ixi-UMS Auto Attendant

Installation & Configuration

Onlineversion

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1 Overview

An Auto Attendant is an automated reception that greets the callers and provides them with several options, for example to be connected with the employee of a particular department by pressing a key. A typical welcome by an Auto Attendant could be the following:

"Hello, you are connected with company XYZ in ABC. If you want to be forwarded to the sales department, please press 1. If you want to be forwarded to the support department, please press 2."

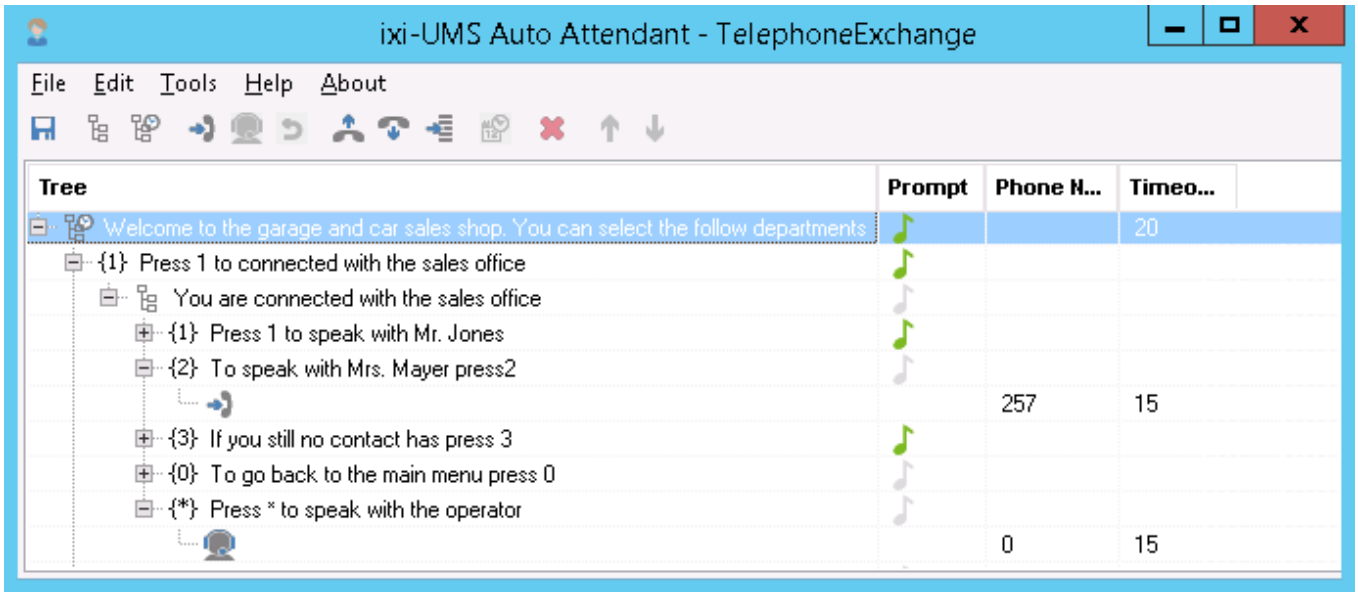
An automatic acceptance has the following advantages:

- No calls are missed because the main phone number is busy. Callers who "know what they want" can therewith "serve" themselves more efficiently.
- Staff is relieved from routine tasks. Thereby more time can be spent on important calls.
- Depending on time of the day and day of the week, different prompts can be imported (e.g. work breaks, office hours, public holidays, company holidays).

The Auto Attendant operates day and night.

The ixi-UMS Auto Attendant consists of a server part, **which is installed on the ixi-UMS Kernel** and an ixi-UMS Auto Attendant Client. With ixi-UMS Auto Attendant Client, you can set up such processes graphically and adjust them according to your needs. The ixi-UMS Auto Attendant was designed with regard to simple operability, so that also users without any programming knowledge are able to set up an automatic telephone exchange.

There are various modules, with which an individual telephone exchange can be created.



1.1 Recording of Prompts

Prompts are an essential part of an ixi-UMS Auto Attendant application. By means of prompts, the caller is informed about which options are at his disposal at the moment. It is important for this that your prompts

- are consistent (this means always the same speaker)
- clearly audible (this means human speaker, no Text-to-Speech engine)
- can be recorded efficiently (time saving when changes have to be made)
- needet Format Wav/RIFF :
  - Variant 1: **G.711** (u-law oder a-law), 1 Kanal (Mono), Sampling Rate 8 KHz , Auflösung: 8 Bit
  - Variante: PCM, 8kHz, 16bit, 1 channel (mono),

The prompts can be provided via the following options in the project:

1. **Recording of prompts via telephone by UMS** (Outbound Job)

The ixi-UMS Kernel calls the telephone of the user and the user records the prompt.

2. **Upload of WAV-files**

This variant is suitable for prompts recorded in a sound studio. You can load the prompts on the server by means of the ixi-UMS Auto Attendant Client by choosing the WAV-files at the respective module. The prompts and the wait music can be stored in any directory. With storing the project, the prompts are stored as copy of the WAV-files in the directory:
...\ixi-UMS Auto Attendant\Scripts\Audio

For the wait music, a copy of the WAV-file is created in the directory:
...\ixi-UMS Auto Attendant\Scripts\WaitMusic

3. **Recording of prompts via telephone by CTI**

This procedure is only possible in special cases and with additional configurations.

If you also installed a TSP (TAPI Service Provider) for your PBX at your ixi-UMS Server, the recording of the prompts can be controlled with CTI. ixi-UMS Auto Attendant first of all detects the telephone number of the logged-on user, maps this phone number onto the CTI-line and starts a call to the *Service Number* .
The telephone so calls the UMS Server.

1.2 Requirements

Software Requirements

- Windows 7/8/10 (32 / 64 bit)
- Server 2008/2008R2 (32 / 64 bit),
- Server 2012/2012R2,
- Server 2016/2019
- at least ixi-Framework 6.70
- at least ixi-UMS Kernel 6.70

Hardware Requirements:

For the transfer of calls with the ixi-UMS Auto Attendant, the PBX and the deployed hardware or VoIP-connection must fulfill the following requirements:

PBX:

QSIG
Path Replace ECMA 175/176
and
Call Transfer ECMA 177/178

DSS1 PMP (Point-to-Multipoint)
HOLD (Call Hold, ETS 300 139)
and
ECT (Explicit Call Transfer, ETS 300 367)

DSS1 PP (Point-to-Point)
does not support Call Transfer

Connection to the PBX:

- ISDN-board (recommended: Dialogic DIVA Server series)

Basically, also ISDN-boards of different types can be used.
Certain features of the ixi-UMS Auto Attendant, however, might not be available here.

- XCapi (ixi-UMS VoIP Connect)
- Funkwerk router

Please see also "HowTo - Information about Call Transfer".

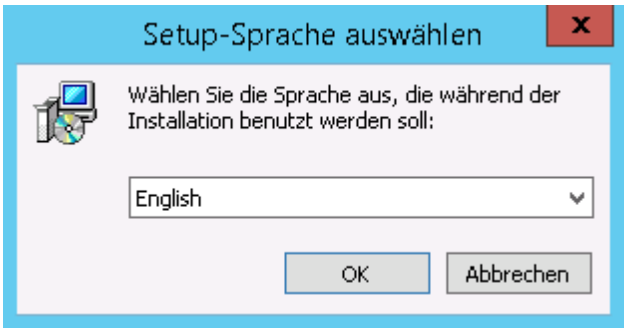
2 Installation

Remark: The projects from older versions of the ixi-UMS Auto Attendant can be adopted.

In order to install the ixi-UMS Auto Attendant, please proceed as in the following:

1. Log in with an administrator-account
2. Install the ixi-Framework
3. Install the ixi-UMS Kernel
4. Install the ixi-UMS Auto Attendant

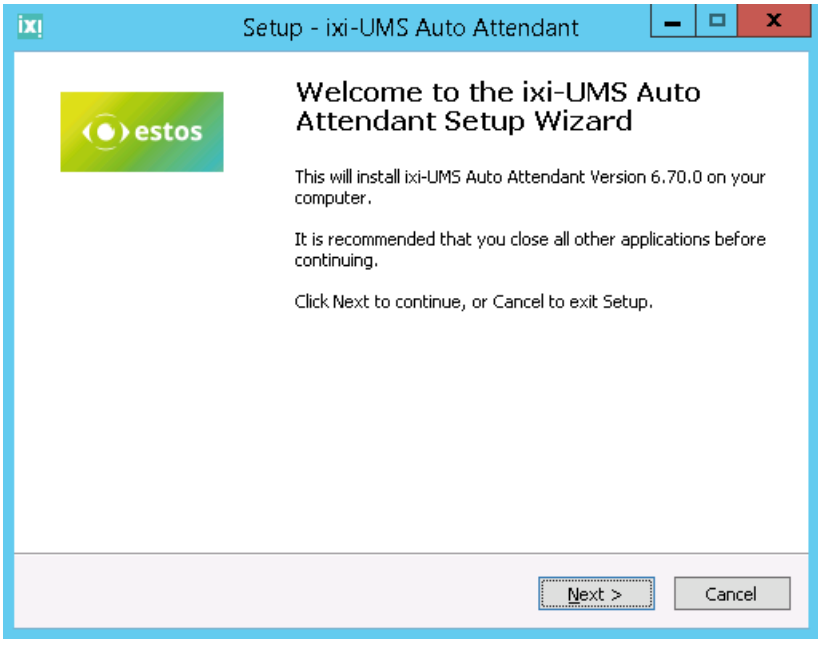
2.1 Selection of the Language



First of all, the language for the setup wizard must be selected.

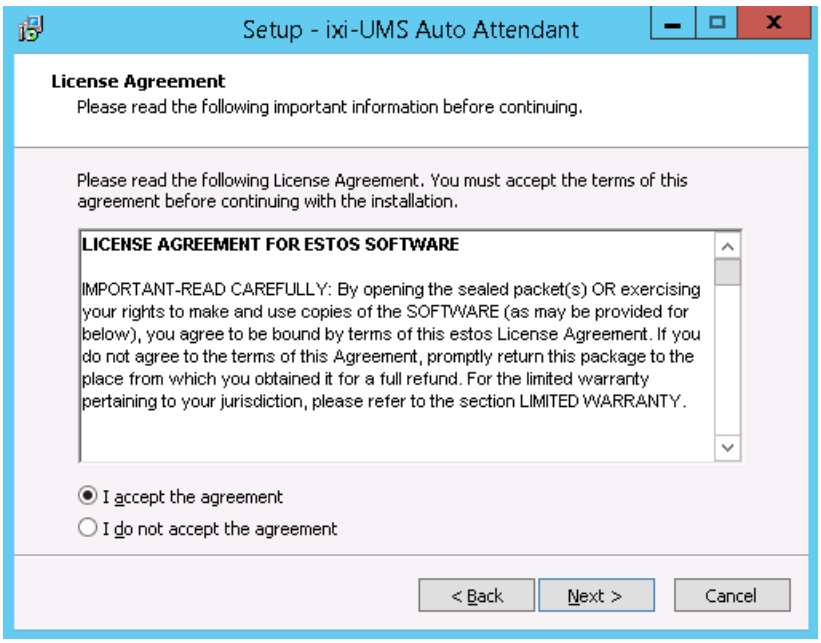
The language for the configuration interface in the MMC can be changed later.

2.2 Welcome



The setup is started in the language selected by you.

2.3 License Agreement

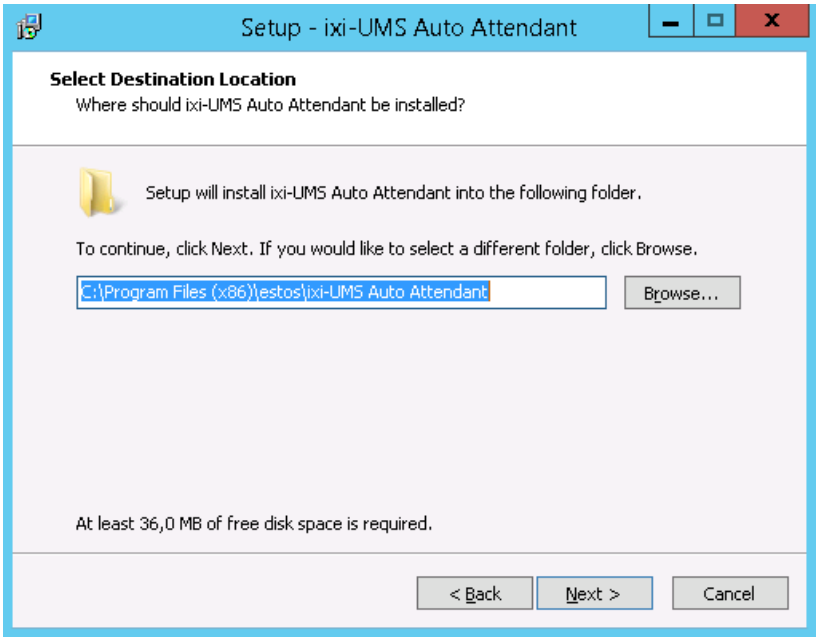


The end user's licence agreement is indicated.

Peruse this carefully and choose "I accept..."

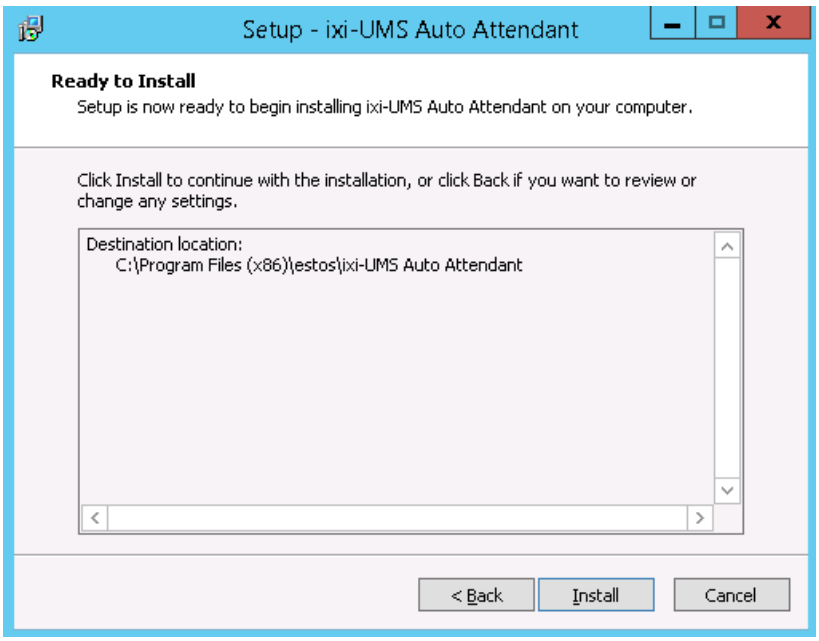
Only then the installation can be continued.

2.4 Installation Location



After the welcome screen, you have to determine the installation folder.
The folder in that also the ixi-Framework has been installed is offered by default.

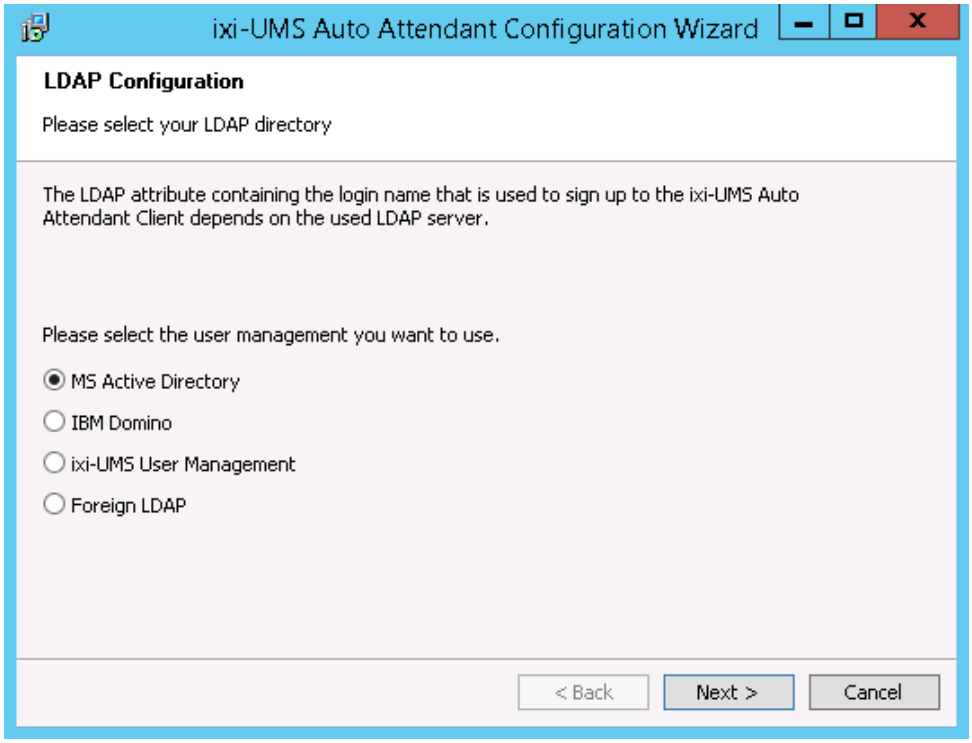
2.5 Ready to Install



The destination folder is displayed again and the installation can be executed.

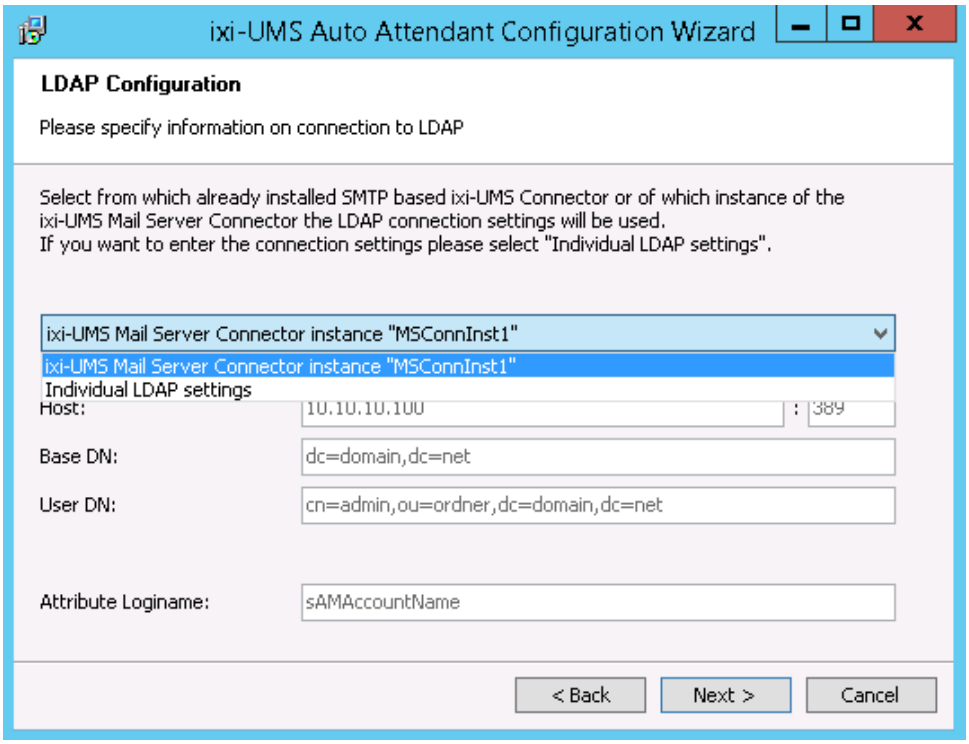
2.6 User Management

For user authentication when logging in at ixi-UMS Auto Attendant, the attribute with the "login name" is required. The attribute depends on the LDAP server used. If a non-standard attribute is used or if LDAP user management is not listed, select "Other LDAP".



2.7 LDAP Configuration

If an SMTP-based ixi-UMS Connector (ixi-UMS Domino Connector, ixi-UMS Exchange Connector, ixi-UMS Mail Server Connector) is installed on the computer, the LDAP connection data can be transferred.
If no SMTP-based ixi-UMS Connector is installed or if you want to enter the data manually, select "Individual LDAP settings".

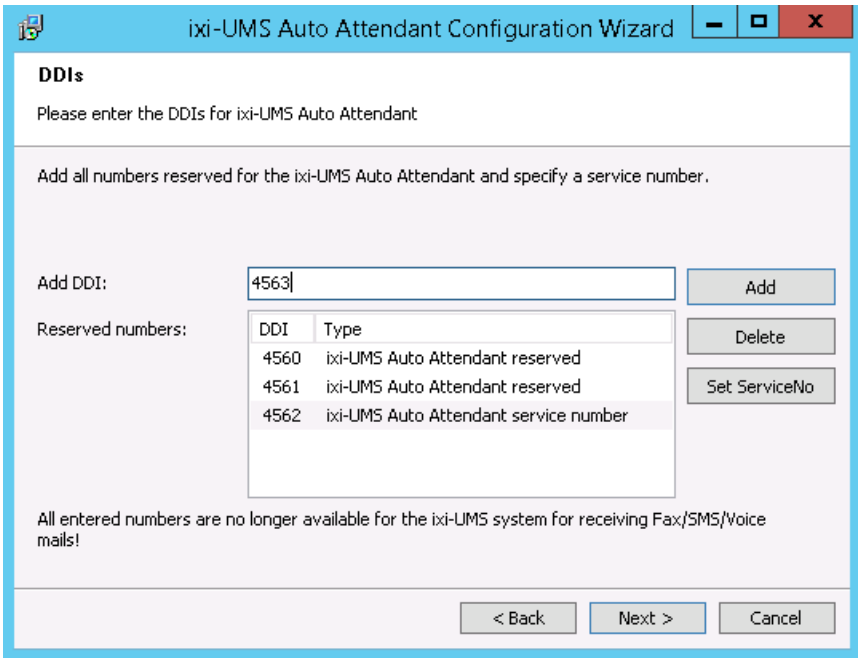


If "Other LDAP server" was selected on the previous User Management tab, the A**ttribute Loginname** can be specified.

Remark: As soon as you click on "Next", the setup checks the LDAP-connection. If an error occurs, the respective error message is displayed. However, you can continue the setup in any case.

