ixi-UMS 7 Business

Installation and Administration English

Content

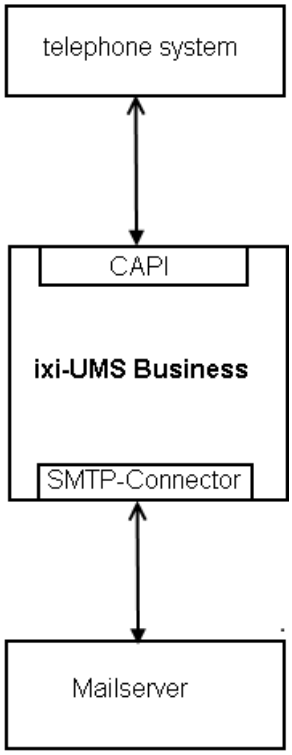
1 ixi-UMS Business Overview

ixi-UMS Business is a powerful unified messaging software, that provides services such as Fax, Voice, SMS and mobile access. The ixi-UMS Business **Services** can be combined with each other flexibly. That way, ixi-UMS Business can be applied as pure fax server, for example, or as a complete unified messsaging system with Fax, Voice and SMS.
As it is based on standards, ixi-UMS Business can basically be operated with all the common PBX's (conventional or IP-based).

General Funktion:

ixi-UMS Business is a powerful unified messaging software, that provides services such as Fax, Voice, SMS and mobile access.
As it is based on standards, ixi-UMS Business can basically be operated with all the common PBX's (conventional or IP-based).

A professional, server-based Unified Messaging system exists of several components: A phone binding (PBX), the interface between computer and phone system (CAPI), a connection with the mail server (SMTP-Connector) and the mail server.
If the system is not connected to a mailserver, the UMS messages are stored in a local database (optional)



The PBX establishes the connection to the telephone network. For the application of ixi-UMS Business any PBX can be used. For ixi-UMS Business, a point-to-point or a point-to-multipoint connecton (ISDN) and also a VoIP conection can be used.

A CAPI that provided by an Remote-LAN Capi from elmeg bintec device or XCAPI module is needed as interface. The Capi is a kind of "translator" between Computer applcation and Remte-Capi/VoIP-Modul.
ixi-UMS Business processes the incomming and outgoing UM messages to get the necessary or desired format.

The SMTP Connector of ixi-UMS Business provide the connection between ixi-UMS Business Server and the mail server used. Also it connects the used LDAP database

The task of the mailserver is to distribute the incomming UM messages re pass the outgoint messages to the ixi-UMS Business Connector

Before outgoing messages can be sent by the ixi-UMS Business Server, they have to be "converted" in a respective format. This process is called "rendering". There are two ways of rendering with ixi-UMS Business:

- server-based rendering
- client-based rendering

Both variants can be combined.

Server-based rendering

With server-based rendering, all the file attachments are processed at a central point (ixi-UMS Business Server Service). For this, the application that shall be sent as fax has to be installed on the respective machine.
For example, if the user attaches a Word file to the fax as an attachment, the mail server, e.g. Microsoft Exchange Server, will transfer it to the ixi-UMS Business server.
On this server the Word file is printed via a special printer "IXIRender". This creates a file that contains a graphic image of the document as well as information such as recipient number.

Client-rendering

Client-rendering means the creation of a fax at the user workstation. For this, "ixi-UMS Business Client Tools" are needed that provide an own printer, amongst others. Via this printer, a fax-capable file can be created out of any application installed.

With this type of rendering, the application is not needed on the server.

1.1 Features

In the following, the services are explained which are installed with the ixi-UMS Business and therewith are available without any additional installation depending on the license.
In the test mode you can test all features and services 45 days.

All the required components are installed in order to run the services

- Fax
- SMS
- Voice
- MWI / Alert
- TTS

1.1.1 Fax

The ixi-UMS Business receives and sends faxes. The faxes are sent to the mail server as PDF-file.

- **Sending fax messages**
  For the user, sending fax messages works like sending e-mails. The only difference is that a different addressing scheme has to be used.
  The sending user gets a sending report for every message indicating success or failure (among other information). Like in e-mail messages, the user can specify priorities to influence the order in which messages are sent. Messages will be rendered into the fax format. Attachments will be rendered using a fax printer driver and the corresponding application.

- **Inbound routing of fax messages**
  Fax addresses are assigned to users in the messaging system

- **Printing incoming fax messages**
  Incoming ixi-UMS Fax messages for specified number range or number ranges can also be printed out on a network printer.

1.1.2 SMS

ixi-UMS Business offer SMS dispatch using several providers. To use these services, you must be registered with one of the providers listed who will invoice you for this service.
Fees may vary depending on the provider.
With some providers you have to have a static IP in order to use the service.
Simply compare the various providers and pick out the most favourable one for you. The service User account has to be activated so that a user is able to use the SMS text message dispatch.

Depending on the provider, you can also provide the reply address in the request.
In principle, every service provider can be connected if it has a HTTP GET or POST interface.

1.1.3 Voice

ixi-UMS Business contains an answering machine function (Voice-mailbox). The users get one ixi-UMS number and can receive fax-messages and voice-messages. Messages of all types are displayed in the user's Inbox.

If the fax number is not equal to the voice mailbox number, different numbers can be set up to receive fax and voice messages. Depending on the telephone system and connection of ixi-UMS Business, a global voicemail number can also be used by means of "route-by-redirection".

The function "Voice-mailbox" is to be used in 3 authorisation steps:

- **Only Voice-mailbox**
  The user can set up 6 profiles via WebAccess and record a separate, individual announcement per profile, as well as all other profile settings. For example:
  - Set up call forwarding
  - Activate MWI at the office telephone (optional)
  - Set your own office hours to set times for party and break breaks

  The message of a caller is recorded and sent to the user assigned to this voice mailbox by e-mail. The user can play the message via a double-click on the PC or forward it as e-mail to his telephone and listen to it there.

- **Voice-mailbox with configuration by phone**
  Like "Voice Mail Only". In addition, the user can call his UMS number and log in using a PIN. He can set up all 6 profiles on the phone and record announcements as well as all other profile settings except:
  - Activate MWI at the office telephone (optional)
  - Set your own office hours to set times for party and break breaks

- **Voice-mailbox with configuration and distant query by phone**
  Like "Voicemailbox with configuration". In addition, an IMAP4 access is made to the user's mailbox when the user calls his UMS number. If new voice messages or e-mails are in the mailbox, they can:
  - Listen to the messages
  - callbach the caller
  - answer to the message
  - Delete the message
  - forward the message as an e-mail (internal) or as a voice to a telephone.

Note:
This option is only available when the incomminig UMS messages are sent to a mail server with IMAP4 support.

Globale Announcement

When the user has not deposited an own announcement, the default announcement is played:

Hello, you have reached the voice box <extension>. I am not in the office at the moment. Please leave a message after the tone.

If "Use global announcement" is enabled, one individually recorded announcement can be used, e.g.:

Hello, this is company estos. The desired participant is busy at the moment. Please leave a message.

This announcement is valid until the user has made a separate announcement.

1.1.4 MWI

Depending on the PBX and the respective telephone (e.g. feature-added telephone), the incoming of ixi-UMS messages (faxes, voice mails, SMS) can be signaled at the telephone of the user. This is the so-called feature MWI (Message Waiting Indication).

For switching on the indication at the telephone, the ixi-UMS Business transmits a corresponding signal to the PBX. At last, the MWI is switched on by the PBX.

For switching off the indication at the telephone, a so-called "alert-message" is sent to the ixi-UMS Business Server by the mail client. The ixi-UMS Business Server passes the information on to the PBX. By doing so the PBX is caused to delete the MWI at the respective user's telephone.

For information about the addressing and the format of these alert-message, please have alook at the MWI Signaling. You can also get information about the requirements there.

Information on the format and setting up of this alert message can be found in the manual under "Additional Informations - MWI - Signaling"

1.1.5 TTS

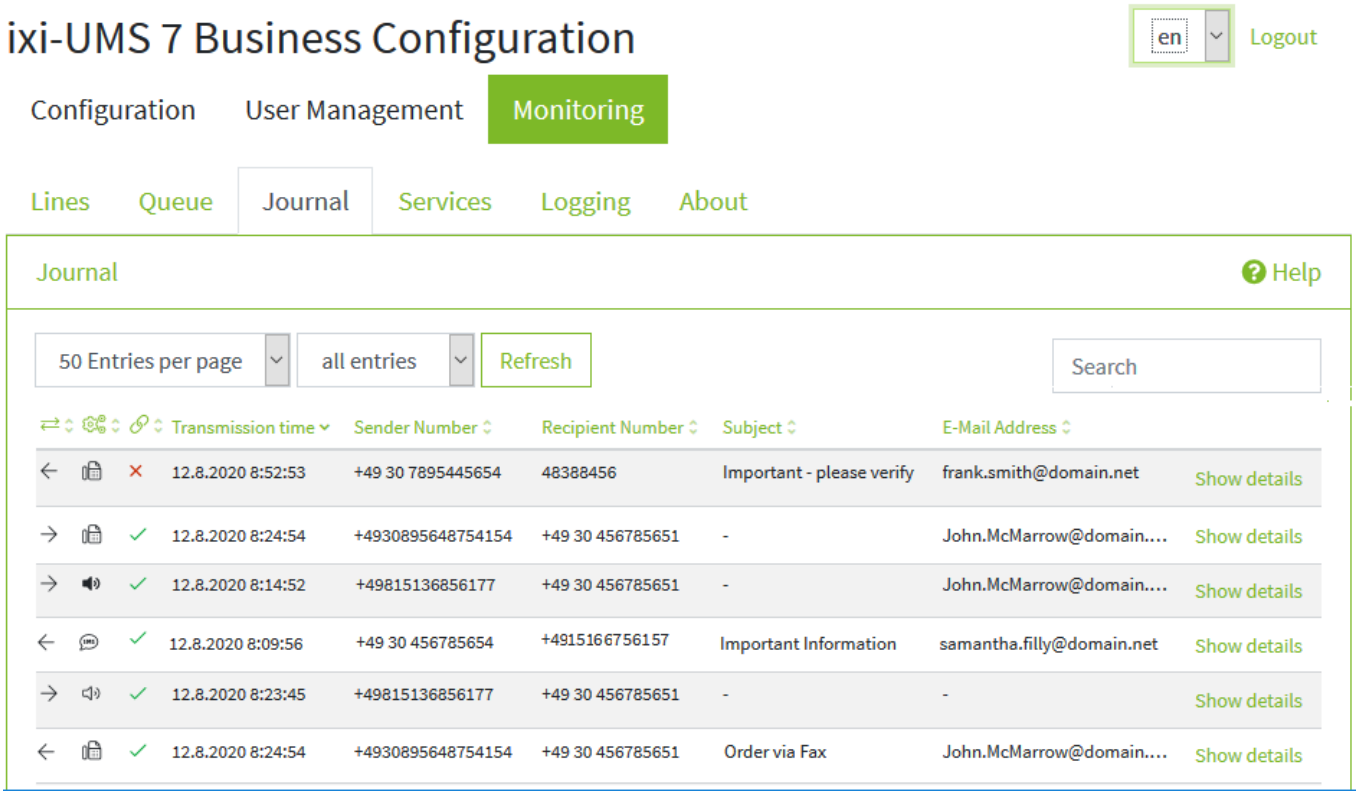
A "text to speech engine" converts text into audio-files . You need this funtion to:

- send text message, which are read out to the called participant.
- listen to E-Mails
- to create greetings for the answering machine

For this function "TTS-Engine" from Microsoft for the languages German, English, Italian and Dutch are installed. However, any other "MS Speech" based TTS engine can also be installed and used.

1.1.6 Journaling

Every inbound and outbound transmission will be logged to the journal database. Detailed reports can be generated.

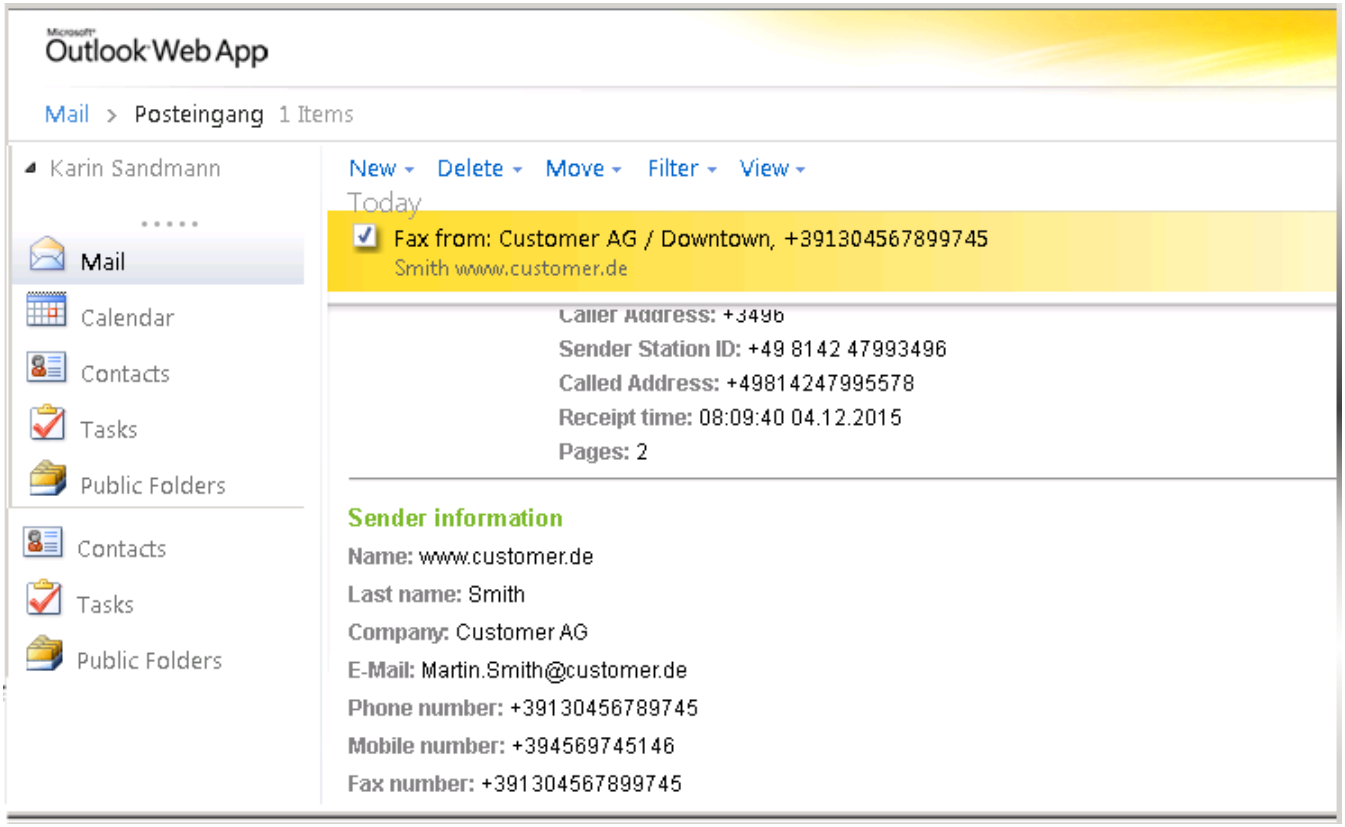


The journal entries are stored in an SQL-based database and can easily be exported to process the information further.

1.1.7 Sender Identification

The sender number is resolved via an LDAP-query to the MetaDirectory. As a result, not the sender number but the name is displayed at the user in the inbound message, and city, company, etc. are displayed in the subject.

The mail body displays various sender information read from the MetaDirectory.



After having activated the feature, the following data are displayed, provided that the resolution was successful:

Example:

From:	Display name	From:	Klaus Meier
Subject:	Service from Company / City	Subject:	Fax from Business AG / Olching
Body:	Name	Body:	Name: Klaus Meier
	Company		Company: Business AG
	E-mail		E-mail: Meier@Business.de
	Phone number		Phone number: +49814247990
	Fax number		Fax number:
	Mobile number		Mobile number:

Required for the ixi-UMS Business Sender Identification is the installation of the MetaDirectory. This feature is liable to costs.

1.1.8 Using without mail system

If no mailserver is available, all incoming ixi-UMS Messages and confirmations can be stored in the local database.
In this case, the users can access all ixi-UMS Messages and confirmations only via ixi-UMS Web Journal.
The available functions and the required configuration for the ixi-UMS Business is dependent on this specification.

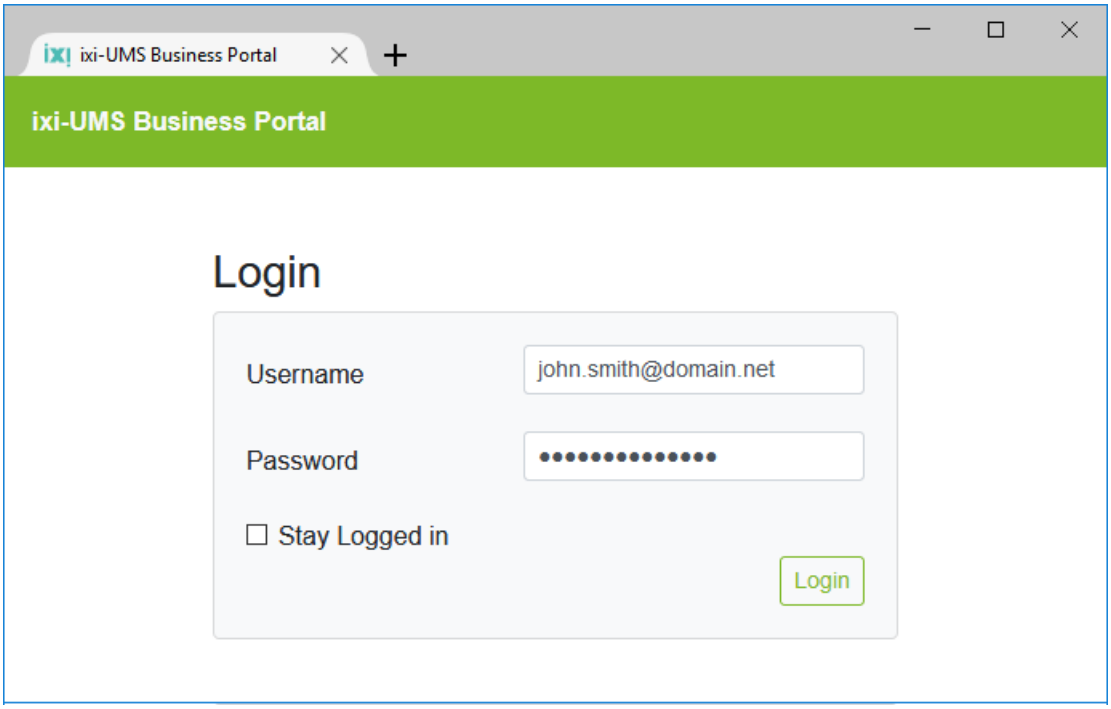
For exaple, the options "Sender Identification" and "Remote Inquiry of the Voice Mailbox by Phone" are not available and are deactivated.

1.1.9 ixi-UMS Business Portal

ixi-UMS Business offers some browser-based pages for users to make settings or to get an overview of the sent and received UMS messages.

Webseite	Funktion
ixi-UMS Web Journal	offers every user a browser-based view of his own UMS messages
ixi-UMS Voice-Mailbox Configuration	Configuration of the "Voice-Mailbox". The options depent of the settings in the ixi-UMS Business Server Configuration
ixi-UMS User Information	Display of the permissions for sending ixi-UMS Messages

The user logs on to the ixi-UMS Business Portal with his e-mail address and his LDAP password and receives the web pages activated on the ixi-UMS Business.



The ixi-UMS Business Portal is provided by default via HTTP on port 8890. You can additionally publish it via HTTPS.

The link to open the ixi-UMS Business Portal can be found in the user administration under "Links". The link can be sent to the users via infomail and/or in the welcome message for the ixi-UMS Voice-Mailbox.

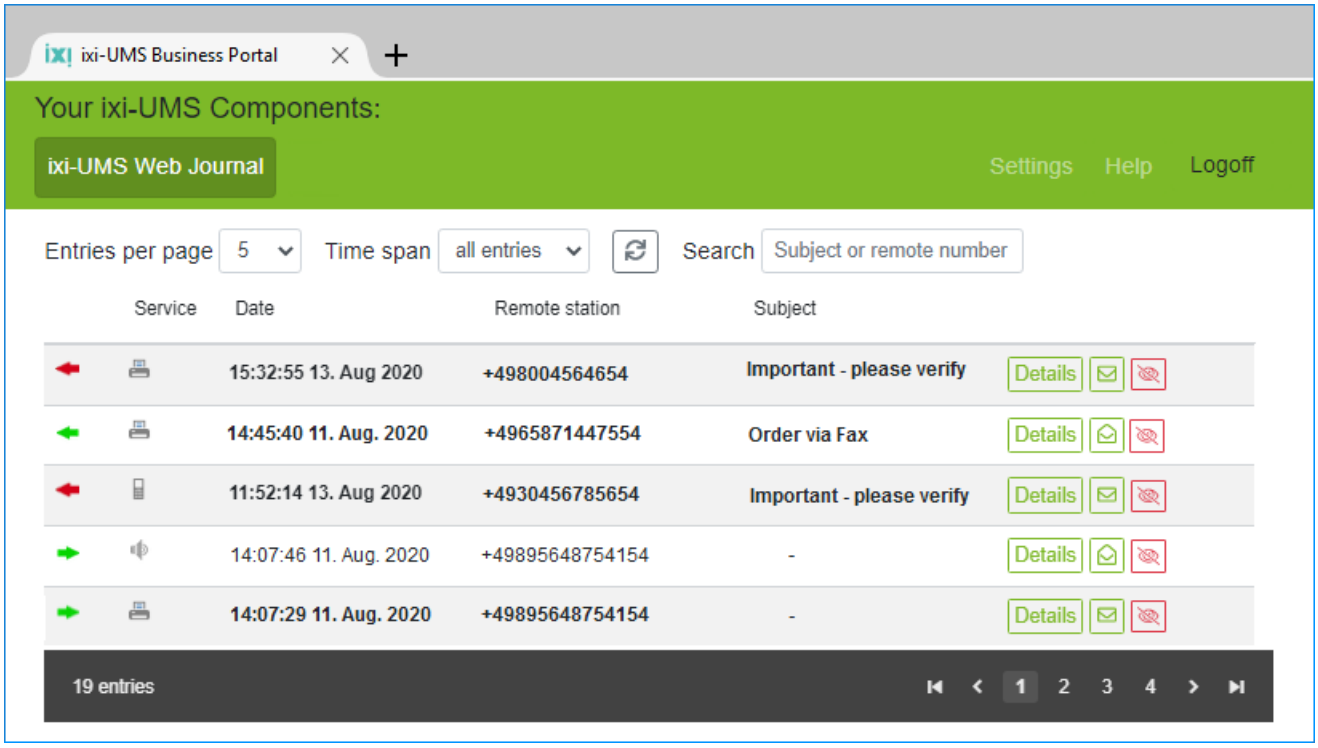
Requirements:

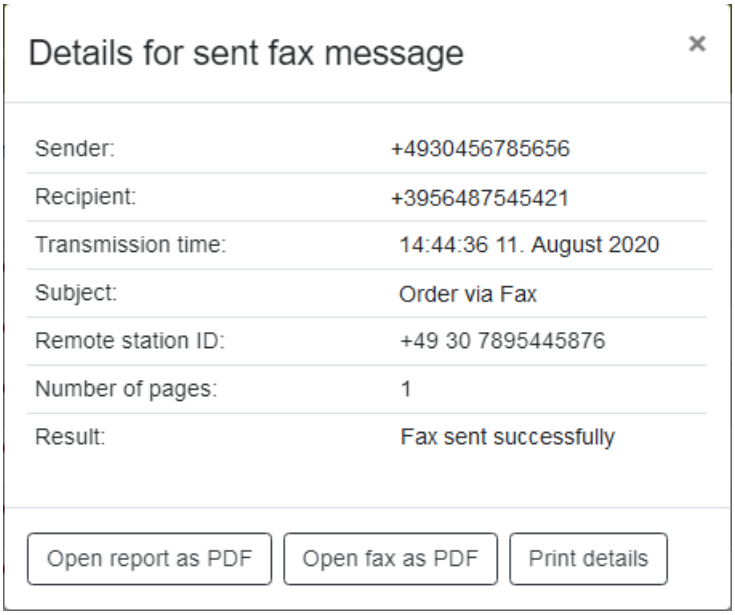
- Microsoft Internet Explorer ab Version 11
- Microsoft Edge
- Mozilla Firefox ab Version 68
- Google Chrome ab Version 78

The ixi-UMS Business Portal can be made available to users as "WebTabs" in estos ProCall.

1.1.9.1 ixi-UMS Web Journal

With the “ixi-UMS Web Journal“, ixi-UMS Business offers every user a browser-based view of his ownsent and received ixi-UMS messages.
Requirement: The necessary user information must be available in the LDAP-user database.
The user logs in at the “ixi-UMS Web Journal“ with his e-Mail-Adresse an the LDAP password. By means of the deposited sender e-mail address and the UMS-recipient number, the data are detected and the respective entries are displayed.





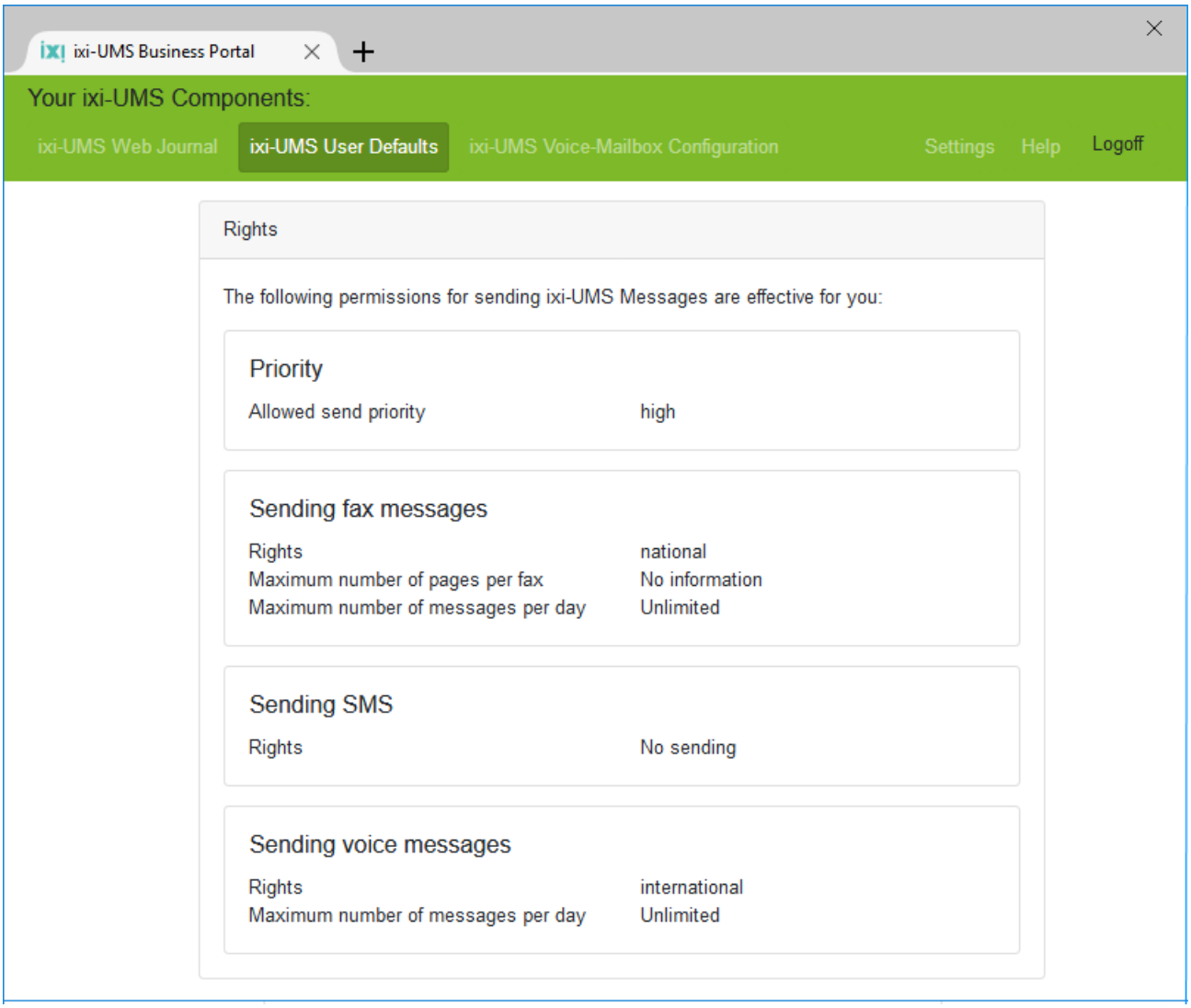
The User can displayed all relevant data for send an receipt UMS message in detail.

If the option Archive associated files activated in ixi-UMS Business Server, the user can open, print and save all SMS and fax messages include reports. Also he can save and listen voice messages.

Note:
All incomming messages are transmitted in the bound Mail system.

1.1.9.2 ixi-UMS User Information

The user is shown the permissions for the Fax, SMS and Voice functions set by the administrator in ixi-UMS Business.

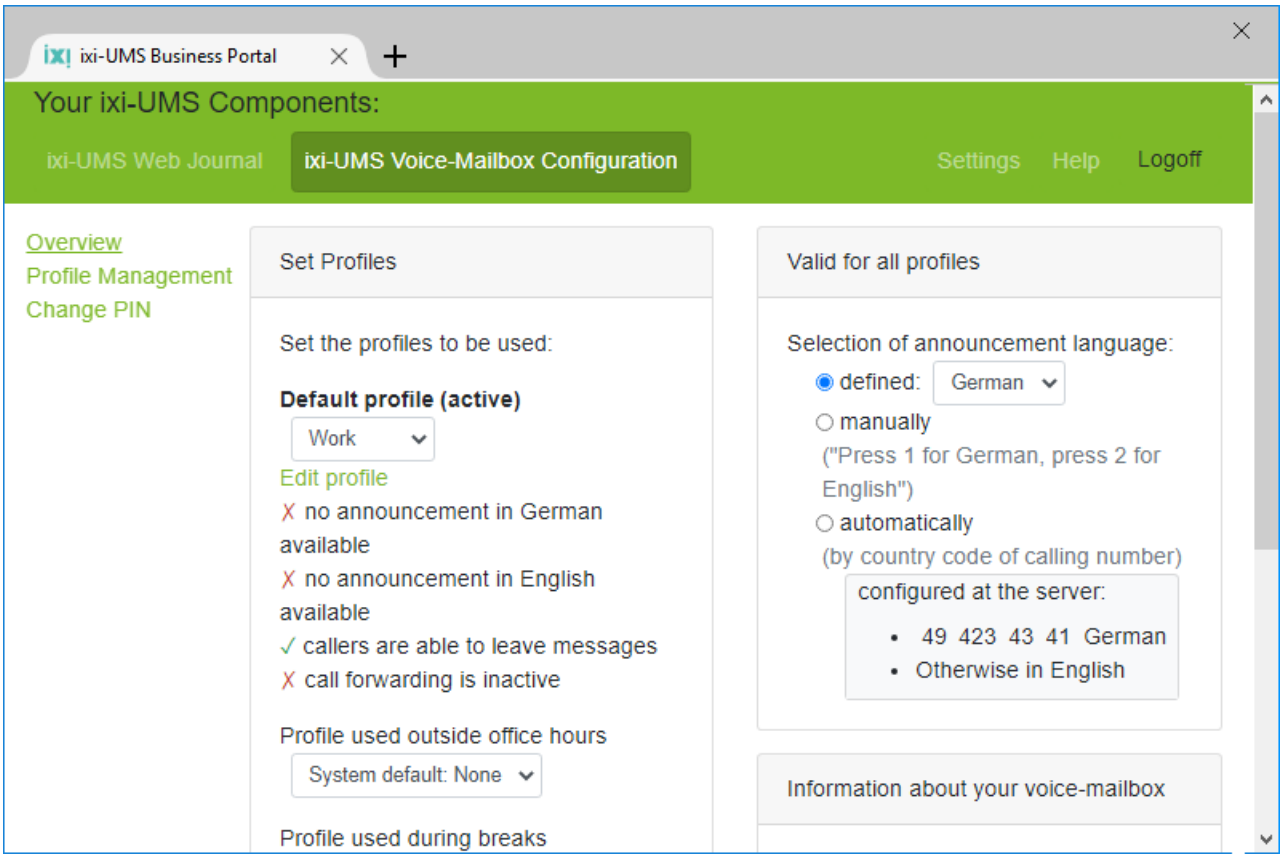


1.1.9.3 ixi-UMS Voice-Mailbox configuration

Via the ixi-UMS Voice-Mailbox Configuration every user can configure his profiles and announcements via Web interface.

Depending on the ixi-UMS Business settings the user can configure also:

- office- ans break hours
- Notifications
- Mailserver login



All setting and configuration possibilities via the ixi-UMS Voice-Mailbox Configuration can be found in the user manual.

1.1.10 Client Tools

In order to make use of additional features and therewith achieve even more comfort at the workstation, the so-called ixi-UMS Business Client Tools can be installed. It is also possible to operate mixed installations, this means one part of the users works with the installed ixi-UMS Business Client Tools, the other part without or with a subset of the features of the ixi-UMS Business Client Tools.

The following comfort features are available at the client with the ixi-UMS Business Client Tools:

- Sending faxes out of any application via printer driver
- Fax-macro for Microsoft Word
- Auto fax-macro for Microsoft Word (the fax number is read out from the document)
- Mail merge fax-macro for Microsoft Word
- ixi-UMS PS Printer, for the addressing of faxes via control characters.
- Microsoft Outlook Add-Ins
- Collect faxes
- Drop point (Drag and Drop)
- ixi-UMS SMTP Client to send ixi-UMS messages without a mailsystem

ixi-UMS Business Client Tools are included in the range of performance of ixi-UMS Business.

