automatically; instead, it must always be started manually.

The information provided for **Start** and **Time** indicate the time that the backup process automatically starts for the first time. The time information provided under **Backup interval** is calculated from the time configured at this point.

An internal STARFACE monitoring process prevents STARFACE Archivierung and backup creation being started in parallel with one another. The process started first runs until it ends, and the second process starts one hour later. It is recommended to make a clear temporal separation here.

17.6.2.2 Second Step

In the second step, the checkboxes are used to define what STARFACE data forms part of the backup and is therefore backed up:

- Core data   Users, groups, telephones, chat history, etc.

- CDR and voicemails   Voicemails' voice messages + call lists' data records

- Voicemail announcements   Independently created announcement texts (e.g. for voicemail boxes)

> **Note:** Both CDR data and the voicemails can contain considerable amounts of data and therefore make the backup file very big. This should be taken into account when choosing the backup file's storage location.

17.6.2.3 Third Step

In this third step, the storage location for the backup file can be selected. In this regard, only one of the possible options can be selected during this configuration step.

More storage locations can be added later while the backup process is being configured.

The available storage locations are:

- Server hard drive   Saves the backup file on the local STARFACE hard drive
- Windows Share   Saves the backup file on a Windows Share
- SFTP   Saves the backup file on a server via Secure FTP
- Dropbox   Saves the backup file on a Dropbox account
- USB storage   Saves the backup file on a connected USB disk
- Send to e-mail address   Send the backup file by e-mail

During this process, the access data for the respective system must be specified using the ✎ button in the case of individual options such as Windows Share or Dropbox.

If **Windows Share** has been selected as the storage location, the following access data must be entered:

- User   The username as expected by the destination server (e.g. with domain)
- Password   Password for accessing the destination server
- Server   The destination server's IP address
- Share   Name of the share plus sub-directories which are attached with /
- Security   Drop-down menu for choosing the authentication process
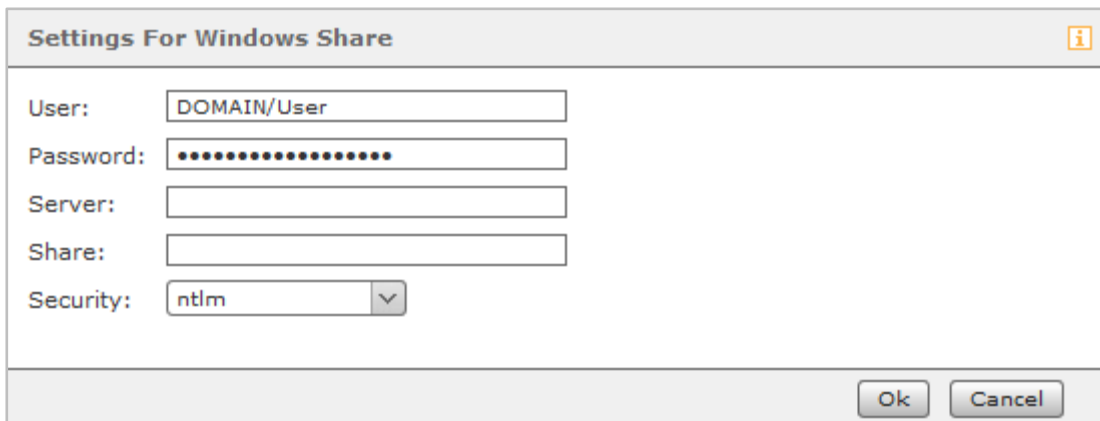
Figure 35 – Example of setting up a Windows Share

> **Note:** The backup process itself creates a "starface-backup" directory containing a sub-directory whose name corresponds to the name of the backup process.

If **SFTP** has been selected as the storage location, the following access data must be entered:

- User   The username as expected by the destination system

- Password   Password for accessing the destination system

- Server   The destination system's IP address (not including protocol or port information)

- Path   The absolute path or **.** (dot) for the current directory
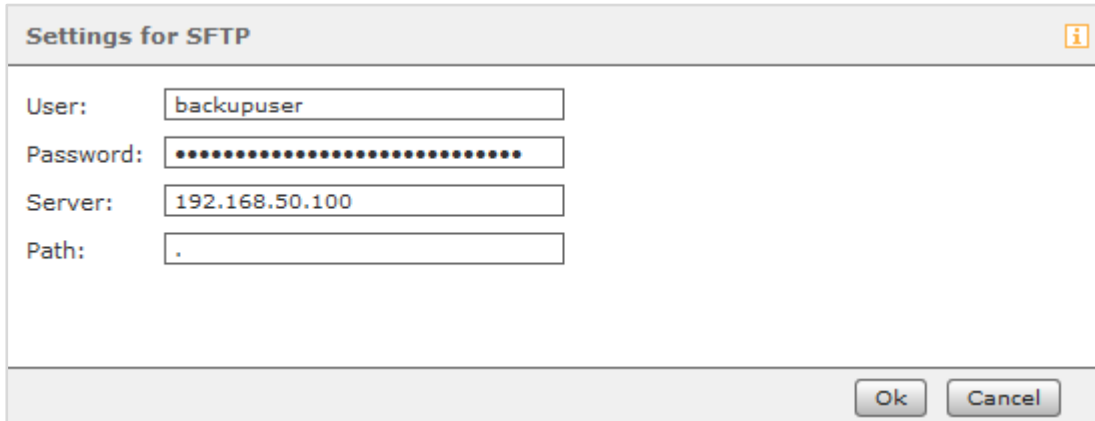
Figure 36 – Example of the configuration for access via sFTP