2.8 DDI's

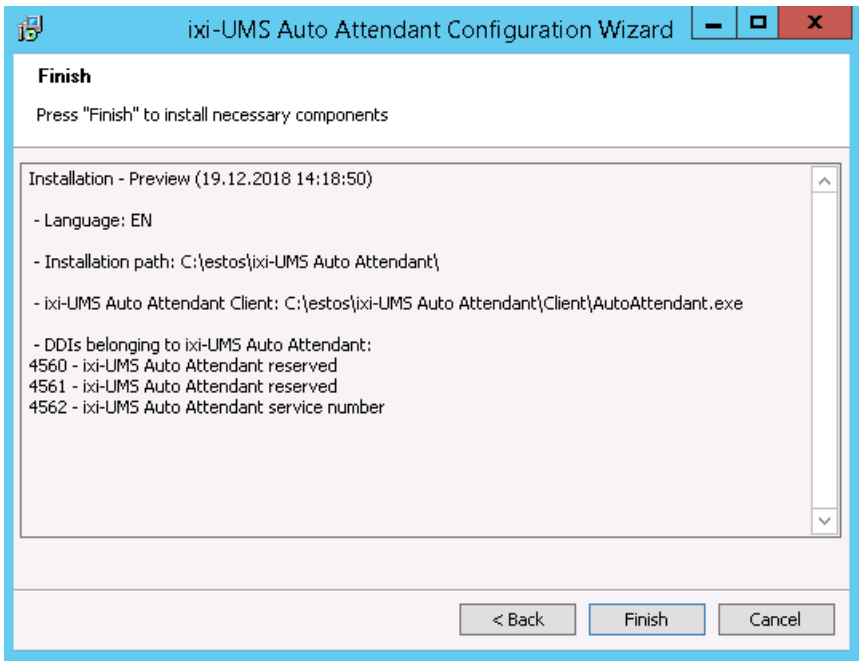
An own DDI must be mapped to every script of the ixi-UMS Auto Attendant. Moreover, the ixi-UMS Auto Attendant needs an own sender/service-number.



All the numbers must be taken from the number pool of the used ISDN- / VoIP-connection. The numbers are entered in the ixi-UMS Kernel Configuration at **DDI Mapping** and thus CANNOT be used as fax- or voice mail-numbers!

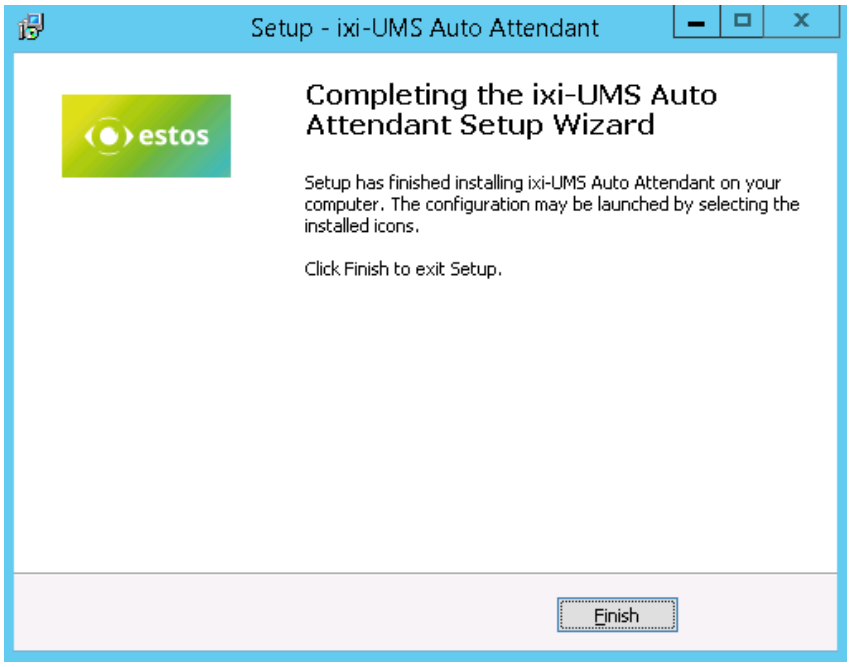
The numbers can be changed later on in the MMC.

2.9 Finish



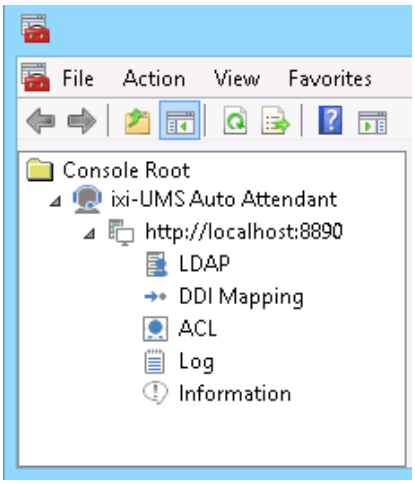
You once again can see a summary of your installation data.

When you click on "Finish", the setup is completed.



When all the components are installed and configured, the setup can be exited by clicking on "Finish".

3 ixi-UMS Auto Attendant Configuration



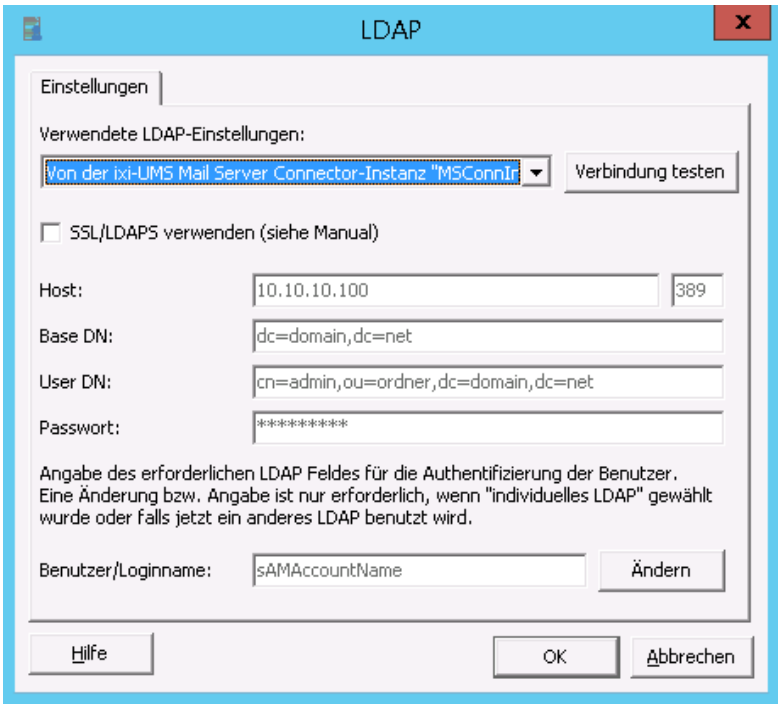
During the installation, the needed snap-ins are registered on the machine automatically. After the installation, the ixi-UMS Auto Attendant Configuration can be started via the start menu Programs - estos - ixi-UMS Auto Attendant.

However, the snap-ins - like any other snap-in - can also be added to a MMC.

Changing the Language of the Snap-In
It is explained at How To "Change MMC Language" how the language of the MMC can be changed after the installation.

3.1 LDAP

The permission for user to login at the ixi-UMS Auto Attendant Client and therewith also the permission to create and to process the projects is granted in the ixi-UMS Auto Attendant Configuration - ACL.



The users must login at the ixi-UMS Auto Attendant Client and are authenticated against the entered LDAP-data base.
The connection data can be adopted from an installed ixi-UMS Connector or can be entered individually.

The connection data can be taken from an installed SMTP-based ixi-UMS Connector or from an instance of the ixi-UMS Mail Server Connector or entered individually.

At **User / Login name**, the unique attribute must be stated, with which the user can be identified.
This can be e.g. CN, uid or sAMAccountName.
Please note that the entry is case sensitive!

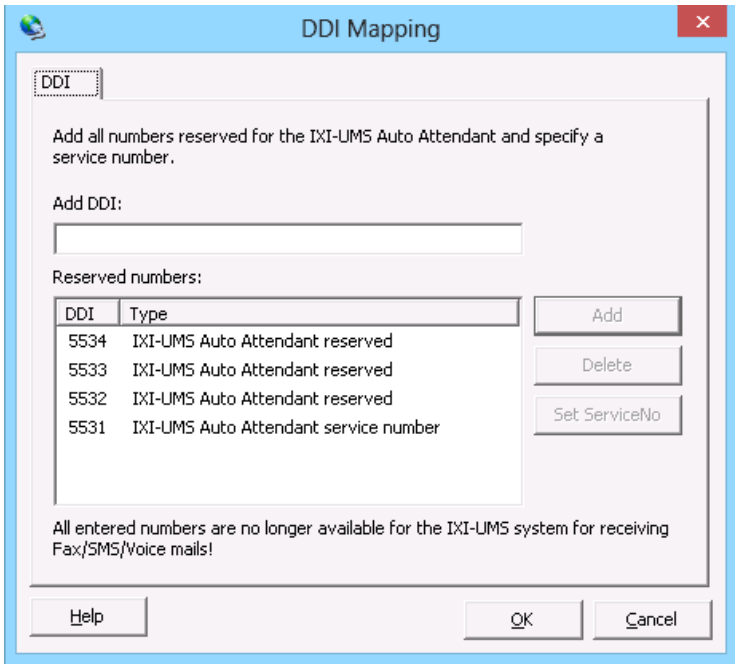
The default value of the LDAP-Attributes entered here depends on the setting at "User Management" selected during the installation.

If not IBM Domino, Active Directory or OPEN LDAP is entered as LDAP-Server, the required LDAP-Attributes may have to be changed in order to ensure a problem-free functionality.

3.2 DDI Mapping

Here, DDI's for the later use with ixi-UMS Auto Attendant can be reserved. The numbers entered here can be mapped to the single projects later on.

Remark: The reservations are automatically taken over into the ixi-UMS Kernel Configuration and therewith are no longer available for the reception of Fax/SMS/Voice-messages!



If you have already reserved numbers during the setup, these numbers are displayed here and are entered in the ixi-UMS Kernel - DDI Mapping.

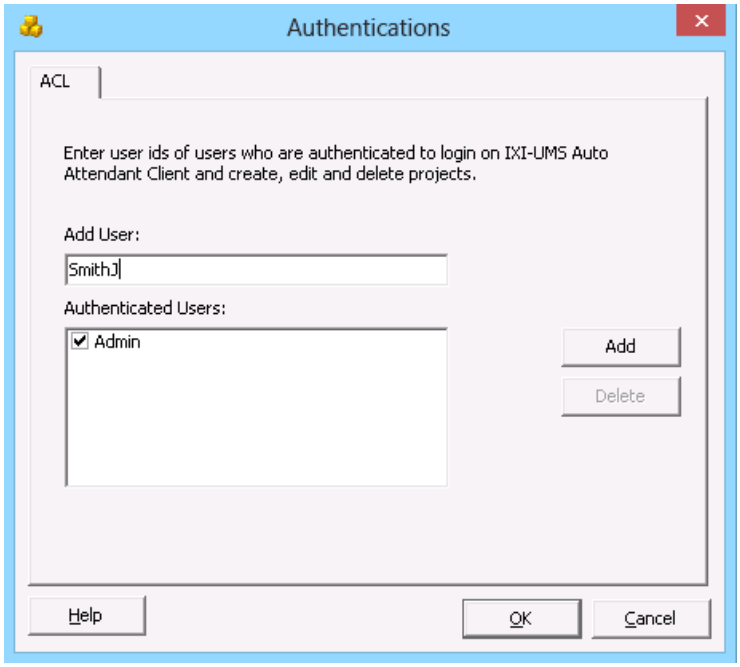
The *Service Number* also is a "reserved" ixi-UMS Auto Attendant number. It is used for the recording of the prompts via the telephone and **is mandatory!** The Service Number cannot be used for the reception of Fax/SMS/Voice-messages any more.

The DDI's reserved for the ixi-UMS Auto Attendant here are stored in the DDI-Mapping of the ixi-UMS Kernel.

The mapping of the DDI's to a project is determined in the ixi-UMS Auto Attendant Client.

After the creation of a "project", one of the reserved DDI's must be mapped to this.

3.3 ACL



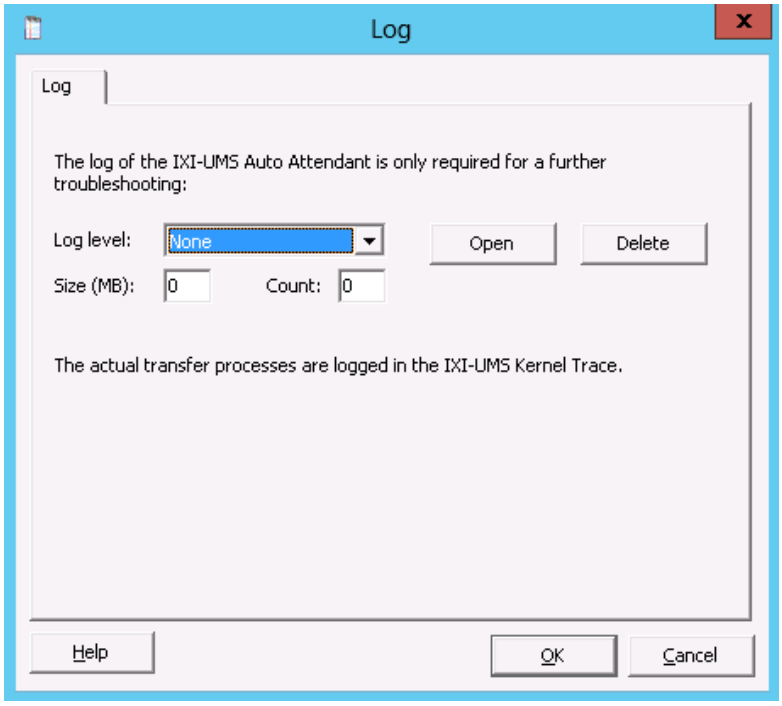
Here you can grant permission to the users to login at the ixi-UMS Auto Attendant Client.
For the authentication, an LDAP-query is made at the server entered at LDAP.

For this, enter here the **Account Name (Login Name)** in the *Access Control List* (ACL).

An entry in this list is required in order that users are allowed to login at the ixi-UMS Auto Attendant Server by means of the ixi-UMS Auto Attendant Client. The users with the permission then can create and process projects.

3.4 Log

The log of the ixi-UMS Auto Attendant is only required for a further troubleshooting.



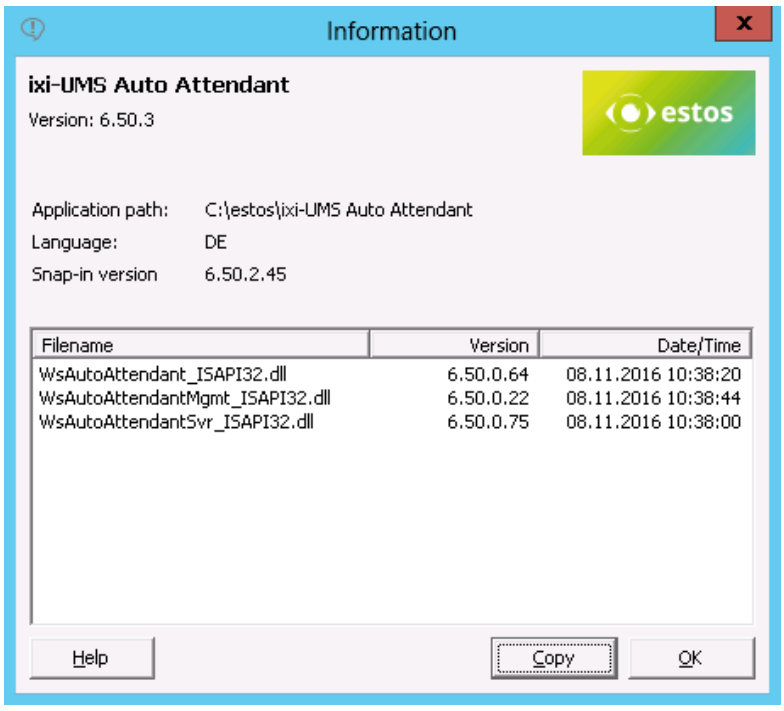
It can be fixed, how big the log files should become and how many files should be preserved.

Size:
0 = Log file becomes infinitely big

Count:
0 = Logfiles are n ot deleted

The actual transfer processes are logged in the ixi-UMS Kernel Trace.

3.5 Information



Information about version and installation path of the installed ixi-UMS Auto Attendant are displayed here.

4 The ixi-UMS Auto Attendant Client

The ixi-UMS Auto Attendant is a client/server application. By means of the Auto Attendant Client, you can create projects or edit already existing ones. When you finished a project, it is transferred to the server and then can be carried out by the Auto Attendant Server, which is part of the ixi-UMS Kernel.

A check-in/check-out concept is used hereby. Such concepts are also common in configuration management systems.
This brings about the following advantages:

- Projects that are in progress at the moment are marked accordingly and cannot be checked out again. Conflicts with the processing by several users thus are avoided.
- Changes that are made at a project do not have any influence on the productive application first. Only when all the changes are made and the project is checked-in again, the productive application is changed, too.

In order ***to make the creation of an Auto Attendants*** as simple as possible, a module concept is used. Every module already wraps a great range of performance. This makes the project clearer, logical constructs (like: if...then...else) do not have to be used. The eventuality to forget something or make mistakes in "programming" therewith is reduced to a minimum.

The following modules are available for your own applications:

	Calender	The Calendar-module is responsible for time-controlled processes
	Classic Menu	By means of the menu module, selection possibilites can be presented to the caller
	Actions Menu	Like a "Classic Menu", but with defined action after a timeout
	Operator	The module Telephone Exchange is a specialized telephone exchange module to a central number
	Return	A Return-option to the superordinate menu
	Transfer	By means of the operator module, the caller can be transferred to the stated destination number(s) (also to external numbers)
	Prompt+Return	The deposited announcement is played and then jumped back in the topical menu
	Prompt+Hang up	The deposited announcement is played and then the connection is interrupted
	Hand-overto Project	Another VoxML project is called. eg an ixi-UMS Auto Attendant Project

In addition to that, modules can be used that only play an prompt and then either "hang up" or return to the superordinate menu .

Some of the modules (like Menu and Calendar) have "exits" that represent different selection options. With the "Menu" module, for example, these are the different options available for the caller. Further modules can be added to these "exits" in order to be able to realize complex procedures.

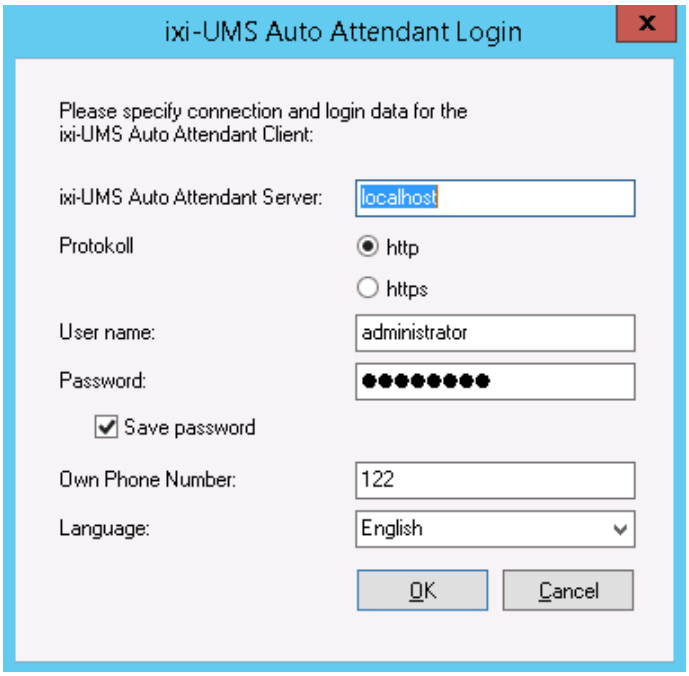
With the buttons and , the menu items can be shifted in order.

The number of the DTMF-key is **not** relevant for the order in that the prompts are played. The prompts are - like set up in the project - played from the top to the bottom.

4.1 Starting the Client

You can find the Auto Attendant Client files in the subdirectory ...\ixi-UMS Mobile\ixi-UMS Auto Attendant\Client of your ixi-UMS Mobile installation. You can start the Auto Attendant Client directly on the ixi-UMS computer or copy it to any other computer in your network:

1. Copy the complete Client subdirectory to the respective computer.
2. Start the **AutoAttendant.exe**



When you start the Auto Attendant Client for the first time, you have to state

- the *Host* IP-address of the Auto Attendant Server (the machine on that the ixi-UMS Auto Attendant is installed)

- the protokoll to connect
- a *User name* and *Password*

- whether your password shall be stored

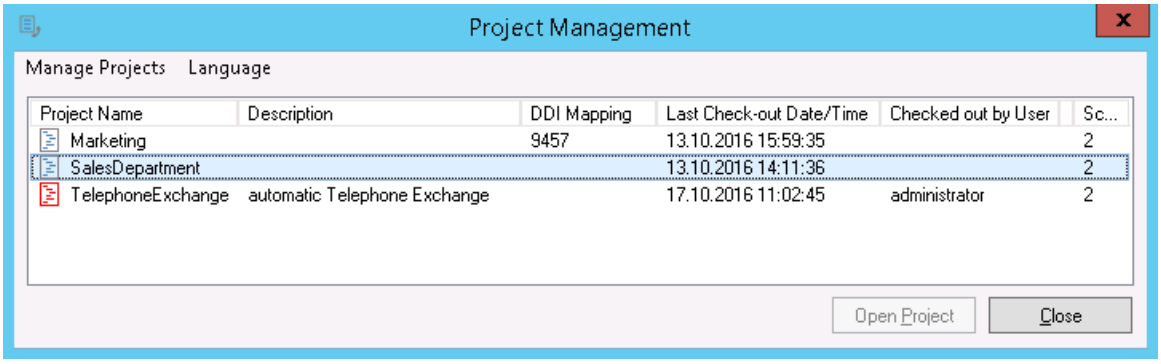
- a phone number (DDI) of the telephone, from which you want to record the prompts or play them to control

- the language

4.2 Project Management

After the login, the Project Management is opened. If you already have created any projects, these are listed here.

By means of the description text you should be able to recognize, which purpose the respective project shall fulfill. At "DDI Mapping", the DDI mapped to the project is stated. When this number is dialled, the script of the project is started.



Projects displayed in red are "checked out" and thus are available for processing. On the right side, you can see who has "checked out" the project and on which machine.

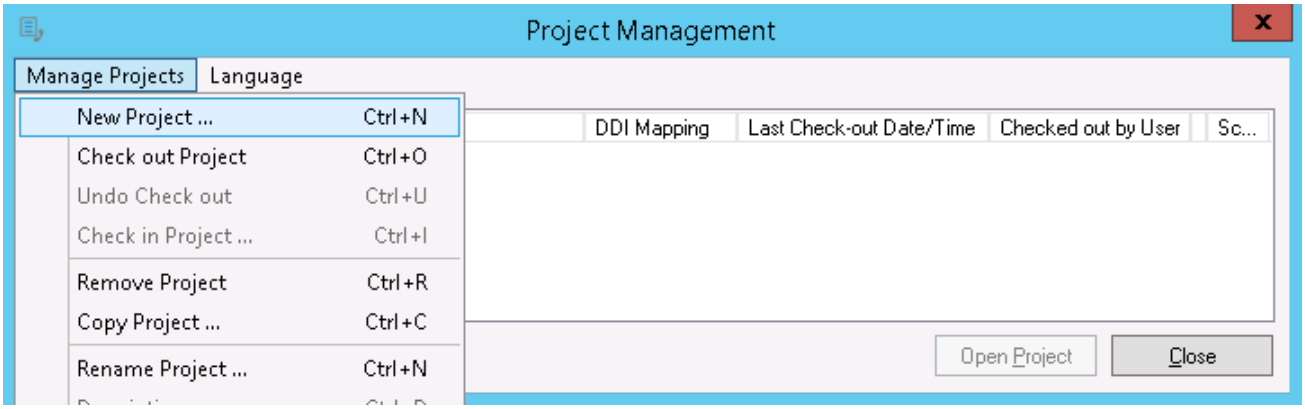
Changes in projects are only available after having them "checked in" at the server.