You can get further information about the feature and its operation in the ixi-UMS Business Client Tools Manual.

The ixi-UMS Business Client Tools are not a part of the ixi-UMS Business setup and **must not be installed on the same machine.**

1.1.11 Send faxes via control characters in the text

The ixi-UMS PS-printer can read out the fax number and the subject from the document to be printed and can transfer it to the mail client, together with the printed document. This way, a fax is addressed and sent automatically.
For this, the text of the document is browsed by means of Ghostscript and the fax number/subject is read out.

The ixi-UMS PS printer is part of the ixi-UMS Business Client Tools. Prerequisite is the installation of GhostScript on the workstations.

You can get further information about the feature and its operation in the ixi-UMS Business Client Tools Manual.

2 Requirements

The system requirements in terms of hardware and software are independent of whether ixi-UMS Business is installed on a physical or on a virtual machine - only with the connection to the PBX, a virtualization **must be considered**.
The required hardware and software for the application from ixi-UMS Business is depending on:

- the ixi-UMS Business services and features used
- the number of users
- fax- SMS- and voice-traffic
- the connection to the PSTN / PBX
- the available or planned server platform.

In the following, you can find some calculation examples as well as remarks and descriptions to the connection with PBX's and the required components.

2.1 Operating System

The ixi-UMS Business Software can be installed on Windows operating systems only:

- Windows Server 2012/2012 R2
- Windows Server 2016
- Windows Server 2019
- Windows 8.x (32 und 64 bit)
- Windows 10 (32 und 64 bit)

Browser:

- Microsoft Internet Explorer ab Version 11
- Microsoft Edge
- Mozilla Firefox ab Version 68
- Google Chrome ab Version 78

If ixi-UMS Business on a virtualisierten operating system is installed, note please that the MAC address must be firmly assigned.
By using the XCAPI for the binding from ixi-UMS Business by VoIP (SIP, H. 323) on an operating system in a virtual server, you follow please the in addition required settings in the article; ixi-UMS Business virtualisiert

2.2 Computer Hardware

Depending on which services shall be used in which range of performance, the PC performance has to taken into account.
The information performed below is to appoximate values for installations on operating systems on those is only ixi-UMS Business installed.

ixi-UMS Business as a Fax server with or without SMS (without answering maschine)

- **Prozessor:** at Installations with up to 4 channels : 1,5 GHz (1 Kern)
- **Main Memory**: depending on operating system: 6 - 8 GB
- **free Hard Disk**: 500 MB

ixi-UMS Business als UMS Server (with Fax/SMS and answering maschine)

- **Prozessor:** at Installations with up to 4 channels : 1,5 GHz (1 Kern)
- **Main Memory**: depending on operating system: 6 - 8 GB
- **Hard Disk**: 500 MB + 1 MB per User announcement

Generall note:

If the ixi-UMS messages shall be available in the ixi-UMS Web Journal to the users, the "archiving" must be aktivated.
In the case must be considered, in addition:

- 45kb per Fax page / SMS
- 240 kB per 30 sec Voice message from caller

For a basic installation with ixi-UMS Business Fax and Voice on a Windows Server 2019, a "Hardware" (parameter for virtual machines) should be deployed with the following parameters at least:

- **Hard Disk**: 40 GB
- **Prozessor**: 2 GHz, 2 Kernel
- **Main Memory**: 8 GB

You have to take into account here, of course, that the applications (e.g. Word) are accessed for the Server-Rendering and need an appropriate main memory.
Example: A one-page Word-document, for example, needs approx. 60 MB main memory in order to opened and printed with Word 2016.

Basic Recommendation

- ixi-UMS Business and Estos UCServer can be installed together on one machine.
- It is recommendable, however, to install the modules ixi-UMS Business and/or UCServer on a machine separate from the messaging system.

Advantage:

- No influence on the messaging system when maintaining the ixi-UMS Business Server (e.g. CAPI driver update) or CTI Server
- No software installation on the messaging server
- When maintaining the messaging server, the ixi-UMS Business Server is fully ready to send and receive (processing of the queues)

2.3 Rendering Software

With the "rendering", the files and file attachments that are sent to ixi-UMS Business from the workstations, are converted into a fax-capable format by ixi-UMS Business.

This procedure allows the user to send faxes from the workstation out of formats like e.g. Microsoft Word, Excel, PowerPoint or also PDF-files by attaching the files to a message like with an e-mail.
Moreover, particular formatting (e.g. font, font size) of the text in the e-mail body can be depicted on the fax coverpage.

In order to be able to render a doc-file, for example, the respective application must be installed on the ixi-UMS Business machine installed and set up **under the installation-account.**
To setup the application login with the installation account (of ixi-UMS Business), open all application you require. All messages and profile settings must be confirmed in such a way that they do not appear again when reopening.

Tested by estos GmbH for the rendering of "Office-documents":

- Office 2013, 2016, 2019
- OpenOffice.org 4.0 and higher
- LibreOffice 6 and higher

To configure the office software please also refer the article: Rendering of Office Documents

Transferring Fax Printing Jobs via Control Characters in the Text
If the ixi-UMS PS Drucker is used, is used, GhostScript must be installed on the workstations. The ixi-UMS Business Client Tools were successfully tested with the versions:
9.18, 9,19,9,21 9.22, 9.26
The Versios 9.20, 9.24 and 9.25 are not released.

2.4 Routing Methods

Normally, the standard routing setting is used for the delivery of the messages to the users. The messages are delivered to the user the dialed recipient number was assigned to. For more information pleare refer the article Site Settings - Creating the Call Numbers

Should the users use her voice-mailbox about a common voice-mailbox number, the phone arrangement / gateway must transfer the "RedirectionNumber". The ixi-UMS Business Server must be configured for it.
In this case the number of the diversion device (phone) from ixi-UMS Business Server is evaluated.
In the LDAP data bank the phone number of the user must be put down.

Read for further information the article: Route by Redirection

3 Preparation of the installation

In the following basically required preparations are shown for the installation from ixi-UMS Business. It concerns, on this occasion, general measures.
The required preparations must be extended according to installation environment individually or are not are necessary.

Specified the needed settings
Configure the PBX and the needed hardware
Preparation of the Computer for ixi-UMS Business
Preparation of the IT environment

3.1 Specified the needed settings

It must specifierd the needed information for ixi-UMS Business:

User data base

For ixi-UMS Business the users with e-mail address and ixi-UMS recipient number must exist in the specified LDAP database or be created in the local ixi-UMS user database. A replication from an existing user database into the local LDAP database is not possible !

LDAP User data base

Depending on the selected LDAP user database, the following must be considered:

ixi-UMS user data base :

- All users must be created manual with e-mail address and UMS receiver's number. A replication from another LDAP data base (zB AD) is not possible
- If the users use the ixi-UMS Business Portal, you must send a password via email.
- If users are to be able to query the UMS messages via dial-up on the telephone, users have to specify the IMAP user name and the IMAP password via the ixi-UMS Voice-Mailbox configuration in the ixi-UMS Business Portal.

Activ Directorys :

- A user with write permission is required
- Recommended if Microsoft Exchange is used
- One of the "extensionAttributes" must be defined for storing the ixi-UMS data.
- **If no Microsoft Exchange is installed**, a schema extension must be performed to store the ixi-UMS user data.

Determination of the address space / domain for the ixi-UMS message routing

You must specify how the domain for ixi-UMS messages should be. Users must then use them to address the outgoing UMS messages.
There must be a domain for each message type to use:

- sms
- Voice oder voc
- alert (für MWI - Message Waitimg Indication)
- tts

In the ixi-UMS Business configuration are offered:

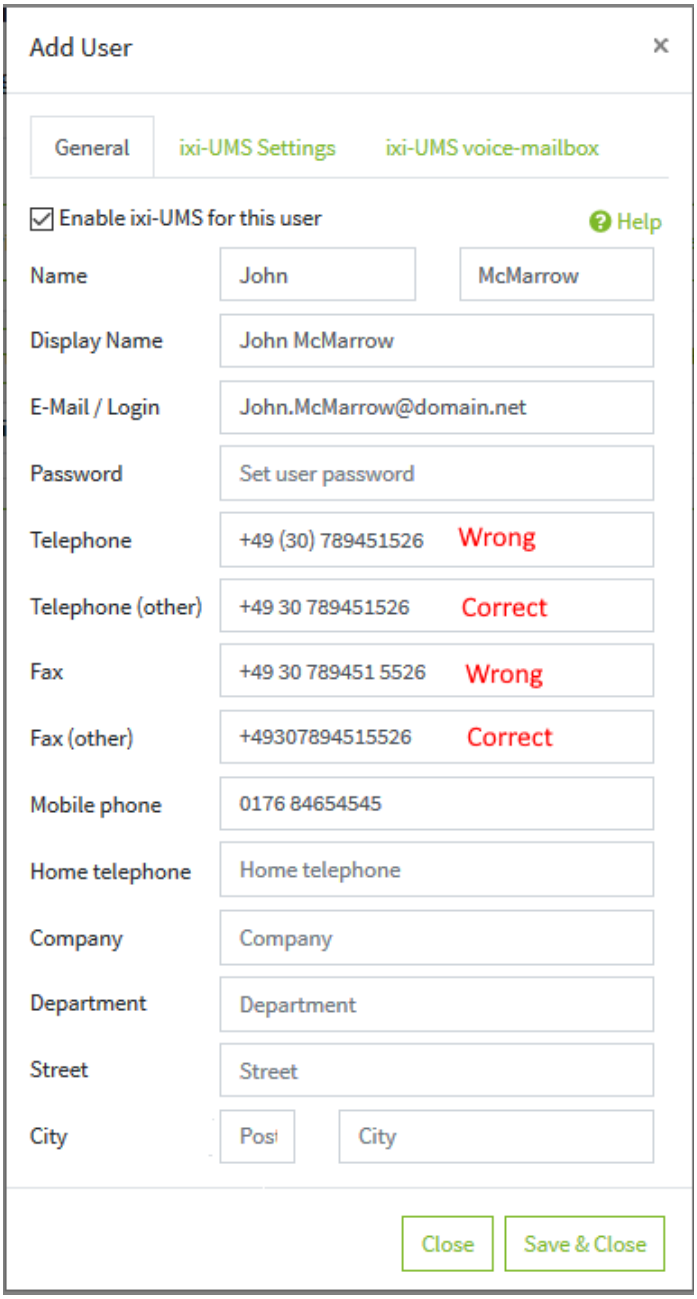
0814567897@**fax.firma.de**	0814567897@**sms.firma.de**	0814567897@**Voc.firma.de**	0814567897@**alert.firma.de**
0814567897@**firma.fax**	0814567897@**sms.fax**	0814567897@**firma.Voc**	0814567897@**firma.alert**
0814567897@**firmafax.de**	0814567897@**firmasms.de**	0814567897@**firmaVoc.de**	0814567897@**firmaalert.de**

If the user should be use the standard e-mail client to send UMS-messages, this addressing must be entered in the mail server for e-mail routing. See the article: Preparing the Mail System
Alternatively, the ixi-UMS Business Client Tools can be installed on the workstations, which will send the UMS messages directly to ixi-UMS Business.

Field and format for the ixi-UMS receiver number

To send the ixi-UMS message to the mailserver, ixi-UMS Business searches for the received number in the user administration via LDAP. When the ixi-UMS number is found, ixi-UMS Business reads out the accompanying e-mail address of the user and transmits the ixi-UMS-message to the Mail Server.
The default e-mail address and the ixi-UMS recipient number must therefore be specified in the user administration.

Principally, every user in the company can get one or several fax- and voice-numbers assigned therewith. By Default, every user gets a ixi-UMS recipient number, on that all 2 sorts of messages can be received.



The assignment of the call number is made directly in Active Directory or in the ixi-UMS user administration and can be entered or modified via the user management interface integrated in ixi-UMS Business.

The user is not assigned the extension but the full recipient number in the "E.164 format".
Remark:
An E.164 telephone number is a number in the so-called canonical format, this means it contains country code, area code, phone number and extension information.
Example: +49 8142 4799123 or +4981424799123 (without all spaces)

By default, the country code, area code and call number depend on the ixi-UMS Business site settings.

When the PBX transmits the recipient number in E.164 format, you may have to enter the recipient number without blanks.

Valid formats for a phone number:

+49 8142 47990	One blank space between country code and area code as well as between area code and connection number
+49814247990	without spaces

Attributes for saving UMS user properties

The rights and permissions as well as the settings of the answering machine are stored in the LDAP database in the user object.
If the connection to **Active Directory with Microsoft Exchange Server** is used, one of the 15 "extensionAttribute" (user-defined fields) supplied by Microsoft must be defined.
If users are to be managed in **Active Directory and no Microsoft Exchange Server** is installed, a schema extension must be performed. (This function is not yet included in the BETA version)
This setting is not required when using ixi-UMS User Management.

Access to user mailboxes (only required for remote access by phone)

Depending on the mail server used, the ixi-UMS Business access must be set to the user mailboxes in the mailserver.
For necessary settings and examples, see the article: Preparing the Mail System.

3.2 Connection to the telephone system

Depending on whether ixi-UMS Business is to be connected to the telephone system via VoIP or ISDN, the following steps must be carried out:

Connection to an ISDN connection via a bintec elmeg device:

- In the telephone system an ISDN connection has to be established. See the notes in the article Types of ISDN Accesses
- The bintec elmeg device must be set up and connected to the telephone system.
  - Instructions for setting up a bintec elmeg RT
  - Instructions for setting up a bintec elmeg be.ip
- The LAN Capi must be installed and configured for the bintec elmeg device

Connection to a telephone system using VoIP:

- In the telephone system a trunk for SIP or H.323 must be established
- Instructions for setting up the telephone systems you can download on the estos website for "Unified Messaging with ixi-UMS Business". (www.estos.de/produkte/ixi-ums-business)
- Please also note the instructions in the article Voice over IP

For detailed information about the protocols and required settings, see Connection to PBX and phone numbers

3.3 Maschine for ixi-UMS Business

The following environment must be prepared on the ixi-UMS Business Server:

- Computer with Windows Operating System
- .net Framework 4 must be installed
- current web-browser
- Member of the domain (recommend)
- IP-address and machine name of the Server should be final and should not have to be changed after the installation.
- Office Software as render software when respective documents shall be sent
- Mail client (only for testing)
- When using VoIP:
  - Firewalls are configured or deaktivated
  - if necessary: the virtuelle maschine is configured
- When using bintec elmeg hardware:
  - The LAN Capi is installed
  - Firewalls are configured or deaktivated

3.4 IT-Enviroment

Depend on whether the computer for ixi-UMS Business is a member of a Windows Domain, the LDAP database to be used for users, the existing mail system, and the later-used services (Fax, SMS, Voice, MWI.) the following configurations are required:

Active Directory

- "Domain Administrator" account to install (if the ixi-UMS Business Server is a member of a Windows domain)
  - All ixi-UMS Business services will in this context run later
  - The PW should be fixed. A change of the password will result in major changes to the ixi-UMS Business!
  - If the ixi-UMS user administration is used, a local administrator (recommended as a domain user) is sufficient
- If the UMS user properties are stored in the Active Directory, a domain administrator is required for the LDAP connection (for Voice and the ixi-UMS Business Web pages)
- Optional: If no Microsoft Exchange Server is installed, the permissions to perform the schema extension are required. For detailed information, please refer to the article: "Performing the schema extension".

Mail system

If all incoming ixi-UMS messages and reports are send as e-mail to the user, the mail server must receive these mails and send them to the mailbox.
Depending on how the user sends the user's fax messages to the ixi-UMS Business server, either:

1. At the workplace, the ixi-UMS Business Client Tools with the "SMTP" option should be installed
   The outgoing fax messages are sent directly to the ixi-UMS Business server via their own SMTP client. The port for sending via SMTP (default 25) must be configured at the workstations and the ixi-UMS Business server in the firewall.

or

2. A corresponding routing entry can be set up in the mailserver
   The outgoing fax messages are delivered to the mailserver via the standard mail client, which sends the message to the ixi-UMS Business server

Microsoft Exchange Server

- SendConnector and ReceiveConnector are set up in Microsoft Exchange
- The IMAP4 protocol must be changed for remote access (access via IMAP 4 to the user mailbox)

For detailed information about setting up the Microsoft Exchange Server, see in ixi-UMS Business Manual the article: "Preparing the Mail System"

Domino Umfeld

- The IBM Domino server is set up:
  - SMTP is enabled
  - Routing entry for a "foreign domain" is entered
- For remote access (access via IMAP 4 to the user mailbox):
  If the users want to poll the mailboxes by telephone, all mailboxes must be converted to IMAP4

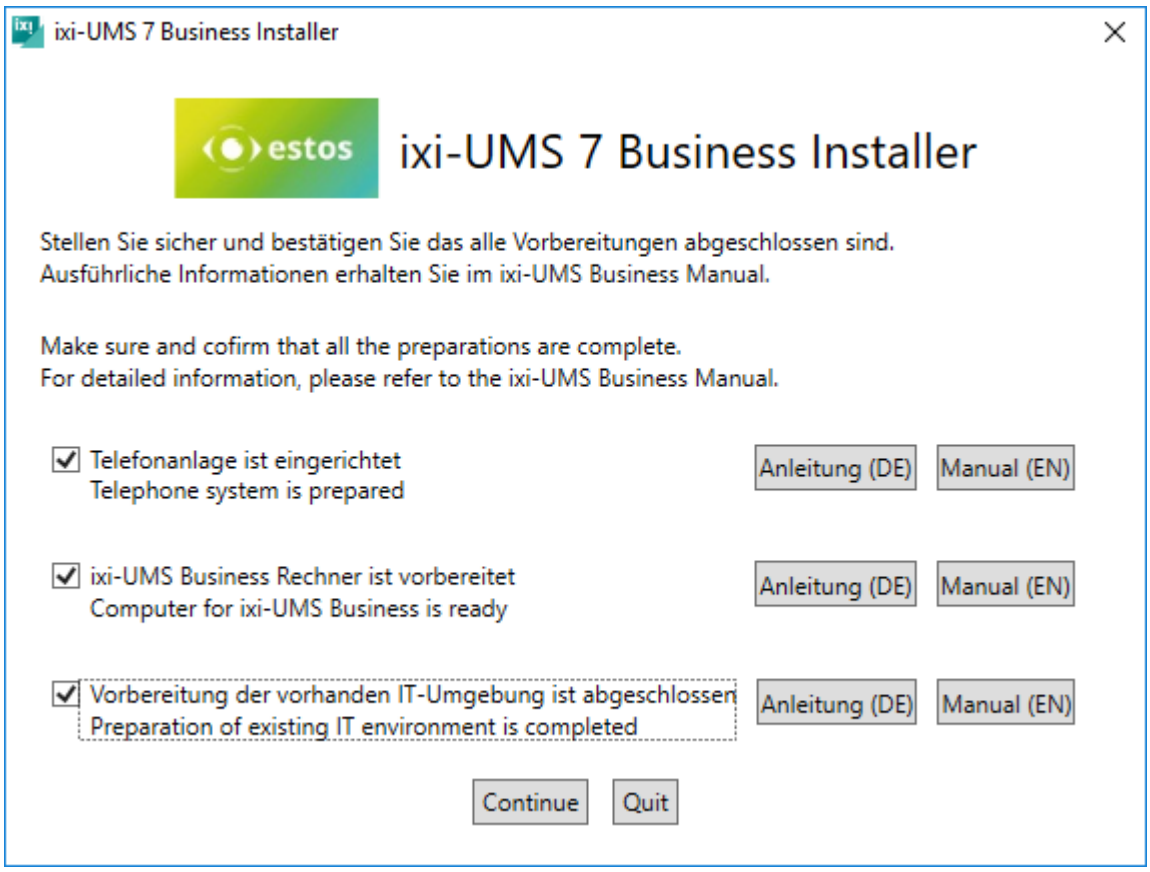
For detailed information, please refer to the article: "Preparing the Mail System" in ixi-UMS Business Manual

4 Installation

With ixi-UMS Business Setup all needed software will be installed:

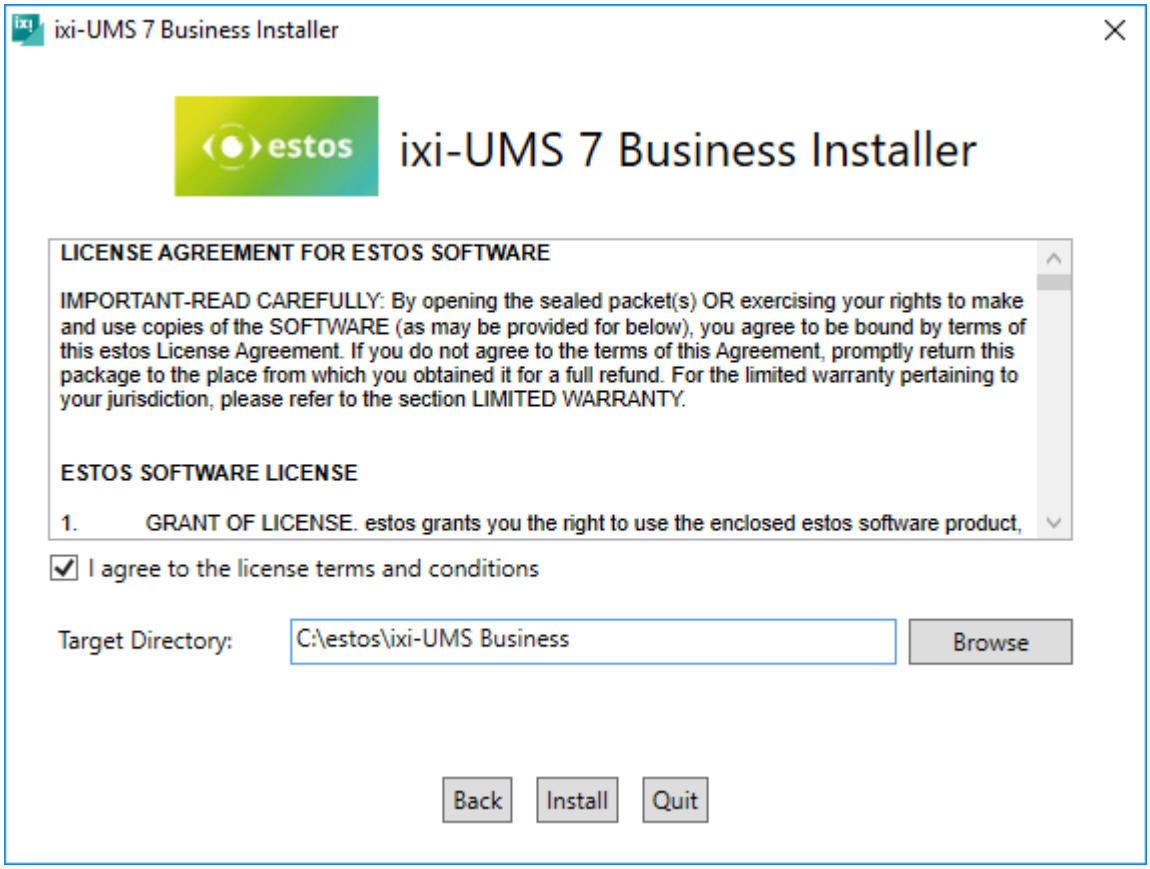
- **Microsoft Speech**
  used forTTS Function
- **TTS** in DE and EN
- **XCapi (Optional with connecttions via VoIP)**
- **MIT Kerberus for Windows 4.01**
  needed for the ixi-User Management
- **Apache HTTP Server Version 2.4.43**
  necessary for using the ixi-UMS Business Web sides
- **Firebird Server Version 3.05**
  necessary ixi-UMS Business Journal
- **OpenLDAP Server Version 2.4.42**
  needed as User LDAP database for ixi-User Management
- **ixi-UMS Business Server Software**

Please download the newest of ixi-UMS Business from the web pages of estos GmbH, unzip the ZIP-File and start the ixi-UMS 6 Business.exe.
Before the installations can be started, you must confirm that the necessary preparations have been carried out.
Please refer to the brief instructions for instructions and settings.

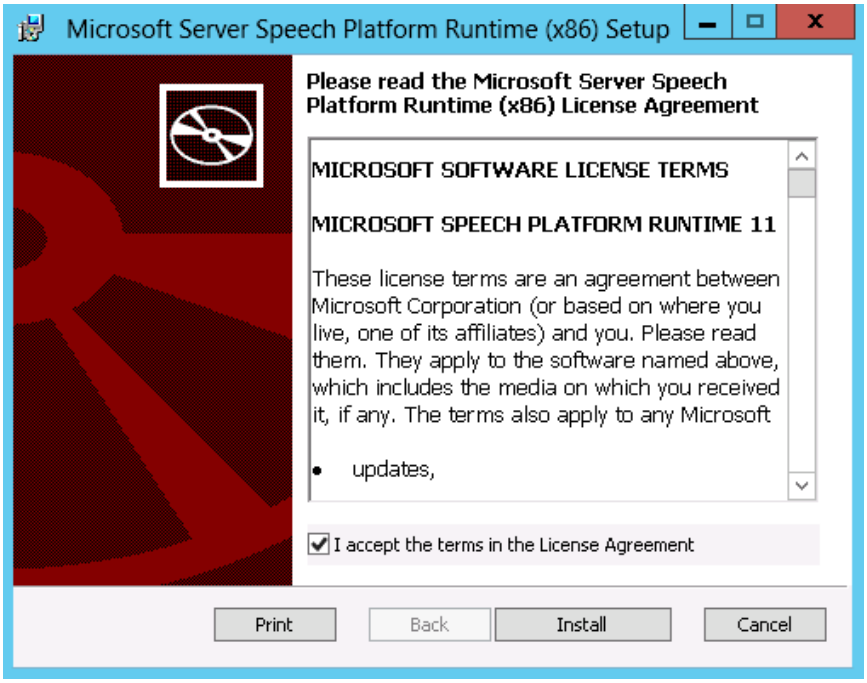


After confirming the preparations, the ixi-UMS Business Setup can be started.

Confirm the license agreement and select the installation directory.
The default installation path is "C: \ Program Files (x68) \ ixi-UMS Business". To install the components of ixi-UMS Business in another directory, click "Browse".

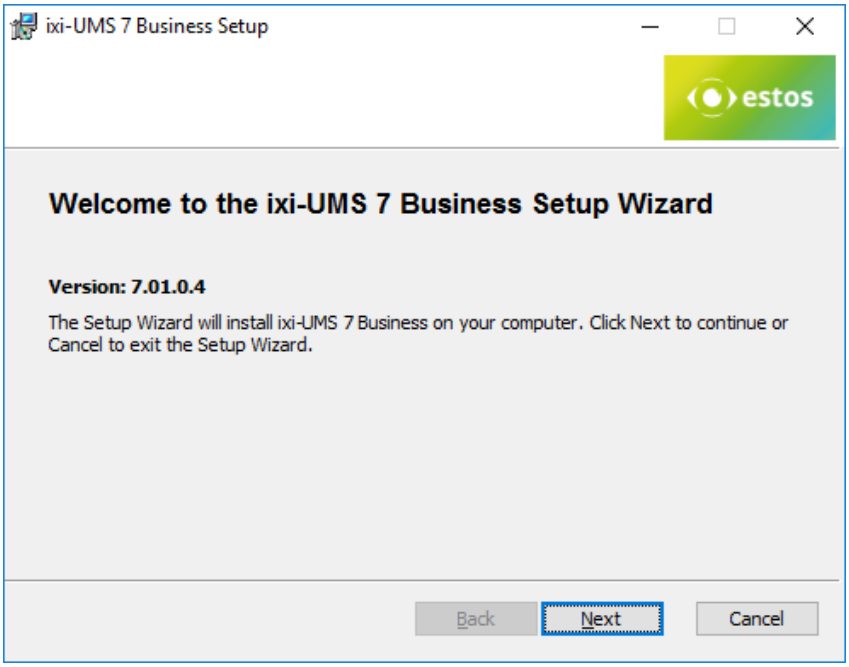


Click "Install" to install the components.

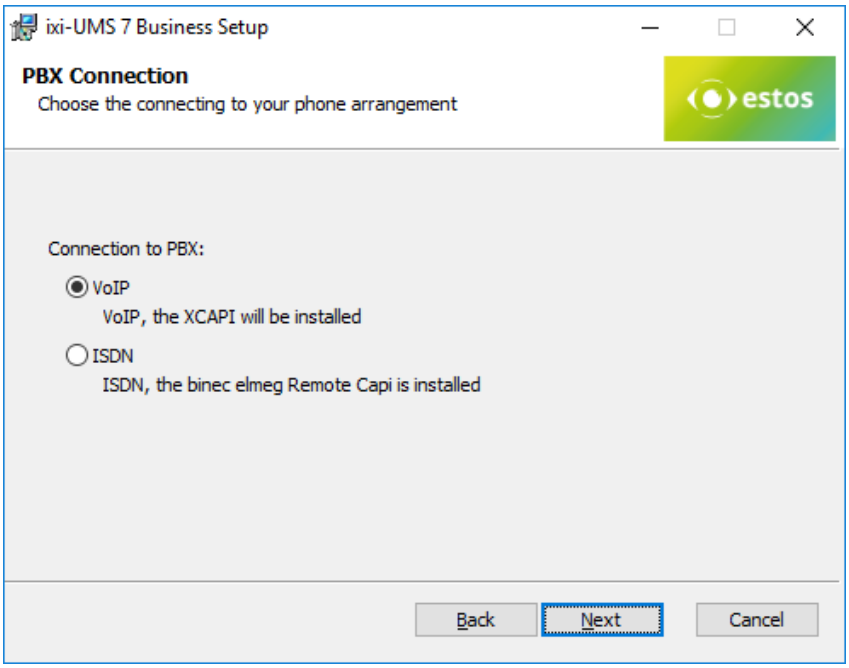


First, the Microsoft Speech is installed for the TTS functions. Confirm the license agreement and click "Install".

When the installation is complete, confirm with "Finish".



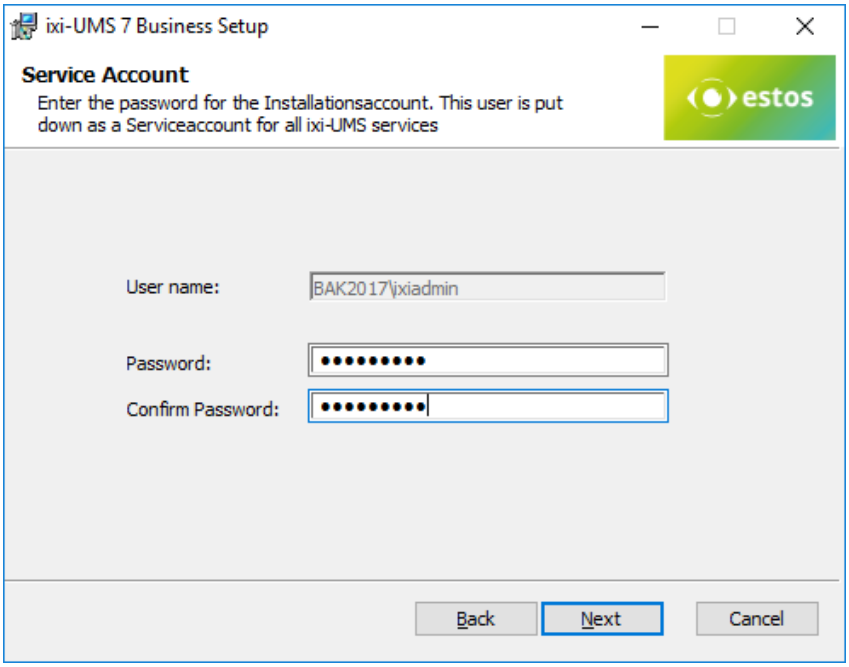
The next step is to start the ixi-UMS Business Setup.



First, select the type of connection to your PBX / gateway / provider.

VoIP:
The XCAPI is installed with

ISDN:
You have installed abintec elmeg Remote-Remte-Capi.



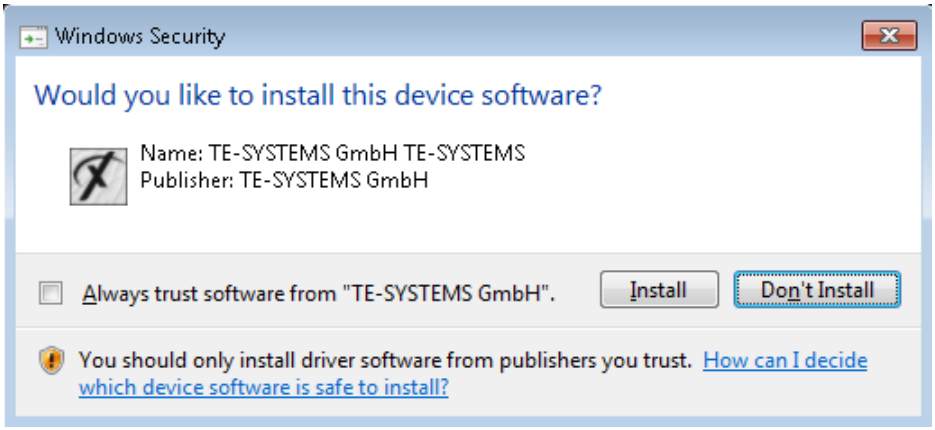
The service account is the user account with which you are logged on.
This can not be changed here.

The user specified here is entered as a service account for all ixi-UMS Business services.