If **Dropbox** has been selected as the storage location, access to Dropbox must be guaranteed for the STARFACE backup process.

> **Note:** The backup process itself creates a "starface-backup" directory containing a sub-directory whose name corresponds to the name of the backup process.
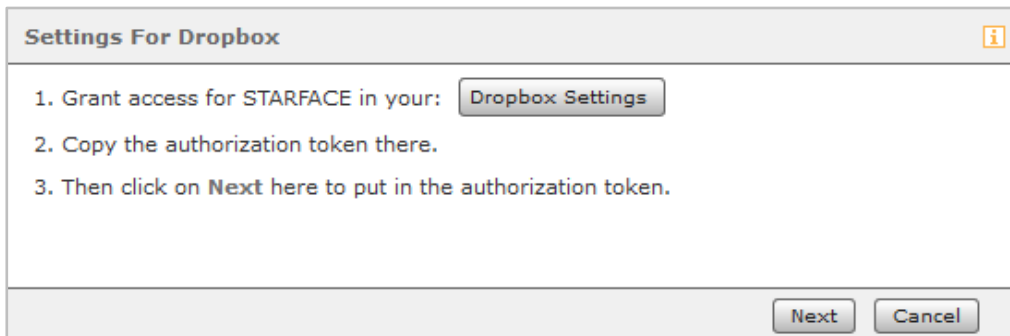
Figure 37 – Dropbox settings

The simplest possible configuration option here is to use the Dropbox Settings button. This button allows direct access to the Dropbox page and immediate creation of the confirmation code following successful login to the same.

17.6.2.4 Fourth Step

Keep settings and execute backup: The backup process is executed immediately and the created configuration is saved too.

Only execute backup: The backup process is executed immediately, but the created configuration is not saved.

Only keep settings: The created configuration is saved, but the backup process is not executed immediately.

> **Note:** If the backup process is executed immediately, it can also be downloaded straight after it has been carried out successfully.

17.6.3 Importing a Backup

The list of all of the backup files available on the server is shown in a chronologically descending order by clicking on the Restore button.

> **Note:** In principle, only backups with the same version as or a lower version than the STARFACE version currently installed can be imported. It is not possible to restore backups from higher versions of STARFACE.

The most recent backup file is always selected. The name can be used to distinguish which backup process created the backup file.

To upload a backup file, the checkbox must be selected for **Upload a backup file for recovery**. It should be noted during this process that backup files which are uploaded may not have any umlauts or special characters in their name. If the name contains invalid characters, uploading of the backup file is refused with an error message.

Figure 38 – Overview of backups on the STARFACE hard drive

Once the backup file has been selected, the checkboxes in the next window can be used to determine which data exactly should be adopted from the backup file.

Figure 39 – Overview of information about the backup

A list of the numbers of all of the logged-in users and active telephone calls is shown following confirmation using Next. Because restoration ends all of these processes, it can now be decided for the last time whether the restoration process should really be carried out.

17.6.4 List of Backup Appointments

All of the configured backup processes can be subsequently adjusted here in the different tabs, e.g. by adding the new storage locations for the backup file, or changing the execution time control.

In the **Location** tab, it can still be defined how many backup files are to be saved in total before the oldest one is overwritten.

The **E-mail** and **Dropbox** memory types are exceptions to this rule, because in these two cases the number of available backup files is not configured; instead, the maximum backup file size is determined.

The information messages relating to the backup files' different memory processes are documented in the **Protocol** tab.

17.7 Log File

The different STARFACE log files can be viewed and the log files' logging level can be configured in this tab.

The activated **Display button to send error report to web interface** checkbox releases an additional option which can be used to send error messages directly to STARFACE Support if STARGFACE error pop-ups appear

> **Note:** Please note that a sent error message does not automatically generate a new support ticket; instead, a new ticket is reported as being qualified and must be opened.

The **Log File** drop-down menu enables selection of the log file for which the log level is to be changed.