A script is only active, this means can be used, when a "DDI" has been mapped to it.

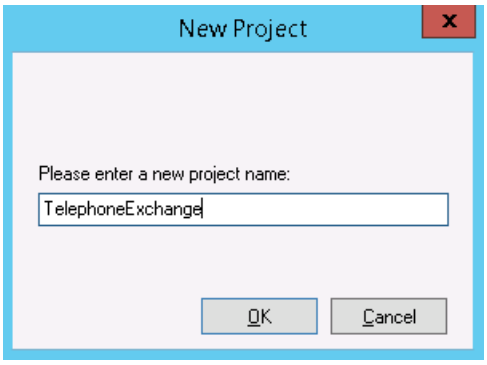
All the features explained in the following can be addressed via the menu bar as well as via the context menu.

4.2.1 Manage Projects

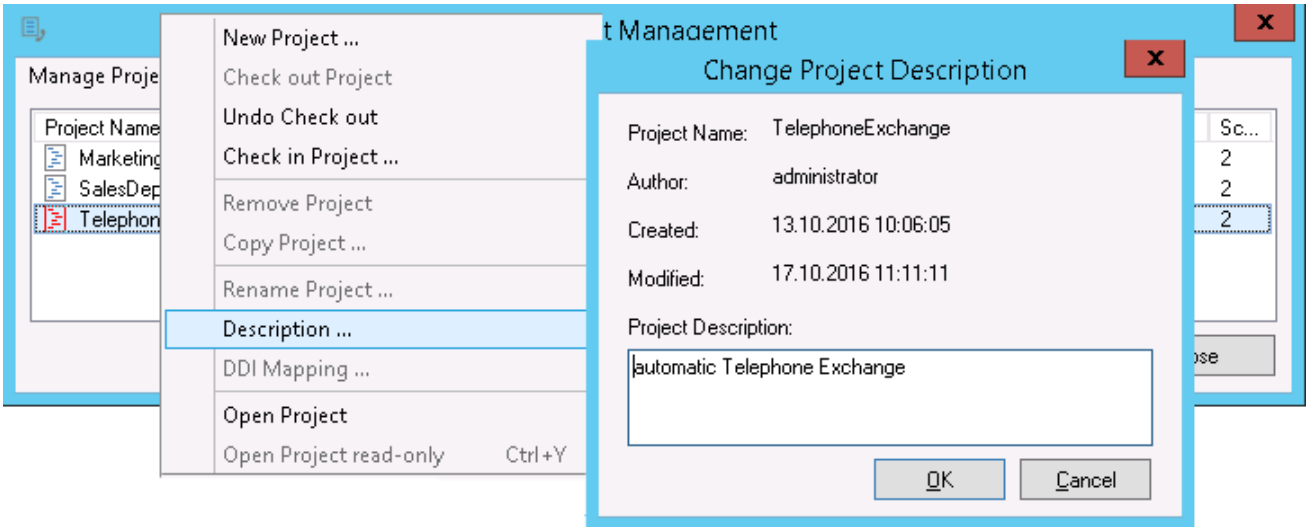
In order to create a new project, select "Manage Projects" - "New Project" in the menu.



You are requested to enter a project name.



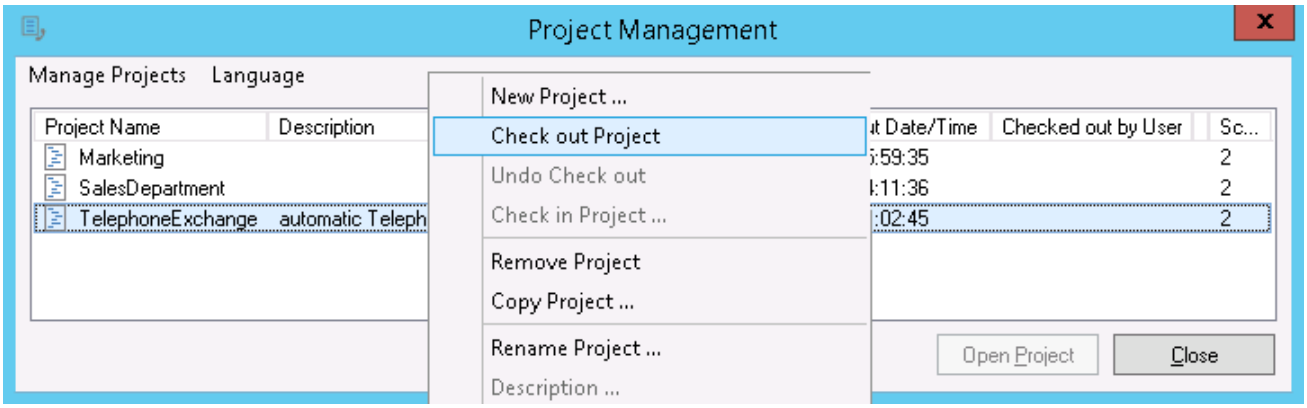
After having confirmed the name, you can enter a description text via the context menu or by double-click on the project.



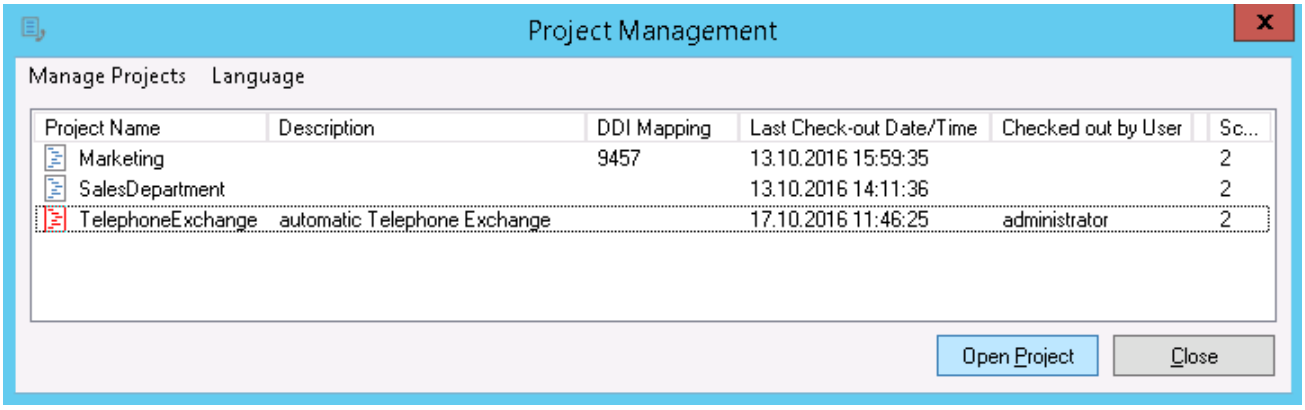
A new project always is "checked out" and can be processed directly.

4.2.2 Check out/Open/Check in

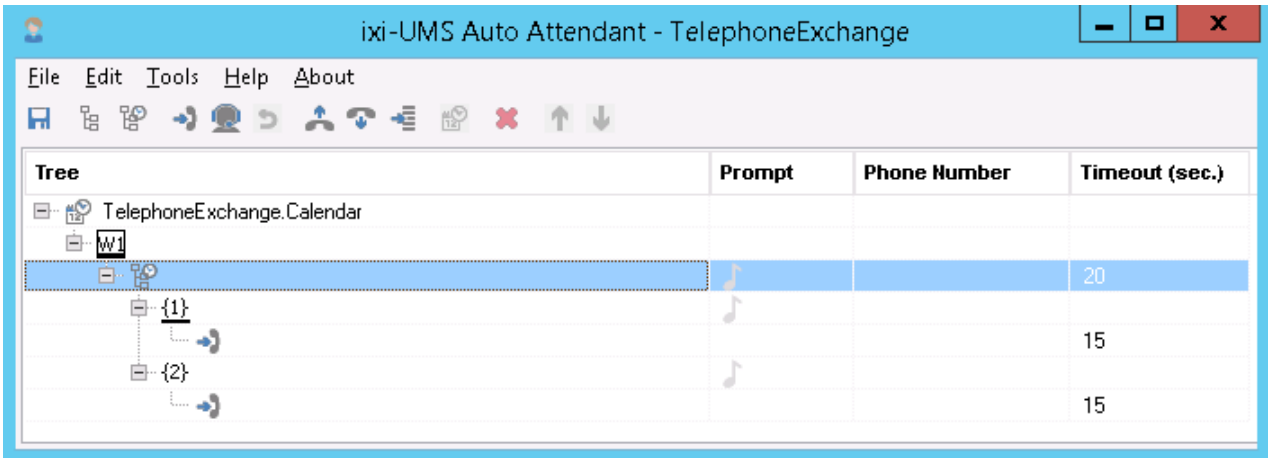
In order to process a project, it always has to be "checked out". Mark the project you want to process and select "Check out Project" in the menu.



The project is copied to from the server to your computer and then is displayed in red.

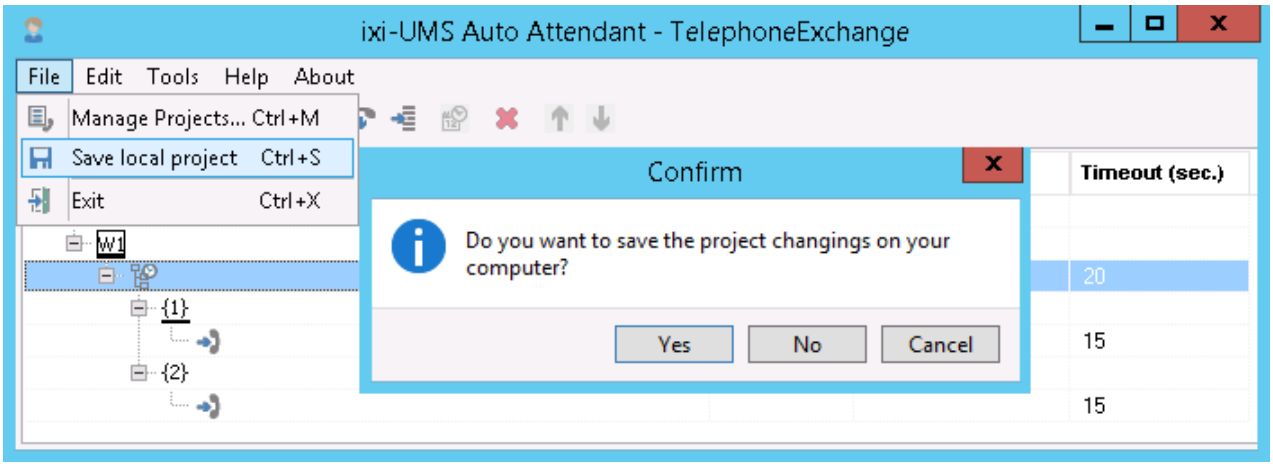


Click on "Open Project" in order to be able to process the project.
The Project Management is closed and the project is displayed. You now can create the project and record prompts.

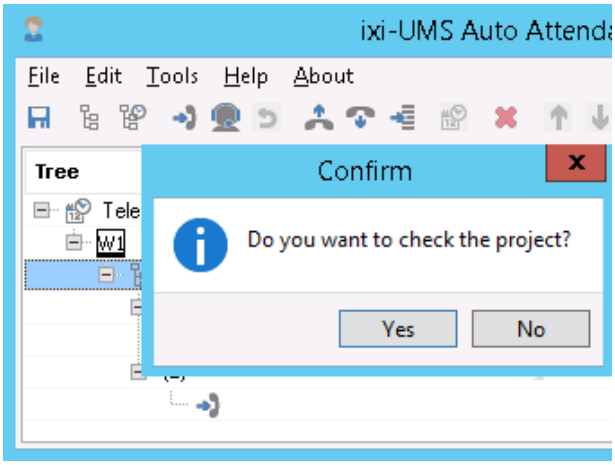


If required, you can save the script with the changes LOCALLY on your computer by clicking on the disk symbol.
The changes are only activated when the project is "checked in" again.

In order to leave the project, select the menu item "Project Management" at File.
If not all the changes have been saved LOCALLY yet, you are now asked to do so.



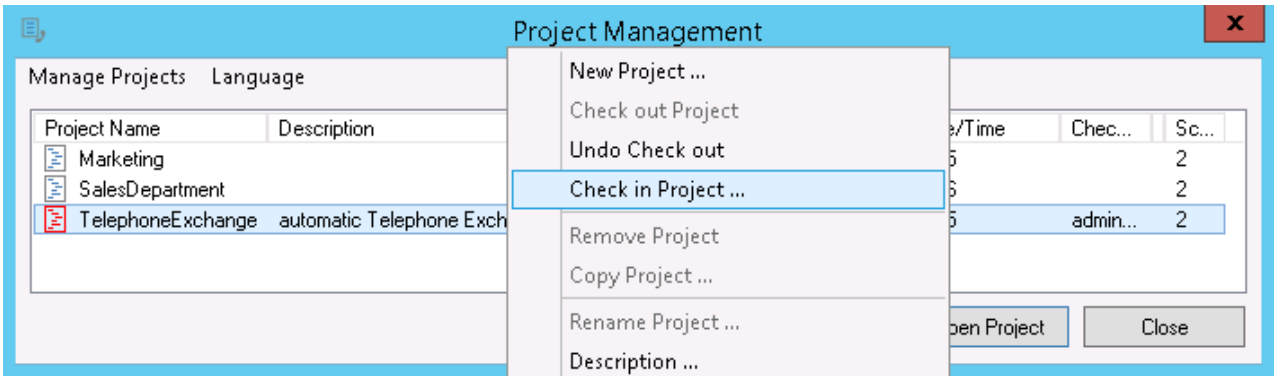
If you do not save, the changes are lost and the project is in the original stand when reopening it.
The changes are not yet actualized in the server!



After that, you can check the project for errors. This step is only required if you want to finish the project.

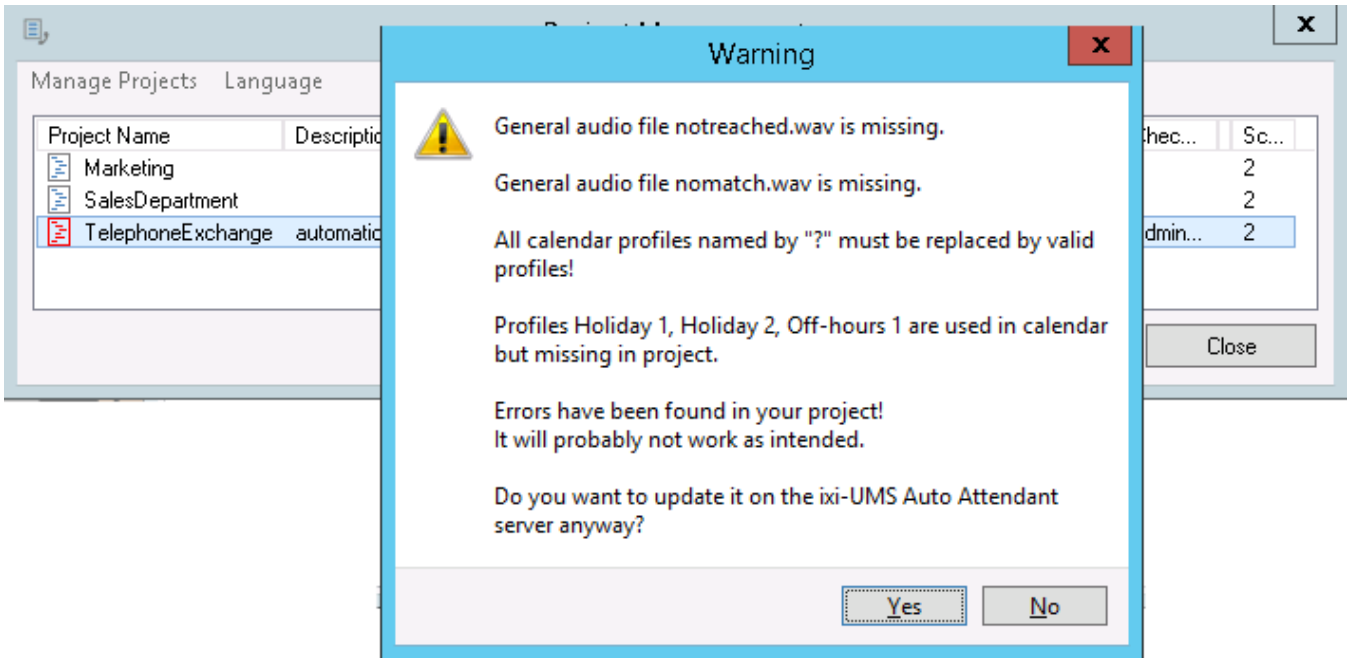
It is checked whether all the prompts have been recorded and a destination has been mapped to every module.

The project is closed and the Project Management is displayed, no matter whether errors had been detected during the check.

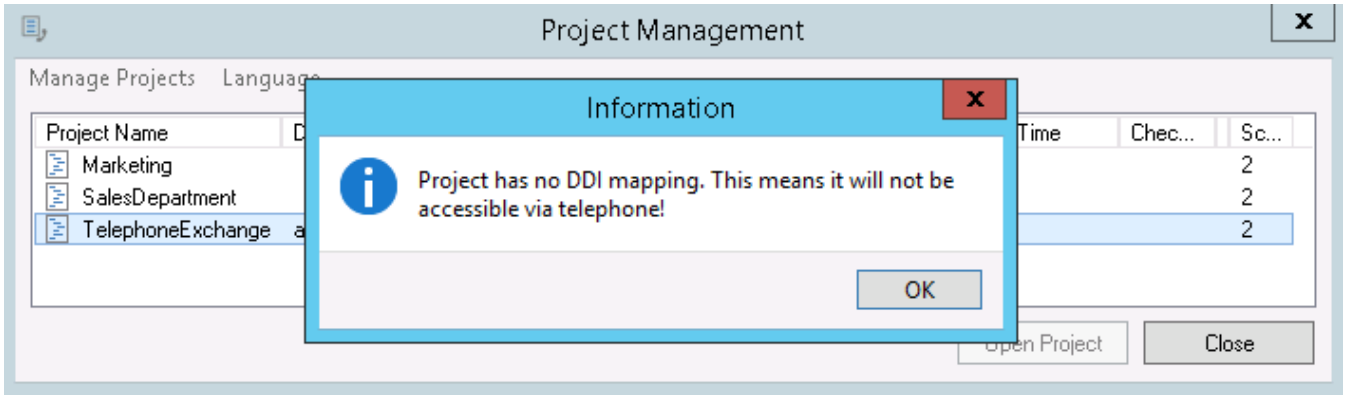


Now you can check in the project and therewith make it available on the server.

Another error checking is executed. If the project is not complete yet, you must confirm the "check in" again.



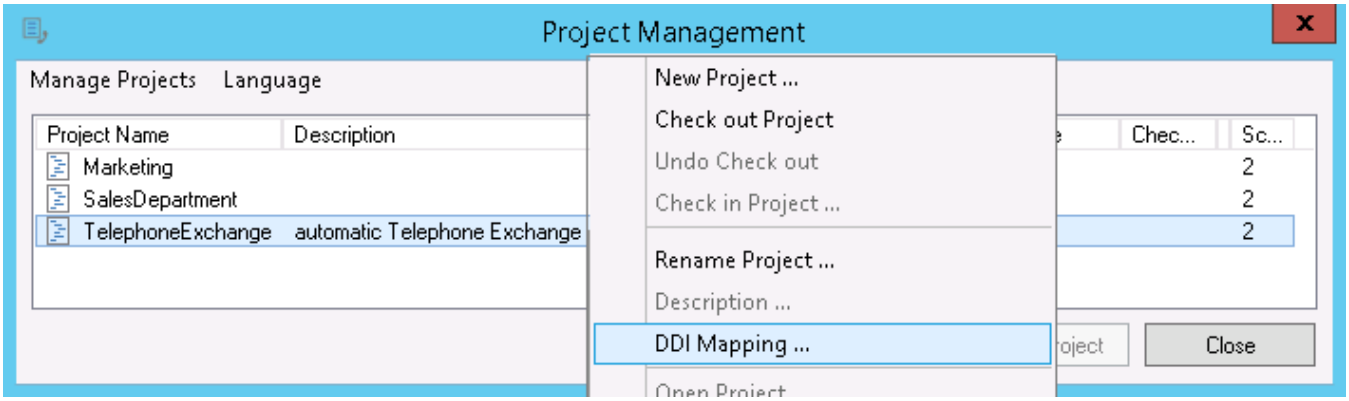
A waring might be displayed that the project has no DDI mapping.

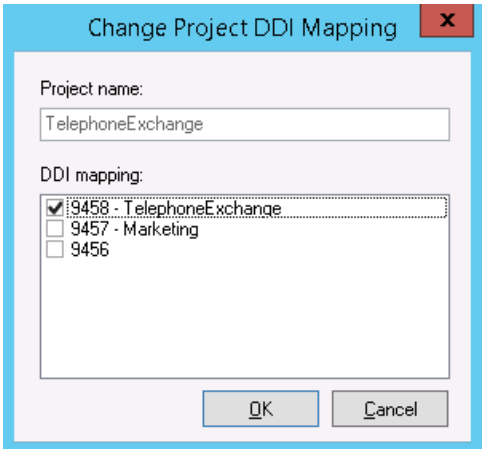


A script is only active, this means can be used, when a "DDI" has been mapped to it.

4.2.3 DDI Mapping

After having checked in the project, you can map a DDI to this.





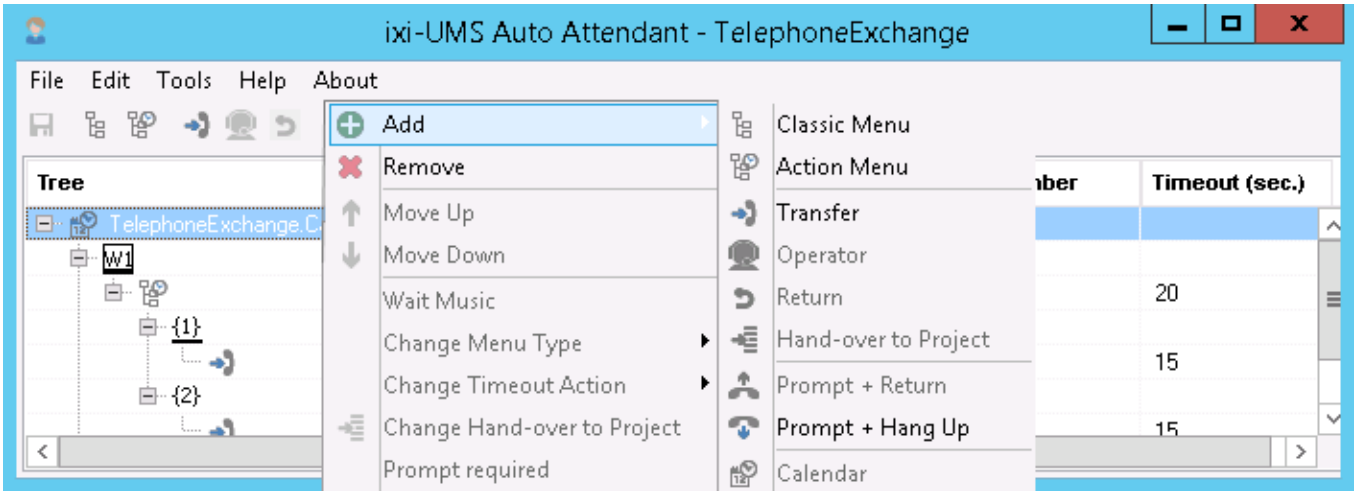
What had been reserved in the ixi-UMS Auto Attendant configuration at "DDI Mapping" is offered to you for the DDI mapping.
Every DDI can only be mapped to one project and every project only to one DDI.