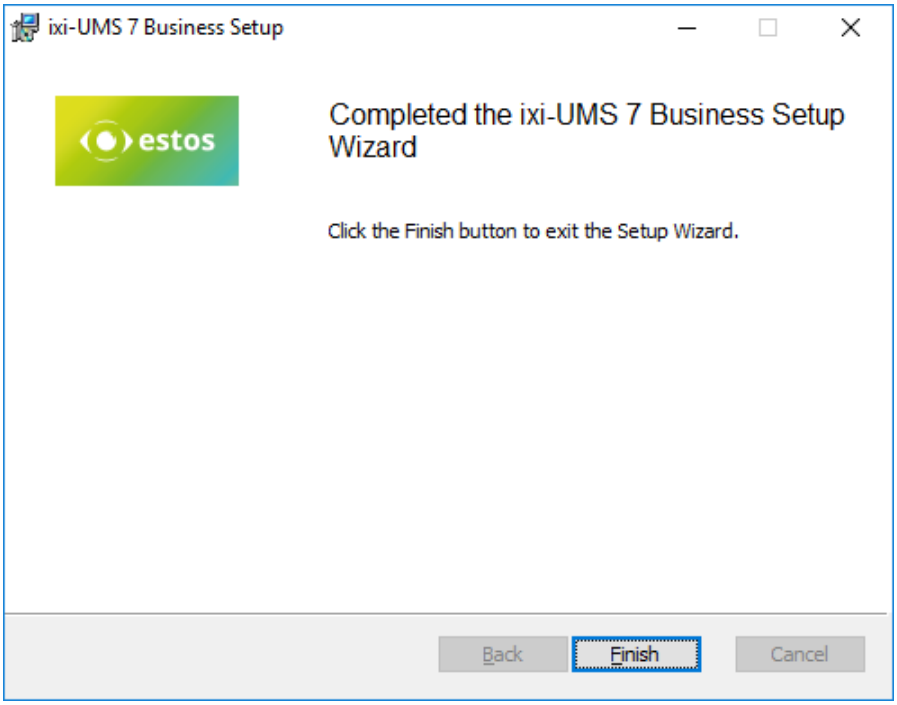
Please note:
If an Office package is used to render documents, this must be set up when the service account is changed.
Refer to the manual

In the next step, all required data are copied and installed. This process can take a few minutes.

Depending on which operating system ixi-UMS Business is installed, a Windows warning message appears before the setup install the XCAPI (optional) and the ixi-UMS printer driver.



Select "Install" to continue the installation. After the installation, the configuration wizard is started.



At the end of the installation, the installation wizad for ixi-UMS Business

and the total set-up is terminated

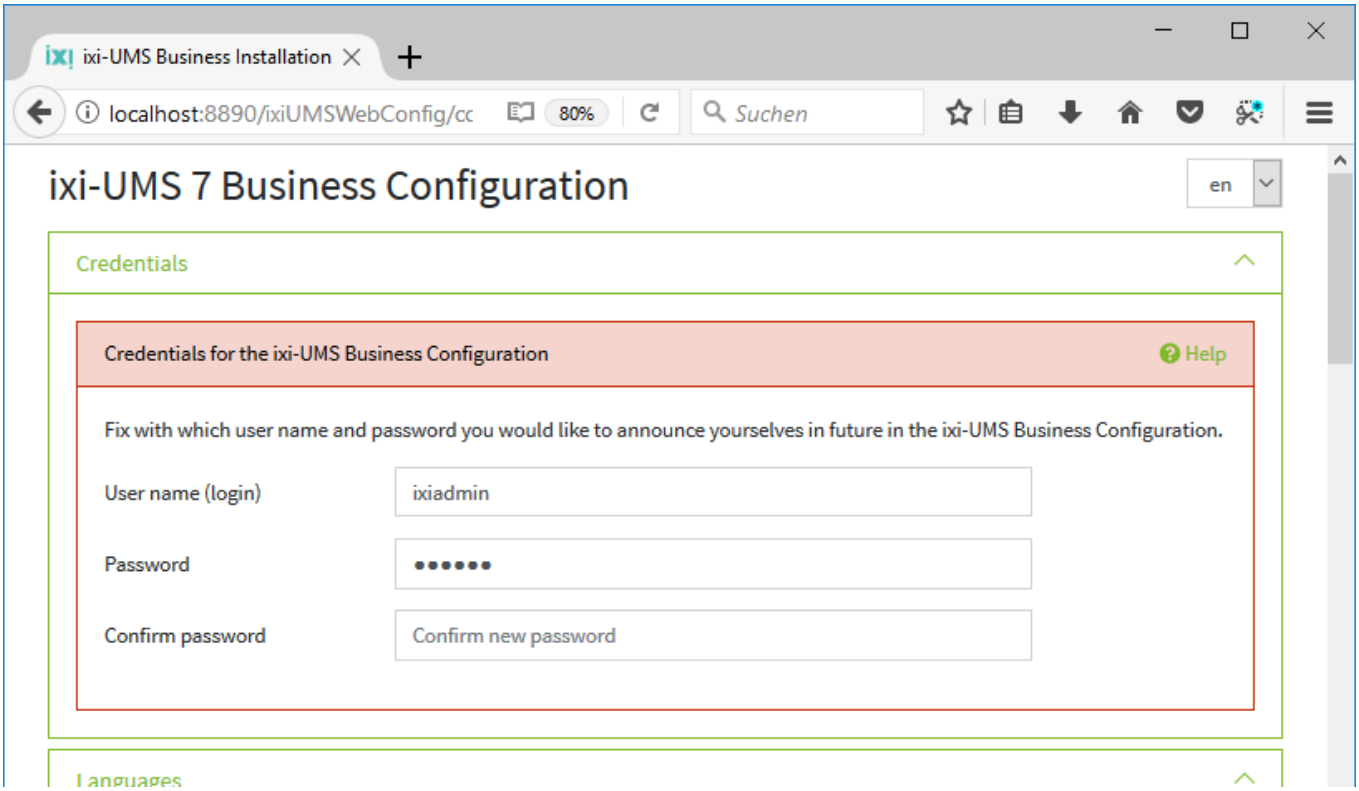
The web page for the ixi-UMS Business basic configuration is started automatically.

5 Basic Configuration

After the installation the browser-based configuration surface is opened for the base configuration in the standard to web browser.

All not yet furnished points are shown red	Mail Server Settings
If data are not checked given, however, yet, the heading is yellow indicated	Mail Server Settings
Only if all information available and if necessarily checked, the headings are indicated green and the configuration can be stored.	Mail Server Settings

All settings can be changed later in the ixi-UMS Business configuration.



First type in a user and passwort to login into the ixi-UMS Business Web-Admin. This user is regardless of the users in the LDAP database or the local user accounts
The language of the interface can be displayed in English or German. You can change the language in the upper right corner.

To complete the basic configuration, you must enter the license and save the Basic-configuration

5.1 Languages

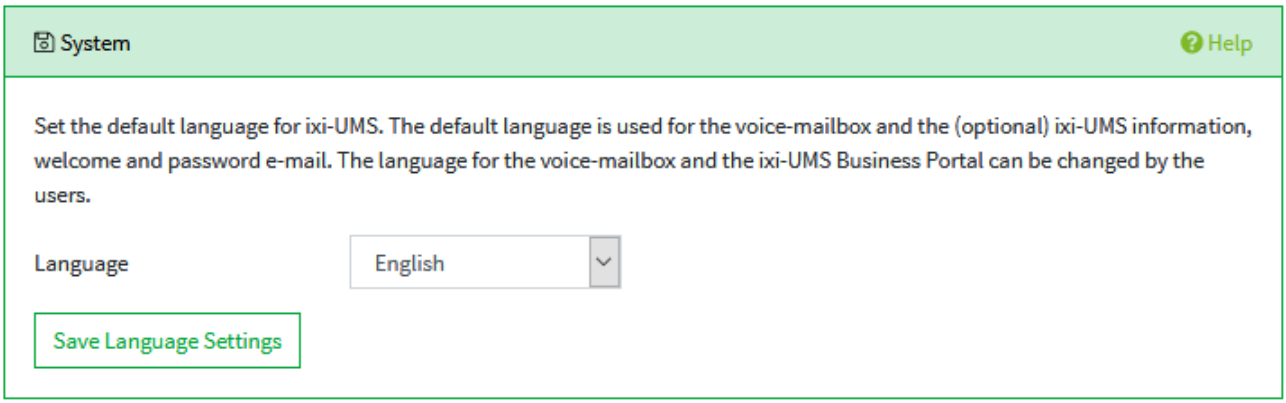
Specify the languages for the ixi-UMS Business system:

5.1.1 System

The language you select here is using for:

- email with the user passwort (local user management)
- Welcome mail for the Voice-mailbox
- Default announcement of the ixi-UMS Voice-Mailbox
- The phone menu
- The ixi-UMS Business Portal
- the ixi-Infomail

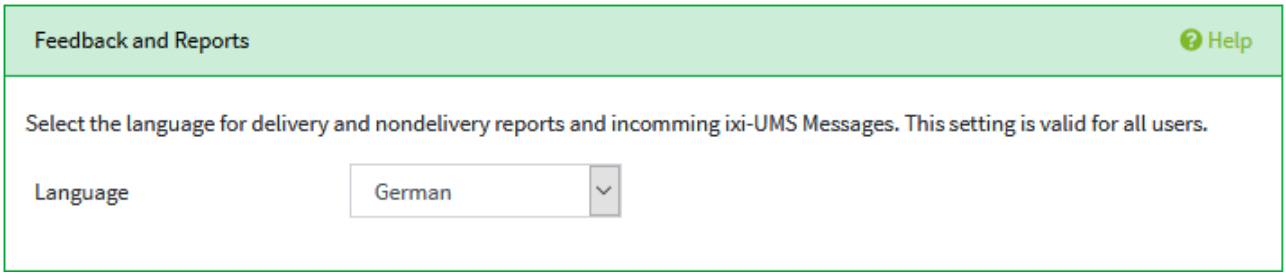
Users can change the language for the voice mailbox and web pages themselves.



Available: German or English

5.1.2 Feedback and Reports

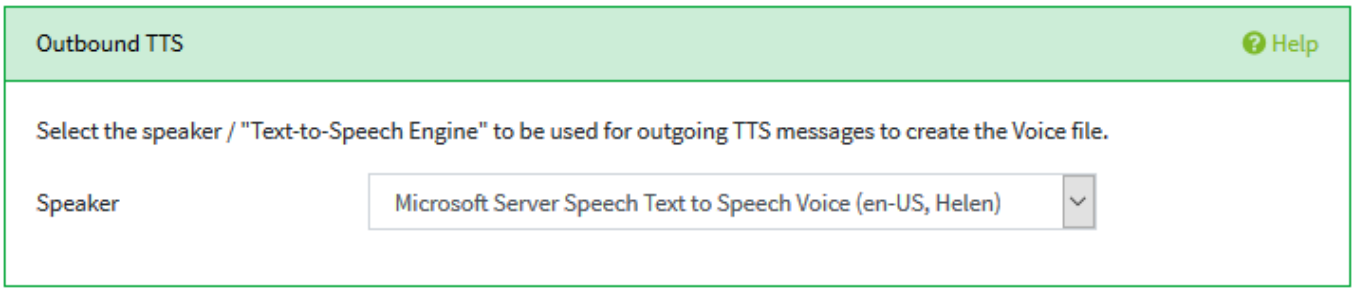
The setting is valid for all users and can not be changed by them either. All reports for send/not send messages and reports for incomming messages are created in the language set here.



5.1.3 Outbound TTS

A "text to speech engine" converts text into audio-files. Users can send an e-mail with text to the tts domain specified under Mail System Addressing.
The text of the e-mail is converted into a voice file and played to the called number on the phone.

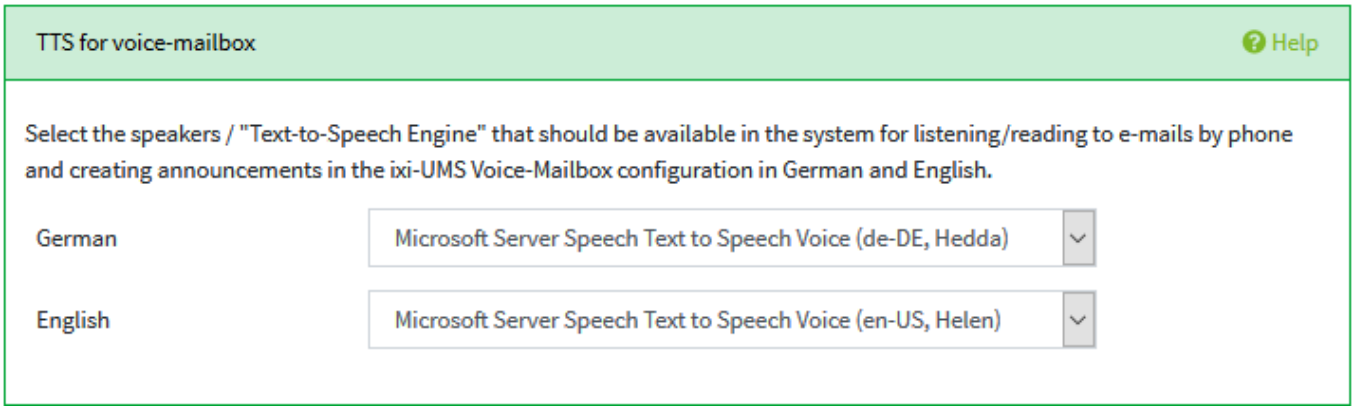
This is where the TTS engine is defined for converting a sent text message to a WAV file.



5.1.4 TTS for voice-mailbox

The set TTS-engines are used:

- to read aloud the e-mails when querying the ixi-UMS Voice-Mailbox by phone
- to create announcements via the ixi-UMS Voice-Mailbox configuration



For this function "TTS-Engine" from Microsoft for the languages German, English, Italian and Dutch are installed. However, any other "MS Speech" based TTS engine can also be installed and used.

The used language to read the message is determined automatically using the text.

5.2 Hardware

You must configure the connection between the ixi-UMS Business server and the PBX / gateway / provider.

5.2.1 Konfiguration

For the function of ixi-UMS Business, the connection to the telephone system must be set up and functioning.

Depending on whether ixi-UMS Business was installed with XCAPI for VoIP connections or the bintec elmeg Remote Capi was installed before, the configuration and the test scenario differ:

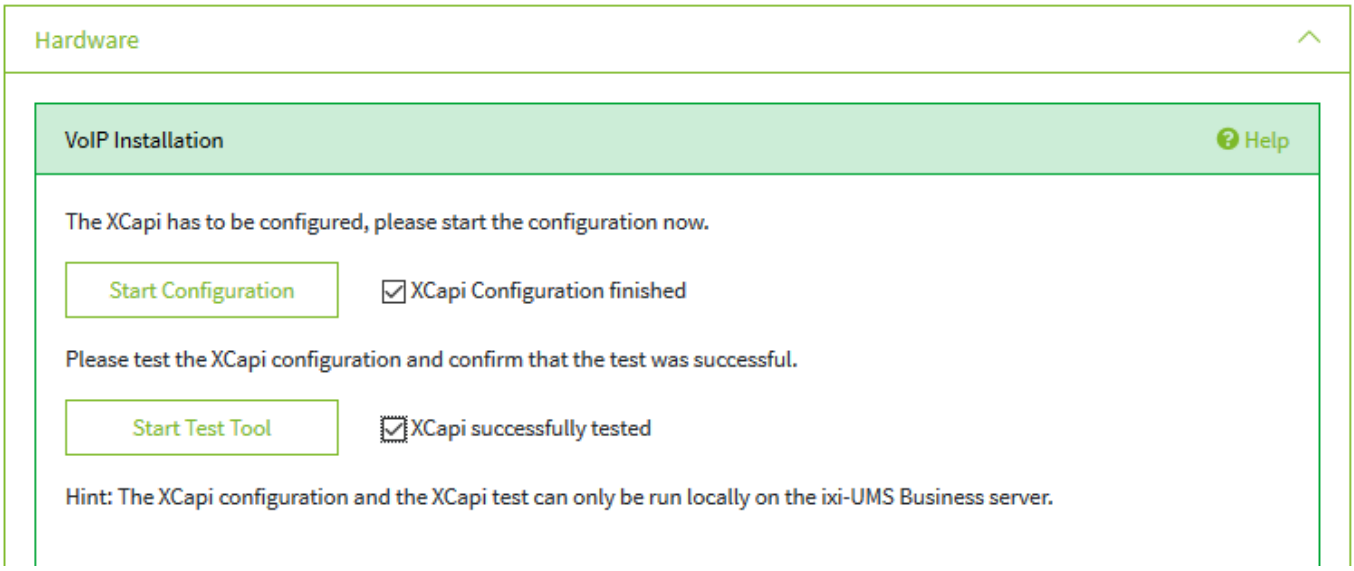
Set up and test XCAPI
Binec elmeg Remote Capi setup and testing

For both connections, the device and function must be confirmed after the initial configuration so that the configuration of the ixi-UMS Business can be completed.

Setting up / configuring and testing the connection must start in a web browser that is open locally on the ixi-UMS Business server.

5.2.1.1 XCAPI

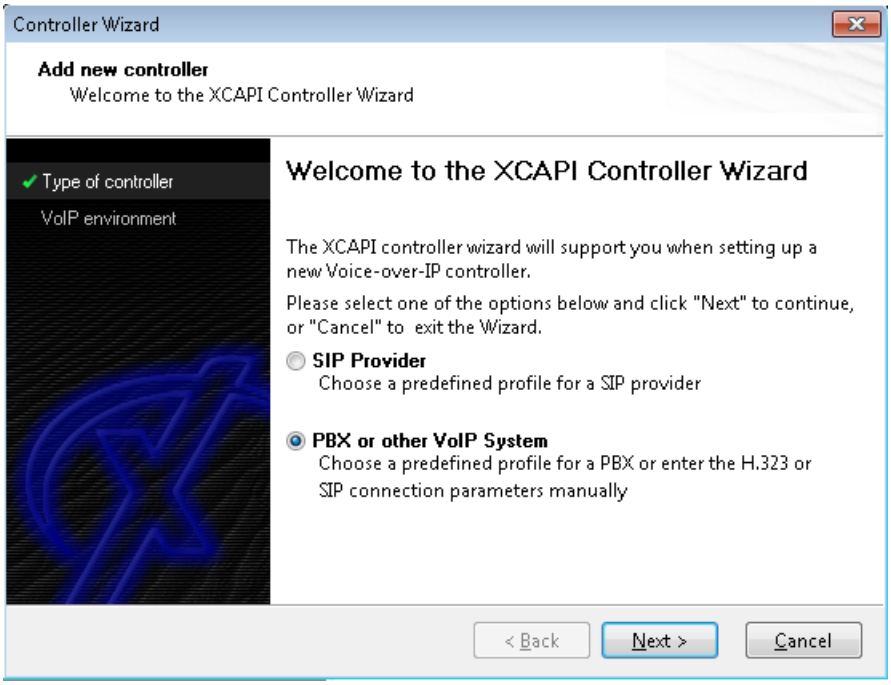
If the "XCAPI configuration" is called for the first time, the XCAPI configuration wizard starts to set up the connection to the telephone system. After configuration, the connection to the telephone system and function of the XCAPI must be tested.



You can restart the XCAPI configuration at any time to change the settings or to enable / disable the trace.
See the ixi-UMS Business Manual under Additional Information: Testing XCAPI and Tracing

Setting up / configuring and testing the connection must start in a web browser that is open locally on the ixi-UMS Business server.

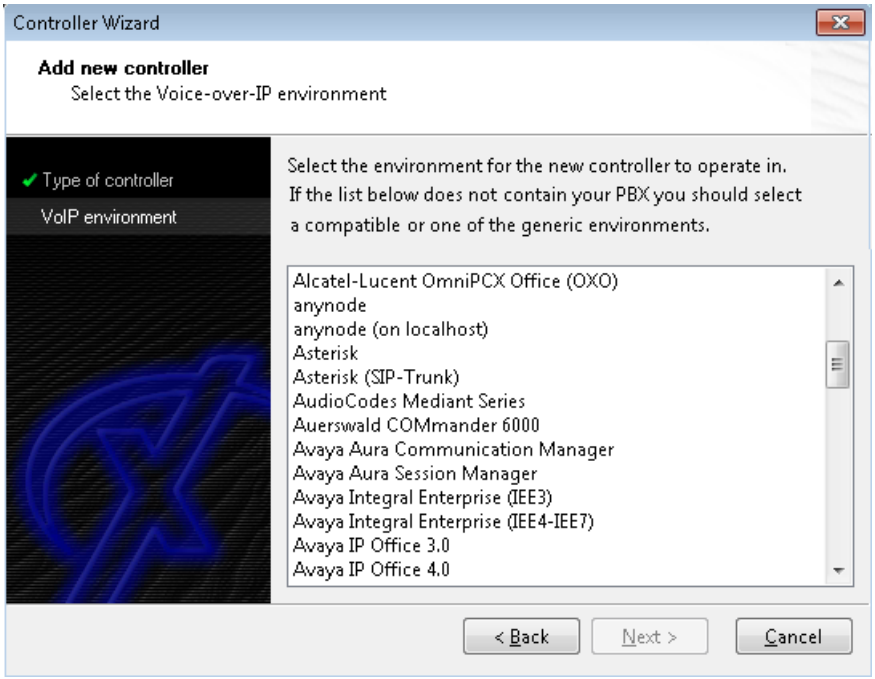
5.2.1.1.1 Set up XCAPI



This configuration wizard only starts when the XCAPI configuration is called for the first time.

You can add additional controllers / connections at any time in the XCAPI configuration.

Specify whether you want to connect directly to a SIP provider or a PBX / gateway. möchten.

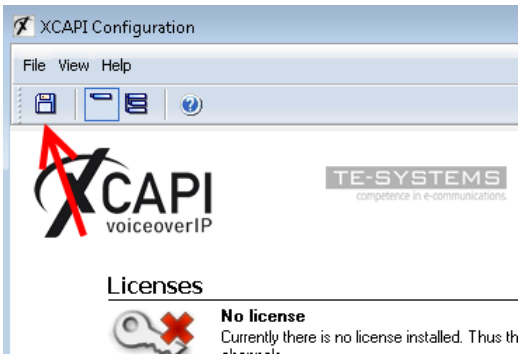


In the next step, select your provider or your PBX / gateway.

Follow the setup wizard.

Depending on the connection, you must specify the IP address or the domain, as well as data for authentication in your telephone system / gateway or the provider.

You can find examples of installations for your telephone system on the estos website for "Unified Messaging with ixi-UMS Business". (www.estos.de/produkte/ixi-ums-business)



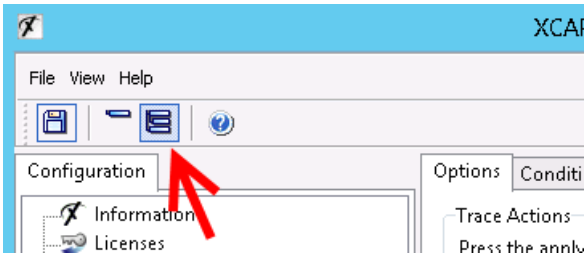
To finish the configuration you must save the settings !!

After saving, close the configuration interface.

When you first set up, you must confirm the XCAPI configuration once in the ixi-UMS Business configuration and start the XCAPI testing.

5.2.1.1.2 XCAPI Konfiguration

Setting up / configuring must start in a web browser that is open locally on the ixi-UMS Business server.

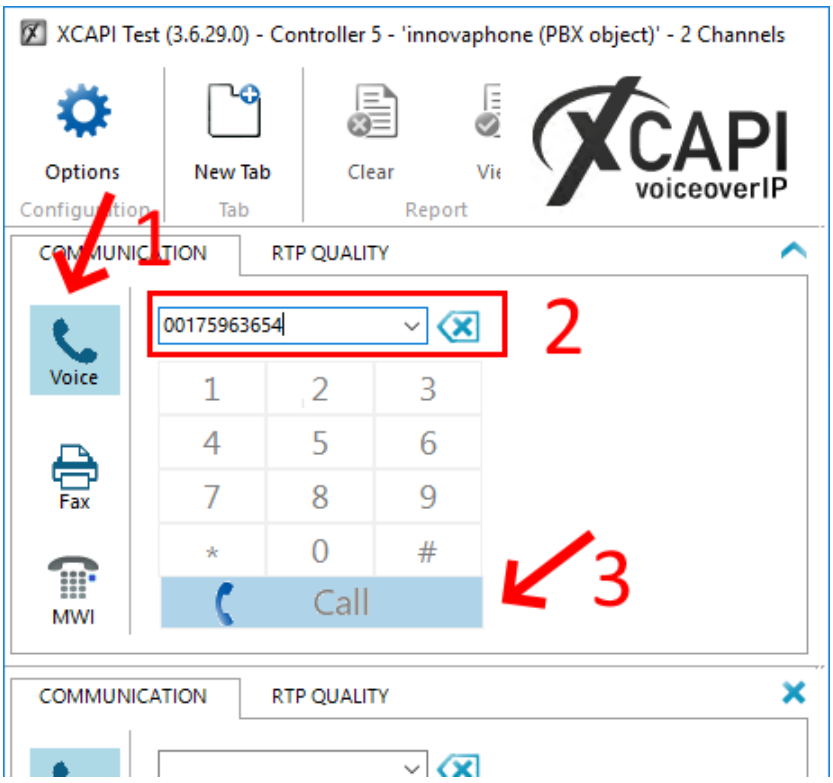


After you have set up the XCAPI by means of the configuration button, you can switch on the "extended menu" and, if necessary, make any necessary changes to the configuration.

For more information, see the XCAPI built-in help and the ixi-UMS Business Manual under Additional Information: Testing XCAPI and Tracing

5.2.1.1.3 Testing XCAPI

In order to check the functionality of the connection, the "XCAPI Test Tool" is started.



You can restart it at any time from the Start menu.

Check the general function by means of an outgoing and an incoming voice call.

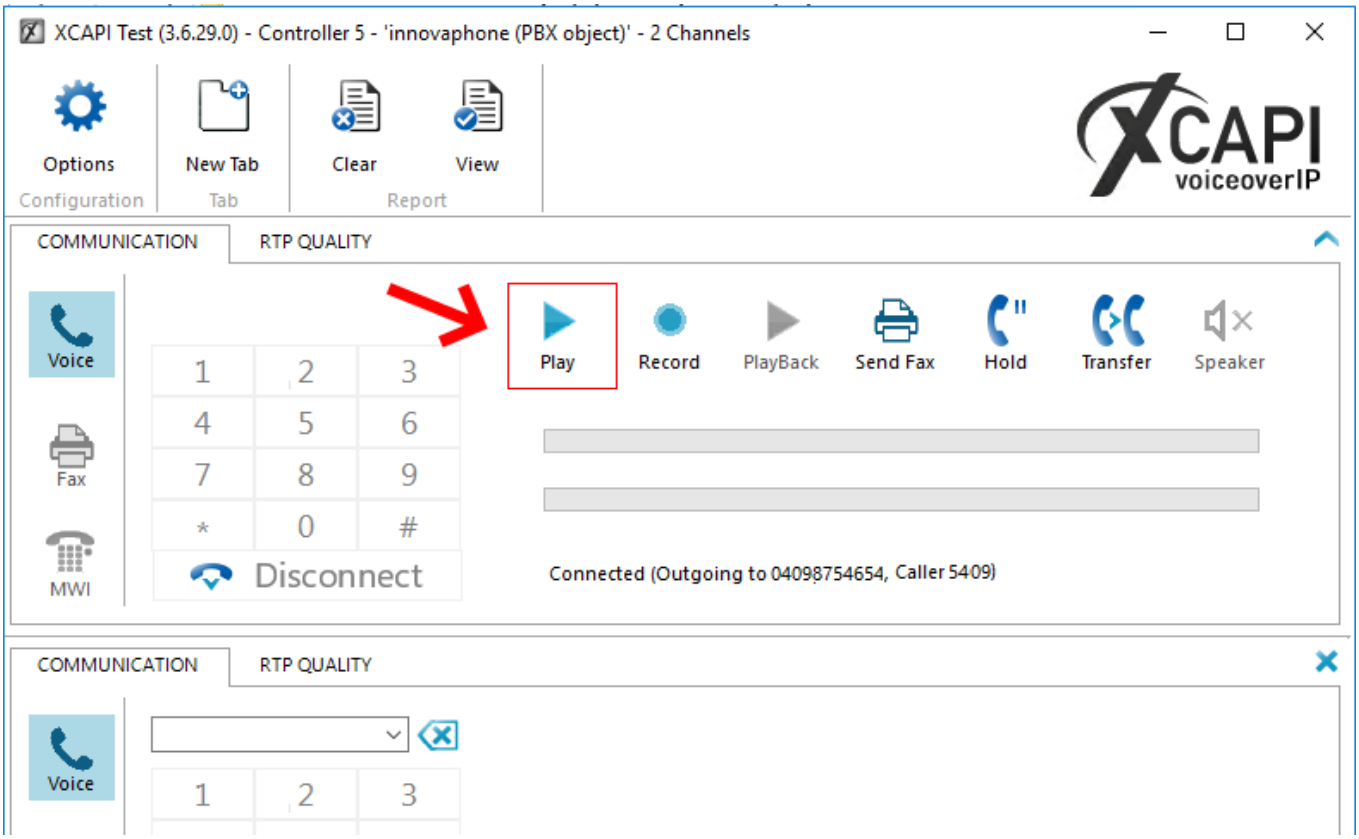
1. Select "Voice call"

2. Enter your mobile number as a "destination number".
Please note any necessary public line access

3. Start the call.

The call must be signaled on the mobile phone.
Answer the call on the mobile phone.

After you have accepted the call on your mobile phone, press "Play" to play the announcement integrated in the XCAPI Test Tool. You must hear the test announcement on your mobile phone.
Repeat the test with an internal phone.



If both tests are successful, call from your phone and then from the internal phone to a dial-in number defined for ixi-UMS Business.

Answer the call in the test tool and play the announcement.

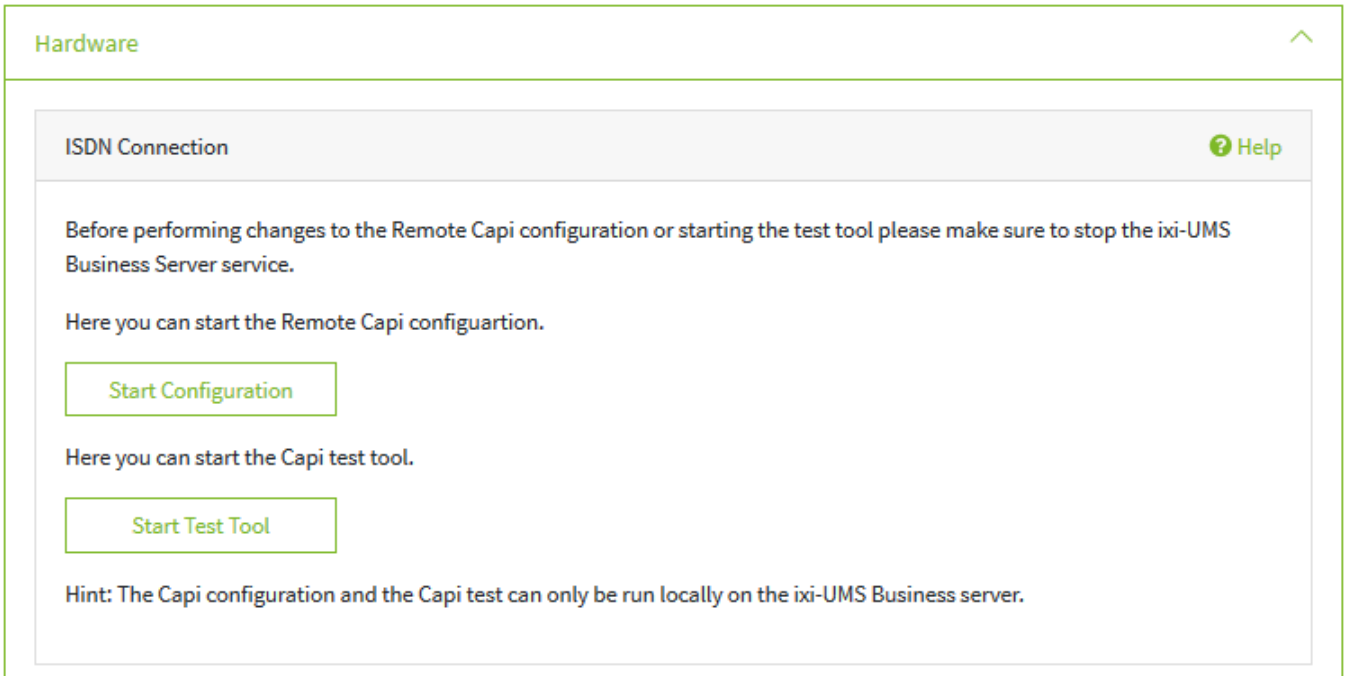
Only when all tests are successful, click "**Send Fax**" in the test tool and send a fax to an external remote that is known to you.

Please note:
In the left part you can see how the numbers are transferred to allow to remove a leading 0 by ixi-UMS Business if necessary in the basic configuration -Phone number format.
If one of the tests is unsuccessful, ixi-UMS Business can not be successfully activated. However, the configuration should continue to the end.

In the case of a problem, please read the "Additional Information - Testing XCAPI and Tracing" after completing the ixi-UMS Business installation in the manual.
To determine the data required for a "common voice mailbox number", please refer to "Additional Information - Route by Redirection"

5.2.1.2 bintec elmeg Remote CAPI

The bintec elmeg Remote Capi should be installed and configured before ixi-UMS Business. For detailed information, please refer to the ixi-UMS Business Manual under Additional Information: Installing the Remote CAPI.