Selecting the **Level** enables selection of the error logging or messages' detail depth. The log levels in the selection menu are arranged in a hierarchically descending order. This means that the higher level

also contains the information provided at the lower levels. So, for example, all of the entries in the ERROR and FATAL categories are also saved and output in the WARN level.

Comments on using the log files

- The change to the log level is not applied retrospectively to the entire log file. The changed log level is only recorded from the time that the change made is saved / applied.

- The change to the log level must be applied or saved first of all before the view is updated.

The log file displayed at present can be defined using the **Display log file** drop-down menu. The specification provided in the **Rows** entry field always refers to the last rows of the log files and must be between 1 and 999.

The activated **Auto update** checkbox always continuously updates the view of the selected log file automatically, so that this does not have to be done manually using the Refresh button.

Using the ⊡ button, it is possible to open the currently selected log file tab in a new browser window and to use STARFACE independently of the other browser windows.

The Send log files button opens the following window:
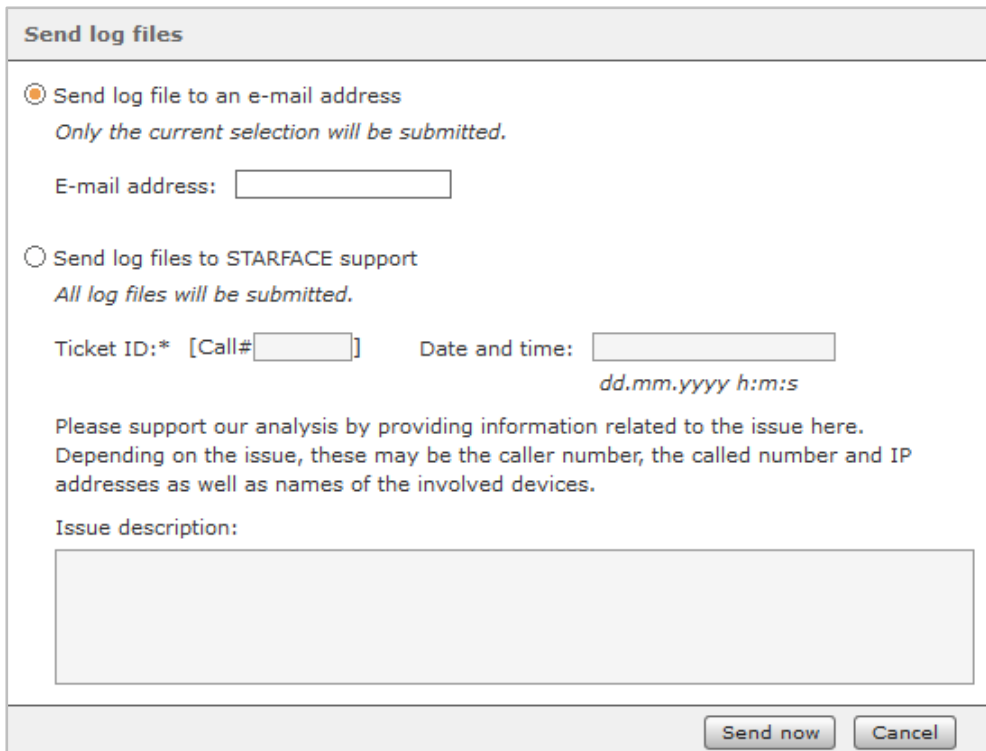
Figure 40 – Window for sending log files

Selecting the first option enables sending of the currently selected log file to any e-mail address.

> **Note:** An external mail server must be entered for the log file to be sent (also see "17.4 – Mail Server").

The second selection option transfers all of the important STARFACE log files to STARFACE Support as a zipped file.

> **Note:** Please note that the transferred log files do not automatically generate a new support ticket; instead, a new ticket must be opened using the support form.

Additional information, such as the number of an existing ticket, or providing detailed information which might be helpful in analyzing the log files, can also be provided when sending files to Support.

During this process, it must be considered that some log files are only included in this transfer process on a daily basis, and it is very important to send the log files promptly.

In both cases, sending takes place using the Send now button.

17.8 Licenses

Different information concerning the STARFACE licenses can be read off and new licenses can also be added in this tab.

> **Note:** It is therefore necessary for STARFACE to be able to access the necessary server addresses.

The following information can only be read off and is automatically generated due to the licenses registered on STARFACE.

Under the **License Information** heading, it is shown how many users can be created at most, and how many new users can still be created.

Under **Update Option**, it is shown whether there is an active update option for the entered licenses, how many users they are issued for, and when the update option is valid until.

17.8.1 Installing New Licenses

A new license code can be installed using the + or + Add License button. It is therefore necessary for STARFACE to be able to access the necessary server addresses.

> **Note:** The PBX server license code must always be installed first of all, because all other types of license code are linked to this license.

The important key data such as the company name, address, etc., must be entered the first time that the server license code is installed. This data is pre-filled as default data when all the other licenses are installed.