With the selection of the DDI and clicking on "OK", the change of the mapping is executed on the ixi-UMS Kernel.

The ixi-UMS Kernel Service must be restarted **manually** in order that the script can be addressed.

4.3 Auto Attendant Modules

After having created a project and checked it out, the structure of the transfer can be put together by means of "modules". The modules can be added via the menu bar or the respective context menu.



Only the modules valid at this moment are available for selection.

With some modules, the functionality can be changed subsequently. Moreover, a prompt must be recorded and/or a transfer destination must be entered - depending on the module and structure.

Whether a prompt is required for the module or not can be determined in the context menu of every module. If the module shall get no prompt, you should opt out "Prompt required", because otherwise the lacking of the prompt is listed with the error checking.

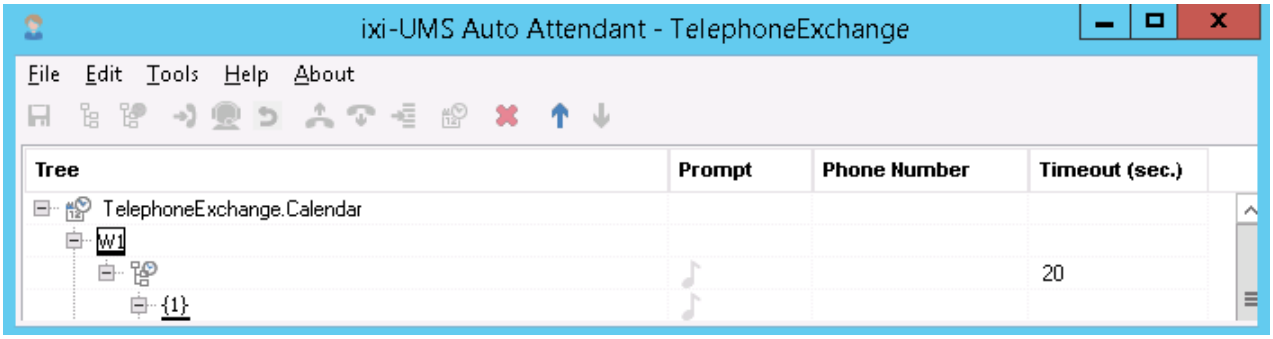
With modules with a prompt text, you can enter the respective text by clicking on the menu module, which is displayed with the recording of the prompt.

The modules and their functionality is explained in more detail in the following. At "Tutorial", an example project is created step by step.

4.3.1 Module Calendar

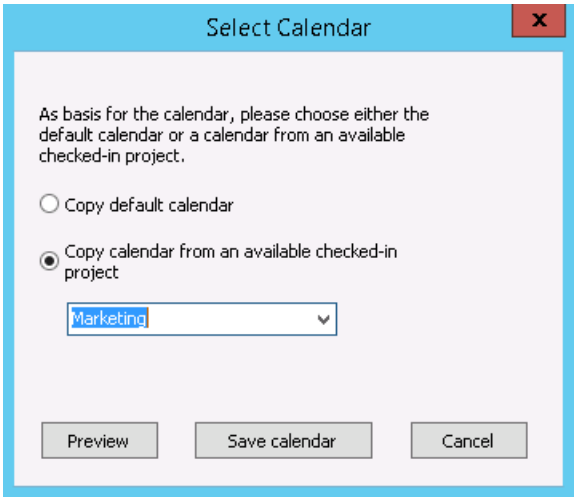
The Calendar is not an obligatory module! It gives you the opportunity for a time-dependent selection of different procedures. If no calendar is used, always the same menu is opened. Only one calendar is possible per project. The Calendar-module is **always the first** module in your project.

The Calendar is only saved when at least one more module is added.



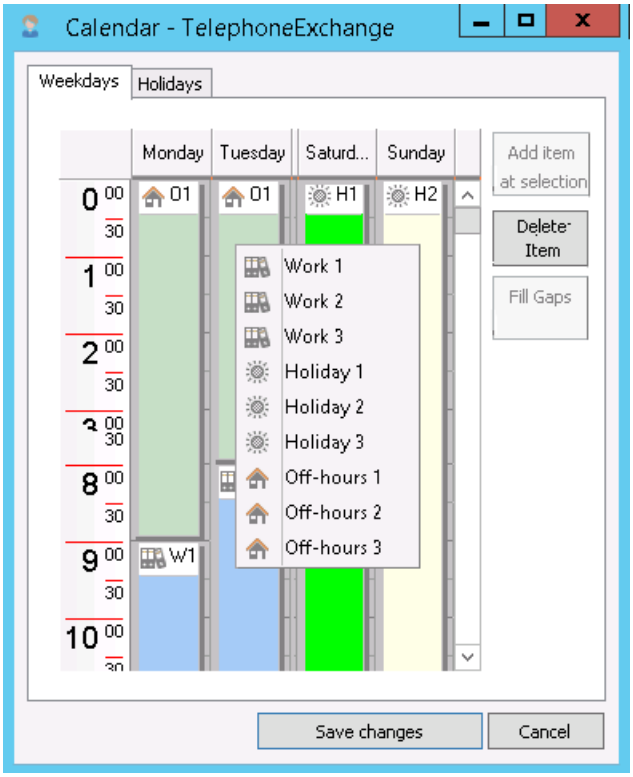
Via the menu bar or the context menu, a calendar can be added. You have to select whether
- the available default calendar
- or a calendar from another project

shall be created as basis.



The calendar is created as independent module for this project. Changes in this calendar do not have an effect on other calendar modules.

Basically, there are 3 time ranges available. In order to give you a better overview, these are different in color:



- **Work (blue):**
  [W1]: Opening hours of your company (e.g. daily office hours)
- **Off-hours (green):**
  [O1] Times in what the company is closed or not available for customers
- **Holiday (grey):**
  [H1] For weekends, holidays or annual shut-downs

Sections marked for processing are displayed in light green.

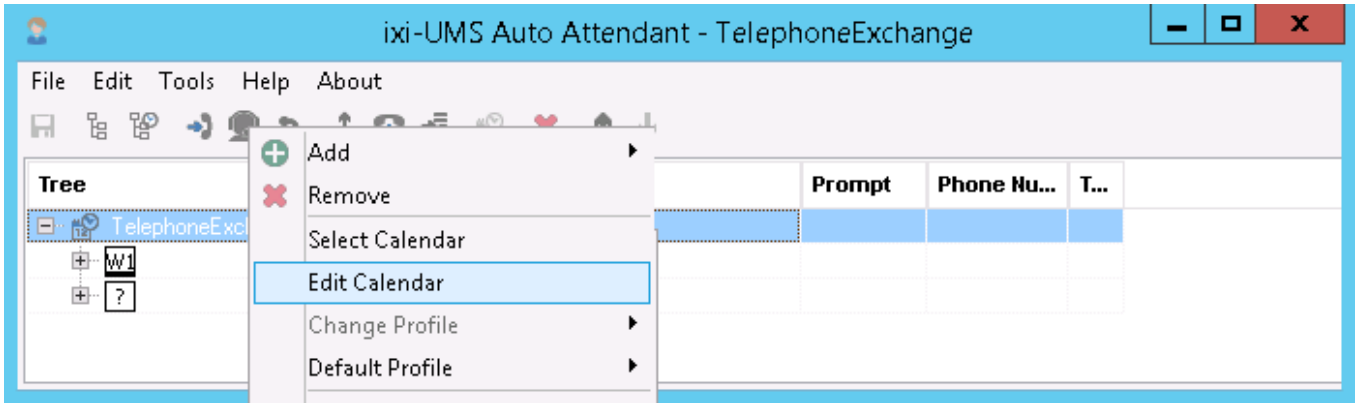
Every time range can be divided into 3 profiles, this means 9 allocations per calendar are available altogether.

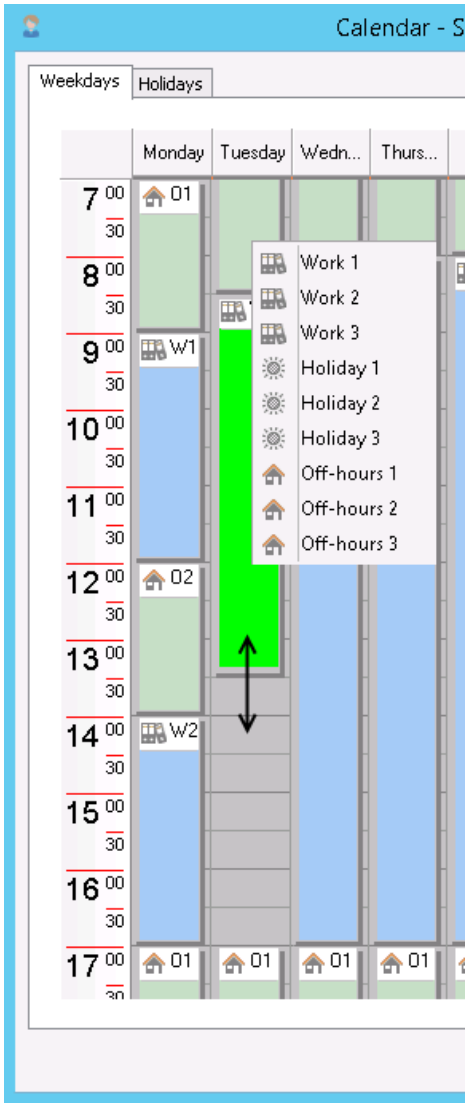
The default calendar has the following settings:
O1 = Off-Hours 1: 5 p.m. to 8 a.m.
W1 = Work 1: 8 a.m. to 5 p.m.
H1 = Holiday 1: Saturday
H2 = Holiday 2 : Sunday

4.3.1.1 Configuration and Assignment

In order to set the times and holidays, you must proceed as described in the following:

Add a calendar module to the project.
Via the context menu "Edit Calendar", you can open the configuration of the calendar.





A weekly view of the calendar is opened. You can see the set times and the assigned profiles, if there are any already.

In the example on the left:
Monday:
N1: Valid from 5 p.m. to 9 a.m.
A1: Valid from 9 a.m. to 12 noon
N2: Time range from 12 noon to 2 p.m.
A2: Time from 2 p.m. to 5 p.m.
From 5 p.m. on, N1 is defined again.

Tuesday:
N1: Until 8:30 a.m.
A1: 8:30 a.m. to 5 p.m.

You can change the times of the profiles by clicking on the profile and adjust the times by pulling the margins to the wanted time with the cursor.

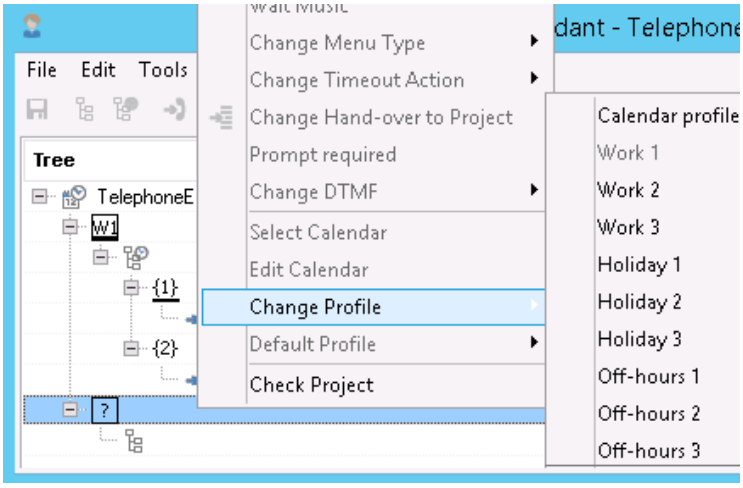
The sections can be assigned to other profiles by means of the context menu.
Available:
W1 (Work 1), W2 (Work 2), W3 (Work 3)
O1 (Off-hours 1), O2 (Off-hours 2), O3 (Off-hours 3)
H1 (Holiday 1), H2 (Holiday 2), H3 (Holiday 3)

In this project, the profiles "W1.....H3" can be selected individually and can be assigned to the single menues.

Via the button **"Add item at selection"**, you can cover unassigned times separately or at a time via the button **"Fill Gaps"**. A new time range is always assigned to the profile "W1" and may have to be changed.

Due to the different time ranges, it is possible to play another menu at a call, depending on the time range.

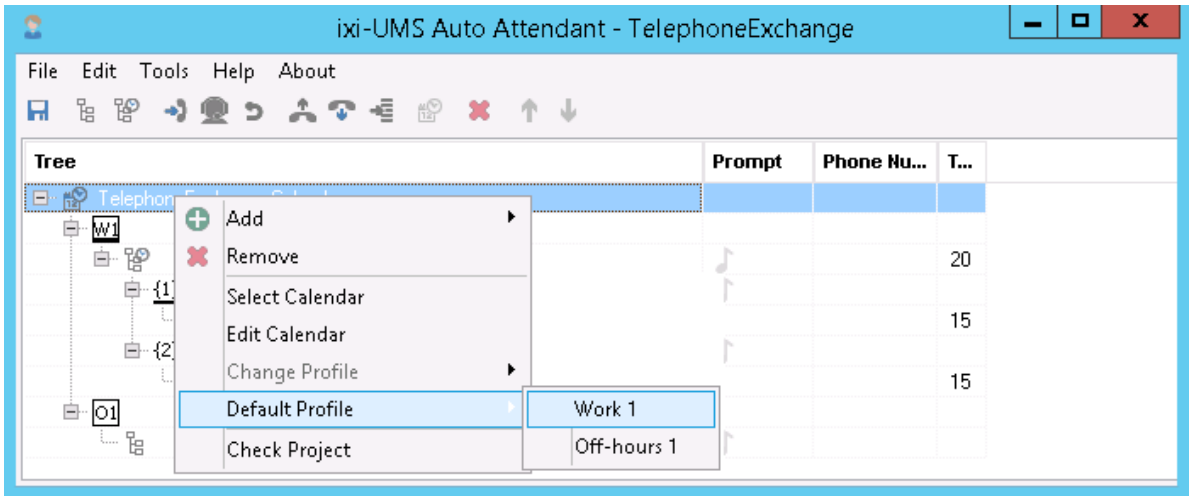
If your company, for example, has breaks in which the employees are not available by telephone, or if there are different procedures in the morning than in the afternoon. .



Add other modules after the calendar. You can assign the time range defined by you to every module

A menu structure must be assigned to every calendar profile. If this has not been done, the call might be unanswered at such a time.

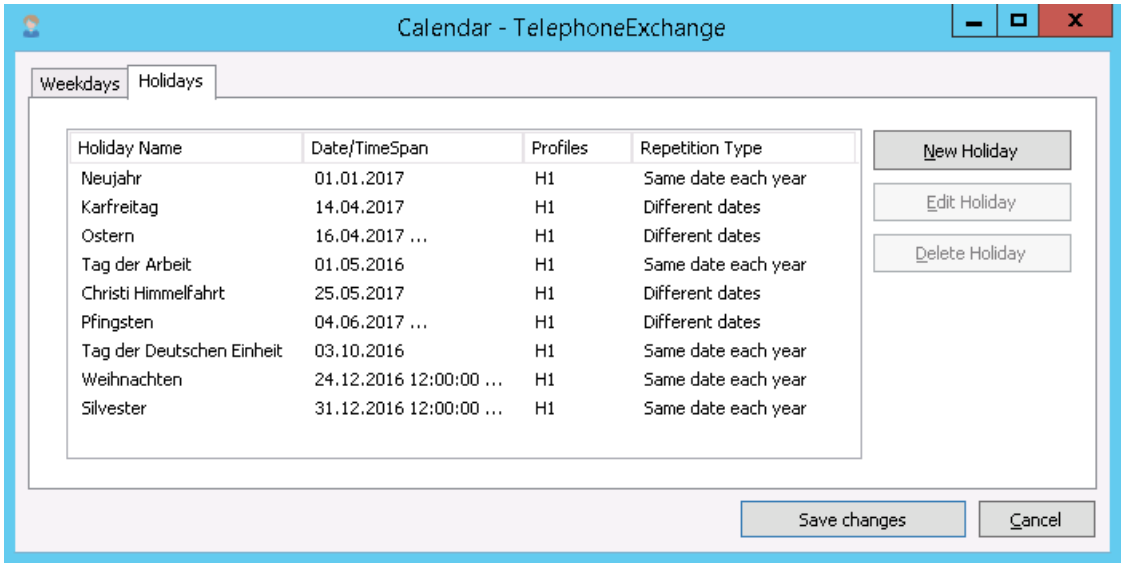
In order to avoid this, a "Default Profile" must be determined.



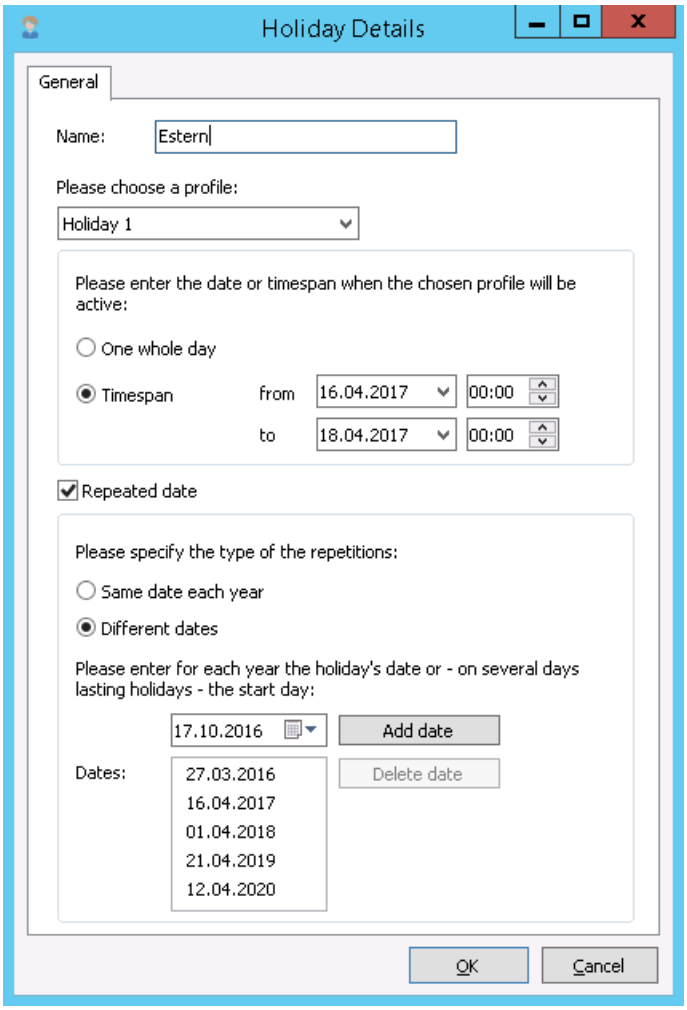
If a profile (time range) has been determined in the calendar, which no menu structure is assigned to, and a call comes in during this time, the menu structure of the "Default Profile" is played.
The default profile is marked by a small bar below the profile information.

4.3.1.2 Determination of Holidays

In the tab **Holidays**, you can define single days (the exceptions) and assign a profile to them. What you determine here overrules the settings in the weekly view. Moreover, you can state annual holidays, e.g. Christmas. Holidays with a fixed date that way have to be entered only once. When you want to make any changes, please click on "**New Holiday"** or **"Edit Holiday"**.



In order to set up a new holiday, click on **"New Holiday"**.



A new window opens (see left).
Enter a name.

Assign the holiday to a profile.
The Profile-selection "Advanced Profile Settings" should only be used in special cases.

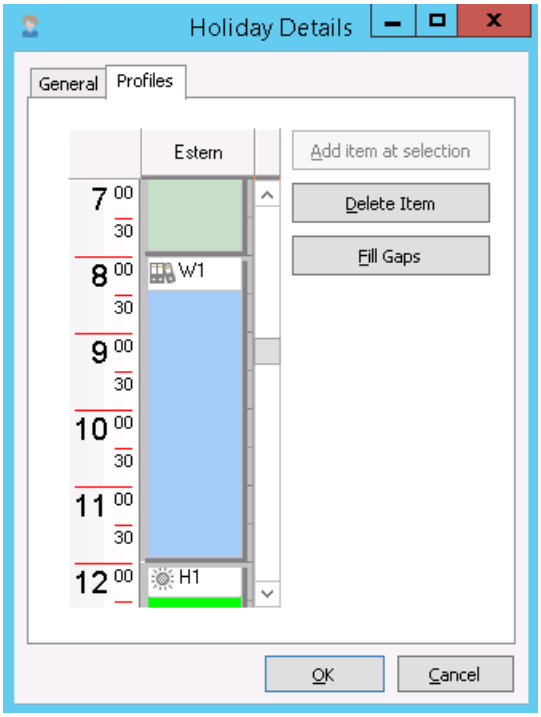
Please choose whether the new entry shall be for "**one whole day**" or for a "**Time span**".

When you choose "***Time span***", you can determine the date and the start- and stop-time.
In order to open the calendar, please click on the arrow key next to the date.

The year can be chosen directly when clicking on it.

For repeating holidays, a "**Repeated date**" can be determined. You can choose between **Same Date every year** or **Different dates**.

4.3.1.2.1 Advanced Profile Settings



The "Advanced Profile Settings" should only be used in special cases or for the adoption from a previous version of the ixi-UMS Auto Attendant. estos recommends the assignment of the holidays exclusively via "Time span" on the tab "General".

On the tab "General", you determine the duration of the holiday and therewith the validity of the assigned announcement or the assigned menu.

In special cases, it may be favored that during a holiday, another announcement is played for a certain time, for example an "emergency service announcement".
In this case, "Advanced Profile Settings" must be chosen as holiday profile on the tab "General".