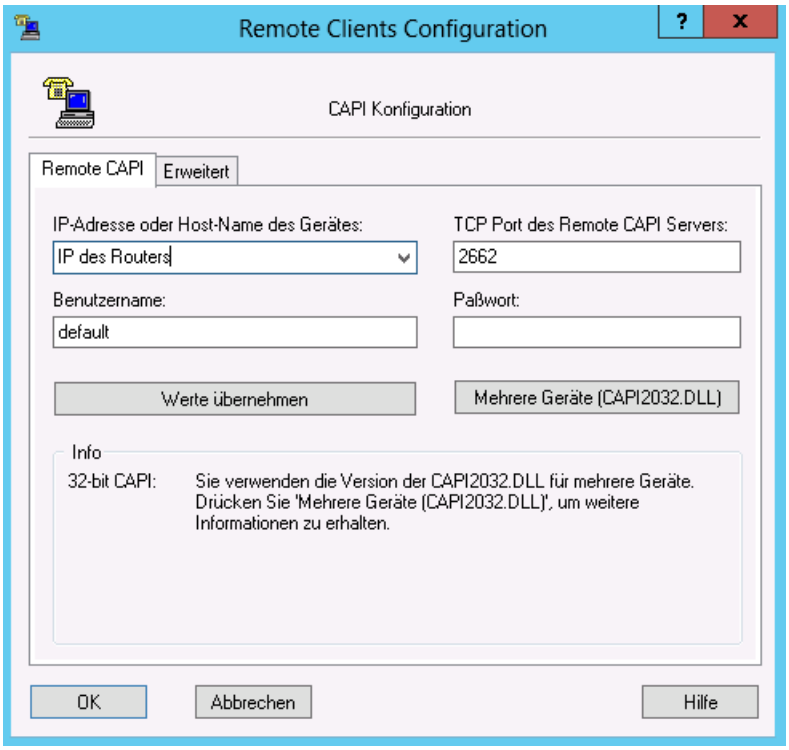


The configuration of the Remote Capi can be opened at any time. Instructions for setting up the bintec router or bintec be.ip plus can be found in the ixi-UMS Business Manual under Additional information.

After set up the Remote CAPI the connecttion to the telefon system can/must tested.
Setting up / configuring and testing the connection must start in a web browser that is open locally on the ixi-UMS Business server.

5.2.1.2.1 Configuration

A successful connection assumes that the bintec router or bintec be.ip plus is completely set up.



Type in the IP-Address of the PBX

If you don't like to use the Default user, enter the CAPI user and passwort, wich you has defined in the PBX.

Select „Werte übernehmen“ and after that select „Mehrere Geräte (CAPI3032.dll)“

For detailed information, please refer to the ixi-UMS Business Manual under Additional Information: Installing the Remote CAPI.

After set up the Remote CAPI the connecttion to the telefon system can/must tested.

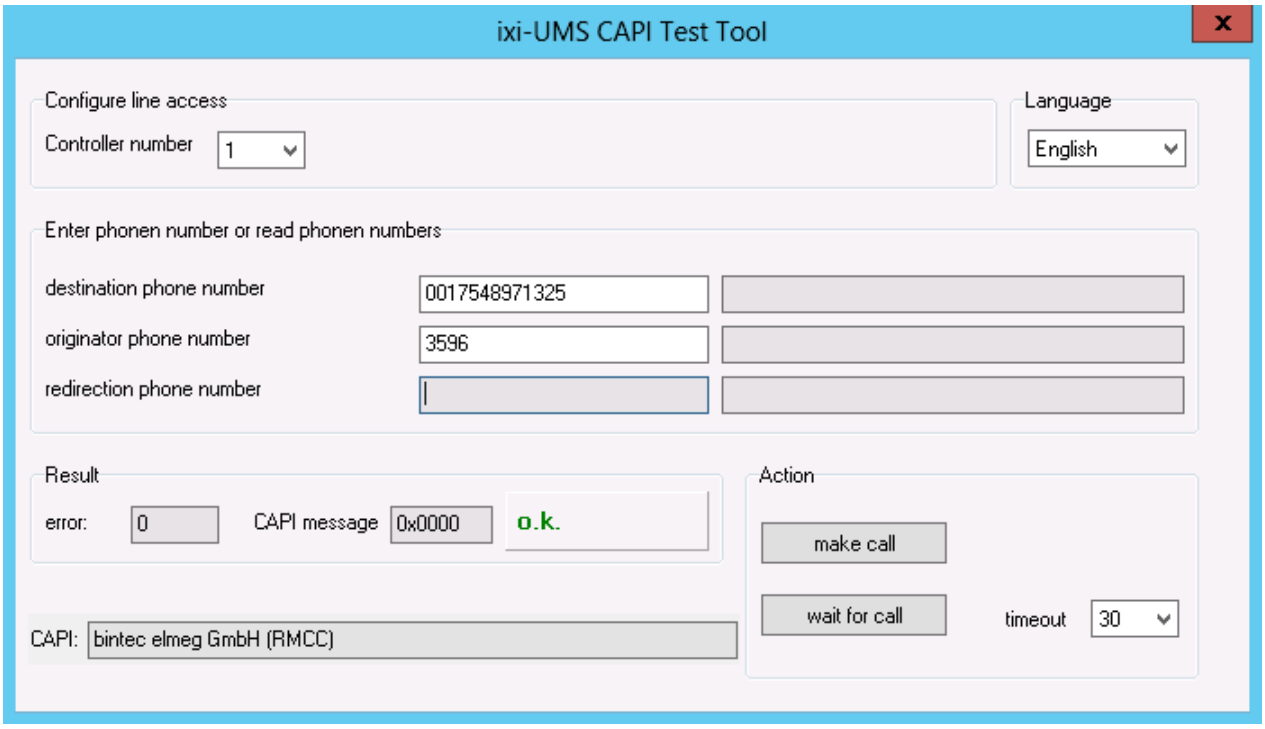
Setting up / configuring and testing the connection must start in a web browser that is open locally on the ixi-UMS Business server.

5.2.1.2.2 Testing Remote CAPI

A small "CAPI-TestTool" is started in order to check the functionality of the connection.
You can restart it at any time

Check the general function and determine the numbers transmitted from the telephone system to ixi-UMS Business by means of an outgoing and an incoming (voice) call.

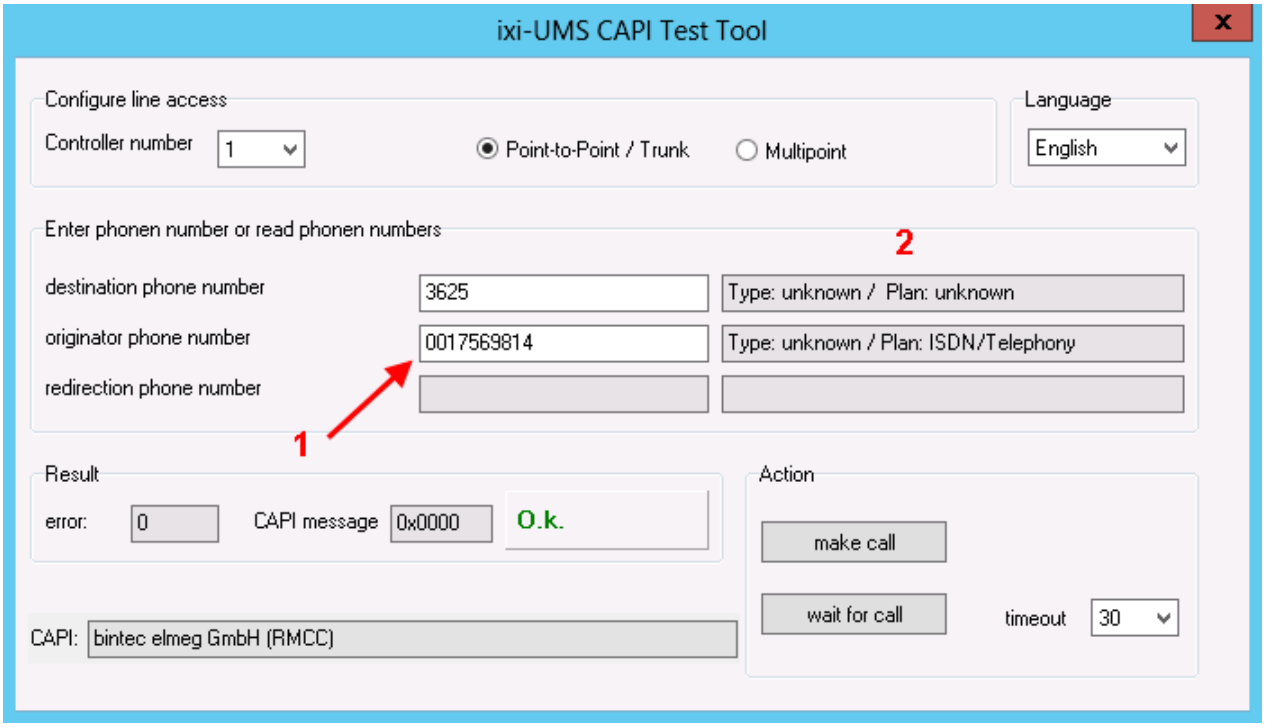
1. Select the controller to be tested
2. Select the type of connection between ixi-UMS Business and the PBX.
3. Optionally, you can specify a valid (sender) originator phone number. This should be displayed later on your mobile phone as sender.
4. Enter your Handynummer as the "destination phone number". Please note any necessary public line access



5. Start the call using the "make call" button

The call must now be signaled on the mobile phone. If you have specified a sender number, it should be included in the displayed caller number.
Accept the call. The moment you receive the call, the connection is interrupted.
Repeat the test with an internal phone.

If both tests are successful, select the "wait for call"button (if necessary change the timeout) and call from your mobile phone and then from the internal telephone to a dial-in number defined for ixi-UMS Business.
The call is automatically "accepted" and immediately terminated.



In the "originator phone number" field, you can see how the sender numbers are transferred from the telephone system.
If a leading 0 is present, this must be removed in the basic configuration - Phone number format by ixi-UMS Business.
The "Destination Number" field shows what the telephone system has transferred as a "recipient" number to ixi-UMS Business.

In the field after the displayed numbers (2) the Type-of-Number and Numbering-PlanP signaled by the telephone system are displayed .

Below is a table with valid (correct) relationships of NP, ToN and transmitted number:

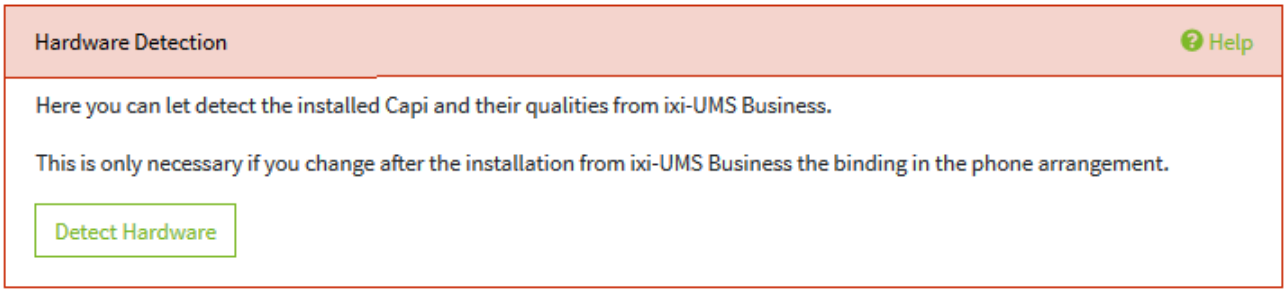
ToN (TypeOfNumber)	**NP (NumberingPlan)**	**übertragene Nummer**
unknown/ISDN-E.164	unknown	089123456
unknown/ISDN-E.164	ISDN - E.164	089123456
unknown/ISDN-E.164	ISDN - E.164	12345
national	ISDN - E.164	8912345
subscriber	ISDN - E.164	12345
international	ISDN - E.164	498912345

Please see also the articel Types of ISDN Accesses under Additional Informations in the ixi-UMS Business Server Manuals.

Please note:
If one of the tests is unsuccessful, ixi-UMS Business can not be successfully activated. Check the connection parameters and settings in the Bintec elmeg device. The setup can still be continued until the end.
To determine the data required for a "shared voice mailbox number", please refer to "Additional Information - Route by Redirection"

5.2.2 Hardware Detection

The hardware detection must be carried out in a web browser that is opened locally on the ixi-UMS Business server.
After the first installation of the CAPI for the connection to the telephone system **or if** you have changed it later, this has to be read out by means of "**Hardware detection".**



Only then can you select the controllers to be used**.**

5.2.3 Available Controllers

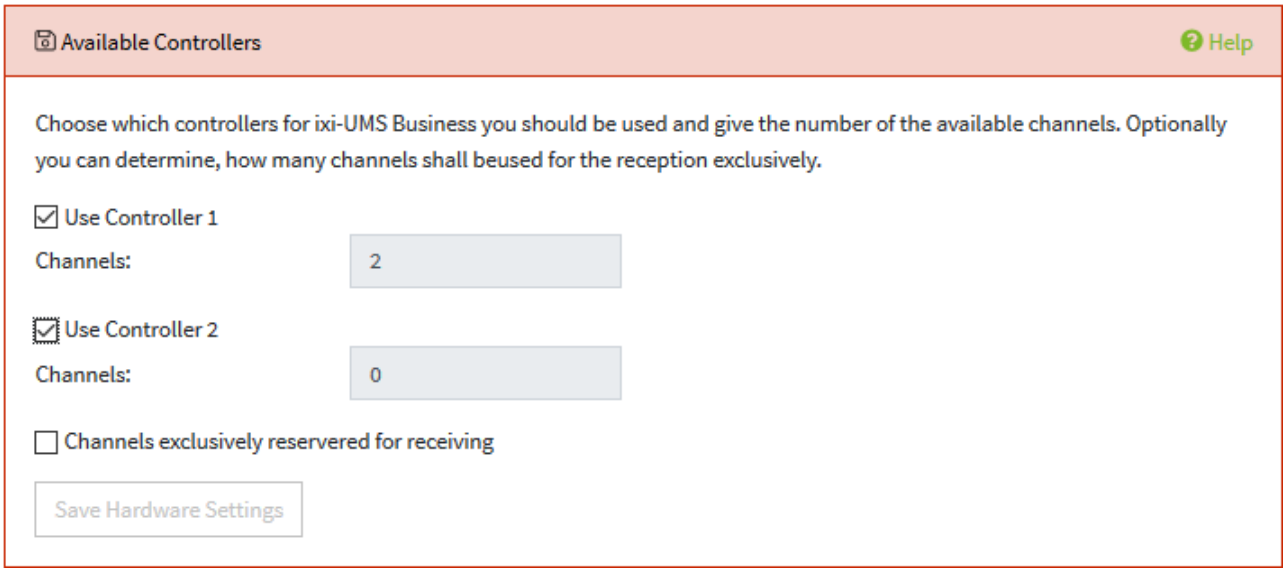
Dependent of it whether you use an ISDN-or a VoIP connection with the PBX / gateway, the following configurations are necessary.
The controllers can be marked "Active" and therewith configured for the use by ixi-UMS Business.

XCAPI

If you use the XCAPI you can change the used lines. These must have the same number like in the XCAPI and the PBX / gateway furnished.

Bintec elmeg LAN Capi (ISDN)

In this case, you can enable the controllers individually, but you can not change the number of channels. There are 2 channels per controller.



Channels reserved for receiving
Please determine here, how many channels shall be used for the **reception exclusively**. It is not possible to determine, which channels are reserved, because this is managed by the ixi-UMS Business Server independently.

The next step is to set up the connection type.

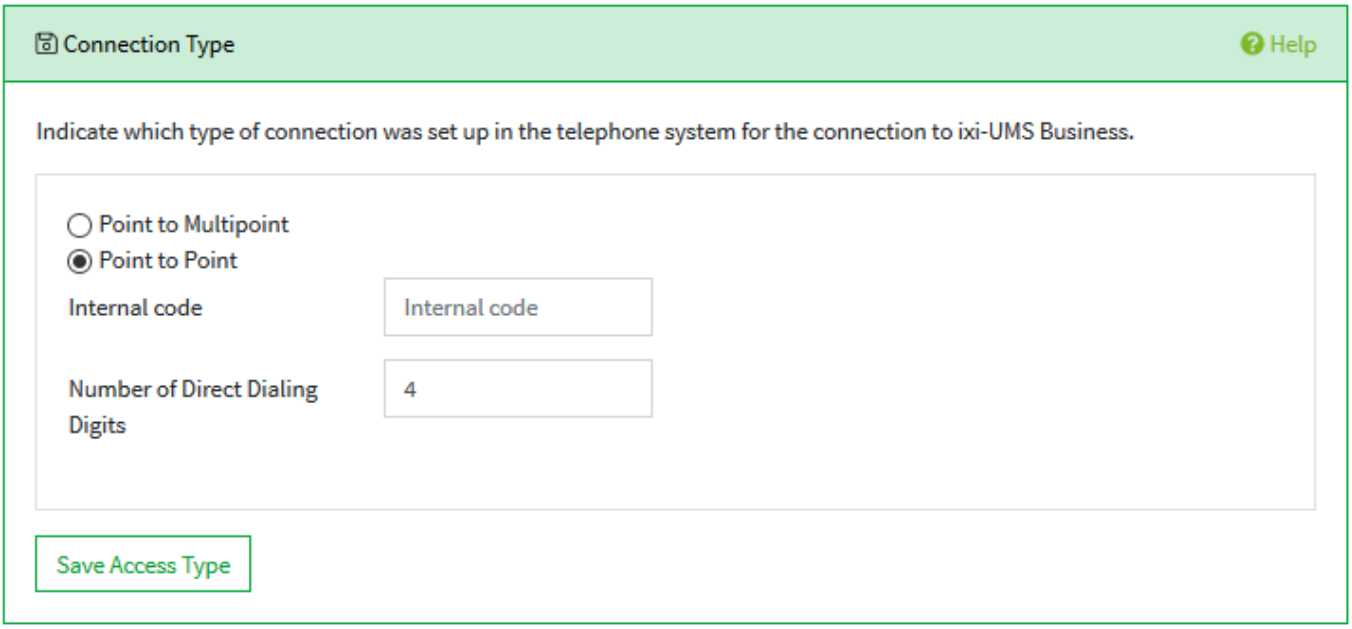
5.2.4 Connection Type

These settings are only required if you are using a Bintec elmeg Remte-Capi (ISDN). In this case, you must specify which connection type is set up in the telephone system and the Bintec elmeg device.

The connection type must **be the same for all controllers**.

Point-to-Multipoint (PMP)
Please choose this setting if ixi-UMS Business is connected to a point-to-multipoint access (of the PBX).

Point-to-Point (PP)
Please choose this setting if ixi-UMS Business is connected to a point-to-point)access of the PBX).



Internal Code
Please enter the main number here, provided that it is transferred by the PBX.

Number of Direct Dialing Digits
When a point-to-point access is selected here, the maximum number of extension digits MUST be stated here.
When 3-digit and 4-digit extensions are used, you have to enter 4 here.

5.3 Side

These are dependent on the settings of the PBX and responsible for creating the recipient number.
The information on the tab "Server Site" is required for:

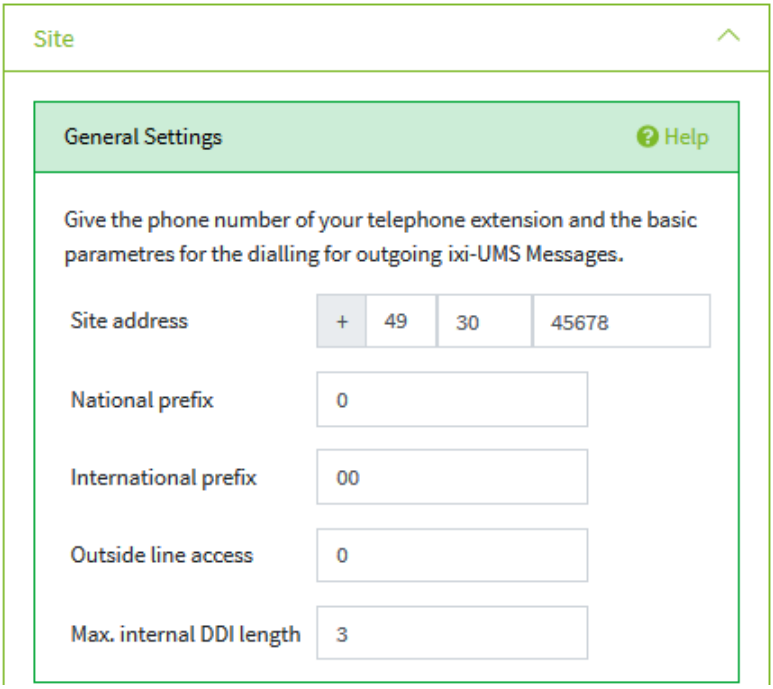
- inbound, create the recipient address in E.164-Format
- outbound, create a dialable number, if addressing with E.164 number

5.3.1 General Settings

The location settings allow the error-free telephone dialing at outgoing and the correct build form the recipient number for incoming UMS messages.
For more information, see "Additional Information - Location Settings - Site Settings - Creating the Call Numbers"

Side Address
Enter the connection number of the outside line in the form of:
Country code (for germany 49)
Area code (without the leading 0. For Olching, this would be 8142.)
Subscriber number

	Known exceptions: Italy - here, the leading 0 in the area code has to be entered With the removal of the area code, the accompanying delimiter is also removed bydefault.



National AccessCode
Code to be added to the called number in outgoing messages within the country.

International Access Code
Code to be added to the called number in outgoing messages leaving the country.

Outside Line Access
Code to be dialed for getting a call out of the PBX (added to the called number in outgoing messages).

max. internal DDI length
Determines, how many digits are considered as **internal** call number, this means that no outside line is needed and therefore is not dialed.
Here in the example: Fax numbers with more than 3 digits need an outside line (see screenshot).
Moreover, the sender identification (e.g. with the reception of internal calls /faxes) is changed into the international format if it the number has 5 digits or less.

5.3.2 Phone number format

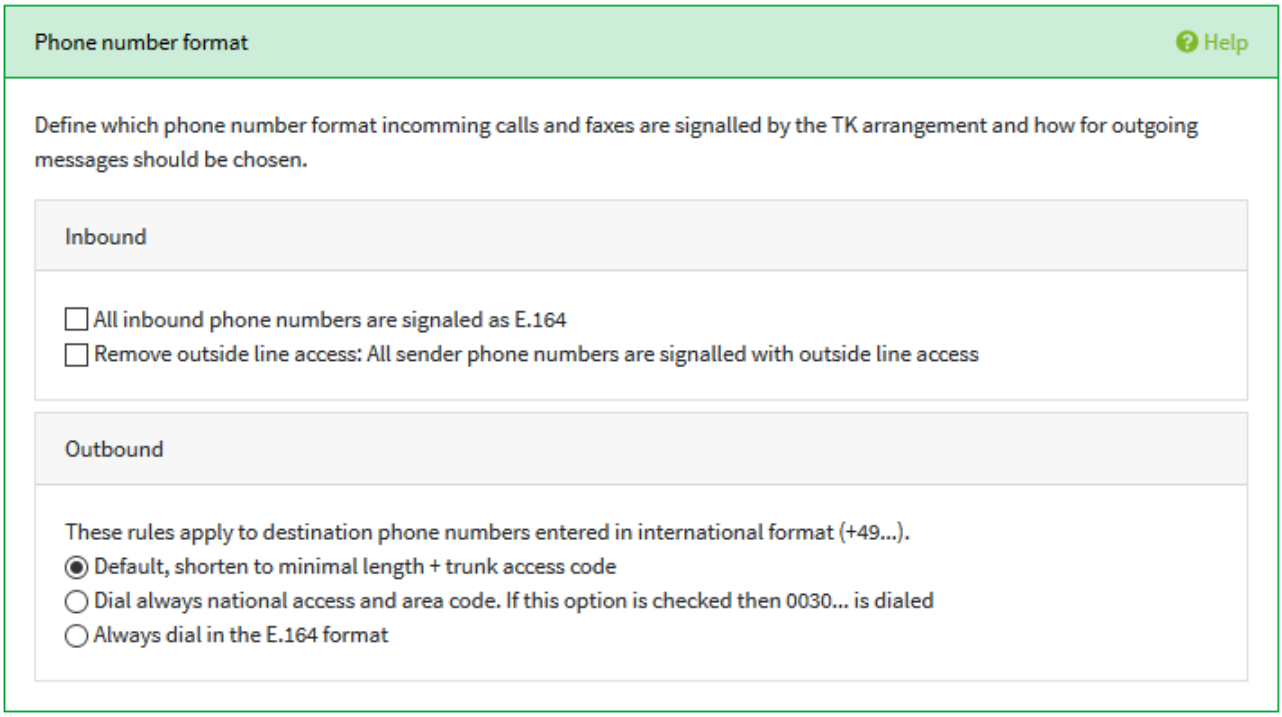
So that the ixi-UMS Business Server can determine the aim phone numbers properly and transmit, must be fixed which format the bound phone arrangement / gateway expected and transmitted. You can use the XCAPI-Test Tool or CAPI-Test Tool to determine the actual numbers transmitted.

Inbound

Normally the recipient numbers are signalled as a DDI and are suspended to the location information.
Choose in **the E. 164** if the phone numbers are transferred in the format 4981424799585 to ixi-UMS Business .

Read moreover also the article "Call Number Transfer in E.164-Format" under additional information" in ixi-UMS Business Manual.

Remove outside line acces at the sender's call number
Some telephone systems transmit to the ixi-UMS Business the sender number of the incoming call with the pre-defined public access line.
In order to allow users to answer to a fax or voice message, the sender must also have a correctly formatted number, e.g. +49 8142 4799666.



Outbound

If the phone number begins in the outgoing ixi-UMS message with + (e.g +390254789) this is shortened **default** on grounds of the server site information. After this the "outside line access" is added.
In some countries, the area code has to be dialed also with local calls. In this case, it must activate "**Dieal alway national access and area code**".
Is to be followed with this setting, how the phone numbers in int. Format addressed / are shown:
e.g. Italien:
national = local shown: 02 64489945
national = local shown: +3902644899 -> the "National AccessCode" 0 is a component of the phone number
In the Server Site must be put down 02 as a "Area Code" and the "National Access Code" must be empty

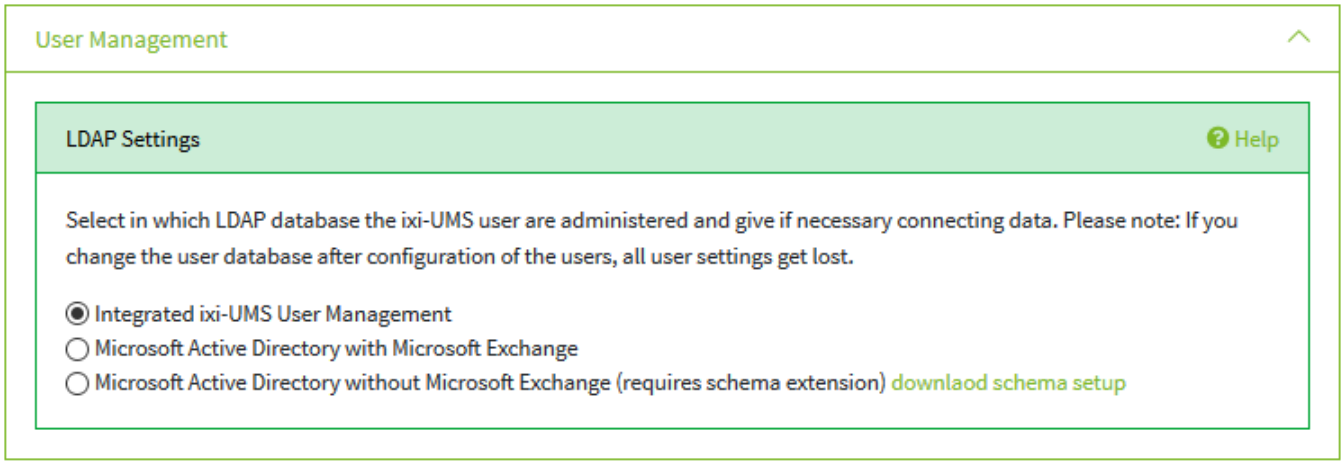
Choose "**Dial in the E. 164 format**" if the phone numbers should become in the format 4981424799585 the PBX / gateway-transferred.
Read moreover also the article "Call Number Transfer in E.164-Format" under additional information in ixi-UMS Business Manual.

5.4 User Management

Specify which LDAP data bank for the user management should be used.
User administration is performed through the user management interface built into ixi-UMS Business, regardless of the database in which the users are managed.

LDAP Settings

- **Active Directory with Microsoft Exchange Server**
  The users from Active Directory are displayed. You must specify one of the "extensionAttributes" for store the ixi-UMS properties
- **Active Directory worthout Microsoft Exchange Server**
  The users from Active Directory are displayed. You must perform the ixi-UMS schema extension to store the ixi-UMS properties of the users in the "ixiumsUserData" attribute.
- **ixi-UMS User Administration**
  You must create the users manually in the local database. It is not possible to read an existing database.



You find detailed information in the ixi-UMS Business manual under "preparation of the installation".

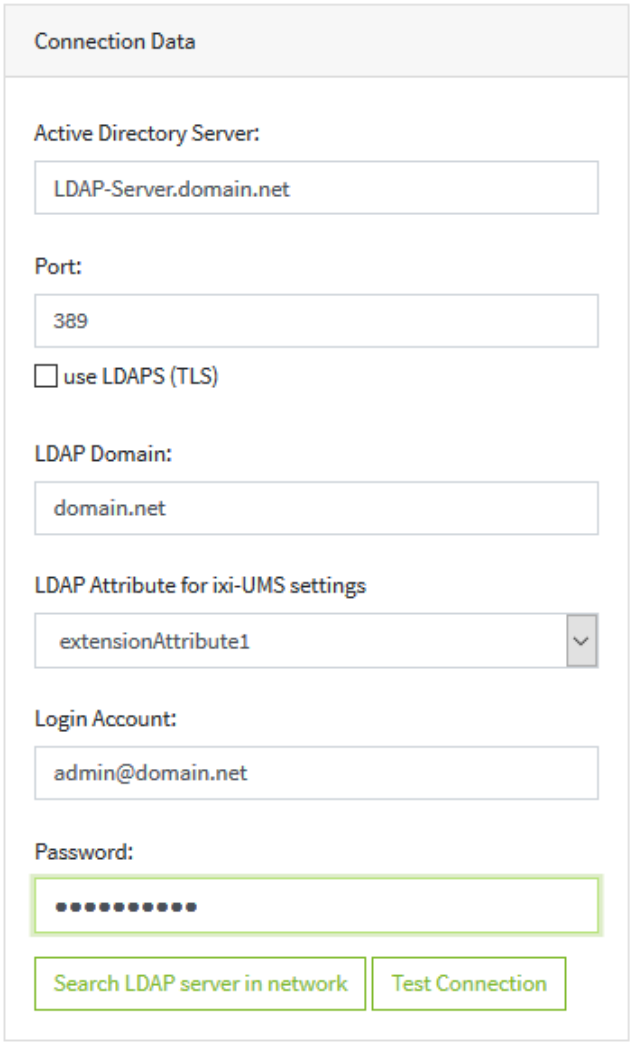
If you want to manage the users in the existing Active Directory, the required connection data must be entered.

Connection Data

This informations are only necessary if you use an Active Directory.

If the computer is a member of a domain or has access to the required DNS information, the LDAP server and the login information can be determined using the "Search LDAP server in network" button.

Otherwise you have to enter the required information.



LDAP-Host:
Type in IP-Adress or Name of the Active Directory Server

Port:
Normally the LDAP port for the Active Directory is the port 389.

If the communication with the LDAP-server shall be encrypted, please take care when entering the servers, that they correspond with the certificate. See also "Additional Information - Certificates",

LDAP-Domain:
Type in the name of the Active Directory domain.
Example: estos.de

LDAP-Attribut for ixi-UMS settings:
If a Microsoft Exchange Server is in use, the attributes "extensionaAttibute 1-15" are offered for selection.

If no Microsoft Exchange is used, you must select the attribute "ixiumsUserData".
In this case, you must perform the schema extension.

Login Account:
With this account the access to the data bank LDAP is carried out.
Example: administrator@estos.de

Please note that write access to the Active Directory is required to enter the ixi-UMS properties.

5.5 Mail System

The incoming ixi-UMS Messages can be sent to a mailserver or stored only in the local database. The available functions and the required configuration for the ixi-UMS Business is dependent on this specification.

5.5.1 Massage Storage

The incoming ixi-UMS Messages can be sent to a mailserver or stored only in the local database.
Regardless of this selection, the connection to a mailserver should always be set up to receive the informations e-mails from ixi-UMS Business.

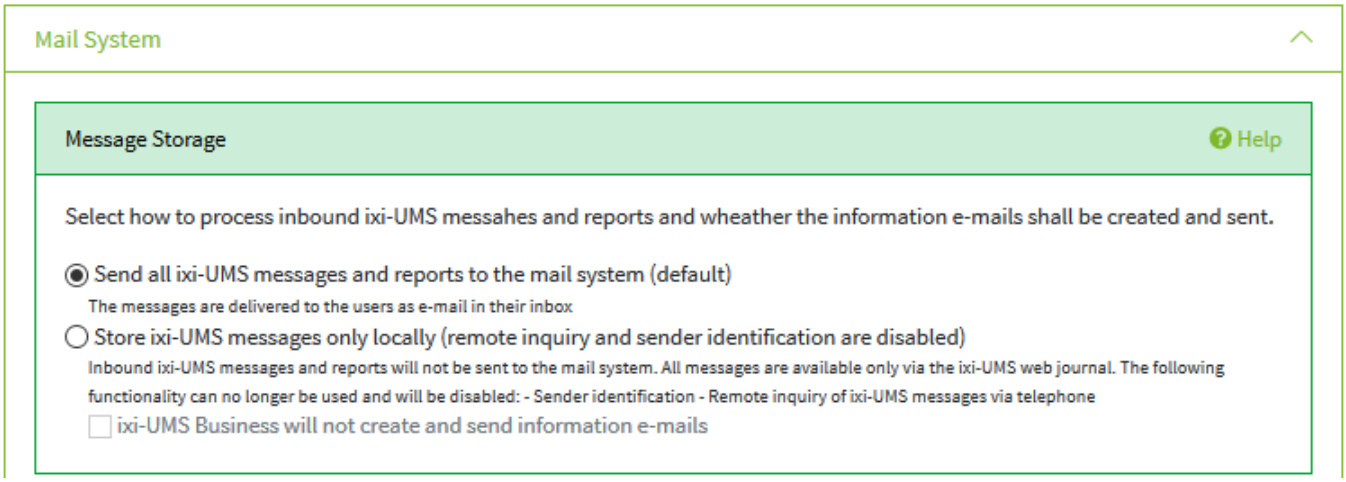
The following messages can be sent by e-mail from ixi-UMS Business:

- Incoming / received ixi-UMS Messages
- Feedback / shipping confirmations
- Information to the standard recipient, when an outgoing ixi-UMS message is deleted
- Password E-mails, when selecting "Integrated ixi-UMS User Management"
- ixi-infomail, with informations about features and using for the user
- Welcome mail for the voice-mailbox
- Login credentials für recording the global announcemend

If no mail server is available for the receipt of e-mails, you must use the local database to store the ixi-UMS Messages and disable email delivery. In this case you must send the necessary information (user password, access to the voice-mailbox) to the users by yourself.
Also, you will **not be informed** if an outgoing message (sent by the user) is deleted because the e-mail sender was not found.