In principle, in addition to the server license code there are also the types of license code:

- User licenses   New user accounts can be created.

- Module licenses   Certain paid modules can now be used.

- UCC softphone   Users can use STARFACE UCC premium client.

- TSP for terminal   Users can use the STARFACE UCC client on a
                         Windows terminal server.

The details of the licenses for paid modules are also provided in the list. These licenses are valid for a fixed number of used module instances.

If a license is designed for ten instances, for example, ten configurations of this module can be run at the same time. Other configurations can be created but not activated, unless an existing configuration is deactivated.

> **Note:** Module licenses can also be entered directly during the module import process (also see "10.3.1 – Importing a Module").

18 Statistic

In this section of STARFACE, different types of evaluations can be carried out based on users, groups, various time settings, etc.

18.1 Export Line Usage

In this tab, it can be defined using several drop-down fields what connection data can be exported for a user or a group. Time periods can also be set for the data to be exported.

Figure 41 – Example of a line data export

The connection data is output as a CSV file named "output.csv". The structure of the output file is described in our online documentation.

18.2 Export Call records

In this tab, it can be defined using several possible settings which connection data can be exported. Time periods can also be set for the data to be exported.

Figure 42 – Example of a connection data export

The connection data is output as a CSV file named "output.csv". The structure of the output file is described in our online documentation.

18.3 Statistics

In this tab, it is possible to have graphical illustrations of the connection data output. Also, here, it is possible to influence what data is illustrated using several checkboxes and drop-down menus.

> **Note:** The **ISDN line utilization** selection option in the **Type** drop-down menu is only available if an ISDN card is also being used.

18.4 Fax Journal

In this tab, it can be defined which faxes can be exported using several checkboxes and drop-down menus. Time periods can also be set for the faxes to be exported.

Figure 43 – Overview of the existing possible configurations

The send information of all the fax messages sent via the system is provided in STARFACE for exporting the fax journal. This also applies to faxes which have already been deleted from the user interface's fax list or which have been deleted through use of the "STARFACE Archivierung" module.

The following information is exported for each fax:

- Date

- Time

- Duration of transfer

- User

- Sender name (if available)

- Sender number

- Recipient number

- Number of pages (sent / total)

- Send result

19 Interconnection

A system network is the logical link between several STARFACE appliances to be able to use various features and functionalities together, such as:

- Internal calls over the network

- Status signaling of the busy lamp fields

- Cross-system call groups

It must be noted in this regard that, while STARFACEs are linked to one another, they are still separate instances which are not combined to form a common STARFACE.

The prerequisite for the system network is the STARFACE connection over a virtual private network (a site-to-site VPN is recommended) or fixed IP addresses with corresponding firewall configurations (also see "3.3 – Firewall Settings"). This is necessary because the system network depends on unfiltered IP communication between the individual locations. Also, all of the STARFACEs within the system network must be run with a fixed IP address.

Due to these prerequisites, a system network run between a STARFACE run in the cloud and a STARFACE run as a VM or on an appliance is not possible.

Also, all STARFACEs within the network must be the same version.

19.1 Location details

The name entered under **Location name:** should be as unique and meaningful as possible. The name can be made up of letters, numbers and underscores.

A digit which is prefixed to this STARFACE's internal call numbers within the system network can be specified in the **Prefix** field. The purpose of this digit is to handle overlapping internal call number ranges. If the internal call number ranges of two STARFACEs overlap within the system network, or if conflicts arise, each STARFACE shall give their own internal call numbers priority.

> **Note:** This field does not have to be filled if it has been ensured that all STARFACEs' internal call number ranges do not overlap within the system network.

Example: Two STARFACEs (X and Y) each have an internal number range of 10 to 99. STARFACE X receives 3 as a prefix, while STARFACE Y is given 4.

If a user of STARFACE X now uses the function key to call the user with the call number 10 on STARFACE Y, STARFACE automatically selects the suitable prefix 4.

> **Note:** The digit 1 should not be allocated as a prefix to avoid conflicts with emergency call numbers such as 110 or 112.

The **Applied server address:** drop-down menu defines over which internal IP address STARFACE communicates with the other locations. The **Default** option automatically selects the IP address of the first network connection (eth0) if there are several IP addresses available.

19.2 Creating a New System Network

A new system network can be created using the Create Interconnection button. The name of the new system network must be defined in the dialog window. The network certificate can then be downloaded by clicking on the Create Certificate button.

The network certificate is required to include other STARFACEs into the system network just created. Once it has been saved, the STARFACE is immediately online in the system network.

> **Note:** The STARFACEs within the system network are always of an absolutely equal value. It does not matter which STARFACE the system network was created on and whether this STARFACE does not accept tasks as a server, host, network node, etc.

19.3 Including New STARFACEs in the System Network

Once the system network has been created, additional STARFACEs can be added to the system network.