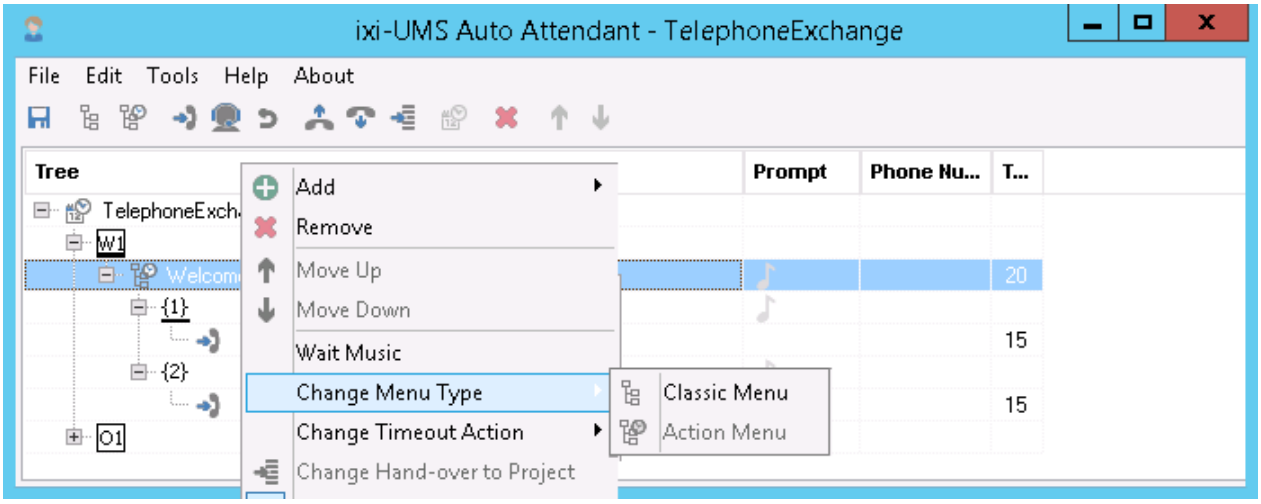
Now you can change times within the time span determined at "General", add further time spans and enter another profile.

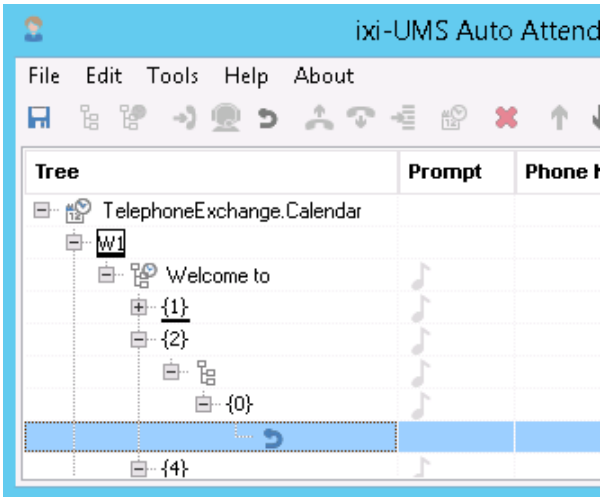
For the holiday in the example on the left, the menu of profile "W1" is played between 8 a.m. and 12 a.m. when a call comes in. During the other times, profile "H1" is valid.

4.3.2 Module Menu

There are 2 kinds of menu modules: the "Classic Menu" and the "Action Menu".

The menu modules provide the caller with a list of menu options, from which he can choose by keystroke. At the menu modules, all kinds of modules can be created (exception: the calendar).
With the "Action Menu", you can determine in addition that an action is executed automatically when a caller does not enter anything.
Via the context menu, you can make a "Classic Menu" out of an "Action Menu" and vice versa.





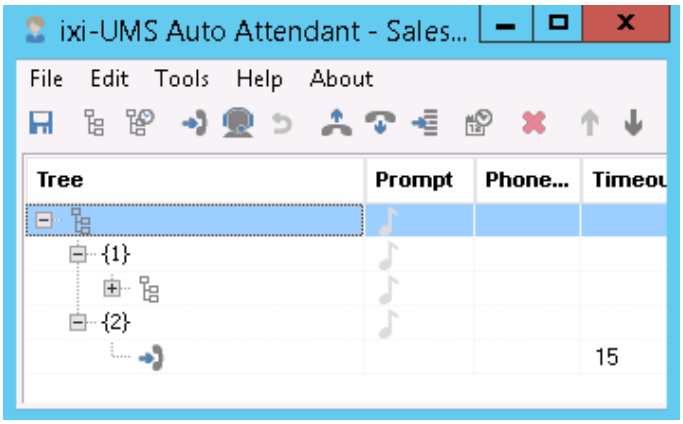
When the module "Menu" is added under another "Menu", it automatically has the function "Return".

Whether a menu module has a prompt or not depends on its position. The first menu module by default has the "welcome prompt".

Whether a submenu has a prompt depends on whether the caller is informed in which submenu he is (then the menu module must get a prompt), or whether the caller is immediately informed about the further selection options (then the module does not need a prompt).

In this case, the option "Prompt required" can be switched off in the context menu.

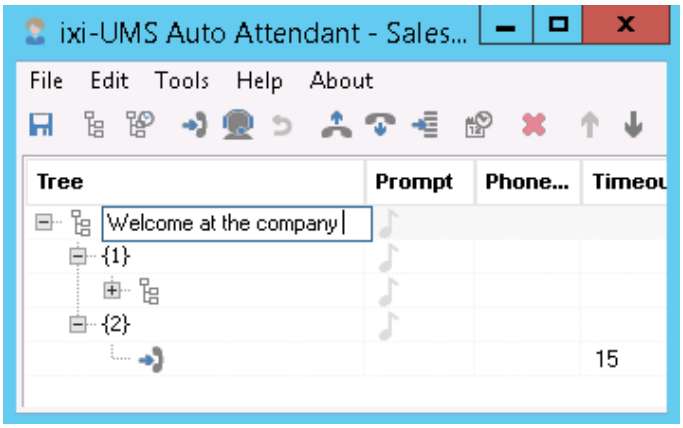
4.3.2.1 Classic Menu



The module "Classic Menu" provide the caller with a list of menu options, from which he can choose by keystroke.

At the menu modules, all kinds of modules can be created (exception: the calendar).

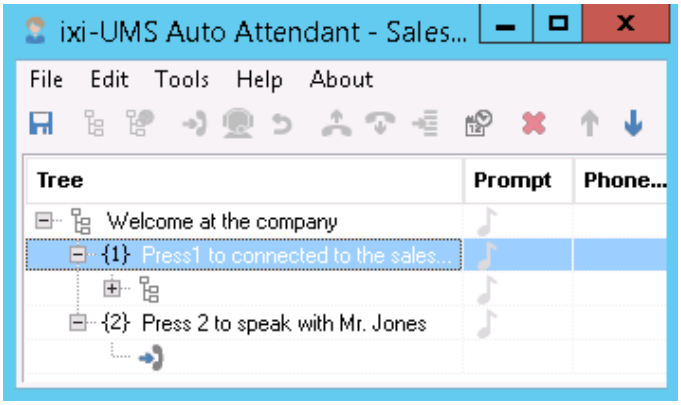
The DTMF-key to be selected is always set up when adding another module.
XYZ.



In the first menu module, the "main prompt" must be deposited.

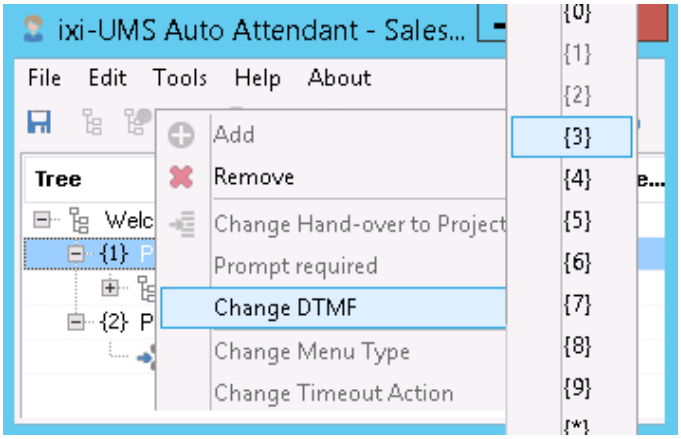
You can enter the respective text by clicking on the menu module.

Example:
Hello, you have reached company XYZ.



The prompts for the single options must be deposited at the respective menu items (DTMF-key).

Example:
Afte the "main prompt", the prompts
Press 1 for Sales
Press 2 for Support
are played.



The assignment of the keys is determined from 1 up when adding new modules.
You can change the assignment subsequently by right-click on the respective number (DTMF-key).

Please note that the display and the prompts of the menu **are not re-sorted!**

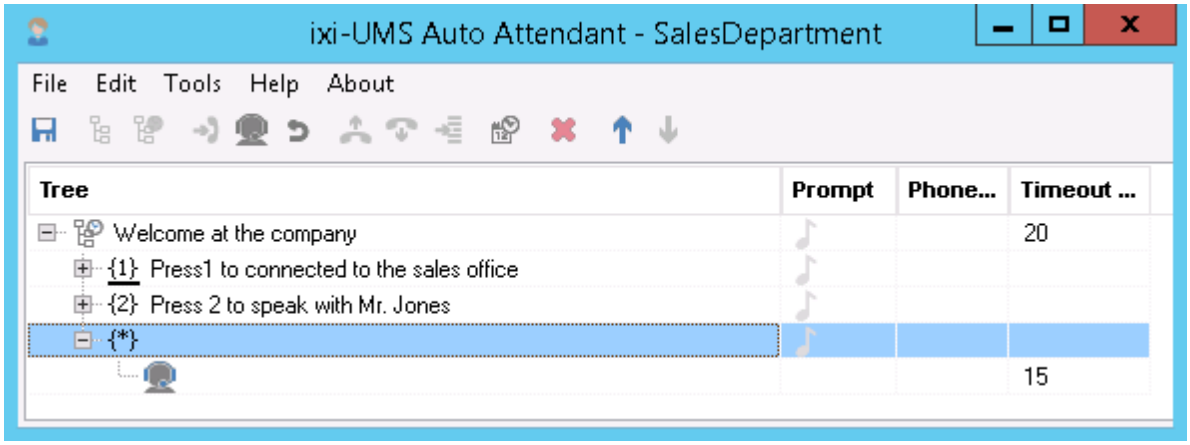
If the order shall be changed as well, this must be done manually via the buttons .

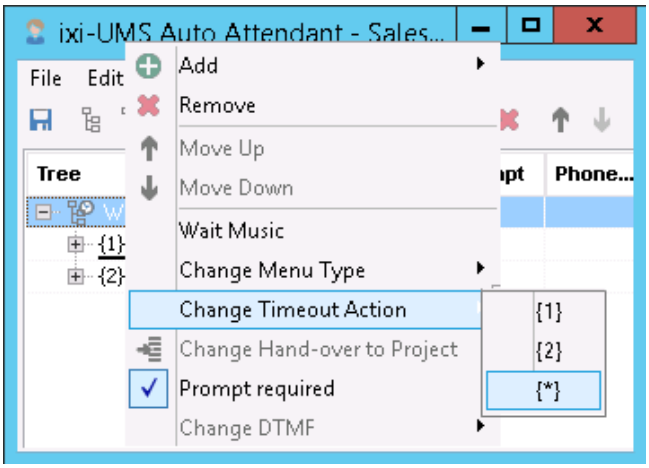
4.3.2.2 Action Menu

It may make sense to define an action, which is executed when the caller **does not** make a selection (e.g. when the telephone is not DTMF-capable).
In this case - after having added the "Action Menu"-module - this can be set in a way that after a predefined time, an action is executed.
The "Action Menu" corresponds with the "Classic Menu" in its features, however, a "default"-action must be determined additionally.

Via the context menu, the "Classic Menu" can be turned into an "Action Menu".

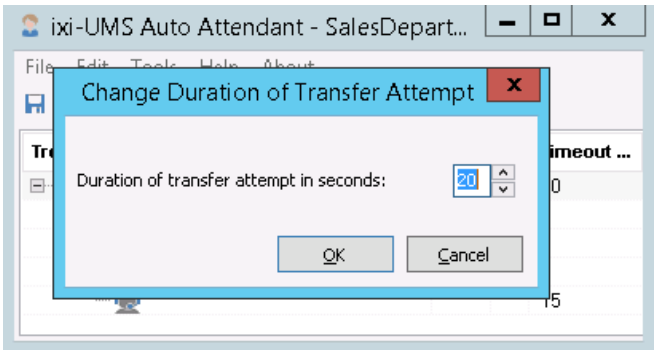
The determined action is marked by a small bar below the "DTMF-key".





After havind added the wanted subitems, you can determine in the context menu of the "Action Menu" what shall happen when a caller does not make a selection.

Das ausgewählte Menü wird durch einen Balken unter der DDI gekennzeichnet.

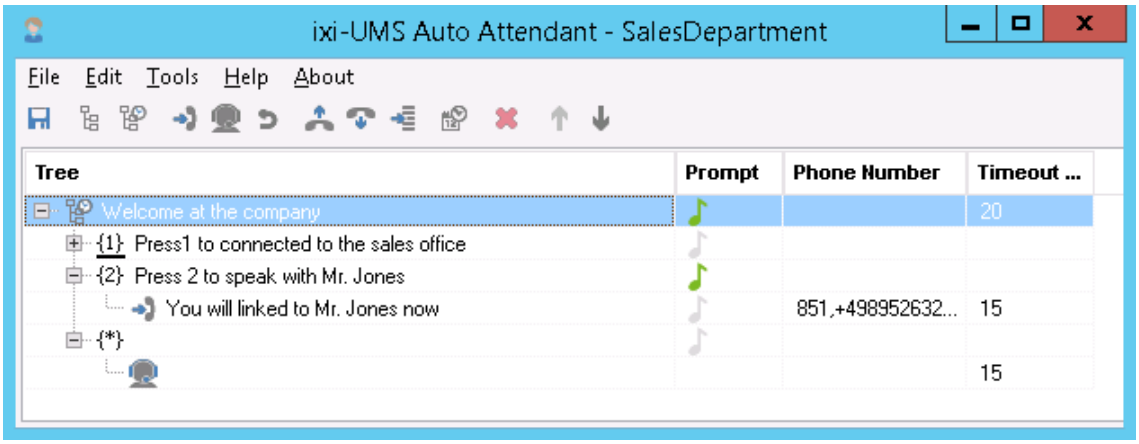


By clicking into the window "Timeout (sec)", you can change the "Timeout"-period (in seconds).

If no selection is made within 10 seconds, there is an automatic transfer to the destination determined at "1".

4.3.3 Module Transfer

By the module "Transfer" , the actual transfer to a telephone is defined.



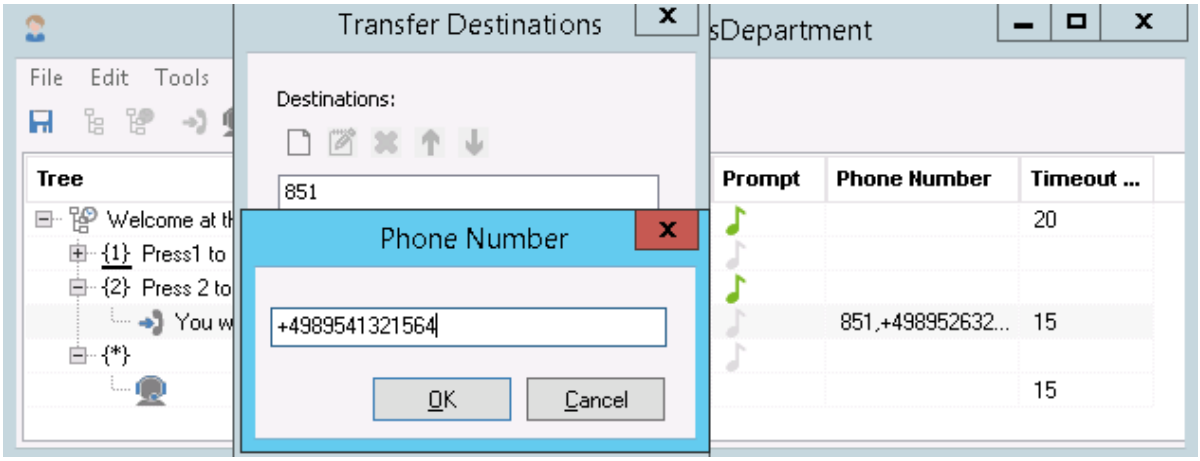
The Transfer-module by default does not have a prompt.
If a announcement shall be played before the actual transfer of the caller (e.g. "You are transferred to .... Please hold the line), this option can be addressed in the context menu of the module.

After that, the caller is transferred to the determined number. If there are several destination numbers and if an extension is busy or the call is not answered, the next number is dialled. Every entered extension is only dialled ONCE. For how long it is dialled, depend on the determined "Timeout in sec."
If an extension shall be dialled several times, it must be entered several times.

Between the transfer tries, the Wait Music is played (optional). If there is not wait music available, the next number is dialled immediately.

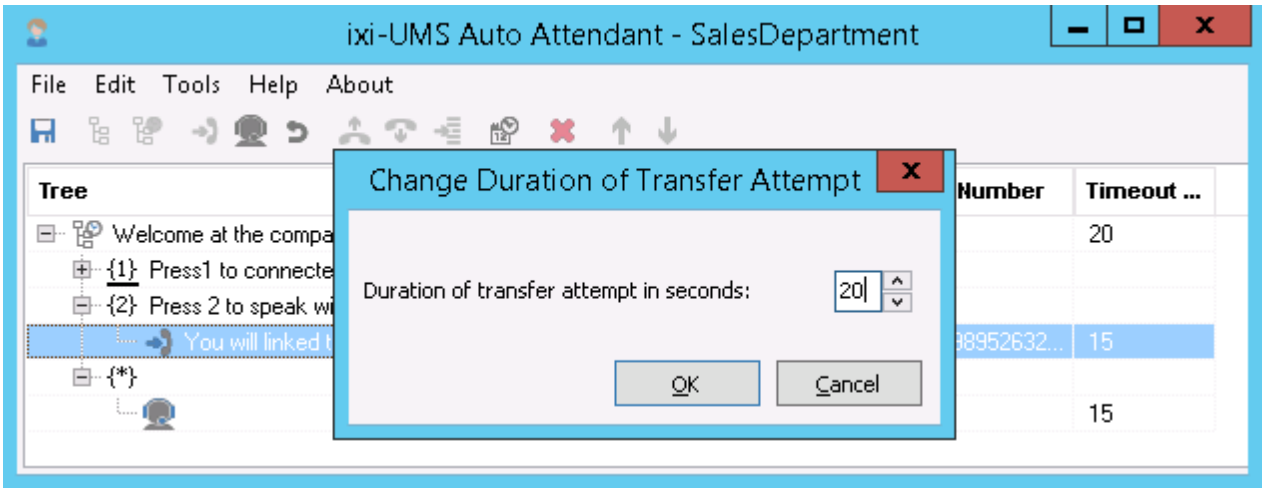
If none of the extensions is available, the general prompt and the superordinate menu are played.

Transfer Destinations
By clicking into the field "Phnone Numer", you can enter a list with *Transfer Destinations*.
If this is an internal destination, please enter only the extension. External destinations must be specified in canonical format, this means with country code (e.g. +4981424799123).



Every entered extension is only dialled ONCE. For how long it is dialled, depend on the determined "Timeout in sec."
If an extension shall be dialled several times, it must be entered several times.

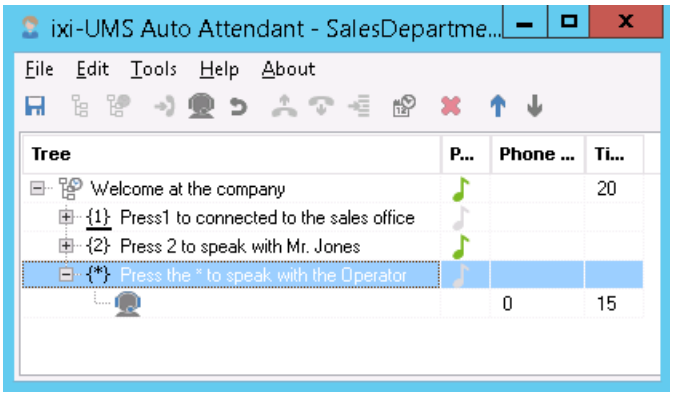
No-Answer Timeout (sec)
In the column "No-Answer Timeout (sec) you determine, after how many seconds the try shall be aborted when the call is not answered.



If several destinations are entered, the next destination is either addressed immediately or after having played the wait music, if there is one.

4.3.4 Module Operator

The module "Operator" is not a module in the true sense of the meaning. In fact, the transfer to the telephone exchange is an option in a Menu Module.



The specific characteristic is that this option can be inherited to submenues, this means you only have to add this option to your project in the topmost menu module.
It is available in **all** the menues then. You can change the options of the "Telephone Exchange" in all the submenues.

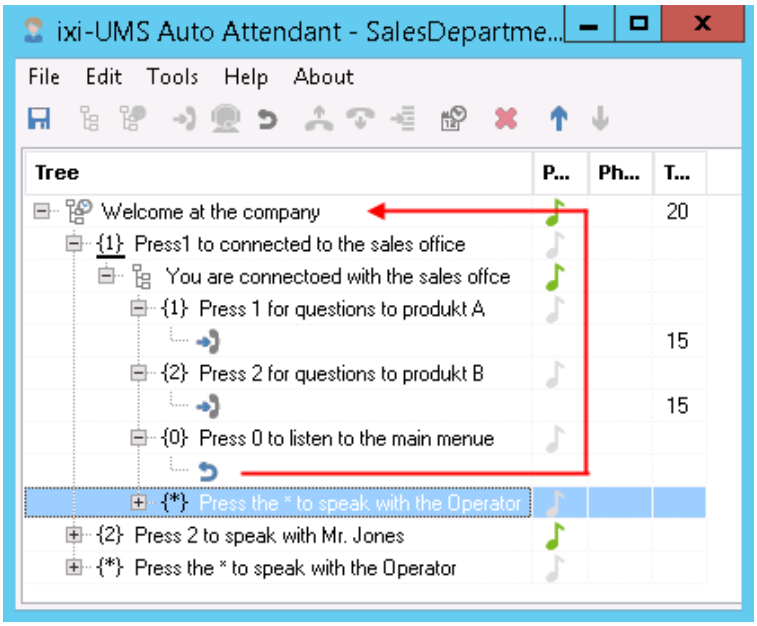
The transfer to the operator by default is realized with the "*" -key. The assignment can be changed as described in the module "Menu".

Just like the operator module, the module "Telephone Exchange" by default has no prompt.
If another prompt shall be played before the actual transfer of the caller (e.g. "You are transferred to the telephone exchange. Please hold the line), this option can be addressed in the context menu of the module.

Timeout in Sec
The default timeout is 20 seconds, however, can be adjusted individually.

4.3.5 Module Return

The module "Return" allows the caller to jump back to the superordinate menu.