This setting is valid for all users and all ixi-UMS message types.
You can change this selection later. In this case, note that the received/sent ixi-UMS Messages remain in the previously selected location and are not moved.

Send all ixi-UMS messages to mailserver
All incoming ixi-UMS Messages and feedbacks are sent by e-mail to the mailserver and are available to the user as an e-mail in the mailbox.



Store ixi-UMS messages only locally

With this selection, all incoming and outgoing ixi-UMS Messages are only stored in the local database. They are not sent by e-mail to the user. Users can only open and save their ixi-UMS Messages using the ixi-UMS Web Journal in the ixi-UMS Business Portal.
The option "Archiving" ist aktiv and the options "Sender Identification" and "Remote Inquiry of the Voice Mailbox by Phone" are not available and are deactivated.

The e-mails created by ixi-UMS Business are sent to the configured mailserver:

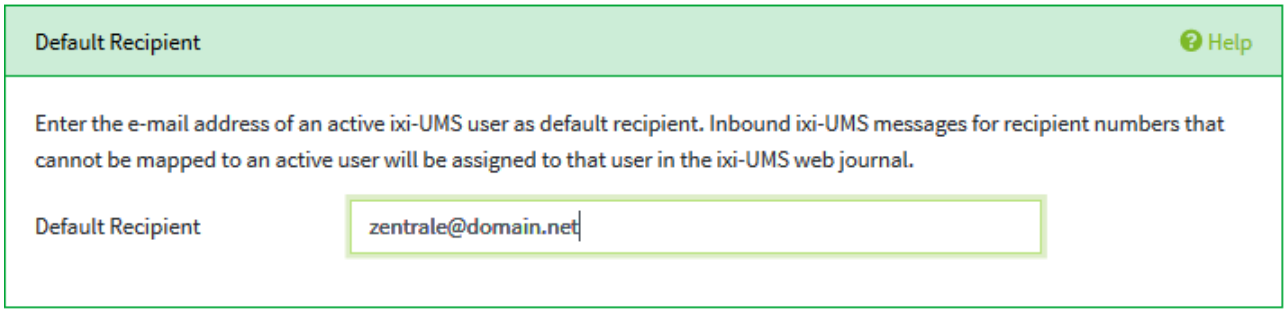
- When an outgoing ixi-UMS message is deleted to the default recipient
- Error during processing of outgoing messages
- Password E-mails to users
- ixi-Infomail to users
- Welcome mail for the voice-mailbox to the users
- Access data for recording a global announcement

Do not create and send informational emails through ixi-UMS Business

If you select this option, **no e-mails are createt** by ixi-UMS Business if:

- when an outgoing ixi-UMS message is deleted, because the sender was not found in the user database
- when creating or reset the user password
- about informations to use ixi-UMS Business
- Welcome mail for the voice-mailbox

Inbound ixi-UMS - messages to recipient numbers that are not assigned to an activated ixi-UMS user are assigned to a "default recipient". Only this user can access these messages in the ixi-UMS Web Journal. Enter the e-mail address of the user.



No mailserver can be specified in the configuration interface. You only need to set the IP address of the ixi-UMS Business.

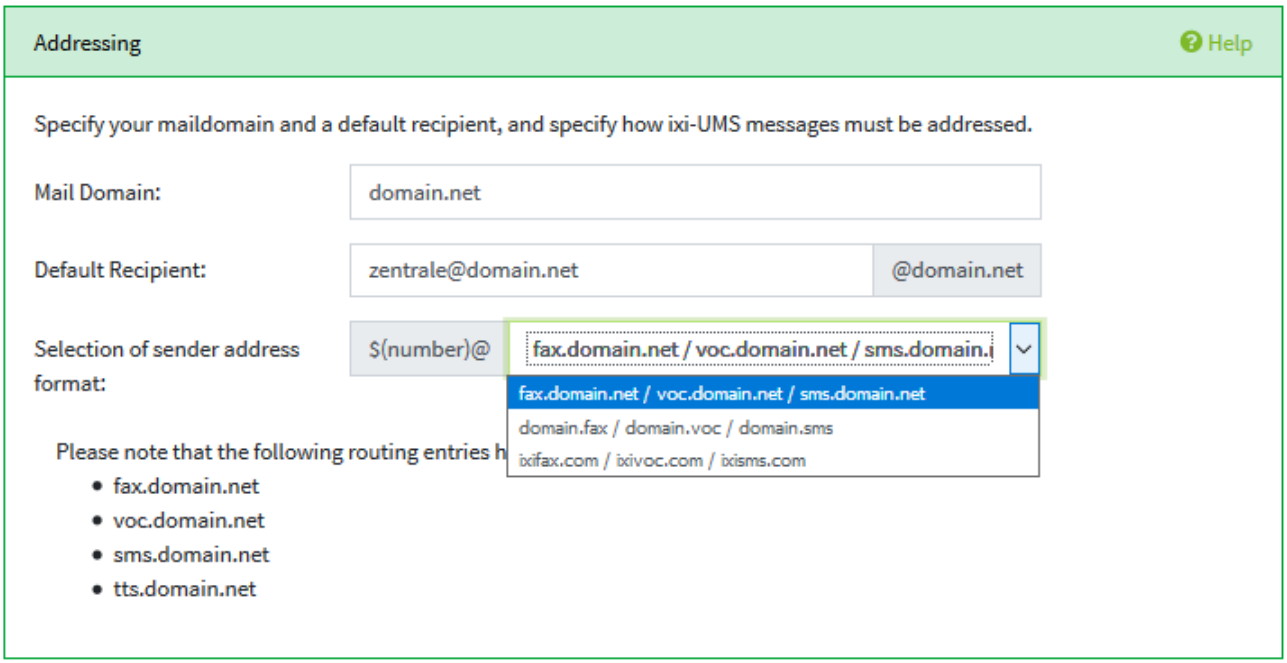
Please note:
To send ixi-UMS Messages, the specified domains must be specified in the mail server and/or in the ixi-UMS Client Tools.

5.5.2 Addressing

This configuration is only required if emails and ixi-UMS Messages are sent from the ixi-UMS Business server to the mailserver.
You must specify how the e-mail sender address should be composed for incoming ixi-UMS Messages and to which e-mail address ixi-UMS messages should be sent if the recipient number can not be found in the LDAP database.

Maildomain:
From the email domain, the sender's address can be defined by incoming ixi-UMS Messages.
Normally, you will want to create an address like Sender_Fax_Number@fax.Your_Company.com. You can change this setting in "Selection of sender address format".

Defaut Recipient:
The Default Recipient receives all the ixi-UMS Messages, which cannot be assigned to a certain user. Please use only existing e-mail addresses from your mail system.



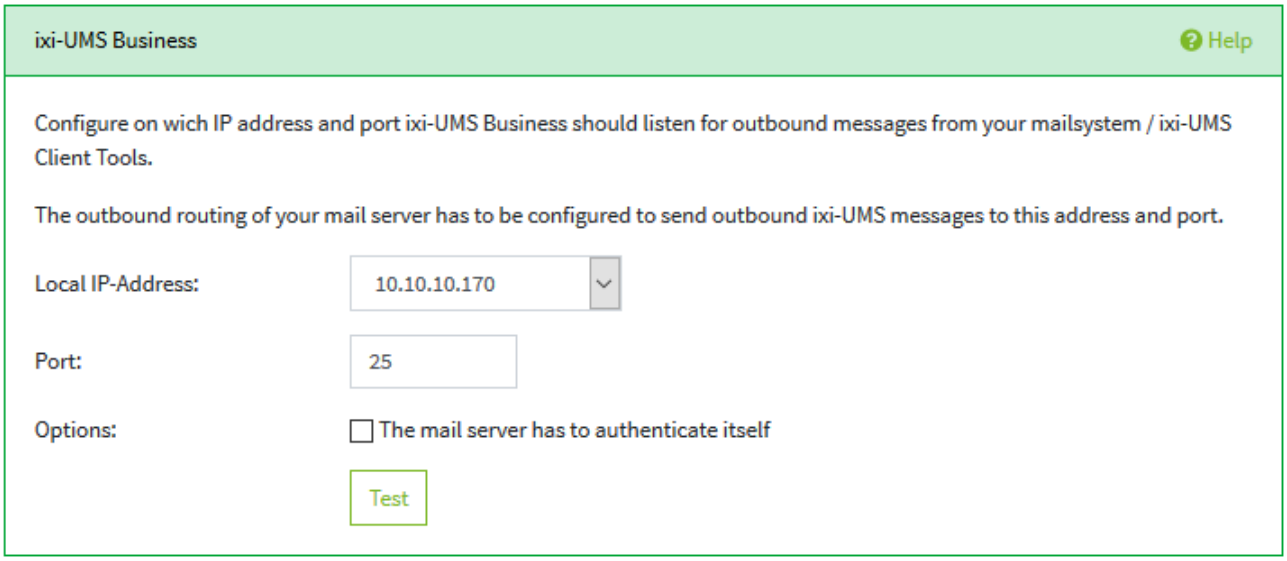
Selection of sender address format:
With this template you can determine, how *the e-mail sender address* for incoming ixi-UMS Messages shall be composed.

This should correspond to the address for outgoing ixi-UMS Messages so that you can use the reply function on incoming ixi-UMS Messages. Please also ensure that the information here is aligned with the routing of outgoing ixi-UMS Messages and entered in the routing entry in the mailserver.

Please also read "Preparing Massaging System" under Additional Information .

5.5.3 ixi-UMS Business Setting

Please configure the IP-address and the port, on which the ixi-UMS Business shall run.
The mail server must send outgoing ixi-UMS Messages to this IP-address and port.



Optional you can state a user and password, with that the mail server.logs in at the ixi-UMS Business server.

Wenn Sie die ixi-UMS Nachrichten direkt von den ixi-UMS Business Client Tools an den ixi-UMS Business Server senden möchten, können Sie die Option "Authentifizierung" nicht nutzen!

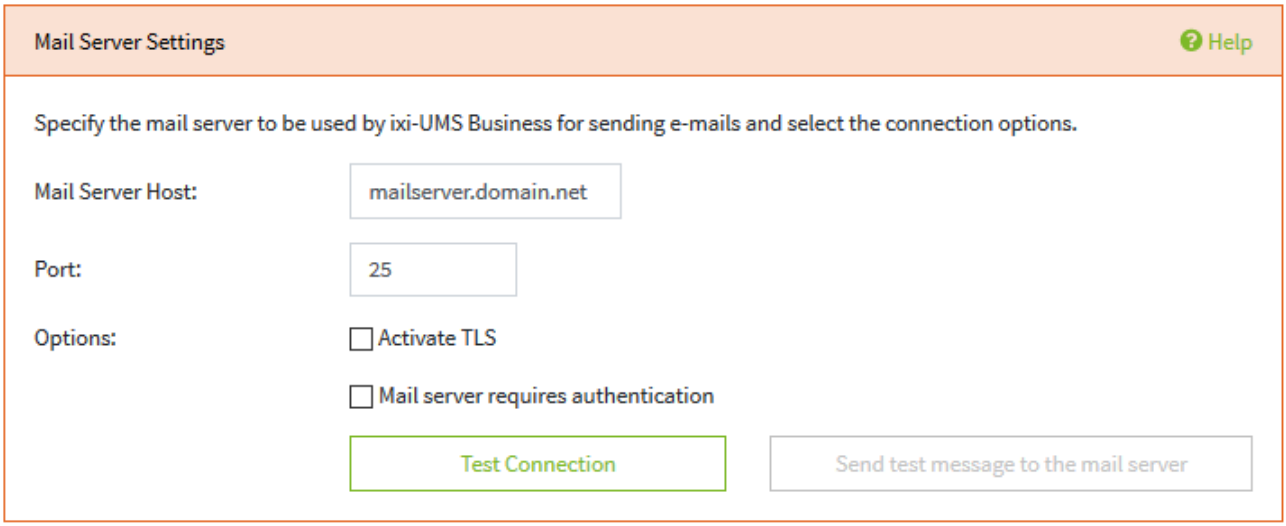
Press the "Test"-Button to check if the selected IP-Address and Port can be use.

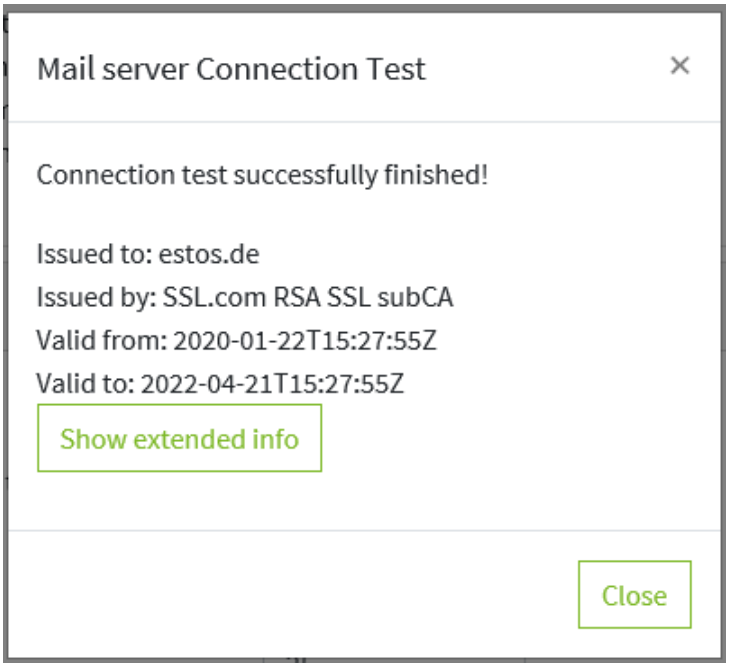
5.5.4 Mailserver Settings

Here you can determine settings for the communication of the ixi-UMS Business Server to the mail server (for incoming ixi-UMS Messages, reports and all information E-Mail)

Mailserver Host:
Type in the name or IP-addresse of the Mail host to which incoming ixi-UMS Messages will be send.

Port:
Specified Port on witch the mailserver receives E-mail

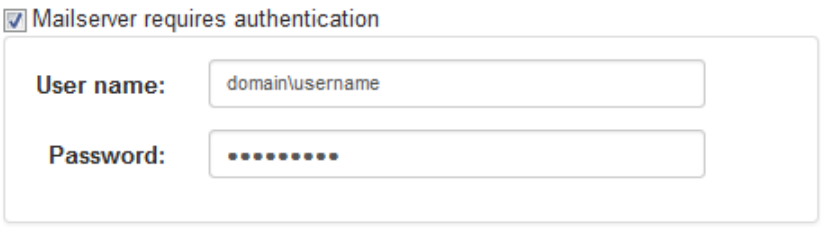




Options:
This next to settings are only necessary if the mail server requests this explicitely.

Activate TLS:
If you want to use TLS, be sure to enter the name as the "Mailserver Host" on which the certificate was issued. During the connection test the certificate of the e-mailer is requested and displayed.

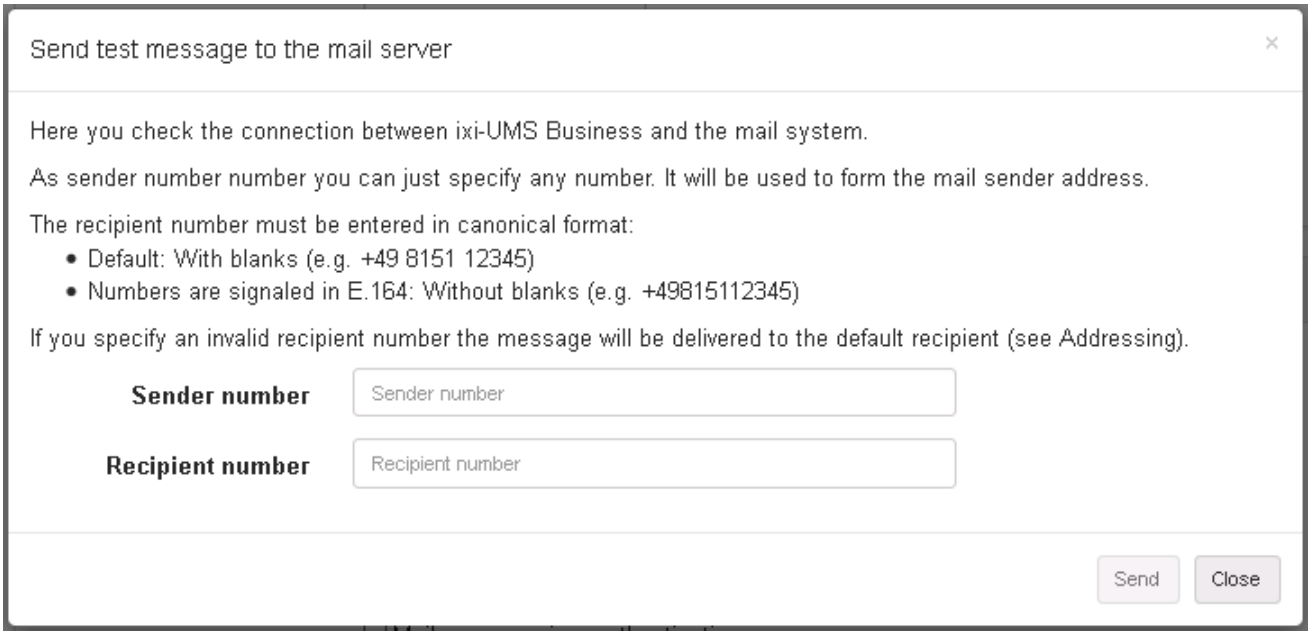
During the connection test the certificate of the mail server is queried and displayed.
The certificate transmitted by the mail server is checked for validity by the <%PRODUCTNAME%> against the Windows certificate store "Trusted Root Certification Authorities".
For subordinate CAs please make sure that the certificate chain can be resolved.



Mailserver requires authentication:
You can state a user, with that the ixi-UMS Business server logs in at the mail server.
This entry is only necessary if the mail server requests this explicitely.

Check with the "Test connection" button if the connection to the mailserver can be successfully established.

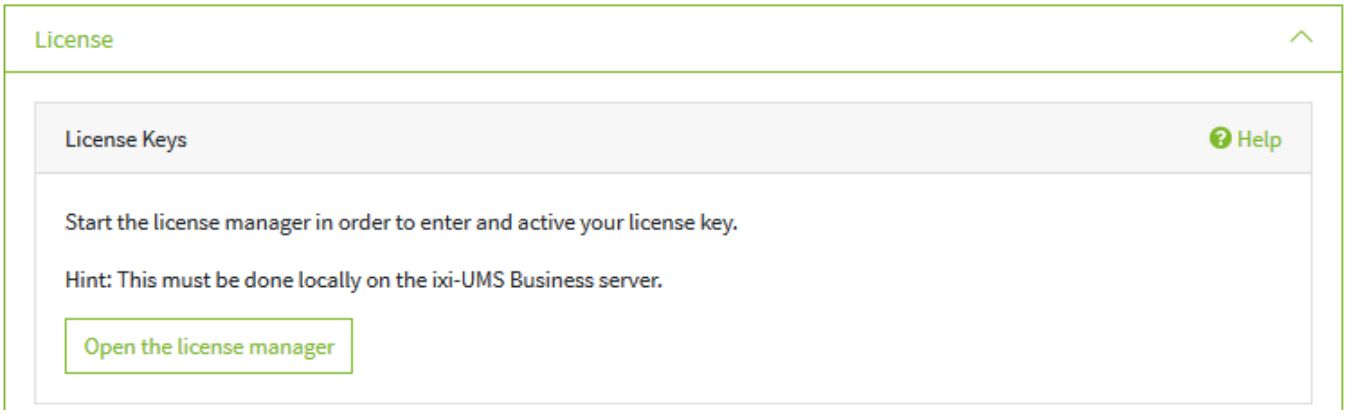
Send test message to the mail server:
When the basic installation is completed, the connection can be tested by sending a test message.
In this case, not only the transmission via SMTP, but also the number assignment to the user by LDAP is checked.



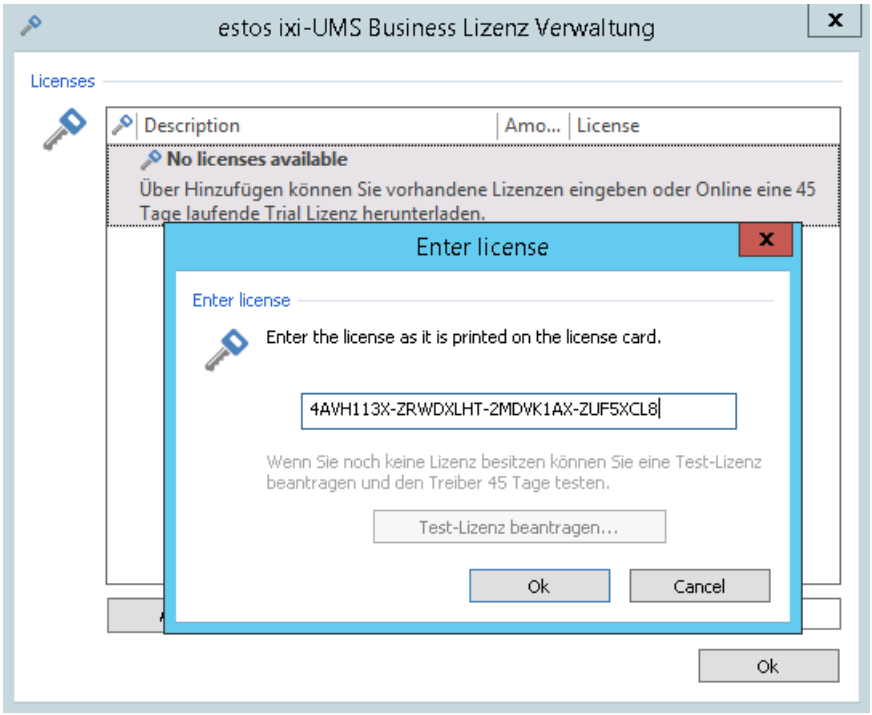
5.6 License

In order to start ixi-UMS Business, you must enter a license key. You received this with the purchase of the ixi-UMS Business package. Alternatively, you can create a 45-day test key.
This operation can only be performed directly on the ixi-UMS Business Server.

Click "Open the License Manager" to start the process.



5.6.1 Lizenz Key



The license management is opened.

Click "Add" to enter your license code.

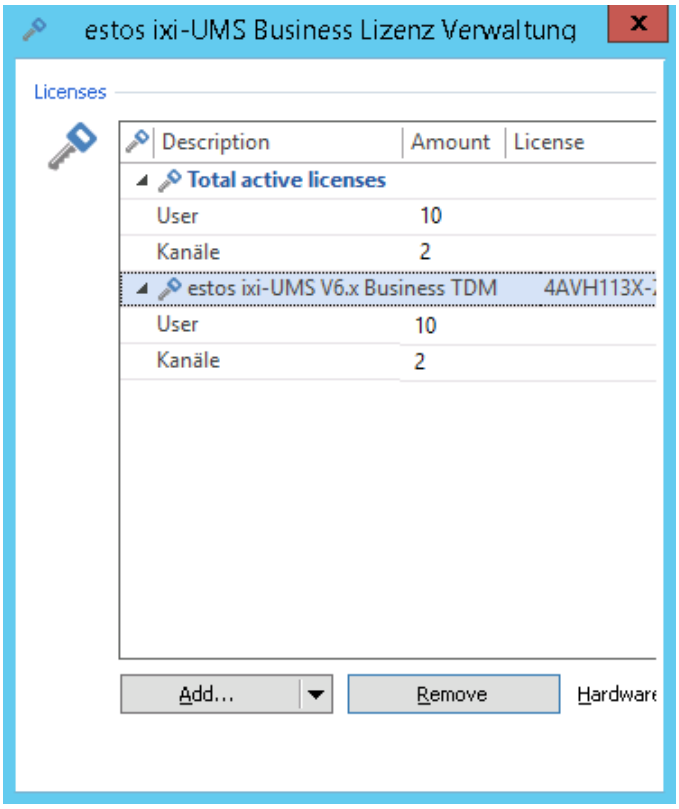
Enter your license code and confirm your entry with "Ok"

The estos ixi-UMS Business licenses are hardware-bound.

1) Confirm the binding to the hardware from the computer.

2) In the next step, the signature is created and a connection to the estos license server is established.

If a connection to the license server was established, the license is activated, entered and the range of ixi-UMS Business is displayed.

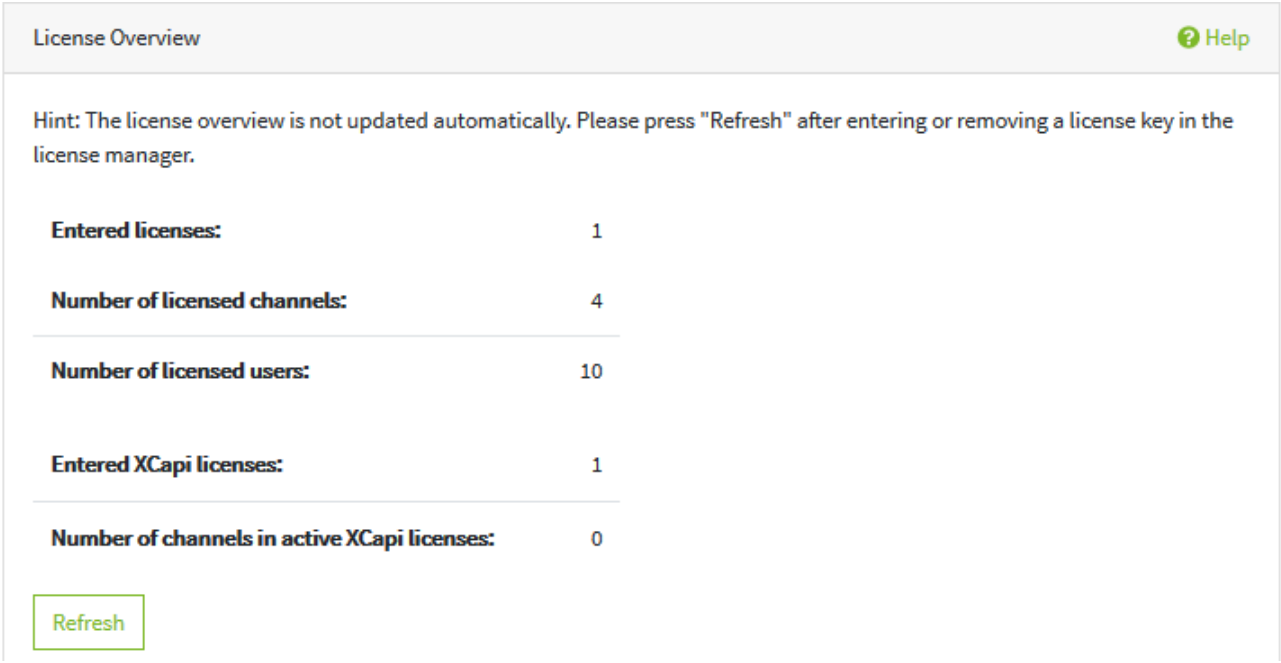


Otherwise, you are offered [additional options for activating the license.](#)

The input is now complete and has to be terminated with "OK".

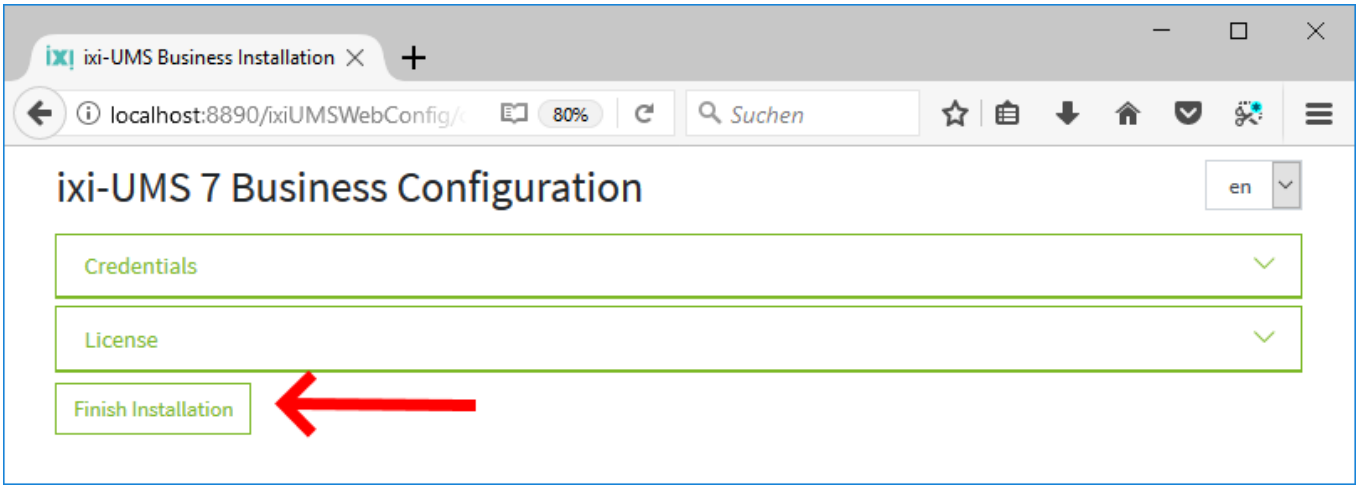
5.6.2 Lizenzübersicht

If you have entered a license, the scope is displayed to you.



5.7 Finish basic configuration

When you have made all the entries and the license has been installed, finish the basic installation.

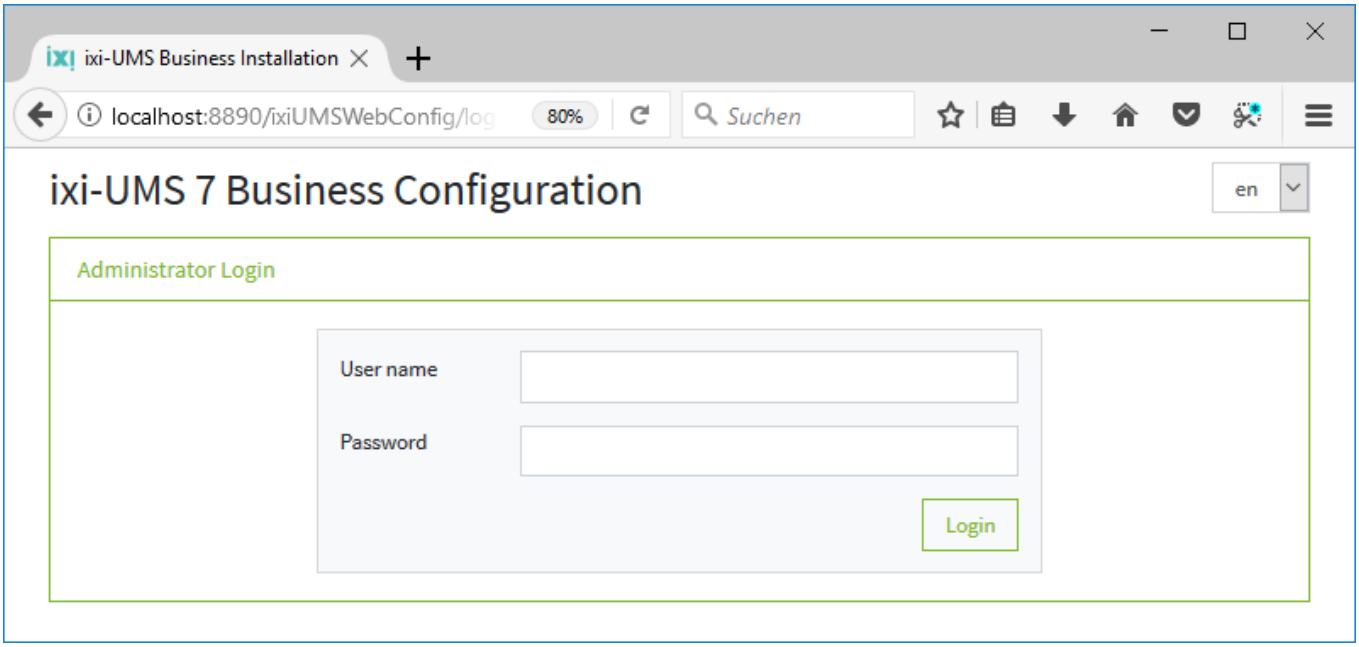


Now all ixi-UMS Business services are started.

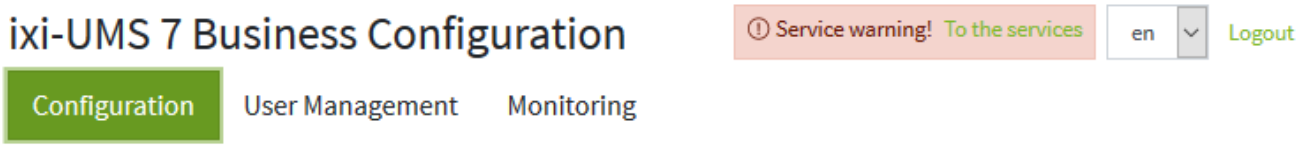
The configuration interface opens automatically when you confirm with OK and the start process is complete.