To do this, you must log into the other STARFACE's web interface, where the settings must also be made for the location (also see "19.1 – Location Details"). Then, the network certificate can be selected using the Connect now button.

Following inclusion in the system network, the number of connected locations will also independently update after some time.

If information such as the location name or the prefix are to be changed later on, STARFACE can be disconnected from the system network at any time using the corresponding button. To reconnect STARFACE following the changes, the network certificate must not be installed again. In this case, it is sufficient to select the Connect now button.

19.4 Connected Locations

The overview in this tab shows the status and important information relating to the other STARFACEs in the system network. Each location is shown with the following key data:

- Status of the location within the system network (online / offline)

- Name

- Prefix

- External and internal call numbers

Locations which are not connected can be removed from the list by clicking on the ✕ button. When a STARFACE is deleted from the list, the routing and the rights allocation for the location in question are deleted from this STARFACE's configuration. If the location is to be reconnected to the system network, these settings must be made again in the corresponding tabs.

19.5 Location Routing

Location routing regulates via which location an outgoing connection in the direction of the provider is established The routing is automatically adopted by all STARFACEs in the system network with the **COR Rule** routing priority (also see "16.1 – Properties").

As a result, it is also possible, for example, to display a scenario in which all STARFACEs within the system network only make calls via the line of an individual STARFACE.

> **Note:** It is not absolutely necessary to store location routing if the lines of a different STARFACE are to be used to make calls within the system network.

Several routing rules for different time periods and different number ranges can be configured during this process Configuration is carried out in the same way for the COR rules (also see "16.2 – Cost-Optimized Routing"), only instead of the lines the STARFACE location names are specified within the system network.

In the case of outgoing phone calls, it is automatically checked which number range or which routing rule should apply. If a routing rule cannot be executed (e.g. if a line is at maximum utilization), the next routing rule takes effect according to the "best match" principle.

> **Note:** To prevent problems from occurring with the different routing rules, the rules for location routing within the system network must always be configured in greater detail than the local routing rules on the respective local STARFACE (e.g. "0" in the local routing and "00" in the system network).

19.6 Rights

Each STARFACE within the system network regulates for itself what internal information is transferred to the other STARFACEs within the system network.

A distinction is made in this regard between user data, group data, user status and group status. Sharing of the user status is e.g. required to indicate availability on function keys. Sharing of information can be individually configured for each user and each group.

The default settings for all locations can be edited using ✎ . With this default setting, it is defined what information is and is not shared in the case of newly created users and groups for the other STARFACEs in the system network.

A share can also be individually created for a certain location. To do this, the ⊞ button must be selected, and you can select the desired location using the following drop-down menu. Then, the checkboxes can be used to share or not share the individual pieces of information.

20 Security

This section contains possible settings to protect STARFACE against attempted attacks through access to the telephone accounts (SIP accounts). These include guidelines for the complexity of access passwords, automatic password review and modification, and a filter system for IP addresses from which registration requests are sent to STARFACE.

Using filtering, behavior during requests is analyzed so that IP addresses can be classified as unsuspicious and attacking IP addresses. As a result, the system can automatically add the relevant IP addresses to a whitelist or block them using a blacklist.

Figure 44 – Overview of the configuration options for password security

20.1 Settings

To prevent unauthorized access via telephone accounts (SIP accounts), there are two complexity guidelines for their passwords. The selected guideline is applied during autoprovisioning of telephones and when generating access passwords.

The requirements of the two guidelines for minimum password strength are at least:

Guideline	Length	a–z	A–Z	0–9
Secure	16	3	2	2
Paranoid	30	5	5	5

Table 16 – Overview of the guidelines

Allow manual assignment of weak passwords: This option allows configuration of SIP accounts with insecure passwords, whereby no warning is issued before storage.

> **Note:** It is highly recommended not to permit insecure passwords for the telephone accounts (SIP accounts).

Check passwords regularly: If this checkbox is activated, all of the SIP passwords are checked straight after the setting is stored and then at the time interval set below.

If one or more passwords which do not comply with the security guideline are identified during the check, the administrators and authorized users receive an e-mail with a list of the affected telephone accounts.

Change insecure passwords automatically: This checkbox relates to telephone accounts with existing access data which log on to the system by making an autoprovisioning request. If this option is activated, and if the telephone account (SIP account) password does not comply with the security guideline, STARFACE automatically allocates a new secure password during the telephone's next request.

> **Note**: This setting works independently of the (potentially permitted) manual allocation of weak passwords and the regular password check.

Check phone administrator passwords regularly: If this checkbox is enabled, it is checked whether the standard passwords for accessing the telephones' web interface have been changed (also see 9.5 – Extended Settings). If this is not the case, the administrators are informed by e-mail.