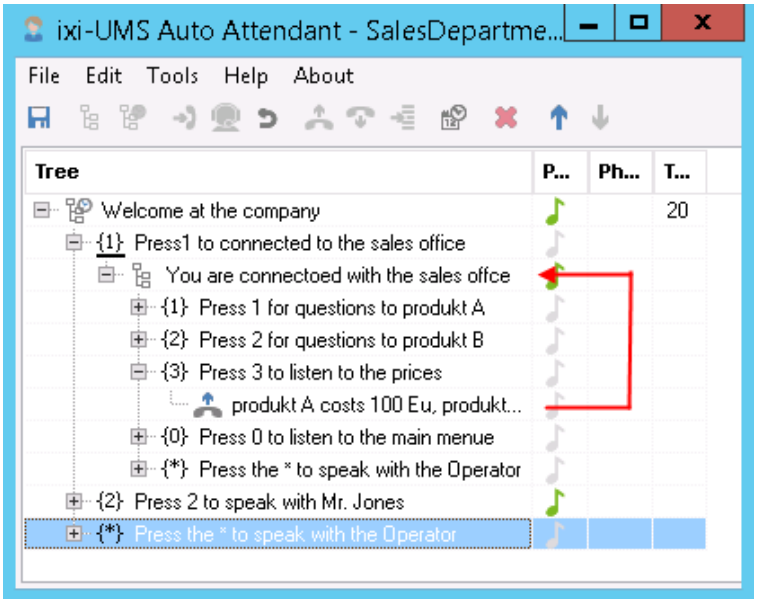


The return to the menue by default is realized with the "0" -key. The assignment can be changed as described in the module "Menu".

The return also is only a menu option in the true sense. In contrast to the module "Telephone Exchange", the module "Return" is not inherited. The "Return" can only be added in submenues.

4.3.6 Modul Prompt + Return

With the module"Prompt and Return" the calle can listend to an announcemend and then is connected automatically in the active menu back.

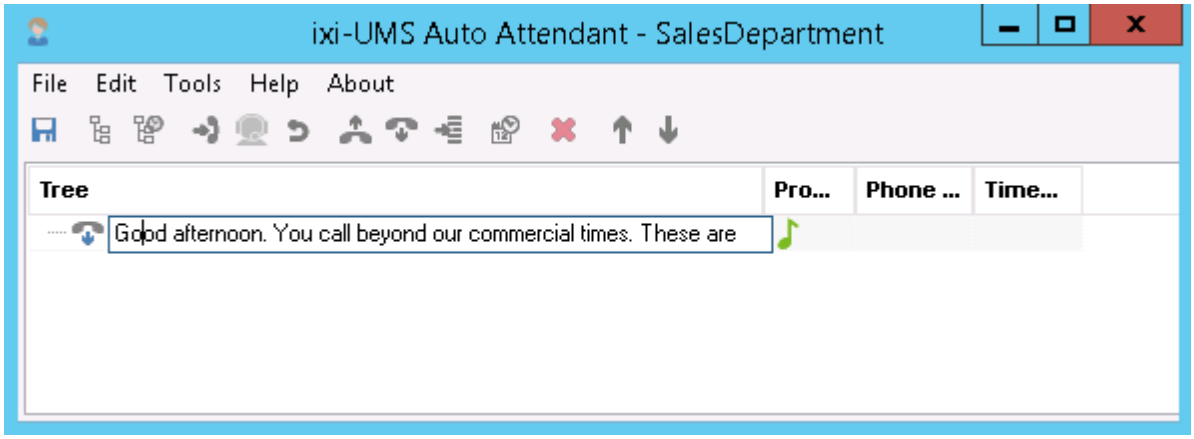


In the example left:
If the caller presses "3", the announcement deposited there is played and then jumped back automatically in the active menu.

The module "Prompt and Return" can be inserted several times.

4.3.7 Module Prompt + Disconnect

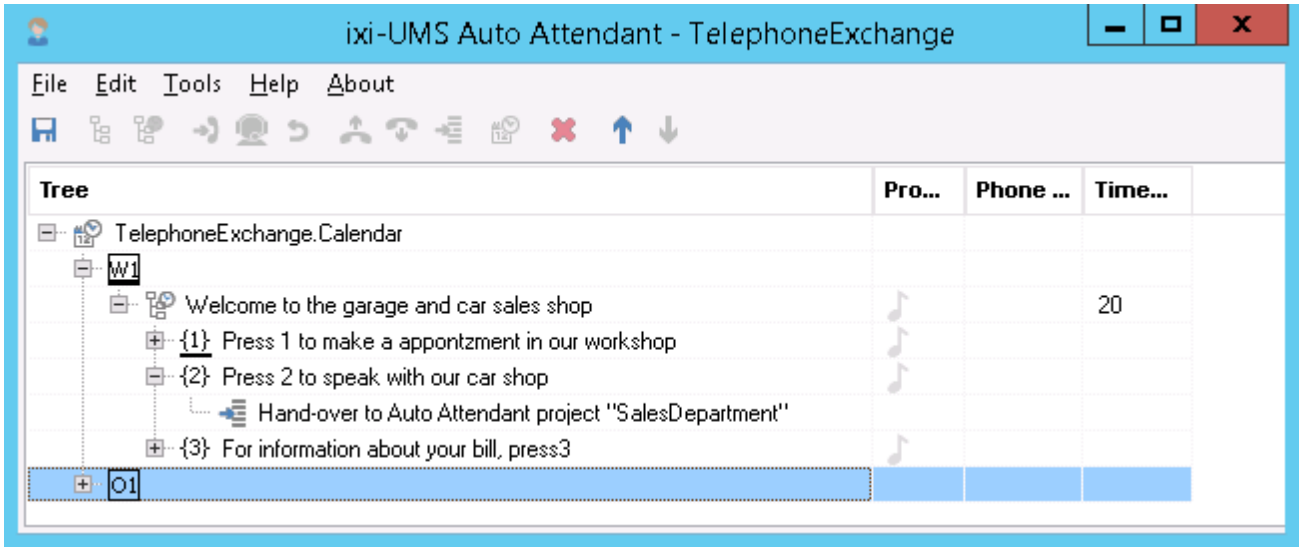
The module "Prompt + Disconnect" is a pure "prompt module", no further action is possible.



When this module is selected, a prompt can be deposited only. When the prompt is finished, the call is disconnected.

4.3.8 Module Hand-over to Project

With the module "Hand-over to Project" can be called other ixi-UMS Auto Attendant provided projects or own VoxML-Scripte.

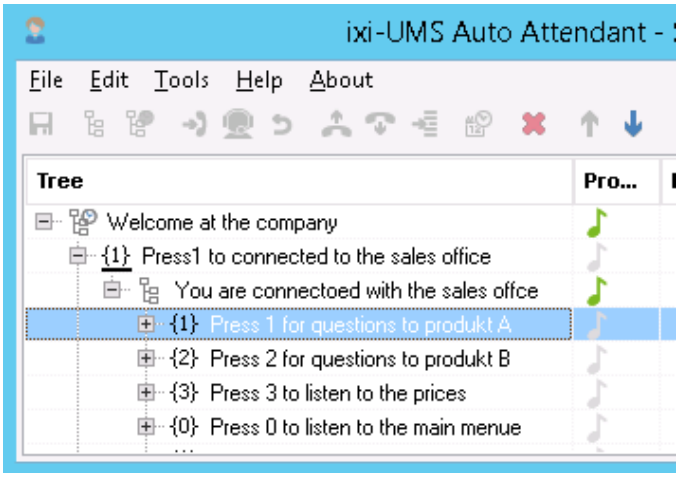


This makes sense, for example if a menu structure recurs in different profiles or in different projects. They can put on therefore own project and call this in different projects / to profiles.

4.4 Recording Prompts

Prompts are an essential part of an ixi-UMS Auto Attendant application. By means of prompts, the caller is informed about which options are at his disposal at the moment. It is important for this that your prompts

- are consistent (this means always the same speaker)
- clearly audible (this means human speaker, no Text-to-Speech engine)
- can be recorded efficiently (time saving when changes have to be made)
- are in the format PCM, G711 (µ- oder a-Low) , 8kHz, 8bit, 1 channel (mono), Wav/RIFF

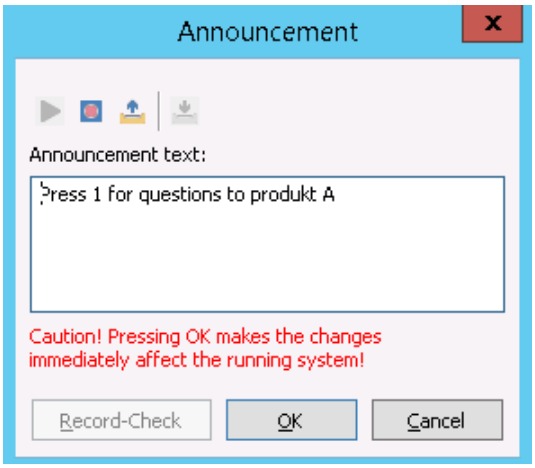


With all the modules with an announcement, a note is displayed in the column **Prompt**.

If this is displayed in grey, no prompt has been deposited yet. If the note is green, a prompt has been deposited.

You can deposit prompts via the telephone stated at the login or by stating an available Wav-file.

Click on the note next to the module in order to record the prompt.



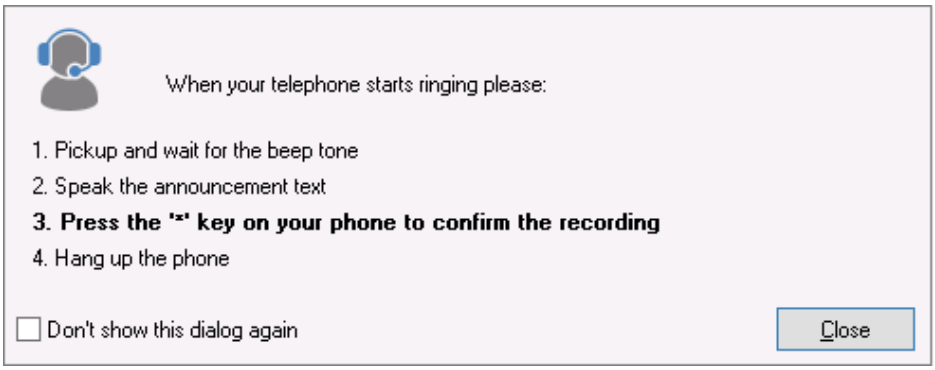
The text entered by you for the prompt is displayed.

In order to start the recording via the telephone, click on the "Record"-button
If you want to use an available Wav-file as prompt, click on the "Selection"-button

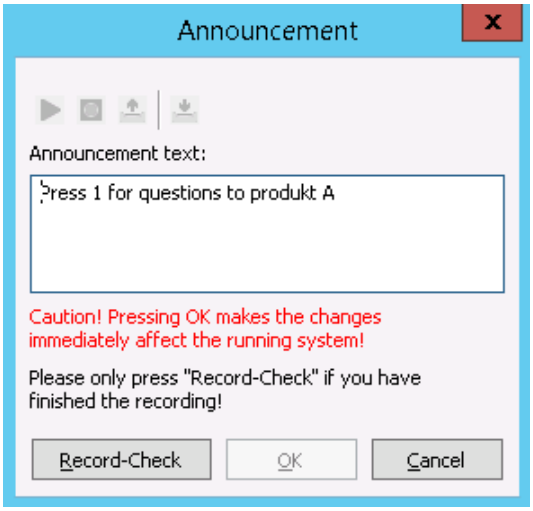
For the recording of prompts via telephone, you should not use a "speaker function" in order to avoid background noise.

Recording prompt via telephone

After having clicked on the Record-button, an instruction about the further procedure appears.



If your telephone does not ring, please close all the projects and log out at the ixi-UMS Auto Attendant Client.
Log in again and check your extension number.

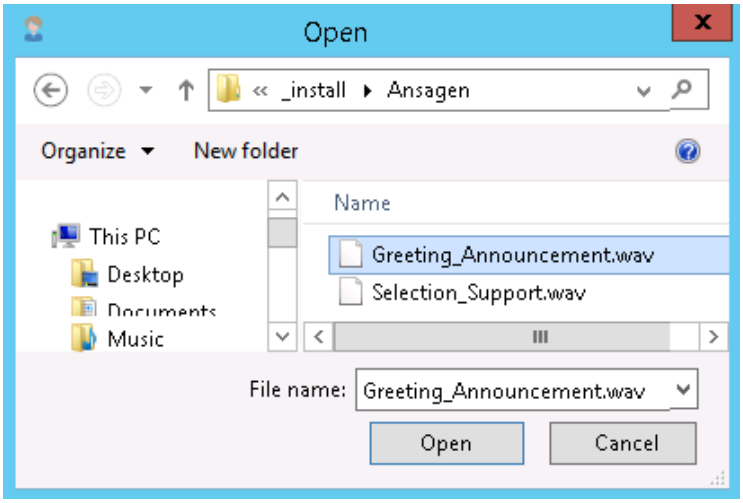


Checking prompt

When you have recorded the prompt via telephone, you have to check this in conclusion.

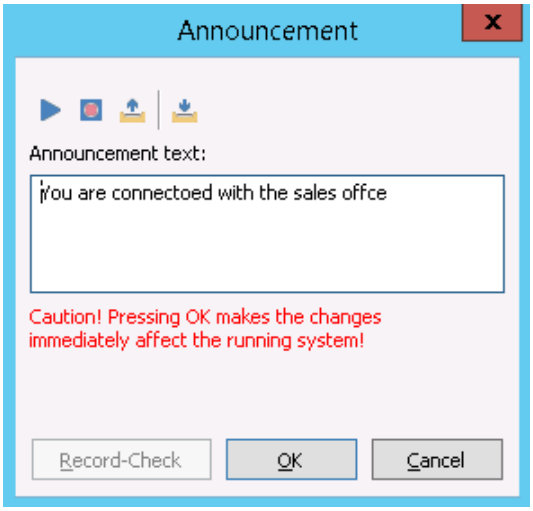
It is checked with this whether the prompt has been processed correctly and could be deposited at the project.

Click on the button "Record-Check".
If the check was successful, the "OK"-button to save the recording is enabled.



Assigning available prompts

If you want to make use of available prompts, please note the required formats.
After having clicked on the "folder symbol", you can select the prompt. auswählen.



Listening to prompt

You can play the prompt at any time.

Click on a green note and choose the "Play"-button ▶ in the window.

The prompt is played at the telephone you enter with the login.

Deleting announcement

An announcement cannot be deleted. If you do not need a deposited prompt, change the module in "without prompt".
If you only want to change the prompt, you can rerecord it.

All changes are only active with the "check in" of the project!

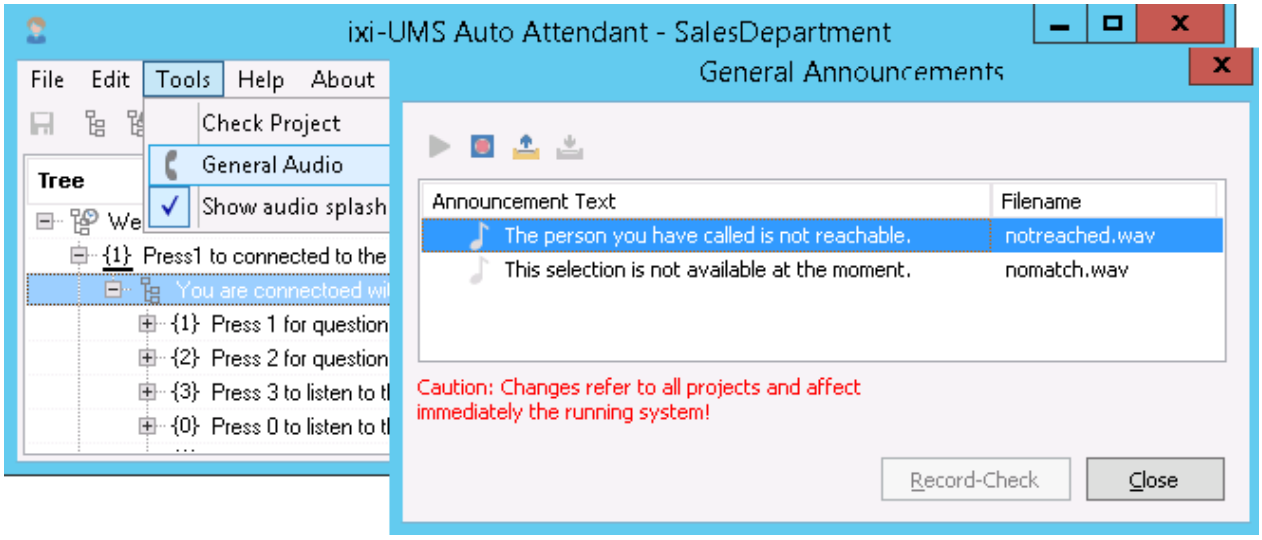
4.5 General Audio and Wait Music

In addition to the prompts deposited by you, also "General Audio" and "Wait Music" (optional) are necessary.

The general prompts and the files deposited for the wait music are valid for all the projects. Changes are immediately active.

General Announcement

This means prompts, which are played when an undefined action is executed.



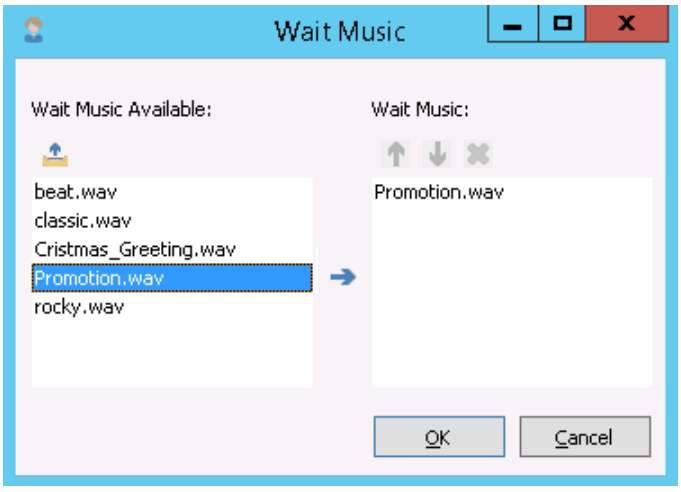
In order to record the prompts, choose the selection "General Audio" in the menu item "Tools". The prompts available to you are displayed. Click on a note to record the prompt. **The changes are immediately active and valid for all the projects.**

Wait Music

The wait music is meant to

- give the caller some time to make his decision after having listened to the menu and the options available
- prolong the time between 2 transfer tries.

It does not have to be music, of course. These prompts can rather contain other interesting information for the caller.



The files for the wait music must be dposited in the directory "..\ixi-UMS Auto Attendant\Scripts\WaitMusic".

You can assign the wait music via the context menu of the single modules. All the files deposited in this directory are available for selection.

Choose a file from the table on the left side and add it to the active list by means of clicking on the button

The list may contain any number of Wav-files.

All the Wav-files are played one after the other before the next action is executed. The order can be changed via the arrow keys.

The general prompts and the files deposited for the wait music are valid for all the projects. Changes are immediately active.

5 Tutorial - First Steps

An example project is set up in the Tutorial, which shall describe the handling of the ixi-UMS Auto Attendant.

The treated topics in this chapter are:

- Preparations for setting up an Auto Attendant
- Recording of the prompts
- Creation of the project

5.1 Preparation

Basically, you should consider carefully in advance, what you want to obtain with your Auto Attendant and which features you want to provide to the callers.

This includes:

Call volume
Every caller "in the Auto Attendant" reserves a B-channel on the ixi-UMS Kernel. A good estimation of the needed B-channels is possible by switching on "call waiting" at your telephone exchange and observing how often collisions occur. If they occur regularly, you need at least 2 B-channels for your Auto Attendant. If the Auto Attendant is not sized sufficiently, callers will often hear the "Busy"-tone. As a result, you might lose calls, what actually should be avoided by deploying an Auto Attendant.

Required call numbers for the Auto Attendant
Every Auto Attendant project at least needs one extension number on the ixi-UMS Kernel.

Planning of the actions and the required features
You should make a rough sketch of the actions on paper in advance. Use a tree structure and plan the different options and features, e.g. call transfers.

You must determine, for example, what shall happen in case the line is busy:

- Shall the caller try again
  or
- is he transferred to a voice mailbox and may leave a message?

You should also consider in advance, whether you need time-controlled prompts and sketch different actions.

5.2 Setting up an Auto Attendant

The project in the following is an example for an Auto Attendant at a garage, set up according to the following requirements:

During the working hours, the caller shall be able to choose, whether he wants to be connected to the
- car sales
- service reception
- spare parts store.

The caller shall
- be informed, in which submenu he is
- be connected to one of the two salespersons directly
- be able to choose between an appointment for the garage and the information about the completion of his car
- be able to return to the main menu any time
- be connected with the telephone exchange any time
- be transferred to the telephone exchange if no selection had been made within 15 seconds.

During the lunch break,
- a prompt with the opening hours shall be played
- it shall be possible to leave a message.

Out of the working hours, a prompt with the opening hours shall be played.

On holidays, the caller shall get general information about the holiday and the opening hours.

The working hours are:
Monday to Thursday: 7:30 a.m. to 12 noon; 2 p.m. to 5:30 p.m.
Friday: 7:30 a.m. to 12 noon; 1 p.m. to 4 p.m.
Saturday: 8 a.m. to 1 p.m.

Required is a project
- with 4 time-dependent "Profiles": working hours, lunch break, holidays, off-hours

- The profile "Working Hours" must consist of:
    - an "Action Menu" for the welcome
    - 2 "Classic Menues":
        - car sales with
            2 modules "Transfer"
            a module "Operator"
            a module "Return"
        - service reception with
            2 modules "Transfer"
            a module "Operator"
            a module "Return"
    - a direct transfer to the spare parts store
    - a module "Operator"

- The profile "Lunch Break" must consist of:
    - One menu module with a transfer

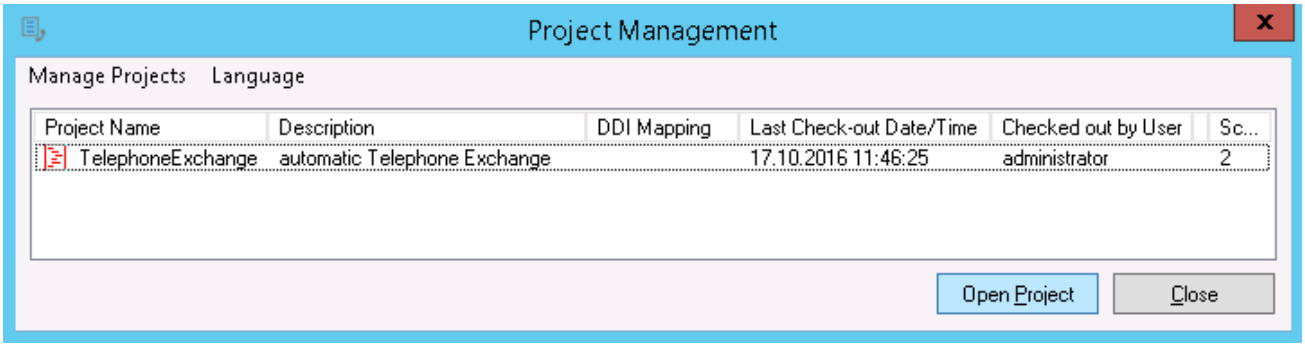
- The profile "Off-Hours" must consist of:
    - a prompt and disconnect

- The profile "Holidays" must consist of:
    - a prompt and disconnect

The extension numbers are:
Salesperson 1: 256

Salesperson 2: 257
Spare parts: 371
Appointments: 365 and 366
Service reception: 384
Voice box: 399

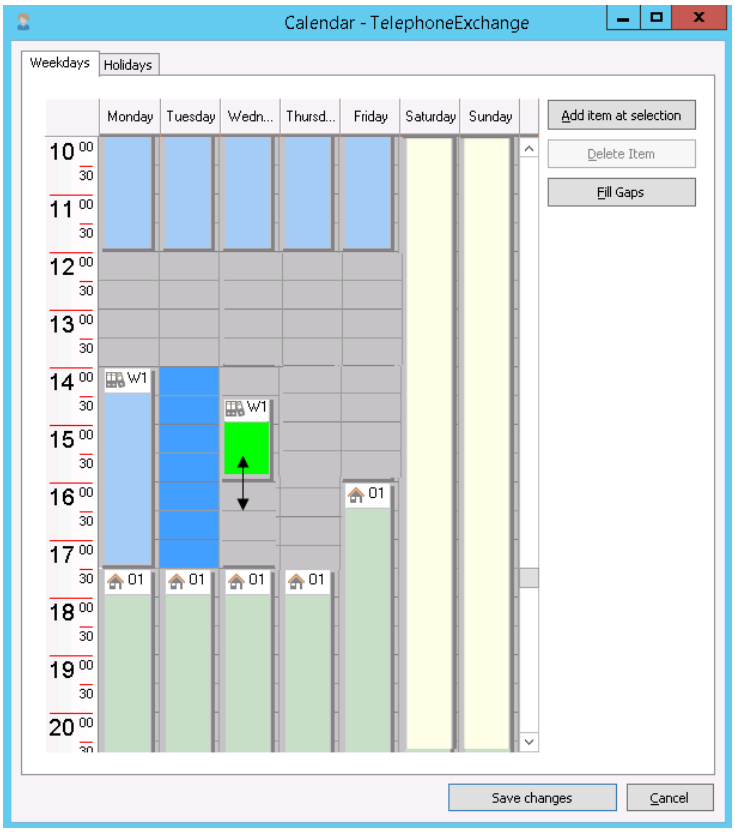
Start the ixi-UMS Auto Attendant, set up a new project in the Project Management and open it.