6 Configuration and Administration

After completing the basic configuration for the "basic settings", the ixi-UMS Business configuration is opened. Log on with the data entered in the initial configuration



After logging on, you will be given the menu and, if necessary, a hint that one or more services are not running.



On the "**Configuration**", you can make all required and optional settings for ixi-UMS Business .

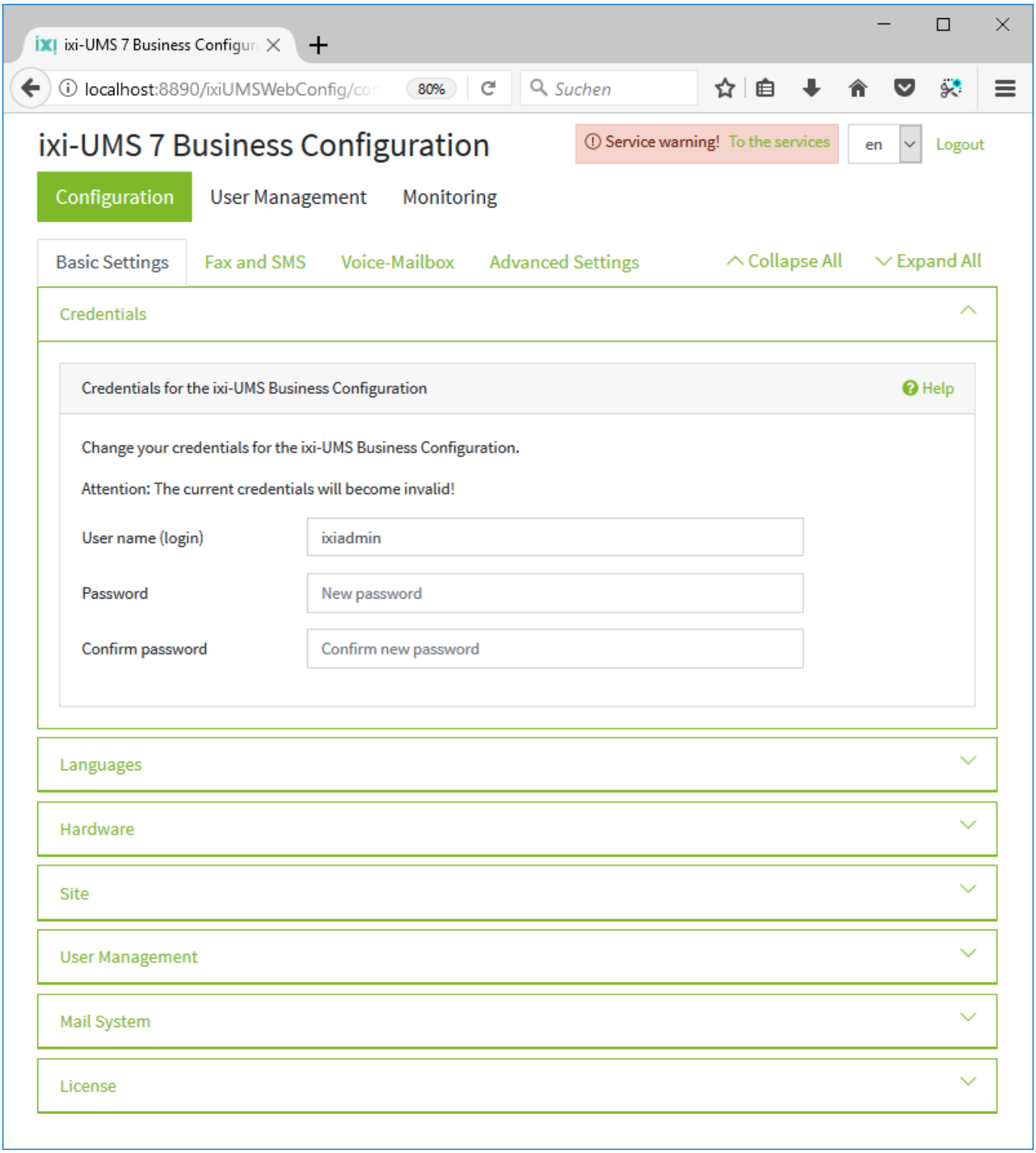
On the "User Management" page, you can create or manage the users, and the Journal and monitoring options are offered in the "Monitoring" section.

The ixi-UMS Business configuration can be started at any time via the Start menu or by entering the URL.
Http: // <IP address of the ixi-UMS Business Server>: 8890/ixiUMSWebConfig/

6.1 Basic Settings

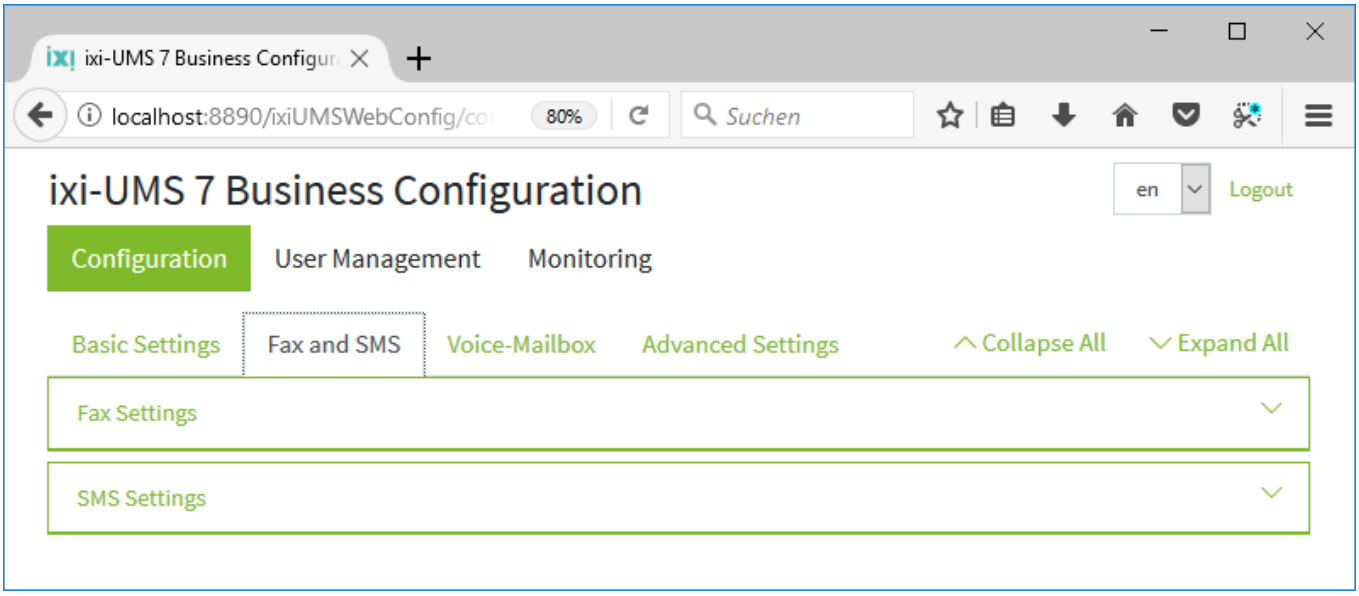
The settings of the "basic setting" correspond to the "basic configuration".
You can change it at any time and adapt it to a changed IT or PBX environment.

Under "Credentials", you can change the login data for the configuration interface and the server journal.



6.2 Fax and SMS

Here you can make optional settings for the "Fax" and "SMS" functions.



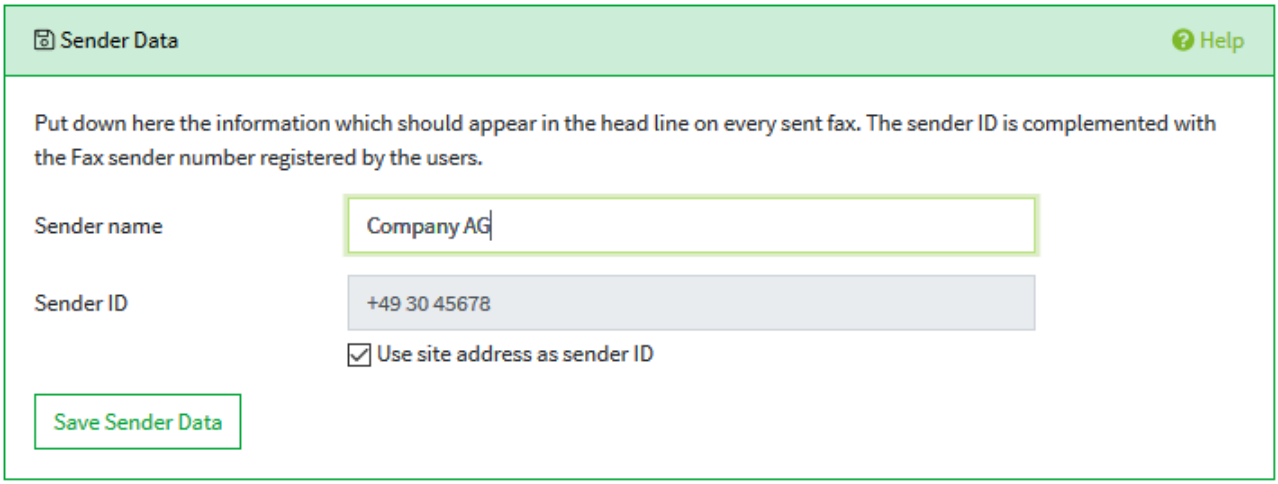
6.2.1 Fax Settings

These settings only affect ixi-UMS fax messages and the confirmation of fax messages.
Some settings are not available if you selected the ixi-UMS Messages and confirmations only in local storage.

6.2.1.1 Sender Data

The sender information entered here is "printed" on every fax and applies to all users.

Sender name
The sender name is freely selectable.
If only the Sender ID is to be transmitted, at least one "." in the Sender name must type in.



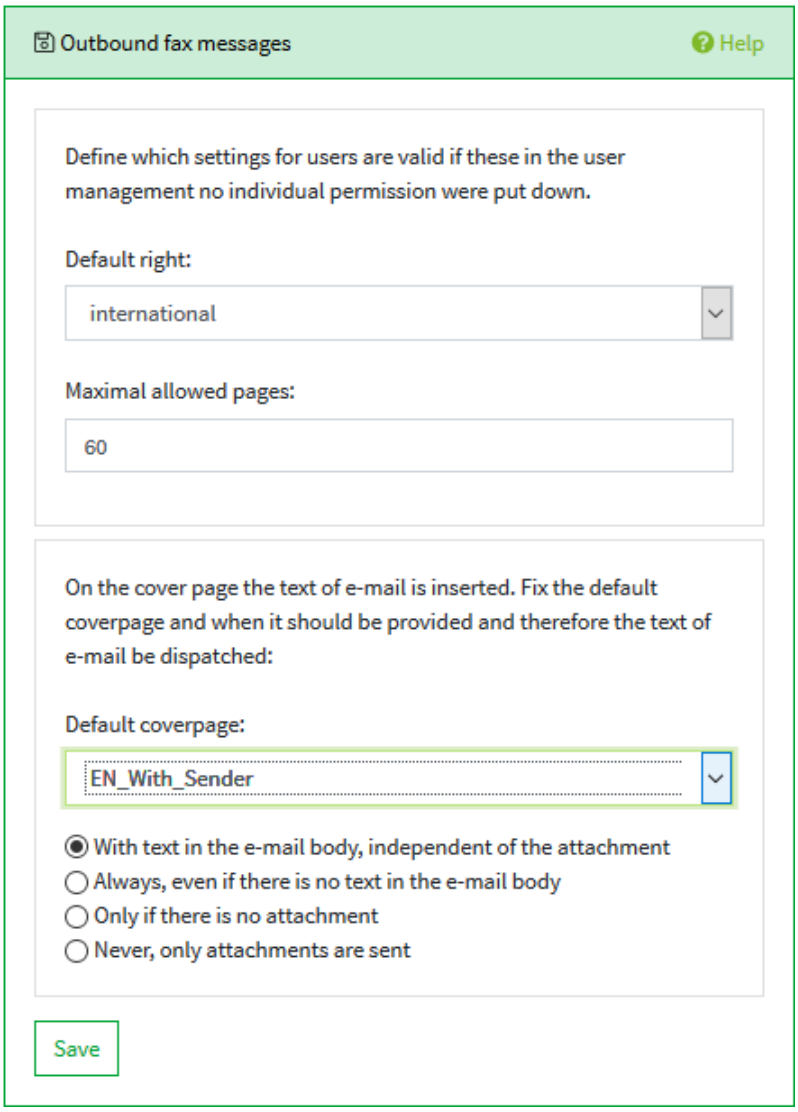
Sender ID
Here the part of the sender number that is valid for all users should be entered.
By default, the phone number entered in the location is entered as sender identification.

This means that only the individual dial-in number has to be entered as "fax number". Only the characters "+", "", "0" .. "9" are valid

Please note that this number, including the user ID max. 32 characters.

6.2.1.2 Outbound fax messages

In the User Administration, a sender number can be entered for every user and permissions for the sending of messages can be assigned. If this option shall not be used or if not all the users have been configured yet, default rights can be determined here.
The setting is overwritten by the individual user settings. These settings are only valid for users, whose e-mail sender addresses have been found in the LDAP-data base.



Default right
Here it is entered how "far" a user is allowed to send ixi-UMS fax-messages.

Max. Fax Pages:
If the user wants to send a fax with more pages than entered here, he gets an error message.

Default Coverpage
The folder selected here must contain the universally valid coverpage which is always used when the user has no other specification.

The selected coverpage is used whenever no other folder is specified in the outgoing message.

For instructions on how to create your own coverpage / cover sheet, see "Additional Information: Creating a Coverpage

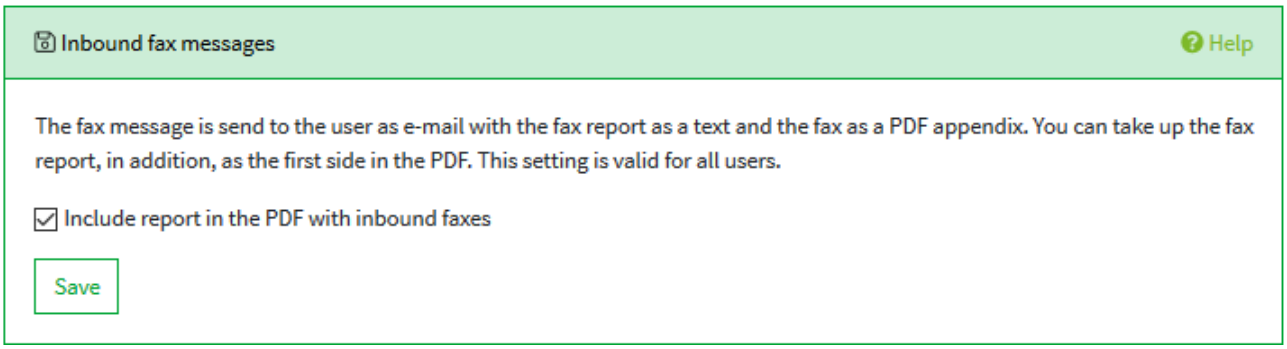
By default, **with text in the e-mail Body ...**. a coverpage is only generated if text is entered in the mailbody (regardless of whether an attachment is present or not). This behavior can be changed to:

Always, even if there is no body ... it is generated with all faxes (also with faxes without Bodytext) a coverpage.
Only if there is no attachment ... only one coverpage is generated, if bodytext is present, but no attachment.
Never, only attachment is send:.. the body text never send in the fax message.

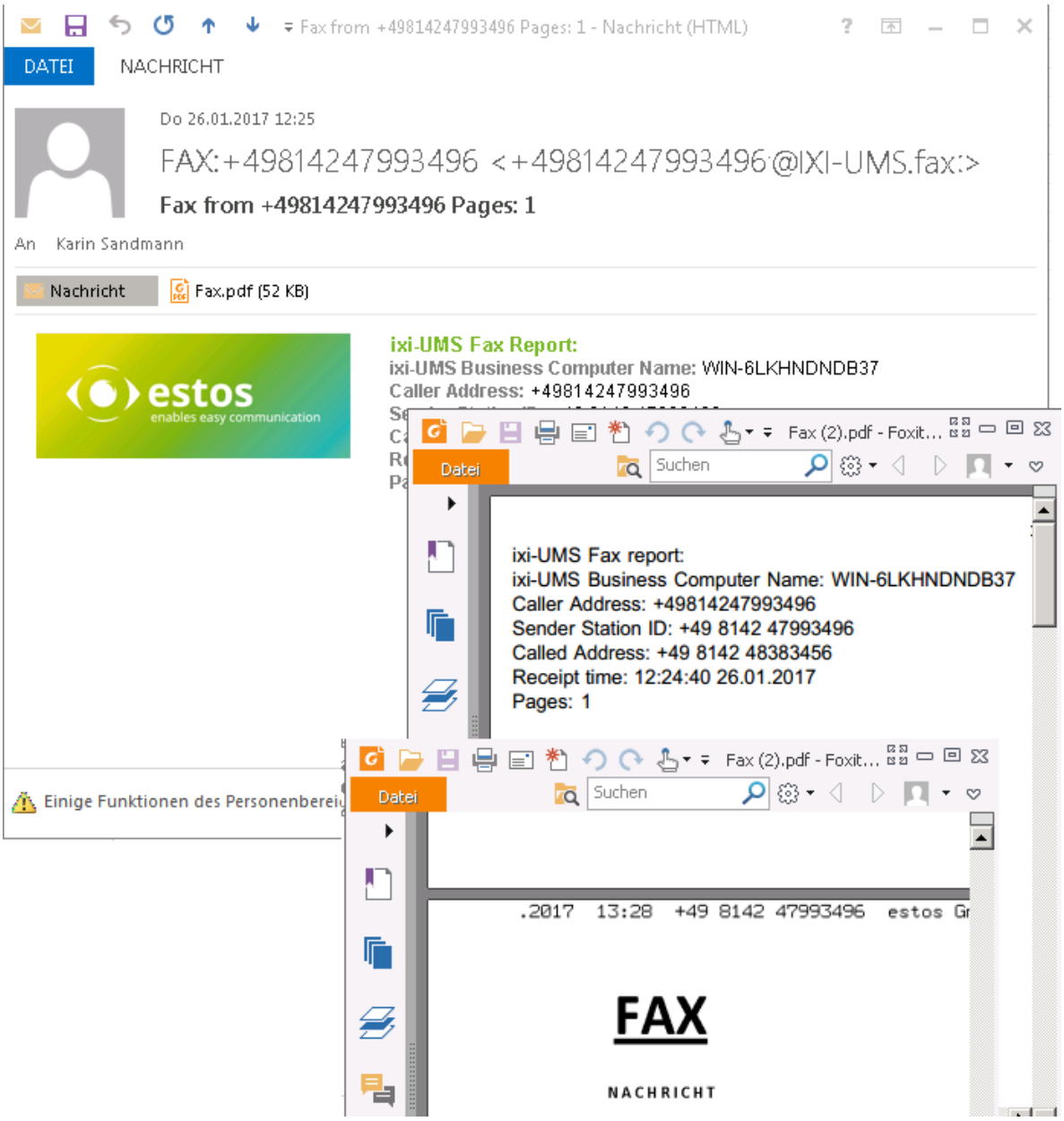
Please note:
If "Never .." is selected and a user sends only a body text, an error message is generated.

6.2.1.3 Inbound fax messages

By default, the fax messages are sent to the user as an e-mail with a PDF attachment, with the receipt report being created in the mail body. This setting is not available if you selected "Store ixi-UMS Messages only locally".
The report of the ixi-UMS Business server can be added into the PDF **in addition.**

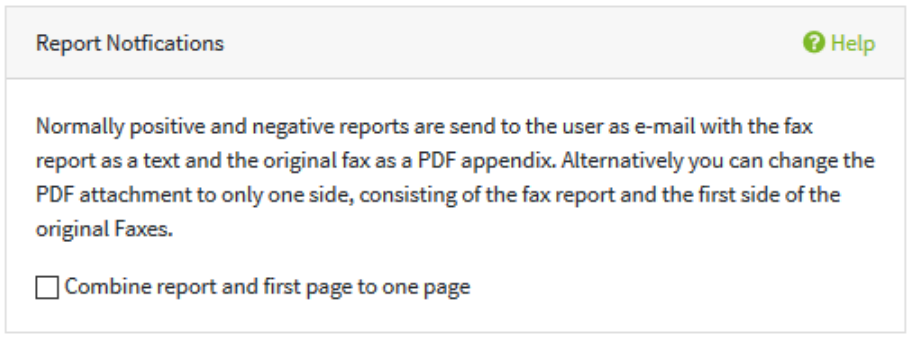


In this case, the ixi-UMS report is generated as the first page in the PDF and the complete fax message are the next sites



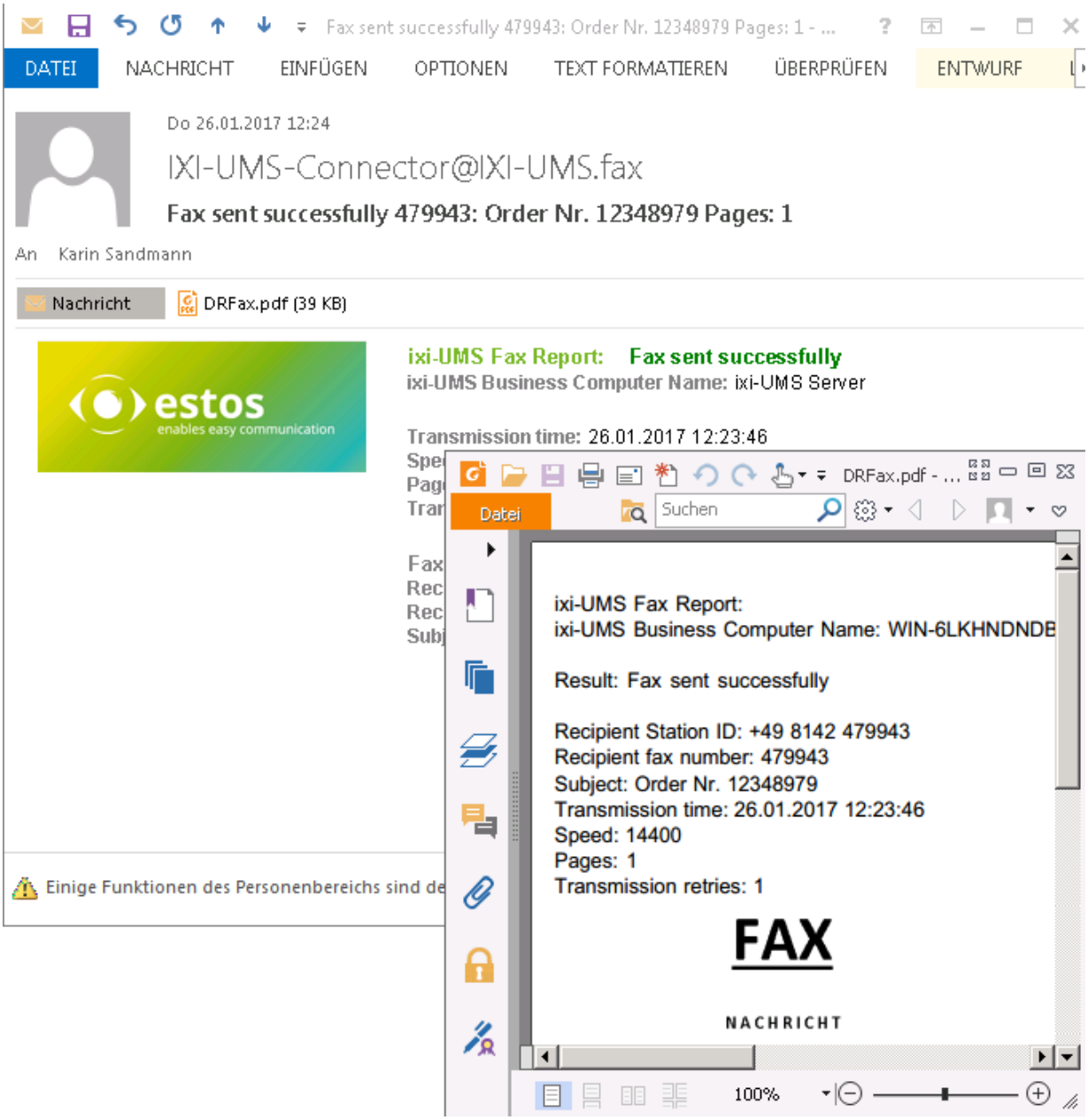
6.2.1.4 Report notifications

The transmission report on sent and non-sent ixi-UMS fax messages are always sent to the user as a PDF attachment with the original fax. The report of the ixi-UMS Business is in the "body" of the e-mail.
This setting is not available if you selected "Store ixi-UMS Messages only locally".



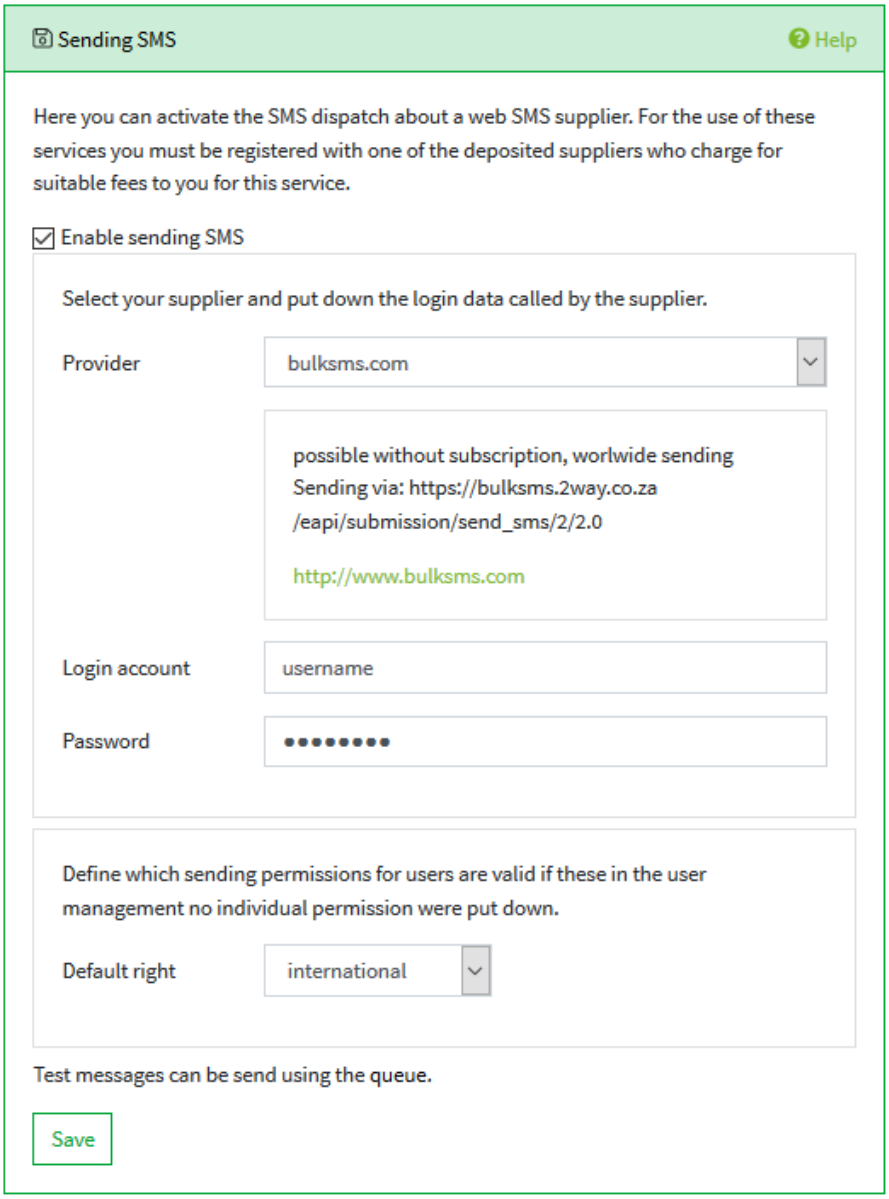
Optionally, the ixi-UMS Business server transmission report can be included in the PDF.

In this case, the report and the first page of the fax are grouped into one page - all subsequent pages of the original fax are no longer included in the PDF.



6.2.2 SMS-Settings

ixi-UMS Business offer SMS dispatch using several providers. To use these services, you must be registered with one of the providers listed who will invoice you for this service.
With some providers you have to have a static IP in order to use the service.
Simply compare the various providers and pick out the most favourable one for you.



If you aktivate "**enable sending SMS**", you can configure this.

Provider
Select one of the SMS providers you have stored.
Different providers allow you to use gateways to take advantage of certain features. A brief guide describes the individual gateways and their performance features.
Depending on the provider, you can provide the reply address in the request. If this allows the provider, you must set the "mobile phone number" in the user management.

Depending on the provider you have to enter:
Login Accound an Password
In the User Name and Password field, enter the Login data provided by the provider.

API-Key
Enter the key you received from the provider.

Default right
It can be defined whether users are generally allowed to send SMS or not. The setting can be changed per user.

6.3 Voice-Mailbox

If a voice-mailbox is to be made available to the users, this function can be activated and set up here.
The scope and the functions can be defined globally by you here. Some settings can be modified later by the users themselves.
Some settings are not available if you selected "Store ixi-UMS Messages only locally"..

6.3.1 Basic Settings

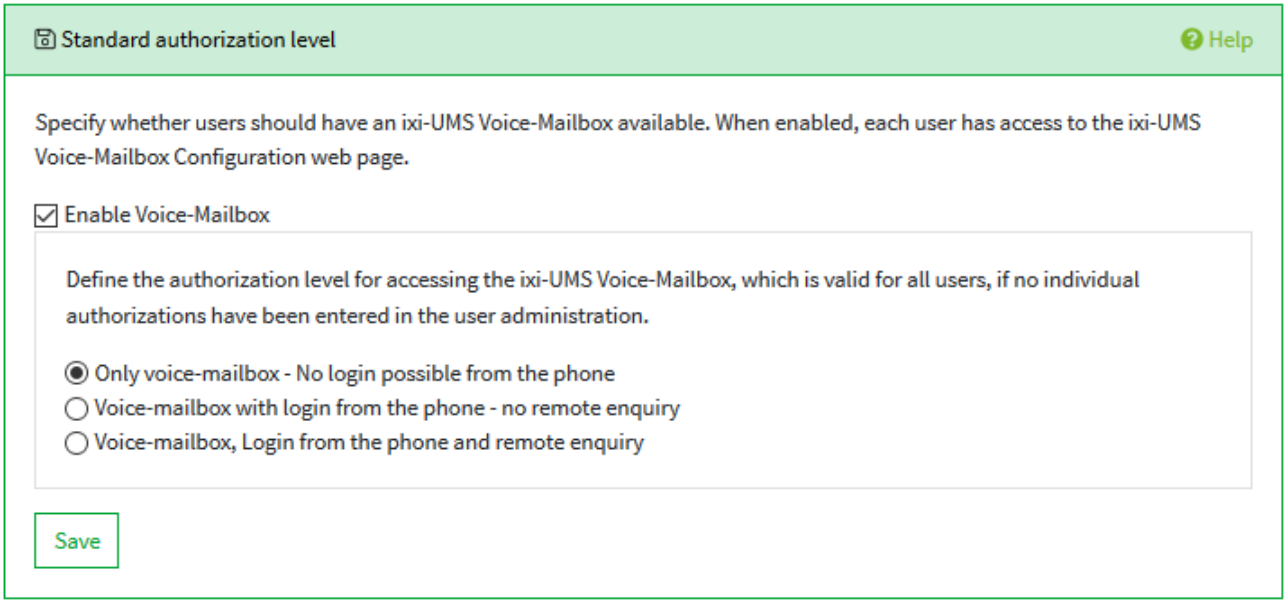
Sie müssen festlegen welche Funktionen standardmäßig frei gegeben sind und welche Rufnummern genutzt und bekannt gegeben werden.

Some settings are not available if you selected "Store ixi-UMS Messages only locally".

6.3.1.1 Default Permission

If the voice-mailbox is activated, the answering machine is available on its ixi-UMS number by default.
The **default authorization level** is used to define the user rights assigned to a user by default on the first call. The access permission can be changed per user in the user administration.

Regardless of the access type selected here, the web page for the ixi-UMS Voice-mailbox configuration is available to all users. Users can set up and manage all 6 profiles, as well as record the announcements.
The link to ixi-UMS Voice mailbox configuration can be found in the "Links" dialog under User management.



- **Only Voice-mailbox**
  The announcement recorded by the user at the ixi-UMS Business server is played, the message of the caller is recorded and sent to the user assigned to this voice-mailbox by e-mail.
  The user can play the message via a double-click on the PC or forward it as e-mail to his telephone and listen to it there.

- **Voice mailbox with configuration by phone**
  Like "only Voice-mailbox". In addition, the user can call his UMS number and log in using a PIN. He can set up the 6 profiles on the telephone and use all other profile settings (Except MWI switch and set office hours)

- **Voice mailbox with configuration and remote inquiry by telephone**
  Like "Voicemailbox with configuration". In addition, an IMAP4 access is made to the user's mailbox when the user calls his UMS number. If new voice messages or e-mails are in the mailbox, they can:
  - Listen
  - Call back the caller
  - answer to the caller
  - Delete the message
  - send as an e-mail (internal) or as a voice message to a telephone.

This setting is not available if you selected "Store ixi-UMS Messages only locally".