20.2 Filters

The STARFACE whitelist and blacklist can be viewed and also edited in this tab.

Automated adding to blacklist and whitelist: If this checkbox is activated, IP addresses are automatically added to the blacklist if they have e.g. too many STARFACE SIP registration attempts with incorrect access data. Brute-force attacks should thus be suppressed, because an IP address on the blacklist is completely ignored by STARFACE.

At the same time, the IP addresses from the valid registration attempts are added to the whitelist, whereby they are excluded from the check for 24 hours. The list entries' validity period restarts with each additional successful registration.

> **Note**: IP addresses which are on the whitelist cannot be entered in the blacklist, and vice versa. This is neither possible by means of manual entry nor by means of the automatic STARFACE process.

E-mail notification for each new entry in blacklist: If this checkbox is activated, all users with a corresponding permission are informed of a new automatic blacklist entry. During this process, the notification e-mail is sent to the e-mail address entered for the respective user.

20.2.1 Validity of an Automatic Blacklist Entry

The duration of an IP block depends on the respective reason for the blacklist entry or the type of attack identified:

Reason	Duration
Web interface	10 minutes
Telephone menu	24 hours
Call	24 hours
SIP	24 hours
Autoprovisioning	24 hours
XMPP	10 minutes
UCI	10 minutes

Table 17 – Overview of the blocking period

20.3 Editing Entries

To edit an entry in the whitelist or blacklist, the corresponding rows can be selected by double-clicking on them or by using the ✎ editing icon.

The reason for the entry can be specified in more detail here, and it can also be specified how long the entry is valid for using the drop-down menu.

Figure 45 – Example of editing a whitelist entry

21 Extended Settings

21.1 Music on Hold

The term "on-hold music" is generally used within STARFACE for the acoustic output played back when a call is in the queue or "on hold".

For STARFACE, an individual piece of on-hold music is made up of one or more audio files. A distinction must therefore always be made between both of these terms, so, e.g. whether new on-hold music is created, or whether new audio files have been added to existing on-hold music.

> **Note**: An audio file must be of the "wav" type (mono, 16 kHz, 16 bit, PCM).

Any on-hold music stored on STARFACE can be edited using the ✎ editing icon. In the **Music** tab, the Listen button can be used to listen to on-hold music audio files using a telephone.

The volume of an audio file can be reduced or increased using the two 🔈 and 🔊 buttons.

> **Note**: Frequent use of this function causes the audio file's quality to drop significantly and should therefore be avoided.

21.1.1 Creating New On-Hold Music

The **+** or Add Music on Hold button can be used to create new on-hold music. A name which is as unique and meaningful as possible must be allocated first of all.

The audio file(s) can now be uploaded in the **Music** tab.

> **Note**: An audio file must be of the "wav" type (mono, 16 kHz, 16 bit, PCM).

21.1.2 Assigning On-Hold Music

Once new on-hold music has been created, it can be allocated to a call number, group or user using the corresponding tab.

The STARFACE default on-hold music applies to all other call numbers, groups and users.

> **Note**: The possible assignments described do not exist for the "default" on-hold music.

21.2 Macros

This editor is used to create independent dial plan extensions or macros. In simple terms, the dial plan is all of the rules and routines for handling all VoIP connections.

> **Note**: To expand STARFACE's functional scope, we recommend using STARFACE modules as a matter of principle. Intervention in the telephone system using macros should be avoided and only carried out by experienced administrators!

Global variables are defined in the top **Global Includes** text box; they can be used in the **Macro Definitions** in the bottom text box. The syntax must be kept deliberately simple in this regard:

A variable in the form of variablename=value must be entered for each row. But a macro definition does not need necessarily predefined variables.

In the User Management, in a user account's editing view (✎), in the **Phone Numbers** tab, macros created here find additional options under **Default Rule**.

The prerequisite for this is that the name of the macro was noted in the following format (deviating from the official notation):

[[macro-...]]; ${...}

21.3 XMPP

Each STARFACE contains an independent XMPP server. It provides connections for the following applications:

- STARFACE UCC client

- STARFACE software fax

- STARFACE TAPI

- Various STARFACE integrations (CTI)

- Instant messaging over Jabber / XMPP chat applications

- UCI

In the case of the top **Connected to XMPP server** indicator, the status information relates to the STARFACE connection to the internal XMPP server. This status does not, therefore, reflect the direct status of the XMPP server.

The second status indicator, **Connected UCC Clients**, shows the number of currently connected STARFACE UCC clients. Other clients which are used for instant messaging, for example, are not included in the counting process.

The STARFACE XMPP server can be completely restarted using the **Restart XMPP Server** button.

> **Note**: If the XMPP server is restarted, all XMPP connections are always restarted and all clients will lose their connection for a short time.

The STARFACE IP address or, if available, the STARFACE host name, should be set in the **Domain** field. The value configured here must be entered e.g. in the UCC client to establish a connection to STARFACE.