Open the project and follow the steps:

5.2.1 Determining the Working Hours

After having opened the new project, please add a Calendar Module . Select the default calendar as basis.
Choose "Edit Calendar" in the context menu of the calendar.



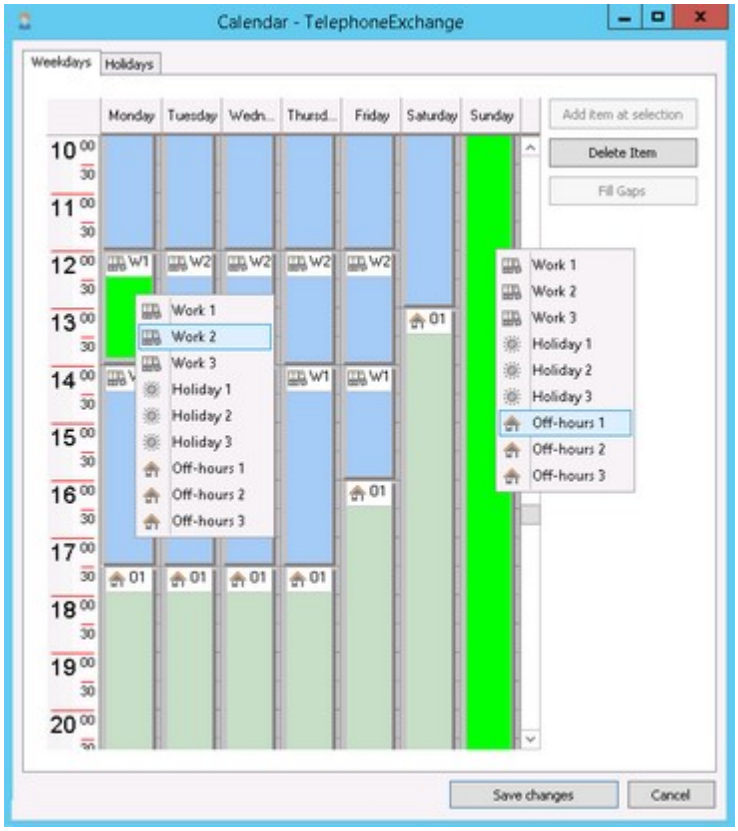
Change the times for the sections W1 for Monday to Friday in a way that they are valid from 7:30 a.m. to 12 noon.

After that, click in every column below the W1-entries and click on the button "Add item at selection" each.

The desired period can be marked before (as with Tuesday shown) or the added entry will change afterwards (see Wednesday)

Another "W1" section is added to each. Adjust the columns according to the needs.
Monday to Thursday: 2 p.m. to 5:30 p.m.
Friday: 1 p.m. to 4 p.m.

Mark the column "H1" at Saturday and Sunday one after the other and delete it via the button "Delete Item".



Add a new item (W1) at Saturday and enter the time: 8 a.m. to 1 p.m.

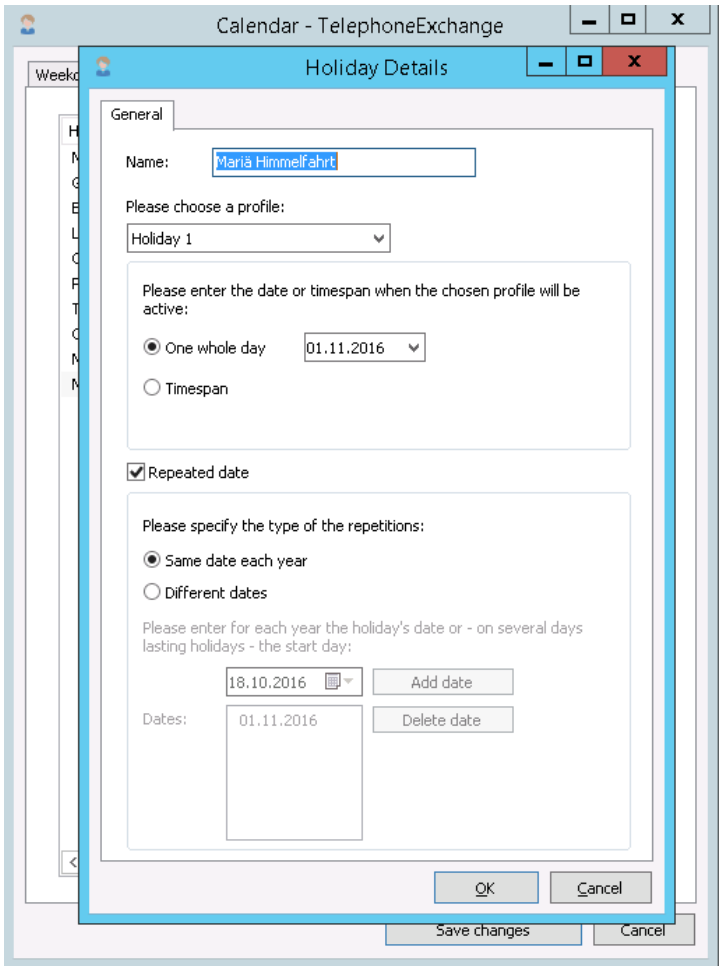
Now click in one of the empty sections and choose the button "Fill Gaps".
All the empty sections are filled with another section "W1".

Change the sections in the lunch breaks via "right mouse-click" on the profile "W2". Change the sections in Saturday and the Sunday in "O1"

The determination of the working hours therewith is finished.
These are the profiles:
W1 = Working hours
W2 = Lunch break
O1 = Off-hours
H1 = Holidays

Now switch to the tab "Holidays".

5.2.2 Entering the Holidays



Here you have to enter all the holidays of your country or state.

Click on "Add holiday" and fill out the fields.

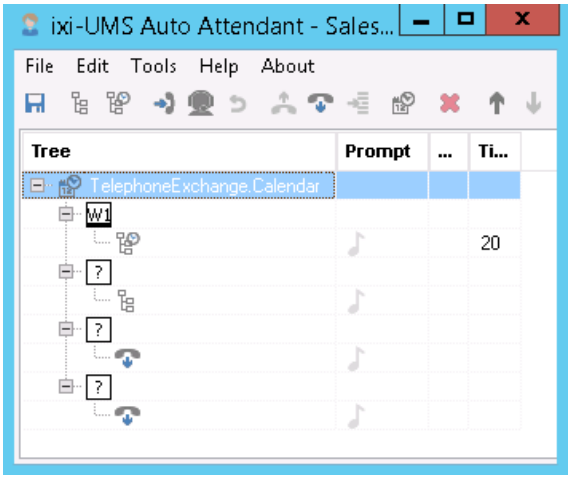
Confirm the entry with "OK".
Do this with all the missing holidays.

When all the holidays are entered, close the configuration with "OK".

The calendar automatically gets the name of the project.

5.2.3 Adding Main Menues

At Calendar, the modules must be added. With the planning, it has been determined that



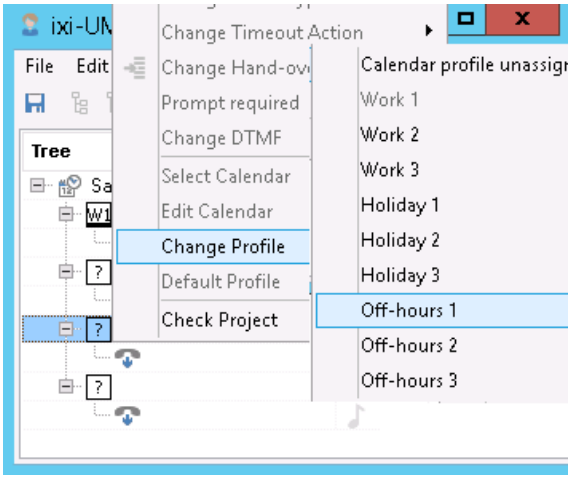
- the profile "working hours" must start with
  - a main module for the welcome (Action Menu)

- the profile "lunch break" must consist of:
  - a main module for the welcome (Classic Menu)

- the profile "off-hours" must consist of:
  - a prompt and disconnect

- the profile "holidays" must consist of:
  - a prompt and disconnect

Add the necessary modules at the calendar. Change the "Timeout in sec." of the "Action Menu" to 15 seconds.



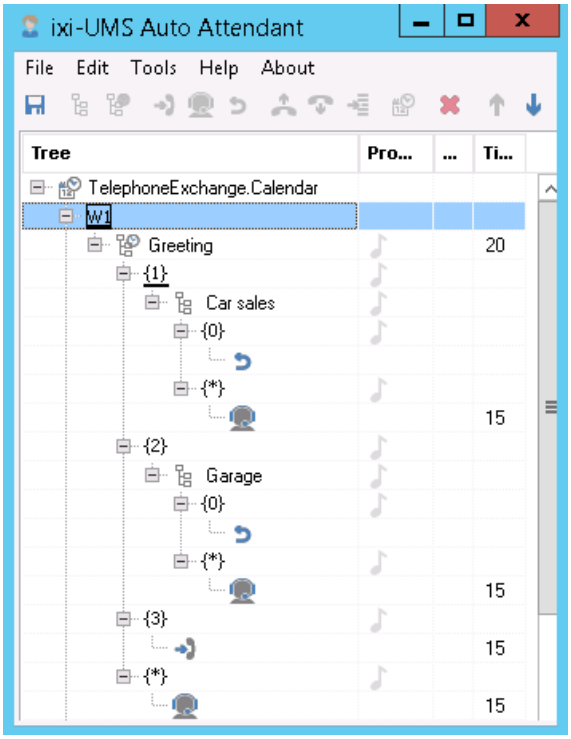
Click on the boxes with the "?" and assign the profiles defined in the calendar:

W1 = Work 1 = working hours
W2 = Work 2 = lunch break
O1 = Out of office 1 = off-hours
H1 = Holiday 1 = holidays

In a next step, you can
- enter the texts for the prompts of the added modules
- add further submenues and transfer modules, if necessary.

5.2.4 Adding Submenu

Only for the profiles "Work 1" and "Work 2", further selection options are planned.

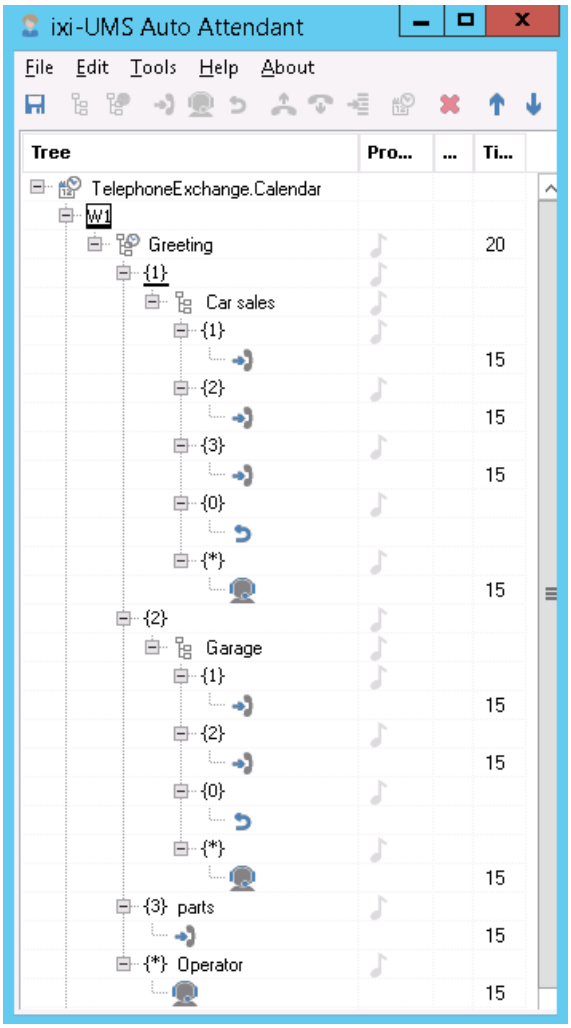


The profile "**Work 1**" must constist of:

- a main module for the welcome
- 2 submenues:
  - Car sales
  - Service reception
- a direct transfer to the spare parts store
- a module telephone exchange

The main module for the welcome has already been added. Below this, only one menu each must be added for the car sales and the service reception.

The submenues automatically get a module "Return".



Below the menu car sales,

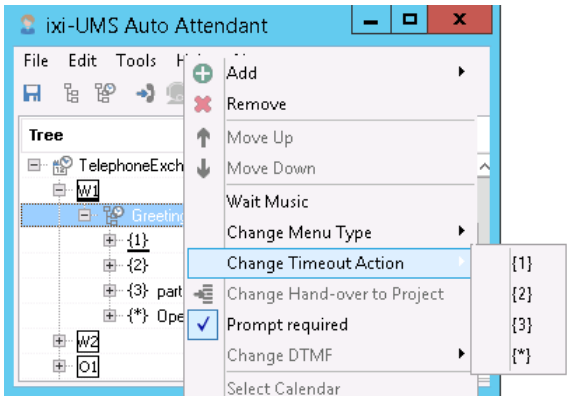
3 transfer modules
1 module telephone exchange (may be inherited from the main module)

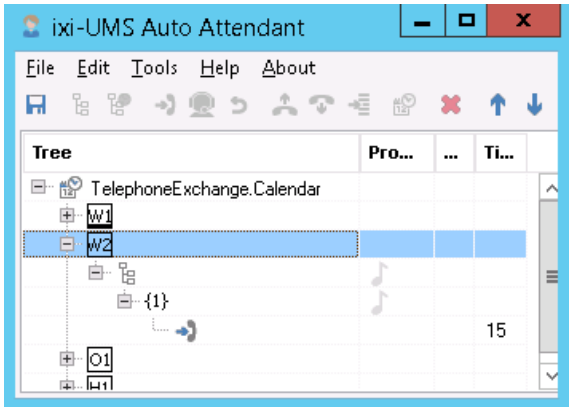
and below the menu for the service reception,

2 transfer modules
1 module telephone exchange (may be inherited from the main module)

must be added.

Adjust the action via the context menu of the "Action Menu". When the time is over, the caller shall be connected with the telephone exchange. Select the "DTMF"-key "*" in the context menu.



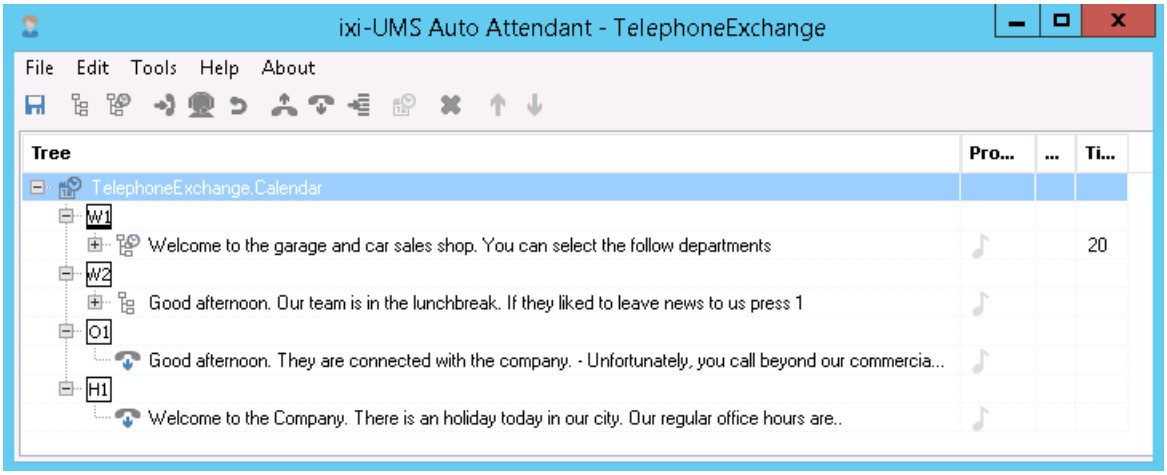


At lunch break, the caller shall be enabled to leave a message. Add a transfer module in the profile "W2" below the menu.

You now should be ready to enter the texts for the single menues and transfer modules in order to get an overview.

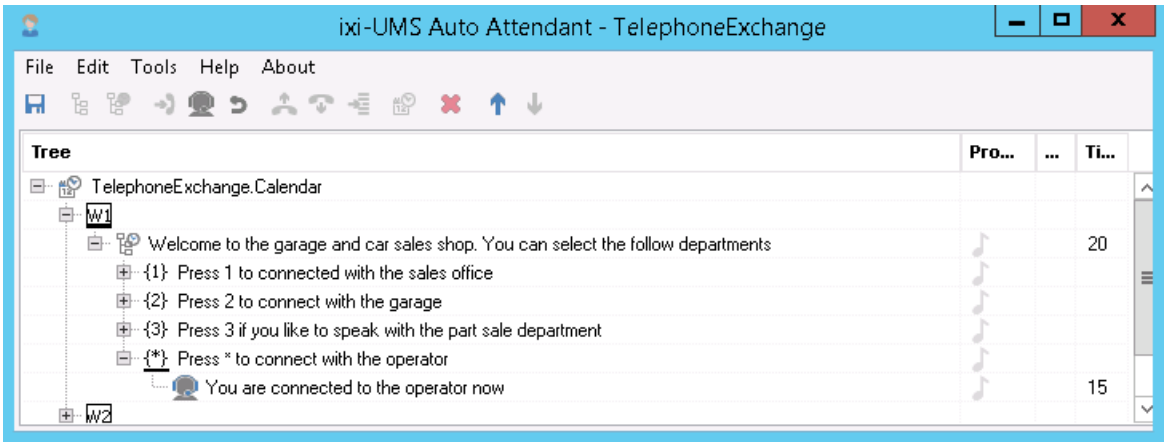
5.2.5 Entering Texts / Determining Prompts

Minimize all the menues to a size that only the main menues below the respective calendar profile are displayed.
You now can assign the respective welcome prompt to every module and enter them.

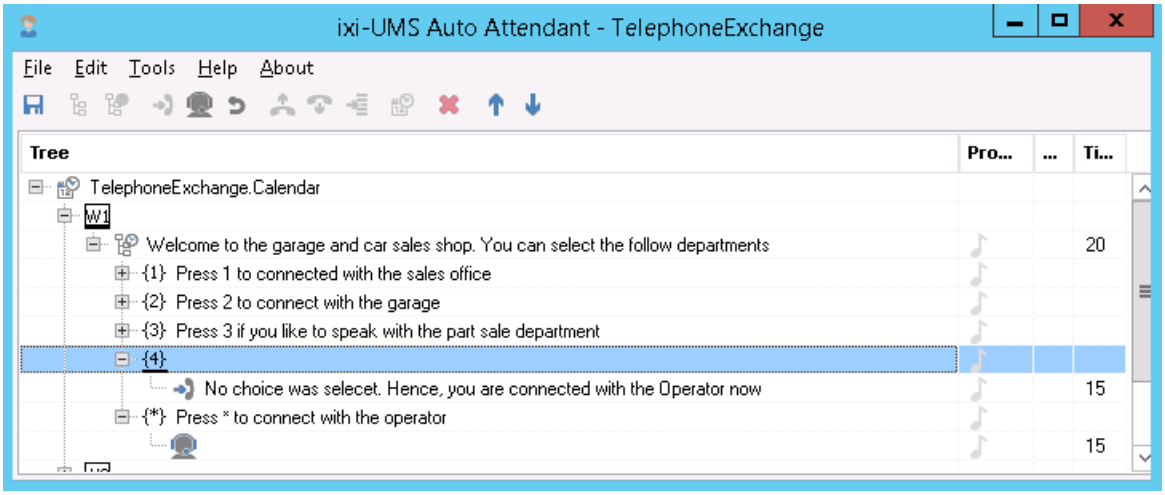


Remark:
In the overview, the text (depending on its length) might not be displayed completely. When you record the prompts later on, the complete text in displayed in a separate window.

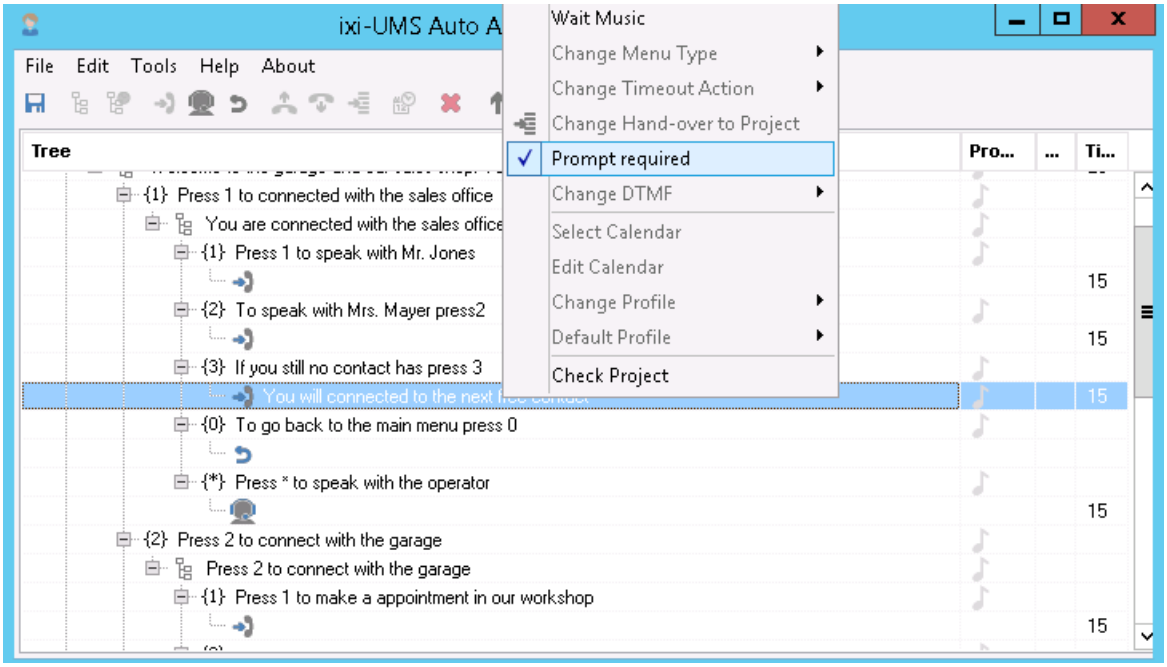
Extend the menu for the profile "Work" now and enter the texts for the selection options. Every option needs an own prompt.