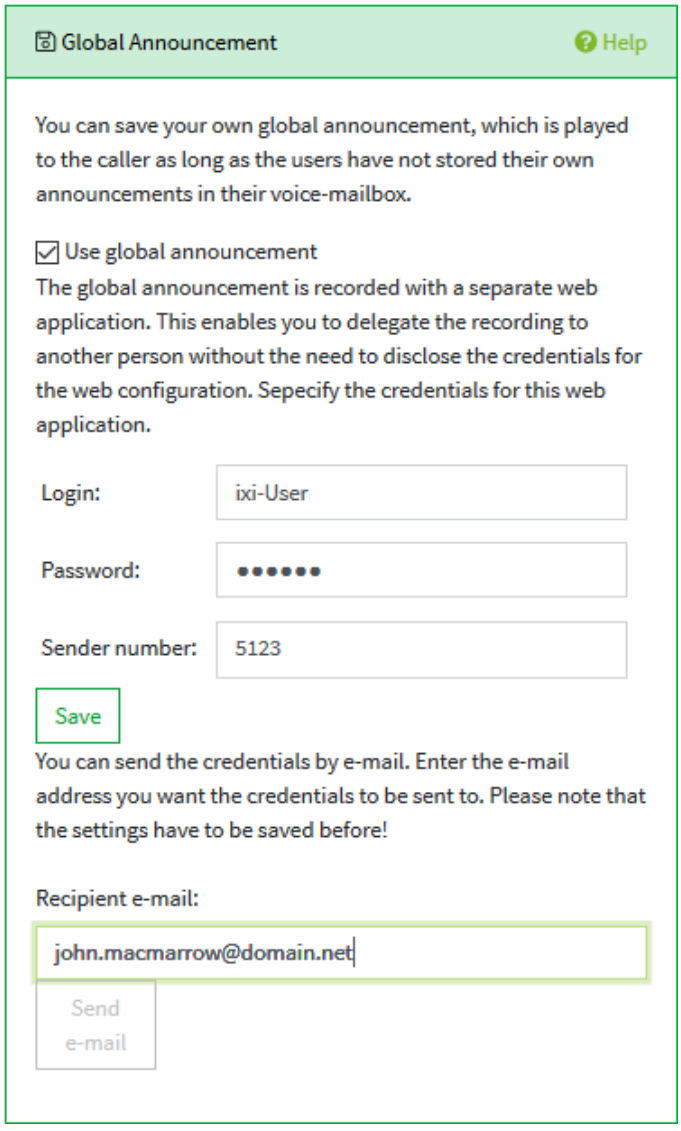
6.3.1.2 Global Announcement

By default, when a call is received, the default announcement is played back as long as the user has not made a separate announcement (see Overview - Features - Voice). You can discuss this standard announcement yourself.

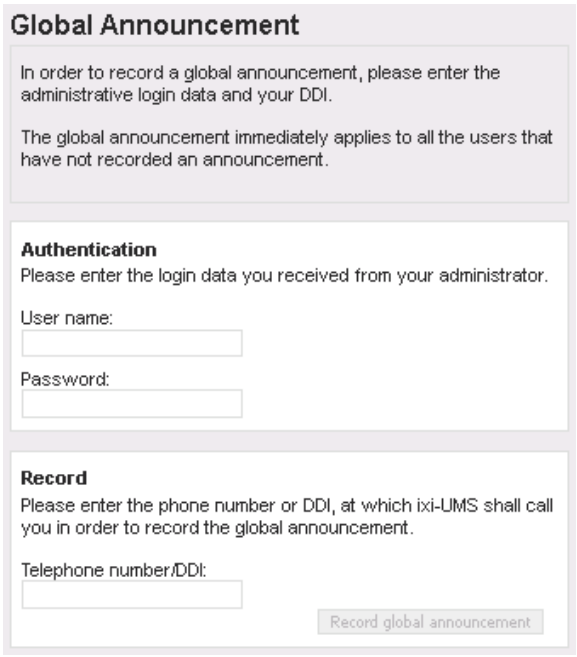
Remark:
Only one announcement can be deposited. If required, it must contain the announcement in different languages. A language differentiation is not supported.

The global announcement
- can be recorded via an "Admin-page" or
- can be deposited as wav-file directly in the file system in:
  ..\ixi-UMS Business\ixi-UMS EnhVoc\USERS\GlobalAnc\announcementGlobal.wav .

The link for opening the admin page is shown under "User Management - Links " and can be sent to any email address, including the access data and instructions, by e-mail.



The language of the "Adminseite" is defined by the defined system language.



For recording the announcement via the Admin-page, the access data determined here as well as a valid (Fax) **sender number** for the ixi-UMS Business are required.

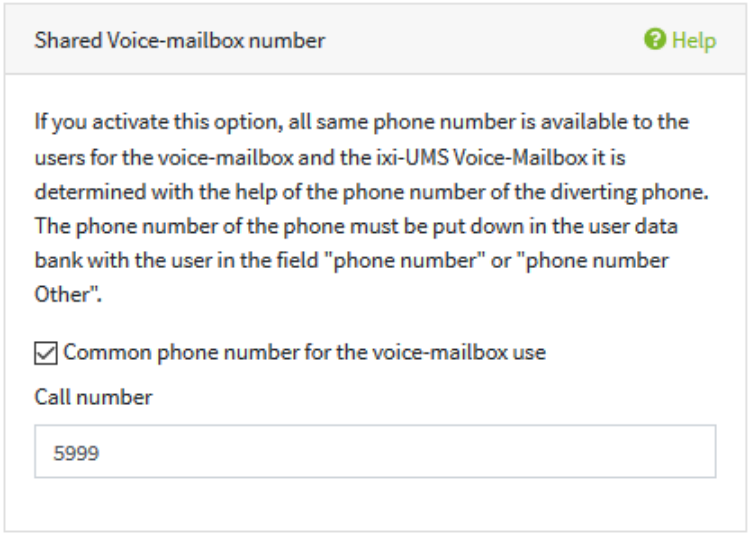
User name and **Password** are arbitrary and are not checked against an LDAP-directory.

Please note that a working connection to the mailserver must be set up for the sending of e-mails.

Before you send the e-mail, you must save the settings !

6.3.1.3 Shared Voice-Mailbox nummer

The method "Route by Redirection" allows that all the users can use the same voice mail number (voice pilot number) and nevertheless have their individual voice box.



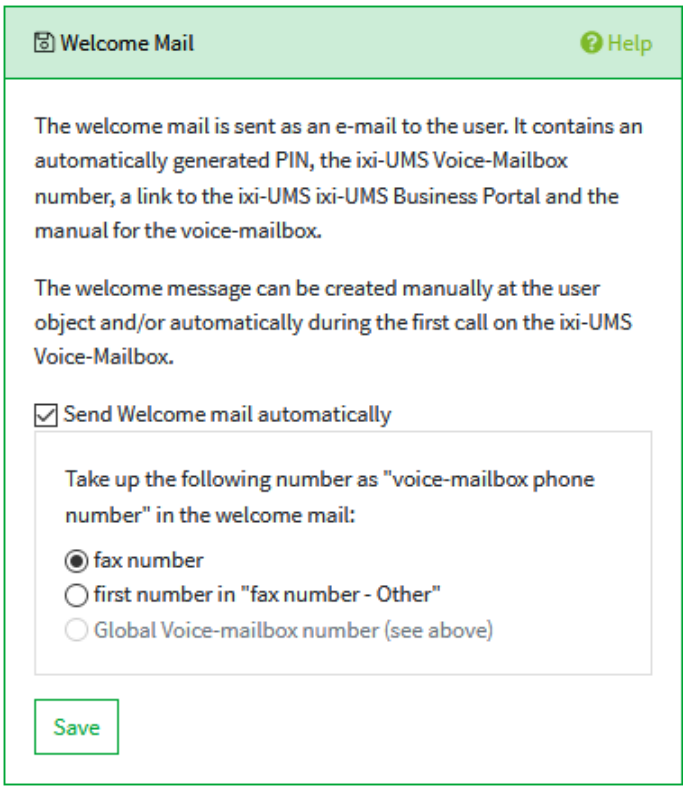
The left voice-message is forwarded to the number originally dialed by the caller (original telephone number). This telephone number must be entered in the field "Phone number" or "Telephone number - Other" in the user administration in the form:
+49 8142 4838157 or +4981424838157

For detailed information on the function of "Route-by-Redirection" (common voice mailbox), see the additional information under "Route by Redirection"

6.3.1.4 Welcome Mail

If this function is activated, the welcome message will be generated and sent the first time you call the ixi-UMS Voice-Mailbox. Regardless of this setting, you can re-create and send the welcome message at any time in the User Management.

Note: The welcome mail are only sent, if you send e-mails to a mailserver.



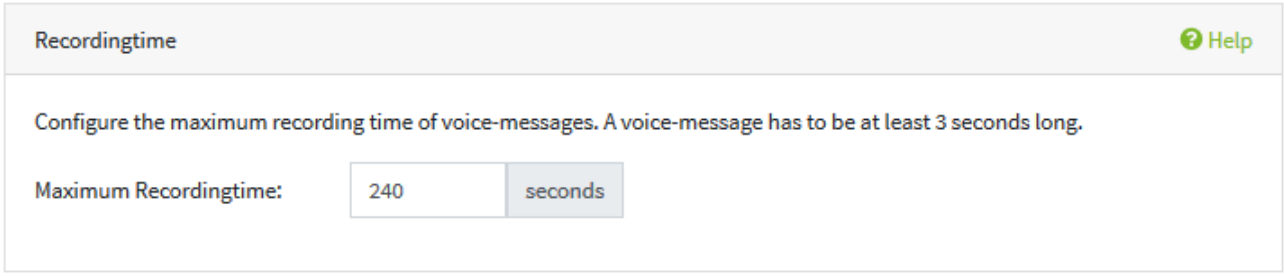
The Welcome Mail informs the user about:

- **The ixi-UMS number**
  It must be specified here, from which LDAP field the "Voice-mailbox phone number" for the Welcome Mail should be read out. If a "Shared voice mailbox number" is used, this must be entered in the Welcome Mail. See also the additional information Route by Redirection.
- **The PIN for access by telephone**
  If the user already entered a PIN in the LDAP database, the PIN is read out and sent to the user. Otherwise, a new PIN is generated.
- **The link to the ixi-UMS Business Portal**
  In the ixi-UMS Business Portal the ixi-UMS Voice-Mailbox configuration is available to the users for setting up and discussing the voice mailbox. If "remote inquiry by telephone" is activated as authorization, the required password for the mail server login can be entered here in the ixi-UMS Voice-Mailbox configuration.
- the user manual for the voice mailbox
- **The user guide for the ixi-UMS Voice-Mailbox.**

If no welcome message is sent, the default PIN 12345 becomes valid.
Alternatively, you can enter a PIN for the user in the user administration. The user can change the PIN via the ixi-UMS Business Portal.

6.3.1.5 Recordingtime

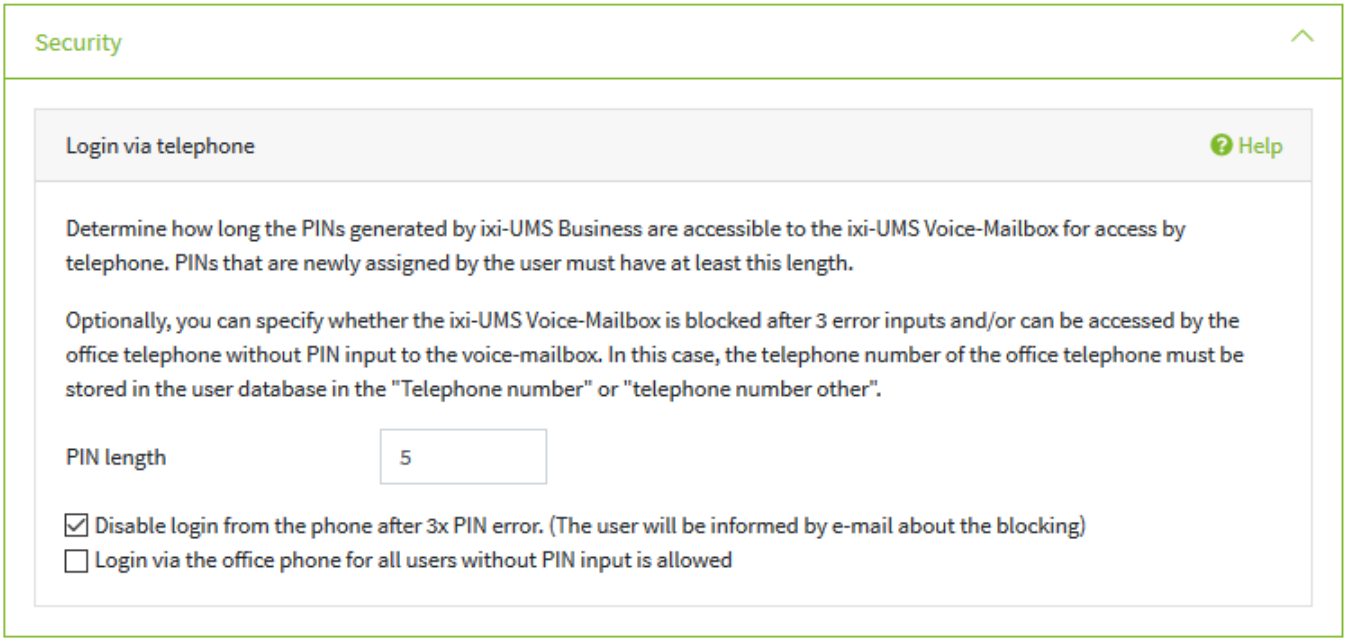
A voice mail message can not be longer than the specified maximum length. After this time interval the recording of the message will be aborted



6.3.2 Security

This setting is only relevant if the users are allowed to log on to the voice mailbox by phone.

You can set whether the "ixi-UMS Voice mailbox" should be deactivated after 3 incorrect PIN entries. In this case, the user is notified of the blocking by e-mail.



In principle, the users of each phone can log in by entering the PIN on your Voice-mailbox. Optionally, you can specify that the user does not have to enter the PIN when he logs in from his "office phone". It ist necessary the phone number must be entered in the user management in the user object in the "Telephone number" field in the format +49 8142 4838456 or +4981424838123.

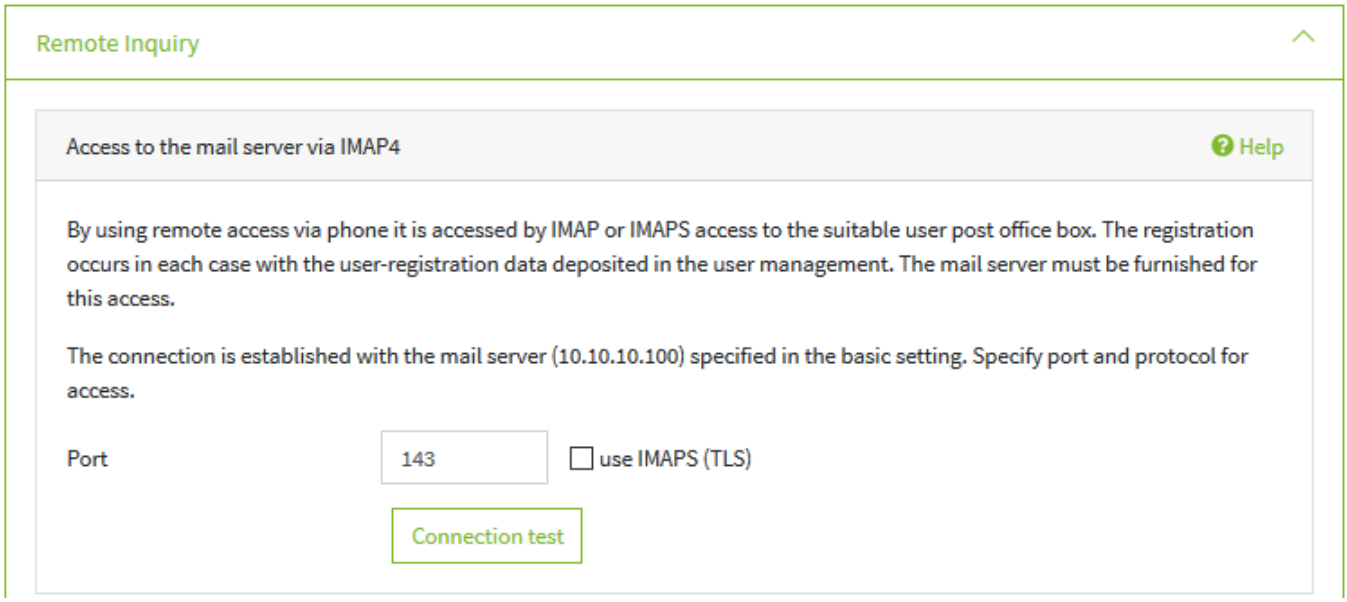
6.3.3 Remote inquiry

If the ixi-UMS Voice-mailbox is enabled for the "remote inquery", the connection and access via IMAP4 to the mailserver must be set up.
This settings are not available if you selected "Store ixi-UMS Messages only locally".

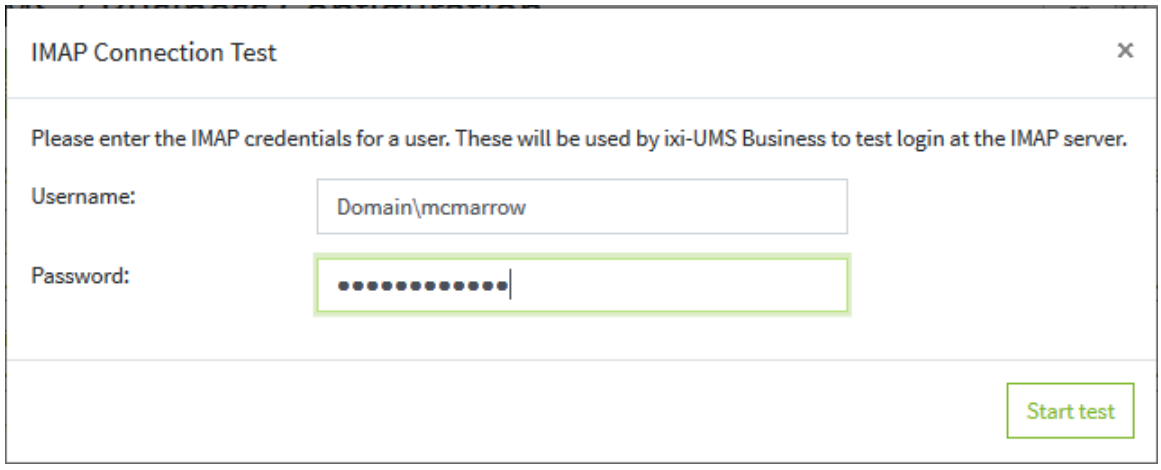
6.3.3.1 Access via IMAP

This setting is not available if you selected "Store ixi-UMS Messages only locally".

Specify on which port and with which protocol the IMAP access to the mailserver (specified in the basic setting) must be connected.
For Microsoft Exchange 2010 or newer, the IMAP-access via IMAPS can be used. With Domino, IMAPS is not supported!
Please note the instructions for setting up the mail system in the additional information.



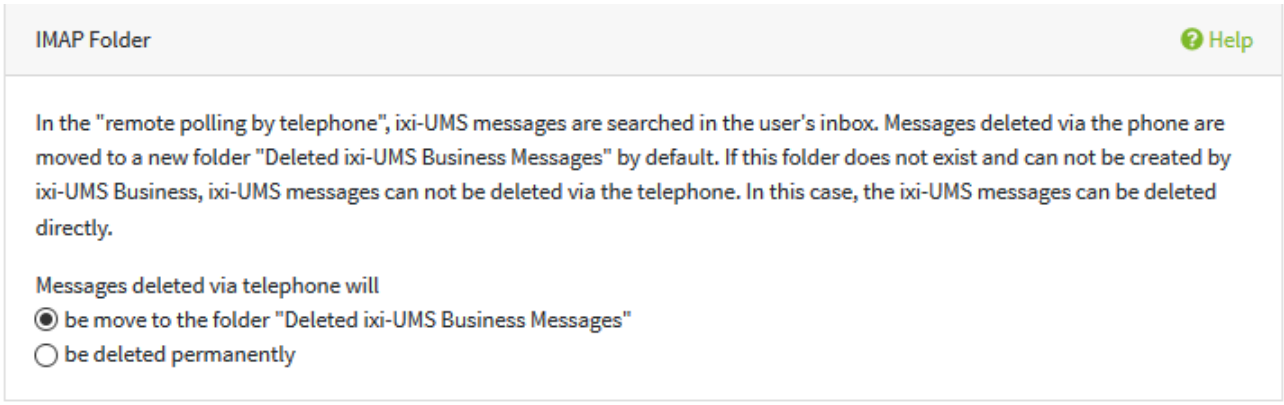
You can use the **Connection test** to check access (including login) to a mailbox.
Specify the registration data and start the test.



When using Micrsoft Exchange, please note:
The "Administrator" used to install the Exchange Server does not have IMAP4 access!

6.3.3.2 IMAP-Ordner

This setting is not available if you selected "Store ixi-UMS Messages only locally".
By default, a new folder "Deleted ixi-UMS Business Messages" is created here and the deleted messages are moved there.
When the checkmark is removed, the messages deleted via the telephone are deleted irrevocably.



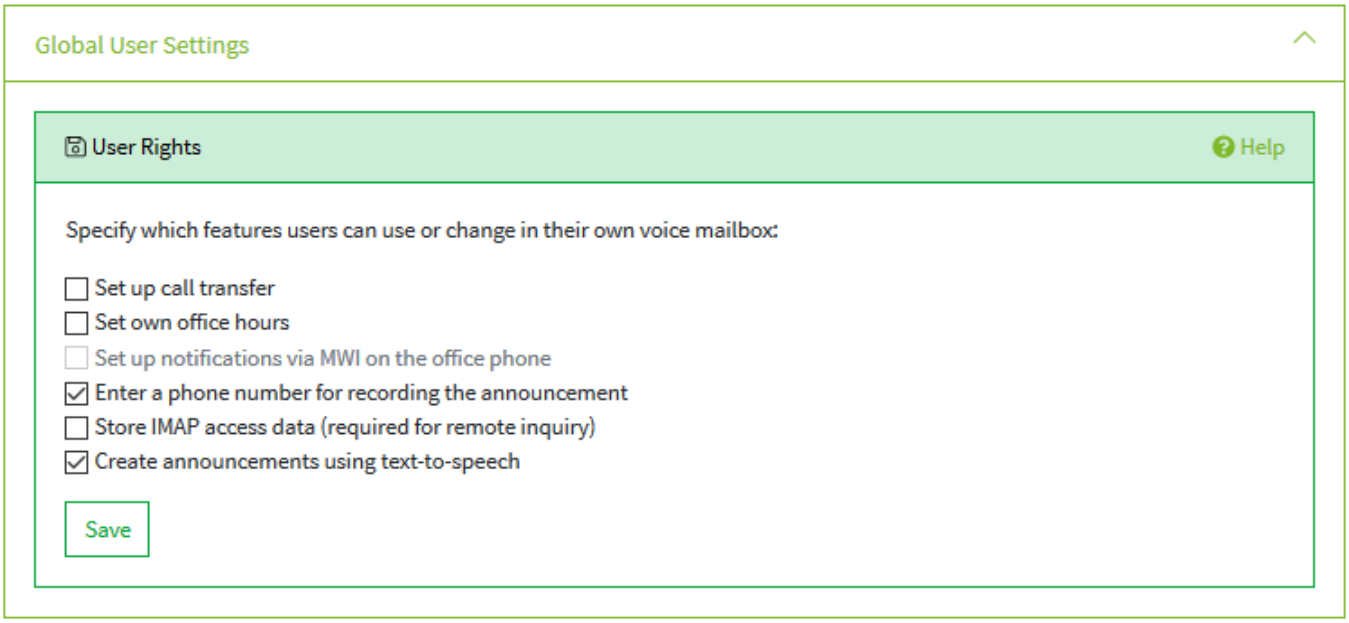
Please note: With a Cyrus mail server, for example, this folder cannot be created. The checkmark then should be removed.

6.3.4 Global User Settings

Here you can specify which settings the users are allowed to make and change themselves on the ixi-UMS Voice-Mailbox. This settingis not available if you selected the ixi-UMS Messages and confirmations only in local storage.

Users can always manage their announcements and profiles via browser-basierten ixi-UMS Voice-Mailbox Configuration. Some additional features can be disabled for the ixi-UMS Voice-Mailbox.

Configure and enable call transfer:
If this option is enabled, the user can optionally offer a caller to connect to another phone number or leave a message.
This option is available to the user in the browser-based ixi-UMS Voice-Mailbox configuration and in the configuration via telephone.



Set own office hours.
In the ixi-UMS Business server are set as standard office hours: 8am - 5pm.
By activating the "Set own office hours", the user can enter individual working and break times via the browser-based ixi-UMS Voice-Mailbox configuration and specify a off-hours profile and break profile.

Set up notification via MWI on the office phone
If the user is allowed to set the notifications, users can activate/deaktivate this setting themselves via the browser-based ixi-UMS Voice-Mailbox configuration.
Please note that the connection to the PBX must support this feature and ixi-UMS Business must be configured for this. If this is not the case, the corresponding hooks should be removed here.

Enter a phone number for recording the announcement
If the users want to record their announcements via the browser-based ixi-UMS Voice-Mailbox configuration, the office / telephone number registered with the user is used by default.
If the option is activated, users can enter the phonenumber by which they wish to record the announcement.

Store IMAP access data
If users are able to access the messages by using the phone, they must store their logon data for the mailserver.
User administration in the Active Directory with Microsoft Exchange: Users must store their (Windows) password
User administration in ActiveDirectory without Microsoft ExchangePassword and ixi-UMS User Management:
Users must provide their login name and password for mail server access.

Create announcements using test-to-speech
The user can type his greeting in the text field and have it created by the TTS Engine installed on the ixi-UMS 7 Business.

6.4 Advanced Settings

If necessary, you can activate additional functions. A Meta Directory must be installed for the SenderIdentification function.

6.4.1 Additional Features

You can set up some functions for which you may need and install additional software.

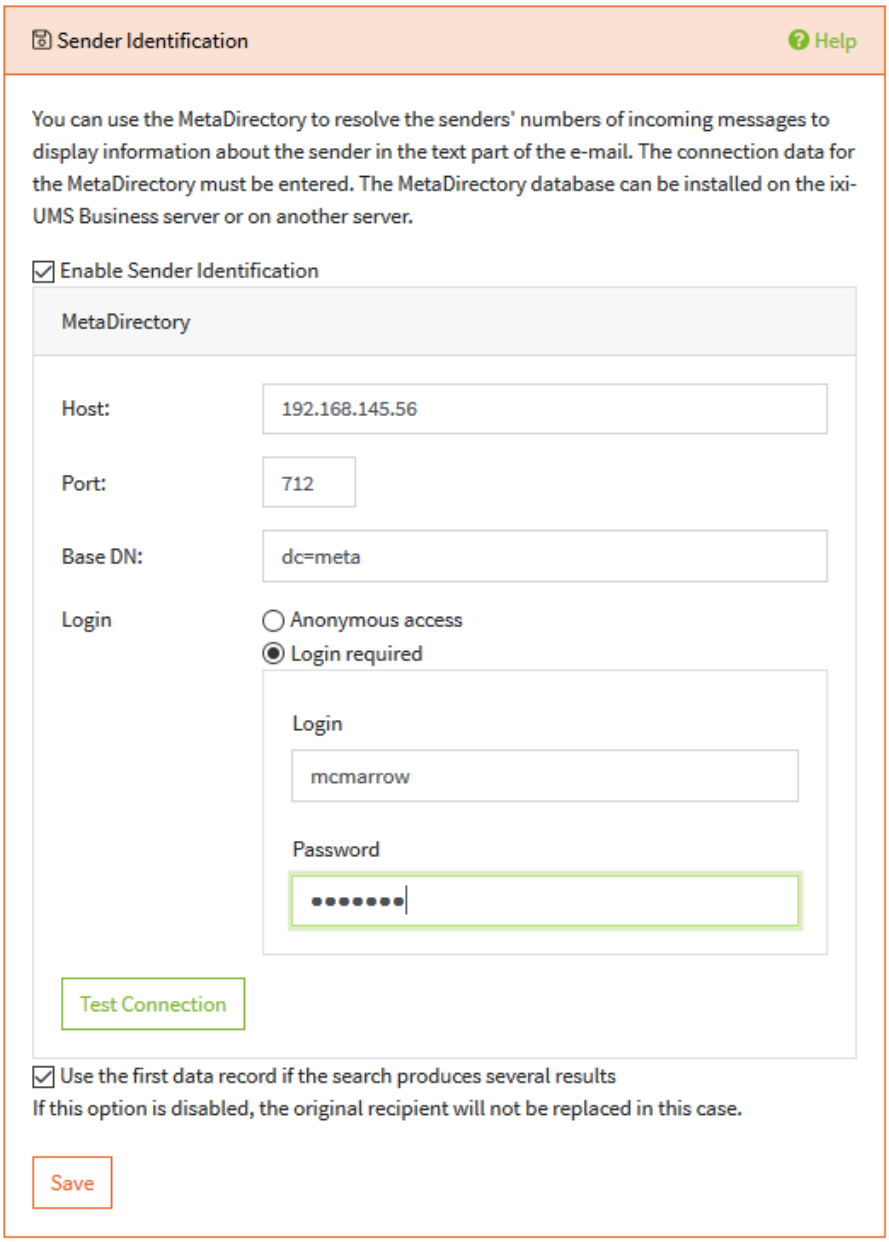
6.4.1.1 Sender Identification

In order to resolve sender numbers, an installed MetaDirectory is required. The Meta Directory is liable to costs.
This setting is not available if you selected "Store ixi-UMS Messages only locally".

The connection data to the MetaDirectory must be entered. The MetaDirectory data base can be installed on the ixi-UMS Business-server or on another server.

The sender numbers are searched for in the fields:

- telephoneNumber
- facsimileTelephoneNumber
- otherFacsimiletelephoneNumber
- mobile
- homePhone
- otherTelephone



Login required
Optionally, the user and password for logging in to the MetaDirectory can be given.
This is required if the estos MetaDirectory with activated user management is in use.

The specified username must match the username in MetaDirectory.
eg: "user@domain.com" or "user name"

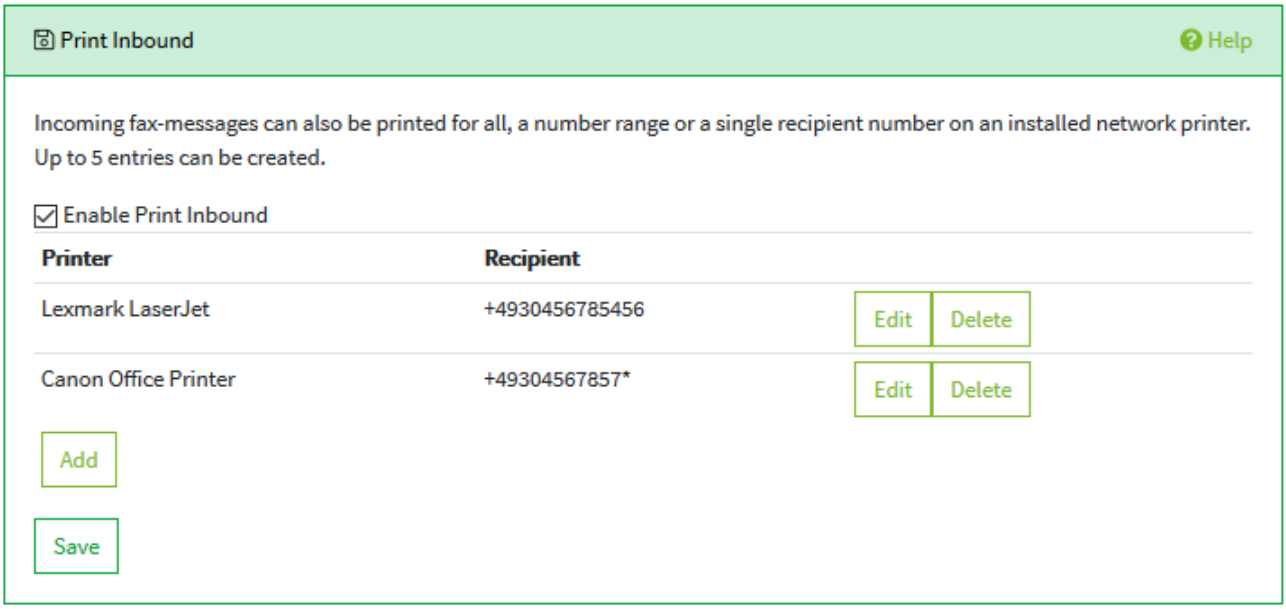
When the checkmark is set at "**Use the first data...**" and several results are found with a search, the data from the first data record are entered. If this option is disabled, data is only entered in the mail when the result is unambiguous.

6.4.1.2 Incomming printing

Incoming faxes can be printed on a printer in the network.

You can determine whether all fax-messages , only the fax-messages to a particular call number = or all the fax-messages of a particular number range shall be printed.

Range:	**Configuration**	**Beispiel**
One recipient	Specify an extension	9452
Call number range	Specify a range	9*
all fax-messages	Wildcard	*



The full fax will be printed - without a reception report.

It is not possible to print feedback or status reports.

Recommend:

- The printer has to be installed on the IXI-UMS machine as printer in the network.
- The IXI-UMS Serviceaccount must have permission to print on this printer

6.4.1.3 Message Waiting Indication

Here the settings for the "Message Waiting Indication" connection to the PBX are determined. This configuration depends on the telephone system and if used VoIP or ISDN connection.