If one of the STARFACE mobile clients for iPhone and/or Android phones is used, it is recommended to enter the external host address or external IP address here.

> **Note**: Once a domain or IP address has been entered, it is recommended to restart the services on STARFACE.

21.4 Active Directory

The settings made in this tab are used to configure user authentication on STARFACE using an existing Active Directory within the local network. If the Active Directory is used, only its username (not including the domain address) and password are used to log into the web interface, the STARFACE UCC client and all the other interfaces.

> **Note**: Users with administrator rights can always log into the web interface with their normal STARFACE access data.

To ensure unique assignment of domain users and users on STARFACE, the exact same e-mail address should be stored in both systems for each user.

> **Note**: Uppercase and lowercase in the e-mail address are checked and must be entered in exactly the same way in all configuration fields.

21.4.1 Establishing a Connection to the Active Directory

Before activating user login using Active Directory, valid server settings must be stored and a configuration test must be carried out.

Domain: The name of the Windows domain is specified here in DNS notation (e.g. example.com).

1st Directory server: The name of the Active Directory server must be stored here along with the user information. An alternative port number can be attached after a colon (:) as an option. Port 8502 is the default port used.

2nd Directory server: The name of a second server used if the first directory server is unavailable can be entered here as an option.

Base DN: Here, the directory must be specified along with the user information in the LDAP syntax (e.g. OU=users,DC=example,DC=com).

TLS: If this checkbox is activated, an encrypted connection to the Active Directory server can be used as an option. It must have a suitable server certificate for this.

User: The username used to access the Active Directory server.

Password: The user's password used to access the Active Directory server.

Finally, the Test Connection button can be used to check whether access was successful and whether the configuration can be saved.

> **Note**: If use of the Active Directory is deactivated, the server must be restarted under all circumstances. Only once the server has been restarted is it possible to log back in with the user data stored on STARFACE.

22 Annex

22.1 Switching Off an Appliance

The STARFACE appliance is designed for permanent operation and generally does not have to be restarted or switched off. If this is nevertheless necessary or desired, there are several ways of doing this:

- Using the STARFACE web interface (also see "17.1 – State")

- Using the STARFACE Administration menu via a directly connected monitor

If access to the STARFACE web interface is not possible, and it is also not possible to use a directly connected monitor, the hardware can be switched off directly with the following process:

The start button ⏻ on the front of the device is pressed three times within 30 seconds. This functionality prevents unintended STARFACE switch-off.

22.2 RAID Controller Manager

STARFACE appliances with RAID controller have a RAID Controller Manager with an autorepair and notification function. The manager checks the state of the RAID system for problems and changes every three minutes and, if necessary, sends an e-mail to users with the corresponding notification.

> **Note**: The RAID controller's internal logging is carried out at the `DEBUG` log level.

If the RAID controller is in the "OK / Verifying" state, a RAID hard drive can be switched with ease. The RAID Controller Manager detects this process and synchronizes the new hard drive automatically. If a problem occurs with the RAID configuration, the manager tries to rectify the problem in ten steps. During this process, it sends additional notification on the current state of the repair process. If the repair fails, this is also reported with further instructions.

The three cases deviating from the normal state (OK / Verifying) are:

DEGRADED: The RAID controller is restricted in terms of its function, e.g. if problems occur with an RAID hard drive.

REBUILDING: The last step in a RAID system repair by default. This step can last several hours, whereby a notification is sent at the start and end.

INITIALIZING: The RAID Controller Manager's start routine, whereby a notification is sent at the start and end.

22.3 Hard Drive Monitoring

Hard drive monitoring is an application which runs independently in the background to check the hard drive's disk space. If the available disk space falls below the minimum value of 512 MB, authorized users receive an e-mail containing a warning to this effect.

22.4 Shortcuts on the Telephone

The following shortcuts can be used on telephones which are autoprovisioned using STARFACE in order to control various features and functions.

22.4.1 Shortcuts for General Control

Key(s)	Additional Entry	Description
✳ 2	Destination number	Identifies the phone call as private in the call lists
✳ 3 2	Group ID	User logging into the group
✳ 3 3	Group ID	User logging out of the group
✳ 6	Speed dial	Speed dial from the address book is being called
✳ 7 7	Login ID	User logging into the telephone
✳ 7 8	Login ID	User logging off of the telephone
✳ 7 9		All users logging off of the telephone
✳ 8	Internal call number	Call takeover for the user / group (call grabbing)
✳ 8		Random call transfer (call grabbing)
✳ 9	ID of the voicemail box	Querying and configuring a voicemail box
✳ ✳	Digit ✳	Setting up a call using the line with the line prefix digit
#	E.g. ##2	Entries after the first # are signaled to the provider without any filters (requires the "provider-side service feature" right). It is recommended only to use this shortcut in combination with a line prefix.