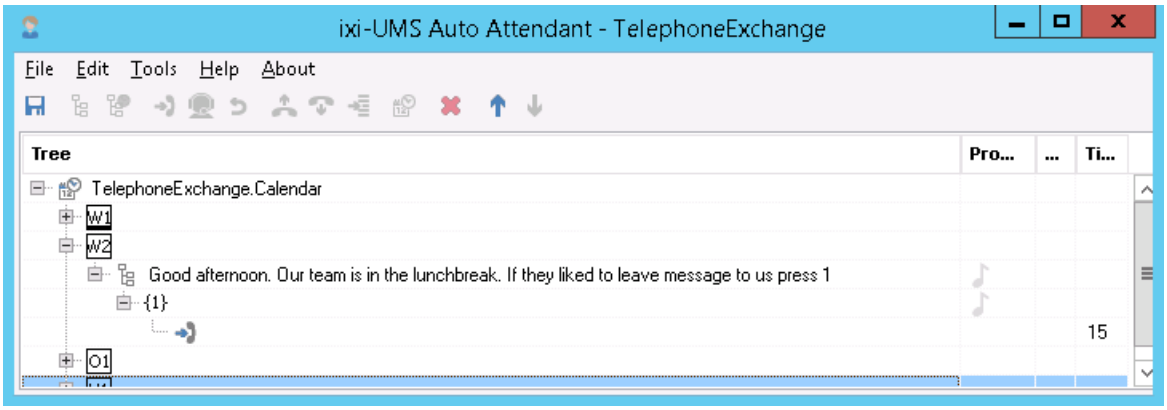
Please note:
As the transfer to the telephone exchange is the "Action after Timeout", this module should also get a prompt.
Alternatively, you can add a transfer module with NO prompt at the level of the "DTMF"-key, this means no selection is announced. You can enter this as "Action with Timeout" and then deposit a suitable text during the transfer.



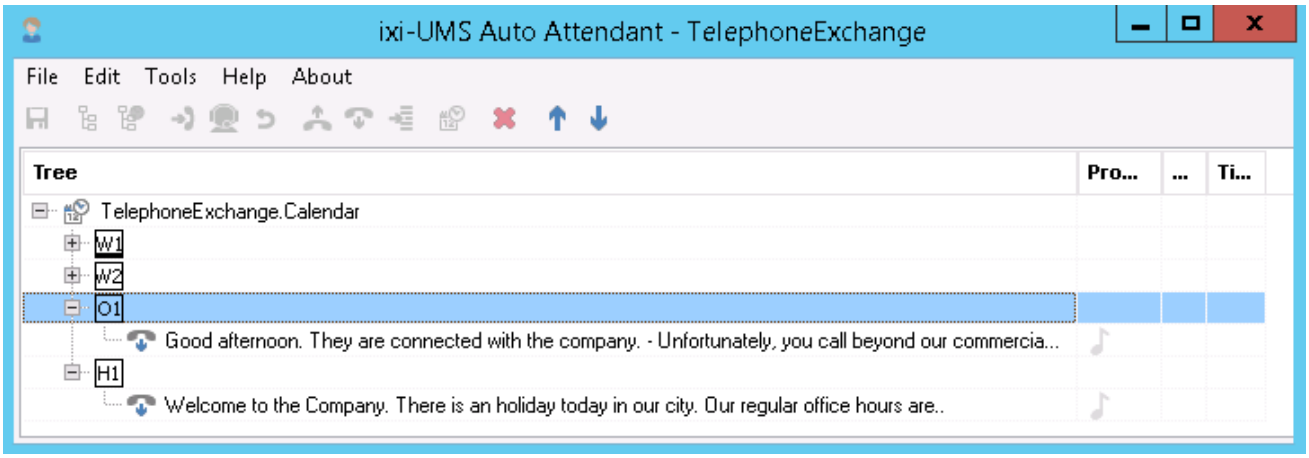
Extend the selection option 1 now.
It has been determined during the planning that the caller shall be informed, in which menu he is at the moment, so the module "Classic Menu" maintains the option "Prompt required", and you can enter the respective text.



The prompt and transfer for the profile W2 (lunch break) can be realized in two ways:
1) A prompt is played and the selection option is deposited at the "DTMF-selection" for the transfer module.
2) The welcome prompt already contains the selection option, no other prompts are deposited.

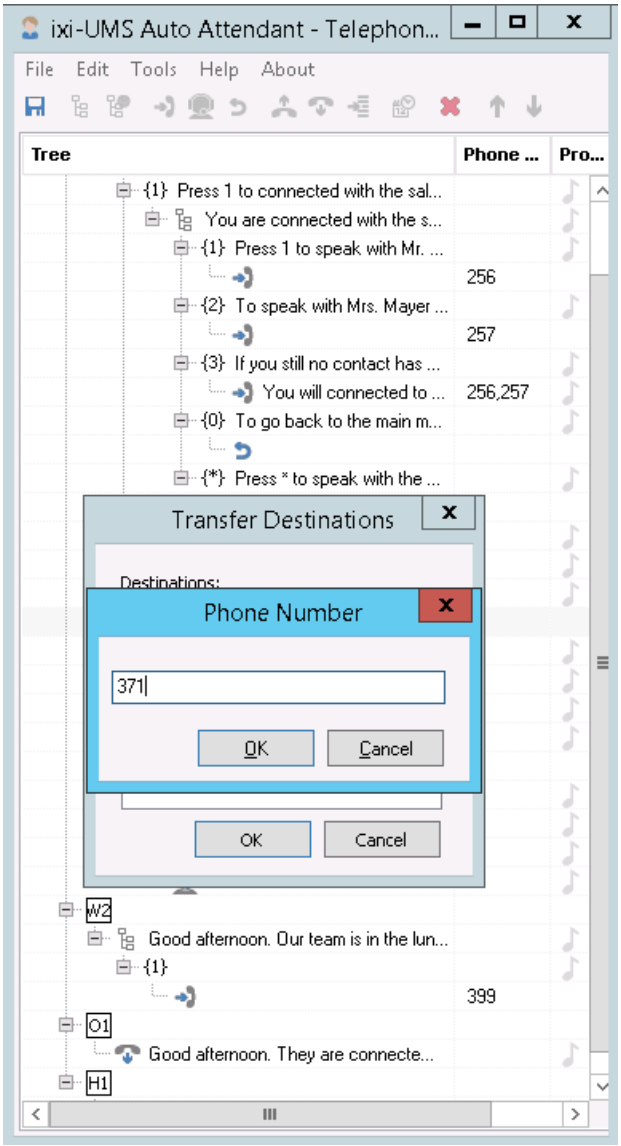


With the profiles N1 (Off-hours) and F1 (holiday) only one suitable announcement is required, because on playing the announcement the connection is interrupted.



Enter the wanted text at every module and then define the transfer destinations.

5.2.6 Entering Transfer Destinations



After that, you must enter the transfer destinations. The extension numbers had been entered at the project planning with:
Salesperson 1: 256
Salesperson 2: 257
Spare parts: 371
Appointsments: 365 and 366
Service reception: 384
Voice box: 399

Click next to the transfer module in the field "Destination number" and enter the determined extension number.

In the profile "W1" in the menu "Car sales", the extension numbers of both the salespersons is entered at point 3. This way, the extension numbers are dialed one after the other.

Remark:
Alternatively, a "group" can be set up in the PBX, which contains both the call numbers. When the extension number of the group is called here, both the telephones of the salespersons ring at a time.

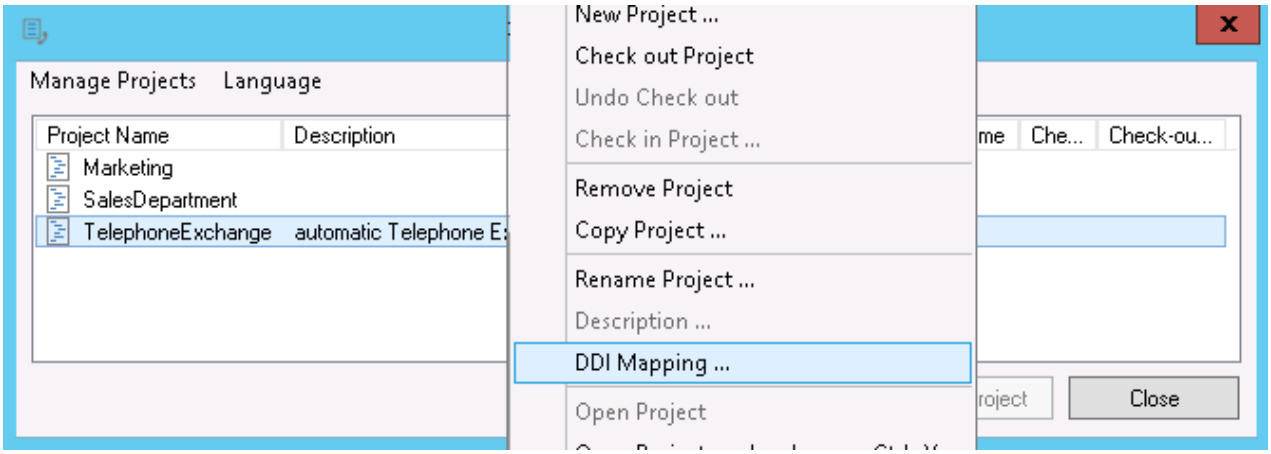
Change the "Timeout" at every transfer module to 15 seconds.

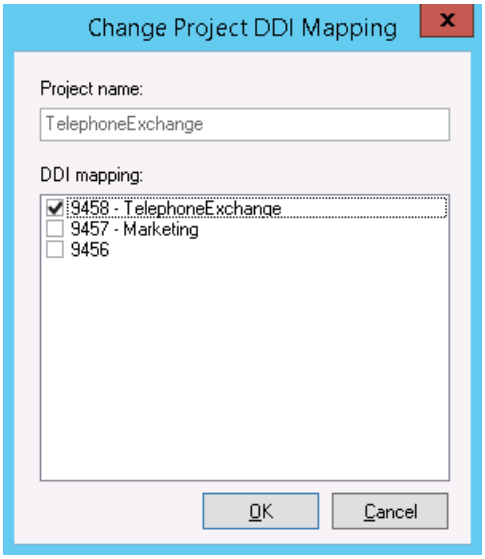
In order to finish the project, you now only have to record the prompts and deposit a wait music, if necessary.
Please note that the "general prompts" are valid for all the projects.

When you have made all the configurations and recorded all the announcements, you can leave the project via "File - Project Management".

5.2.7 Enabling the Project

In order to enable the project, you must assign a DDI of the ixi-UMS Kernel to it.
After having checked in the project, select "DDI Mapping" in the menu "Properties".





All the extension numbers reserved in the ixi-UMS Auto Attendant Configuration at DDI Mapping are offered.

Choose the wanted extension and confirm with OK.

After the restart, the project is enabled.

6 How To

In the following, you can find additional information around the ixi-UMS Auto Attendant.

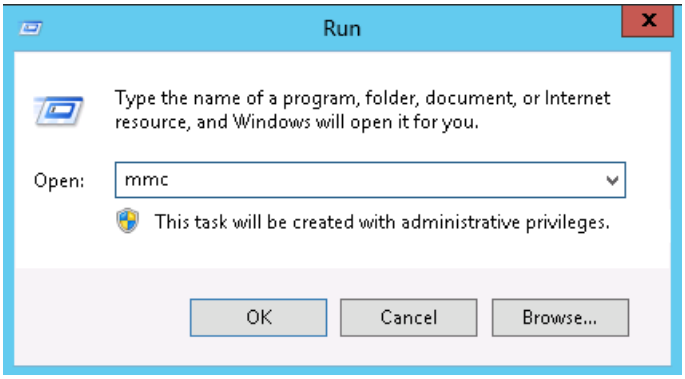
6.1 Changing MMC Language

The language of the snap-ins is stated in the file "**snapinLang.ini**" in the respective user directory at
"C:\Documents and Settings\Administrator\Application data\estos".

In order to change the language, please enter
Language=de for German
Language=en for English
at [Language] and restart the MMC.

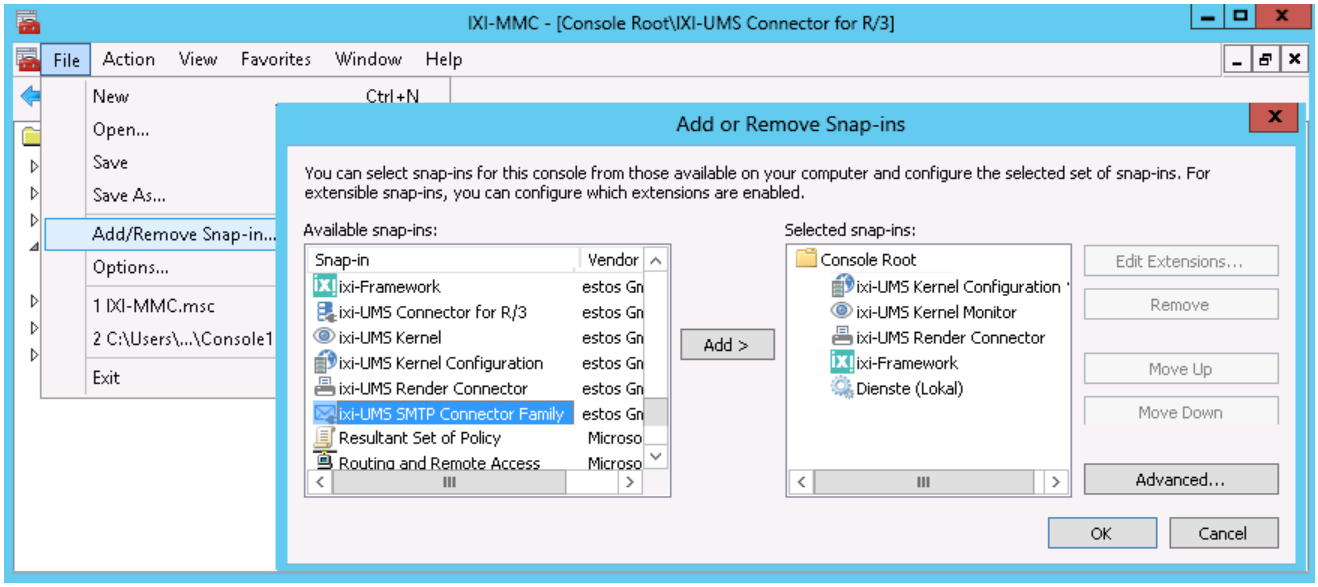
6.2 Adding SnapIn to MMC

After the installation, please open the Microsoft MMC and add the ixi-UMS Configuration Snap-In. Snap-In.



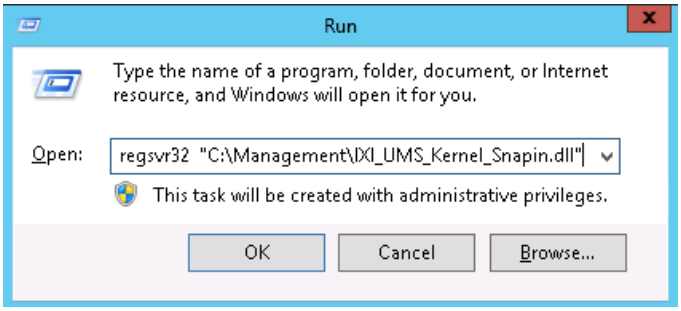
Please perform the following steps:
1. start - run - enter <MMC> - Enter

2. Via Console - Add/Remove MMC-Snap-in - Add, the ixi-UMS MMC-Snap-Ins can be selected



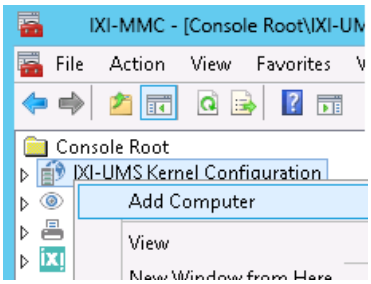
Further Options

In order to be able to make use of the SnapIns for ixi-UMS Kernel Configuration, ixi-UMS Render Connector and ixi-UMS Monitor on another machine, please execute the "ixi-UMS Kernel Configuration SnapIns.exe" from the directory ...\ixi-UMS Kernel\Management\AdminPack on the respective machine.



The required files are provided in the respective installation directory of the ixi-UMS Component in the sub-folder "Management".

Copy the folder "Management", at the least the respective "...Snapin.dll" with the accompanying ini-file, to the machine. Close all the MMC's and register the files with "regsvr32".



Via right mouse-click on the ixi-UMS SnapIn (Example: "ixi-UMS Kernel Configuration") and "Add computer", other ixi-UMS Components installed in the network can be added to the Console and therewith also be configured

6.3 Information about Call Transfer

Precondition for a call transfer always is that the transferring part (ixi-UMS Server / ISDN-board) established at least two single connections to different destinations. It does not matter though whether these are outbound or inbound calls.
The connections can both be active or only one connection is active and the other is "on hold".

The situation with both the connections is as in the following:

1. First connection is established, completely routed through (including voice data stream).
2. First connection is put "on hold".
3. Second connection is established (normally including voice data stream).
4. The first connection is transferred to the second connection.

Remark:

For the playing of the "music on-hold" during the call transfer, the PBX is responsible.
A music on-hold can only be played when the PBX supports "On-hold".

If a VoIP-connection is used, the "music on-hold" can also be played via the "ixi-UMS VoIPconnect" (XCapi).

6.3.1 ISDN

Basically, there are 3 call transfer methods:

"ECT with explicit linkage"
The transferring part (ixi-UMS Server / ISDN-board) "explicitly" transfers the information to the PBX, WHO shall be connected TO WHOM.

"ECT with implicit linkage"
The transferring part (ixi-UMS Server / ISDN-board) only transfers the information to the PBX, WITH WHOM the held connection shall be connected.

"TransferCall by LineInterconnect"
When the deployed PBX does not support call transfer or a point-to-point connection is used, the method **TransferCall by LineInterconnect** must be used.
This is not a "Call Transfer" in a wider sense. The transferring part (ixi-UMS Server / ISDN-board), that has established both connections, directs the voice data streams from one channel to the other.

"PathReplace"
First there is some kind of "LineInterconnect". The transferring part (ixi-UMS Server / ISDN-board) connects the two channels including data stream.
The PBX then detects are shorter route between both the participants, replaces the current "path" by a new, shorter one and connects the two channels.

Typical Transfer Method (according to Protocol) and channel allocation at a PBX:

PBX internal DSS1 Bus PMP : ECT with implicit linkage
Allocated channels in PBX: during Transfer 2, to Transfer 1
Allocated channels in ixi/ISDN-HW: during Transfer 1, to Transfer 0

ISDN DSS1 PP (Point-to-Point): TransferCall by LineInterconnect
Basically, this is possible at **every** connection.
Allocated channels in PBX: during Transfer 2, to Transfer 2
Allocated channels in XI/ISDN-HW: during Transfer 2, to Transfer 2

QSIG: PathReplace or/and QSIGCallTransfer; normally Pathreplace;
Allocated channels in PBX: during Transfer 2, to Transfer 2
Allocated channels in XI/ISDN-HW: during Transfer 1, to Transfer 0

Information usage at an NTBA:

DSS1 PMP:
The method "ECT with explicit linkage" is used. Recommended: Eicon/Dialogic DIVA board(s)

DSS1 PP:
No transfer is possible. When using an Eicon/Dialogic board, the ECT Emulation by B-channel connection can be used. Thereby, however, 2 channels per connection are allocated on the board. Not recommended for the use of the ixi-UMS Auto Attendant.

Configuration remarks

Depending on the configuration, the configuration of the used ISDN-hardware and the ixi-UMS software may have to be adjusted.
The configuration - among other things - depends on the PBX and its behavior.

ixi-UMS Kernel:
The "transfer type" can be set in the Registry here:

\HKEY_LOCAL_MACHINE\Software\Servonic\I*FAX.32 Server\ 3.0\Controller\CTMethod
Type: REG_DWORD
Possible Values: 1, 2, 3
Default Value: 1
1 = ECT with explicit linkage
2 = ECT with implicit linkage
3 = TransferCall by LineInterconnect

Dialogic (Eicon) Diva
Diva Configuration Manager - ECT Transfer Type:
Automatic (Default)
Force Implicit
Force Explicit

Bekannte Konfigurationen:

Connection	**ixi-UMS (CTMethod)**	**Dialogic (Eicon) Diva ECT Transfer Type:**	**Funkwerk**
At PBX: internal DSS1 Bus PMP	change to 2	Automatic (Default)	No setting possible
At PBX: internal Bus Qsig	default (1)	Automatic (Default)	No setting possible
At PBX: Internal DSS1 Bus PP	change to 2	Automatic (Default)	No setting possible
At NTBA with ISDN DSS1 PMP	default (1)	Automatic (Default)	No setting possible

Remark:
Dialogic (Eicon) DIVA boards support several methods and can influence the call transfer, depending on the setting of the ECT-option in the configuration.

If the available PBX neither supports "ECT with explicit linkage" nor "ECT with implicit linkage", "TransferCall by LineInterconnect" can be used, if possible.

7 Info

7.1 About estos

estos GmbH, headquartered in Olching near Munich, Germany, is a leading manufacturer of software solutions with focus on unified communication with unified messaging, fax, voice mail, SMS and CTI (Computer Telephony Integration) with presence and instant messaging. The products of %Firma% support existing standards like standard interfaces and standard hardware; proprietary solutions are avoided. The company strives to provide its customers with future-oriented product development, with a focus on integration in available environments.

Contact details:

estos GmbH
Ilzweg 7
82140 Olching
Germany

Phone: +49 8142 4799-0
Fax: +49 8142 4799-3434
E-mail: sales@estos.de
Web: www.estos.com

For more information about estos GmbH and its products, please visit estos GmbH website.

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7.2 Version

Software: ixi-UMS Auto Attendant
Version: 6.70
Manual: 02.05.2019