Table 18 – Shortcuts for general control

22.4.2 Shortcuts During an Active Phone Call

Key(s)	Additional Entry	Description
✳ ✳		Sets the call on all of the user's telephones (Call2Go)
✳ 1		Start or stop recording. The recording is sent as an e-mail attachment once the phone call is ended.
✳ 2		Calling up the language menu for a transfer with a query. The ongoing call is on hold during this process. Following consultation with the transfer destination, the on-hold caller is transferred by hanging up.
✳ 3		Start a spontaneous telephone conference with the current call and all calls set to on hold.
✳ 4		Any DTMF tones can be transferred for the next 10 seconds.

Table 19 – Shortcuts during an active phone call

22.4.3 Shortcuts for Additional Service Features

Key(s)	Additional Entry	Description
✳ 0 1 1	Destination number	Switch on Always redirection to destination number (not including group numbers)
✳ 0 1 1		Activate all Always redirections which have already been configured (not including group numbers)
✳ 0 1 0	Destination number	Switch off all Always redirections (not including group numbers)
✳ 0 2 1	Destination number	Switch on Busy redirection to destination number
✳ 0 2 1		Activates all Busy redirections which have already been configured (not including group numbers)

Key(s)	Additional Entry	Description
* 0 2 0		Switch off all Busy redirections
* 0 3 1	Destination number	Switch on Time-Exceeded redirection to destination number
* 0 3 1		Activates all Time-Exceeded redirection which have already been configured (not including group numbers)
* 0 3 0		Switch off all Time-Exceeded redirections
* 5	Destination call number	Switch on Always redirection to destination number (not including group numbers)
* 5		Switch off all Always redirections (not including group numbers)
* 0 7 1		Switch on Callback When Busy
* 0 7 0		Switch off Callback When Busy
* 0 8	+ 00 to 99 (waiting place ID)	Park the on-hold caller in a waiting place or pick them up from the waiting place (Park and Orbit)
* 0 9 1		Activate ringer cutoff / DND for the logged-in user
* 0 9 0		Deactivate ringer cutoff / DND for the logged in user

Table 20 – Shortcuts for additional service features

22.4.4 Shortcuts for Controlling Moderated Conferences

Key(s)	Additional Entry	Description
*		Call up the voice menu for the control options
* 1		Switch muting (the microphone) on and off
* 2		Speak if muted by the moderator
* 5		Resets the earpiece volume to the standard value
* 8		Resets the microphone volume to the standard value

Table 21 – Shortcuts for controlling moderated conferences

22.5 Reinstalling a STARFACE System

If a STARFACE system is to be reinstalled, the following steps must be observed.

22.5.1 Preparations for an Appliance

The following points must be observed to prepare for the re-installation of a STARFACE appliance:

- Download the corresponding ISO file   Link to the Download section

- Prepare a USB stick   Link to the USB stick creation process

- Create an external backup of the existing system   Also see "17.6 – Backup"

- Determine the current root password   Link to the root password

> **Note**: In the case of older systems, a BIOS update may be necessary before a re-installation can be carried out (also see the following documentation).

It must be noted that the appliance's entire hard drive must be formatted for a re-installation and that there cannot be an installation in parallel to an existing system.

Before carrying out the re-installation process, it should be ensured that the connection to the local network is plugged in and also that potentially available ISDN cards are already wired correctly.

> **Note**: An appliance does not require an IP address if the network cable is subsequently plugged in. The network cable must therefore always be plugged in beforehand.

22.5.2 Preparations for a VM

The following points must be carried out to reinstall a STARFACE VM:

- Download the corresponding ISO file (link to the Download section)

- Create a Linux 64 bit guest operating system (e.g. CentOS 6 or Redhat Enterprise 6) with the following minimum configuration (1 GB RAM / 16 GB HDD / 1 network adapter / 1 DVD drive).

- The device type of the CD / DVD drive must be configured as a **data memory ISO file**, and the STARFACE ISO file must be selected. The **Connect During Switch-On** option must also be activated.

- Create an external backup of the existing system (also see "17.6 – Backup")

An already prepared VM edition of STARFACE which makes configuring a guest operating system superfluous can also be found in the Download section mentioned above.

22.5.3 Installation Steps

The following steps are carried out one after the other when (re-)installing an appliance or a VM:

- Start the appliance / VM

- Select the Install New System or Install New System (VMware) option

- Automatically detect the essential hardware components

- Start the graphic installation wizard

- Allocate the password for the root user

- Start the installation using the **Next** option

Once the installation is complete, the corresponding display appears with the Reboot button, and the subsequent restart can be carried out. Then, the current STARFACE IP address is output on the screen. All subsequent steps are dealt with in the chapter entitled "4 – Configuring STARFACE for the First Time".