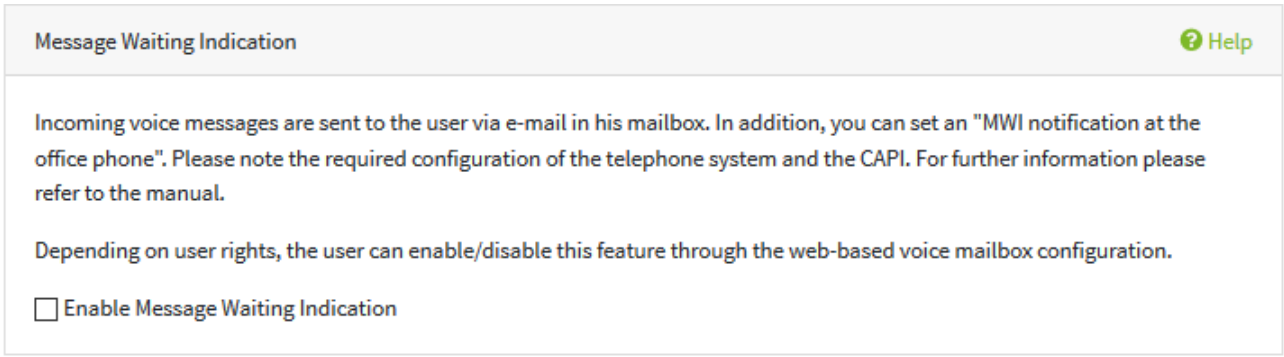
VoIP (XCAPI)

In ixi-UMS Business no configurations required. The PBX-specific settings must be made in the VoIPconnect / XCAPI an the PBX.

You can find information on setting up telephone systems connected via VoIP on the estos website for "Unified Messaging with ixi-UMS Business". (www.estos.de/produkte/ixi-ums-business) or ask estos GmbH's Support.

Message Waiting Indication aktivieren

When using the XCAPI, no further settings need to be made after configuration of the telephone system and the XCAPI. If a telephone system is connected via ISDN (elmec bintec), service and / or code numbers may still have to be stored.



Set MWI on

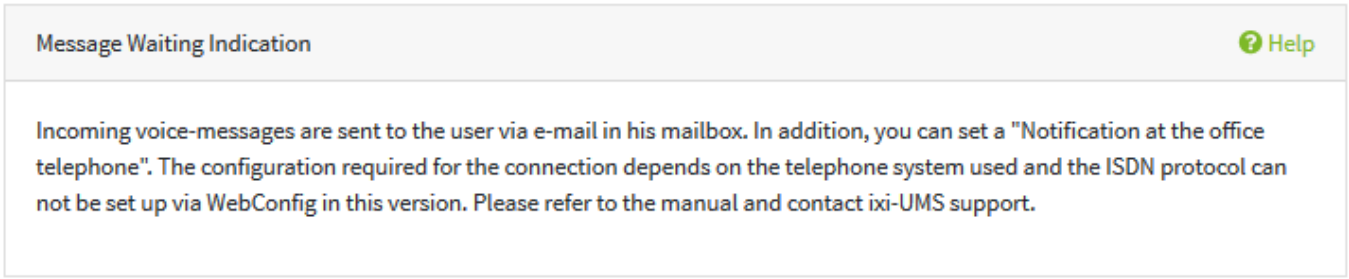
If this option is activated, a MWI notification is sent to the telephone registered as a telephone number in the user administration for each incoming voice message.

You can authorize the user to enable / disable this option in the ixi-UMS voice-mailbox configuration.

ISDN - Qsig und DSS1

All the PBX's that support Qsig MWI ECMA 241 and 242, the PBX's that support MWI via DSS1 or PMP-connection according to ETS 300 650. The configuration depends on the telephone system.

Please contact the ixi-UMS Support for the facility.

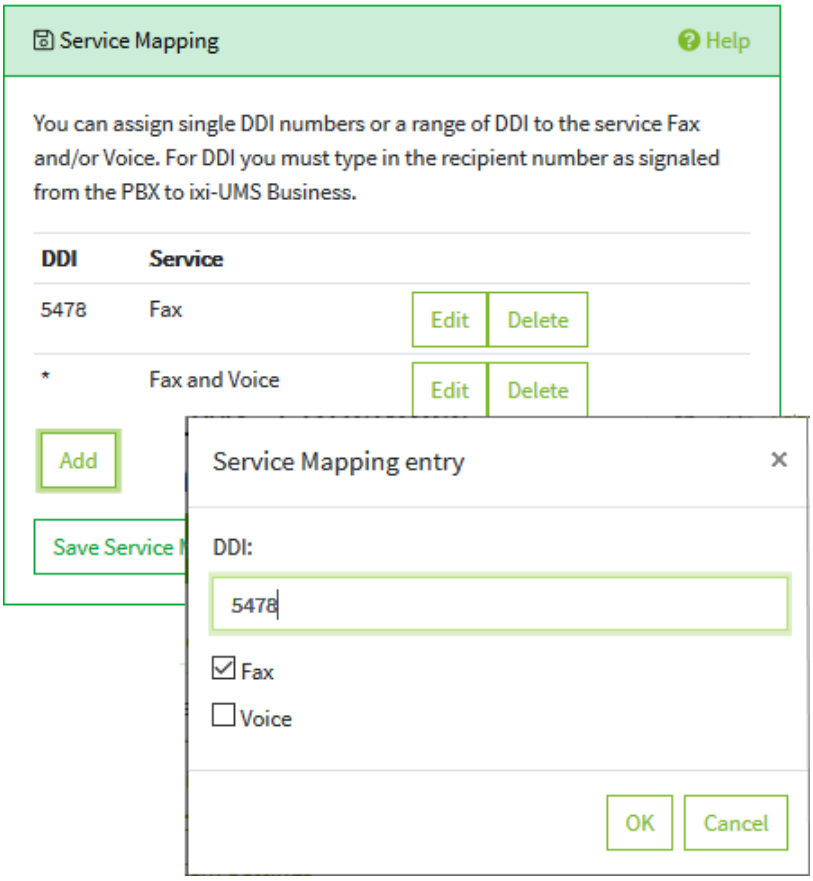


6.4.2 System Settings

This can affect the basic behavior of ixi-UMS Business for accepting and sending ixi-UMS Messages.

6.4.2.1 Service Mapping

By default, ixi-UMS Business accepts all incoming calls, regardless of whether it is a fax or a voice call. By means of the service allocation, services can be assigned to individual "DDI" or dial-up blocks (wildcard = *).



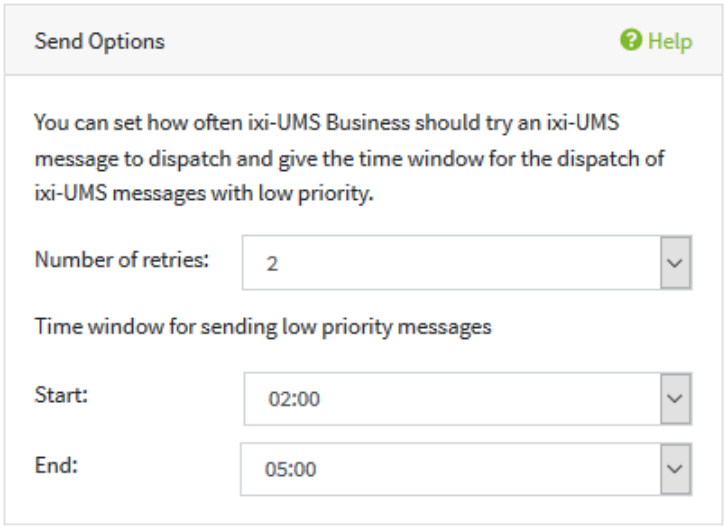
Click "Add" to set an extension or number range for a service.

Fax: Switch to receive fax mode.
Voice: Switch to receive voice message mode.
Fax and Voice: Detect fax or voice transmission and switches to appropriate mode automatically.

The "DDI" must be entered as the destination call number is transmitted from the telephone system to ixi-UMS Business.
If the telephone number is transmitted in the E.164 format, the E.164 telephone number must be entered here.

6.4.2.2 Send Options

You can specify how often (1-5) ixi-UMS Business should attempt to send a ixi-UMS message. It should be noted here that the number of redials should not be too high for a large fax volume.



Number of retries
Determines how often ixi-UMS Business tries to send a message. When entering two retries (see screenshot above), the message is sent 3 times all in all.

Faxes with low priority are delivered during the determined time window

Start:
Determines the start time of the time window.

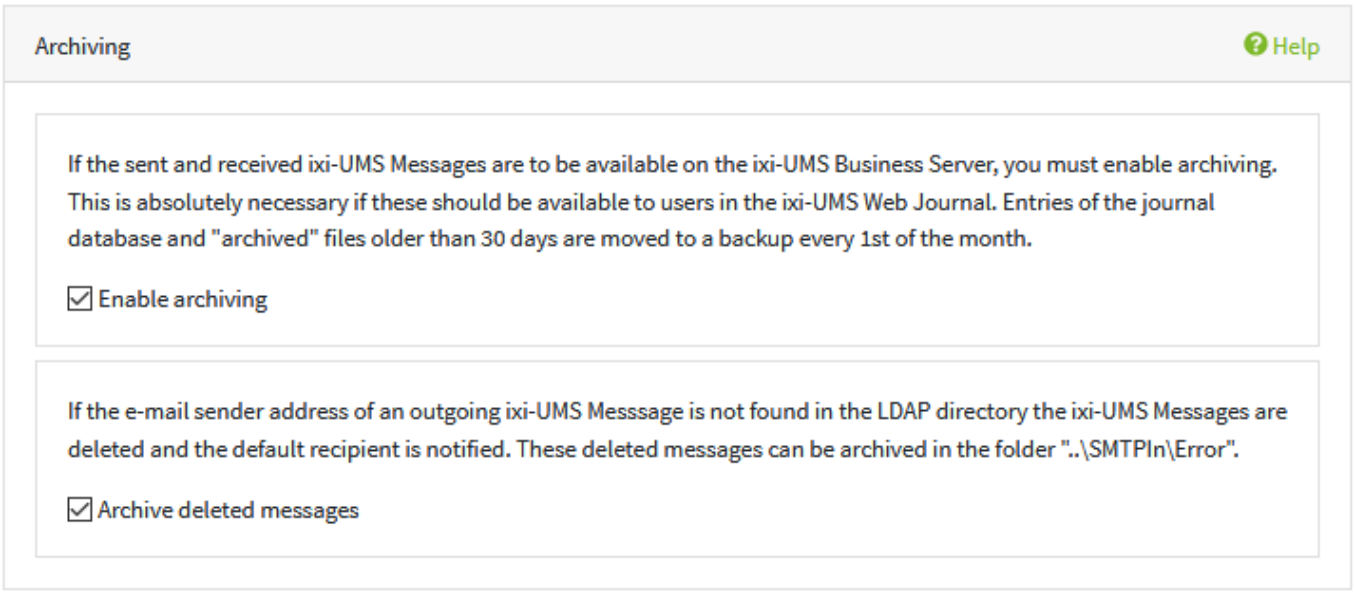
End:
Determines the end time of the time window.

6.4.2.3 Archiving

Activates and deactivates the archiving of faxes, voice messages and SMS. If archiving is active, users can open, print, and save ixi-UMS Messages via the ixi-UMS Web Journal. Otherwise, only the transmission information is available.

This setting is always enabled and can't be disabled if you selected "Store ixi-UMS Messages only locally".
The files are stored in the journal data base.

This is saved every 1st of the month, with the entries of the last 30 days remaining in the journal.



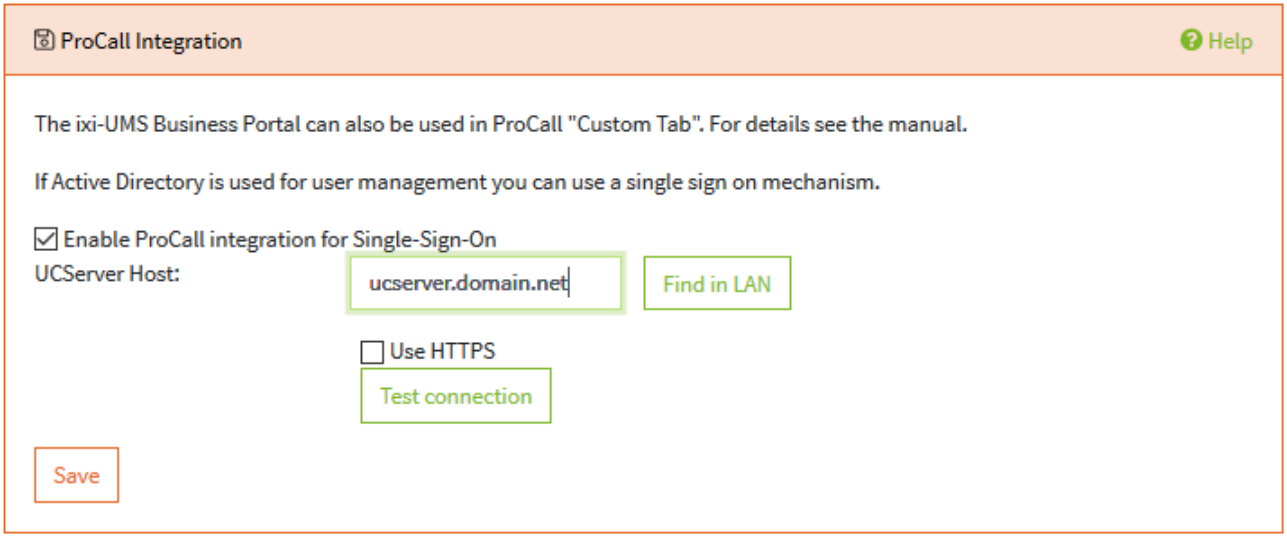
If the e-mail-sender adress of the outgoing UMS message is not find in the ldap user database, the UMS messages are deleted and the default recipient is notified.

Optionally, you can **archived the deleted ixi-UMS-message** in the installation directory .....\ixi-UMS SMTP Connector\SMTPIn\Error.

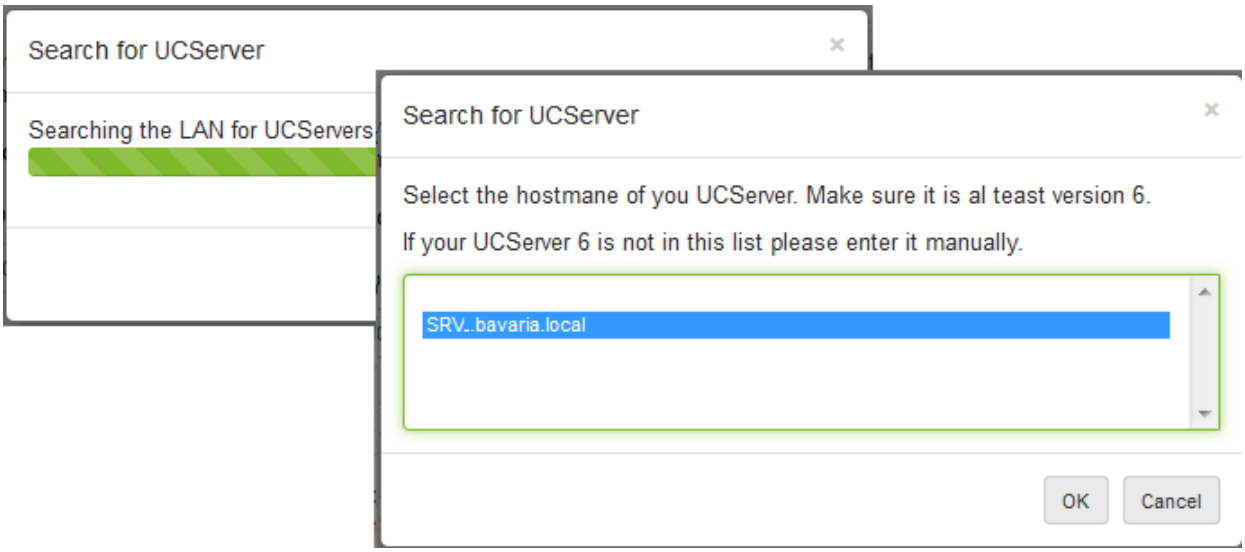
This setting is recommended if ixi-UMS Business is not connected to a mailserver.

6.4.2.4 ProCall 6 Integration

ixi-UMS Business provides user web-based pages for voice-mailbox configuration and the ixi-UMS Web Journal. These pages can be integrated into the "Custom Tabs" of the ProCall Client. See: Setting up ixi-UMS web pages
In order to save users from additional logons, the logon can be performed automatically via the "Windows login" if a ProCall 6 server is installed **and** Active Directory is used for user management for ixi-UMS Business and ProCall .



Activate "**ProCall 6 - Integration for Single-Sign-On**". You can now enter the UCServer via "Search on the network" or the computer name / IP address directly.
Using "Search on the network" the UCServer is queried via "Broadcast" and DNS and you can select the computer.



Select the computer name and click "OK".
If the UCServer can not be determined, you must enter the computer name/IP address in the WebConfig.

Optional the ixi-UMS Business can use HTTPS to connect withthe UCServer. Please also see the additional information: Configure ixi-UMS Webseiten

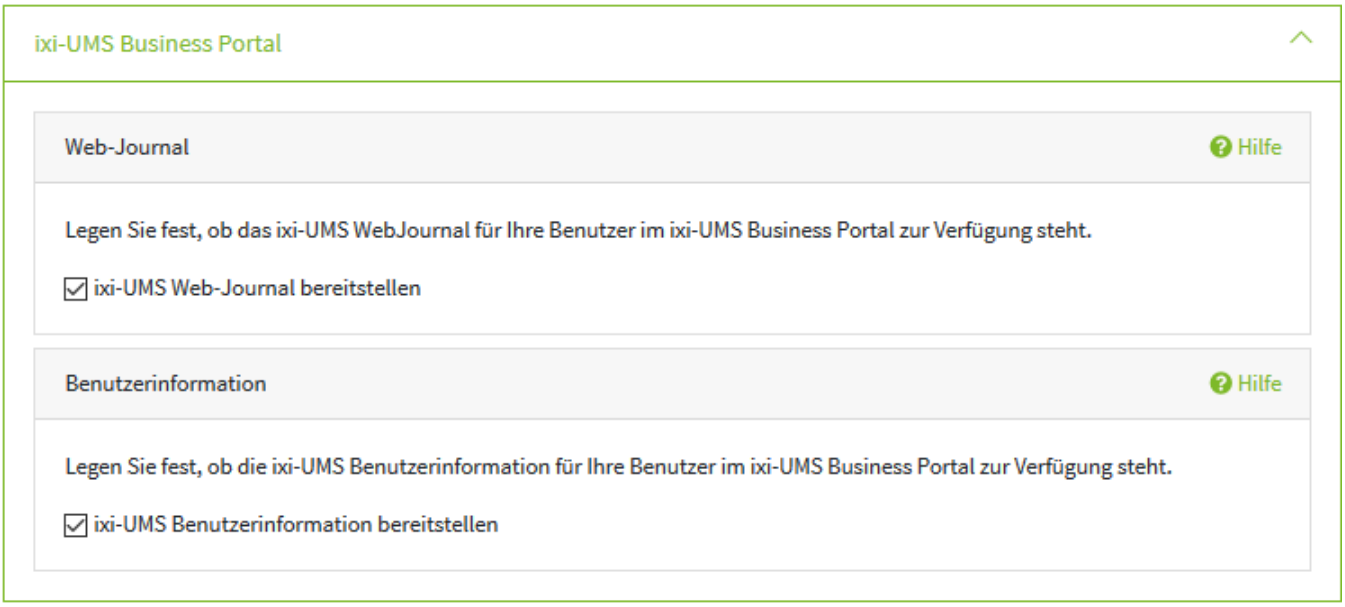
6.4.3 ixi-UMS Business Portal

In ixi-UMS Business all web applications are available in the ixi-UMS Business Portal. In the ixi-UMS Business Portal the ixi-UMS Web Journal, the ixi-UMS User Information and the ixi-UMS Voice-Mailbox configuration can be made available to the user.

The users must log on to the ixi-UMS Business Portal with their e-mail address and the LDAP password.

The ixi-UMS Voice-Mailbox configuration is automatically displayed in the ixi-UMS Business Portal when the answering machine function is activated.

Whether the ixi-UMS Web Journal and/or the ixi-UMS User Information is displayed can be determined.

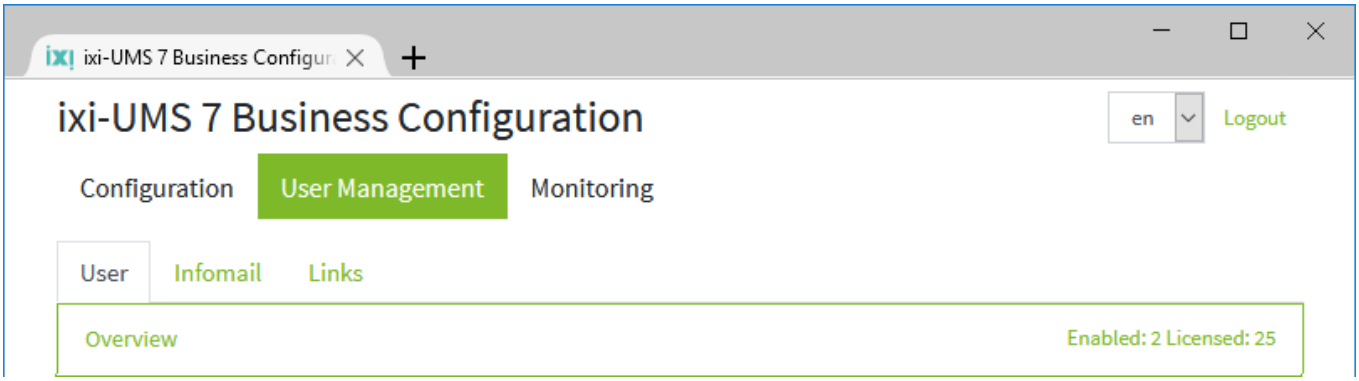


The link to open the ixi-UMS Business Portal can be sent with the " Infomail".

Note:
If the users are managed in the supplied ixi-UMS user administration, a password must be assigned.

7 User Management

In user administration, users can be created and/or configured for ixi-UMS Business, depending on the configuration.



In addition, all relevant information for the users can be defined in the "ixi-Infomail" and sent by e-mail.

7.1 User overwiew

Regardless of whether you store the user data (in Active Directory or in the ixi-UMS User Management), the ixi-UMS properties of the users are entered in the user administration integrated in ixi-UMS Business. The available options depend on the used LDAP database.

The configuration options and funktions in the menu line and the user overview depends of the used LDAP-user data base.

Users export / import

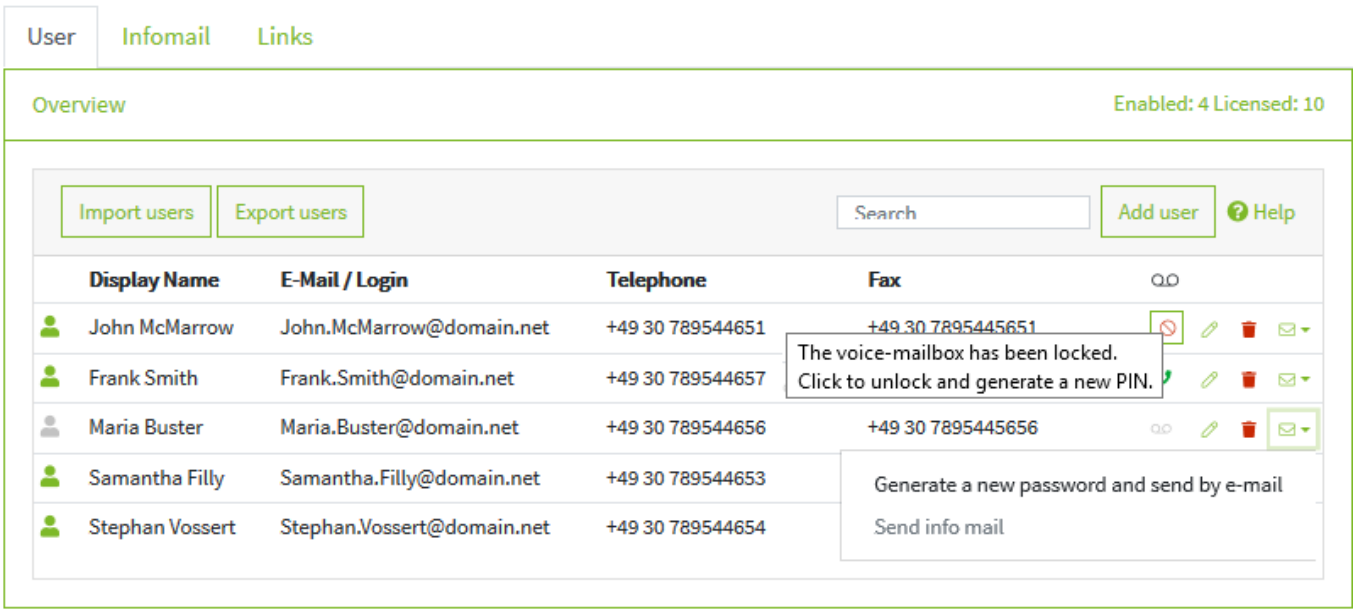
This option is only available if users are entered in the Integrated ixi-UMS User Management. The entered users can be exported with all settings and imported into a new installed ixi-UMS Business e.g on a new server.
This operation is not required if the existing ixi-UMS Business is updated.
Note. When users are imported, all existing users are deleted

Anzahl der lizenzierten Benutzer

You will see the number of licensed users and the number of activated users. If the number of activated users exceeds the number of licenses (eg because a license has been changed), this is displayed when opening the user administration. In this case, the first users read out when opening the configuration interface are deactivated.

Add user

If you selected **"Integrated ixi-UMS User Management"** , you must create all ixi-UMSusers by yourself.



Overview

The overview shows the status activated/deactivated for each user on the left. The buttons on the right depend on the LDAP database:

	Send ixi-Infomail: With the "Infomail" you can send all needed information to send and reveive Fax- and SMS messages to the users. **Send Passwordmail** (with Integrated ixi-UMS User Management) Create and send the user password for login at the ixi-UMS Web Journal and ixi-UMS voice-mailbox configuration. The password is re-created with each e-mail.
	Delete user (with Integrated ixi-UMS User Management)
	Edit the user objekt, edit and set the properties for ixi-UMS settings (Fax/SMS) und for ixi-UMS voice-mailbox
	Voice-mailbox status (see below)
	unlock the locked voice mailbox and send a new PIN to the user via e-mail.

Note: E-mails can only be sent when the connection to a mailserver is established.

Access level to the voice-mailbox

The displayed states correspond to the configuration of the user. If the voice mailbox has been blocked by several incorrect PIN entries, this can be enabled here and a new PIN can be created.

	Voice-mailbox is disabled
	Only voice-mailbox - no login via telephone
	Voice-mailbox with login via telephone - no remote inquiry
	Voice-mailbox, login via telephone and remote inquiry via telephone
	The voice mailbox has been blocked by entering the wrong PIN several times. When you click on the button, it is unlocked and a new PIN is sent by e-mail to the user.

More information about setting up and editing users for ixi-UMS Business is dependent on:
Save user data in ActivDirectory
Save user in ixi-UMS Business User Management

7.1.1 User in ixi-UMS Business

If you have selected "integrated ixi-UMS User Management", you must create all users yourself. You can edit , delete and create an e-mail with a new password for each user.

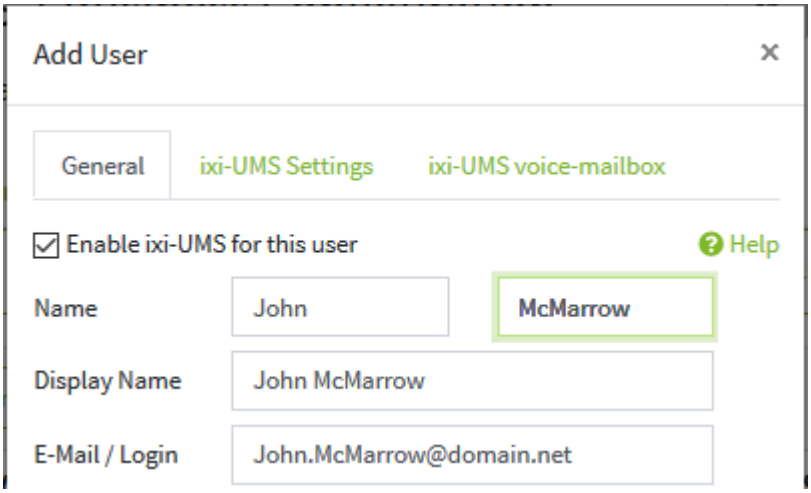
The user needs the password to log on to the "ixi-UMS Web Journal" and the "ixi-UMS Voice-Mailbox Konfiguration". If both websites are not used, the creation of a password is not required.
You can also send the access data to the users with the "Infomail". Also in this case, the password will be created now for EVERY E-mail!

Please note: A new password is generated each time a new "password mail" is sent.
Note: E-mails can only be sent when the connection to a mailserver is established.

During and after the creation of the users, you can set the user properties for the ixi-UMS properties (Fax / SMS) and optionally for the ixi-UMS voice mailbox.

Add/edit user
Sie können in der Übersicht über den Button "Benutzer anlegen" einen neuen Benutzer erstellen oder über den Button einen vorhandenen Benutzer editieren.

You can create a new user in the overview by clicking on the "Create user" button Add user or edit an existing user using the -button.

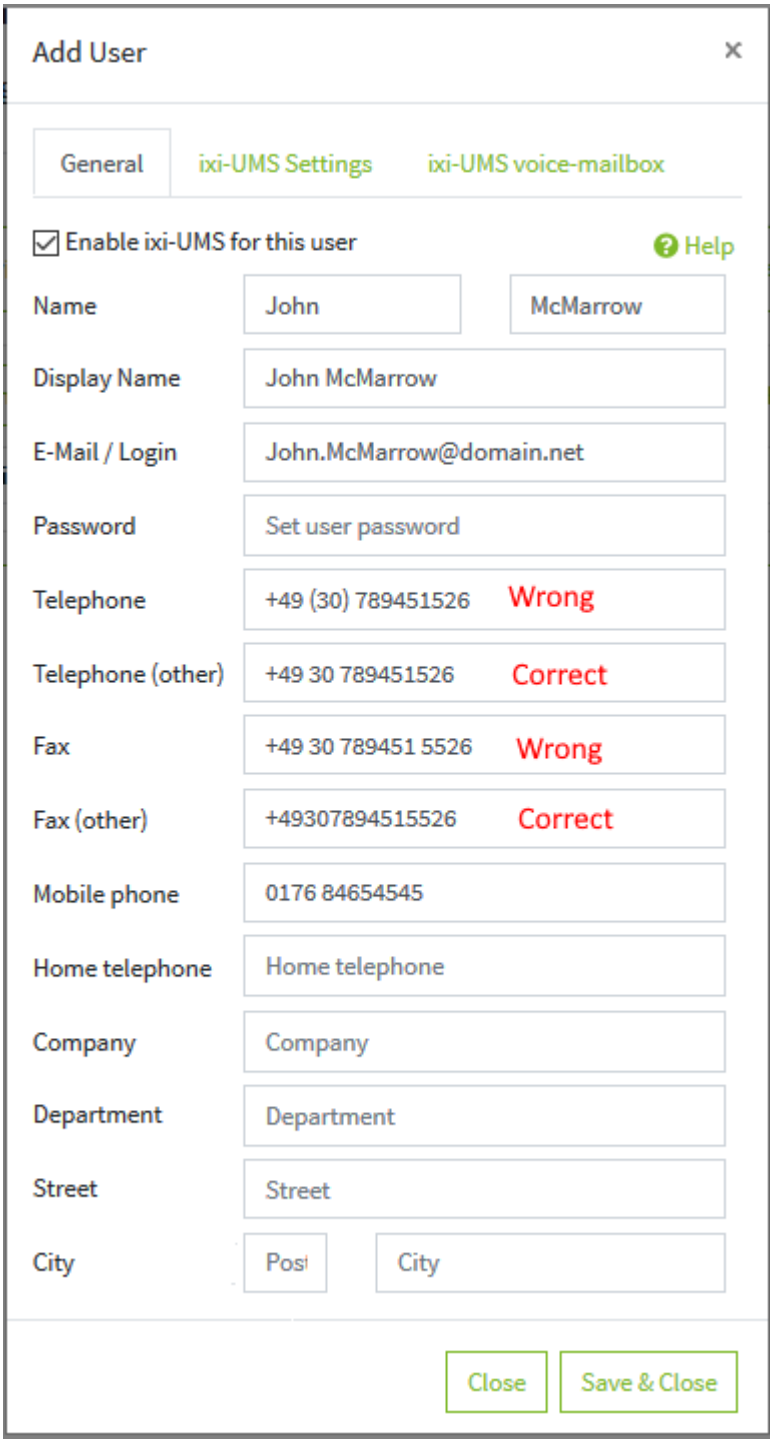


Required fields that are not filled in are displayed in red.

The **Display Name** is made up of the entered first name and surname.

E-Mail/Login
The default e-mail address **must be** entered for each user.
All UMS-messages will be **sent to this e-mail address.**

With this e-mail address, the user must also log on to the web-based pages for the ixi-UMS Web Journal and ixi-UMS Voice-mailbox Configuration also.



Password:
The password is required for the login to the %IXI-UMS%> Web Journal and ixi-UMS Voice-mailbox Configuration

The password is automatically entered or renewed by sending a "Passwordmail" from the user overview.

Telephone number
Telephone number (Other)
A phone number that can be evaluated for ixi-UMS Business is only required if you use

- the voice mailbox function "Shared voice mailbox number"
- login on the Phone without PIN
- notification per MWI.

Fax number
Fax number **(Other)**
Here you must enter the recipient number for which the user should receive the ixi-UMS messages (fax and voice).
Two receiver numbers can be assigned to each user.

The data for company, department and the address can be evaluated for the coverpage.

Please note:
The phone number to be evaluated by ixi-UMS Business must be entered in one of the following formats:

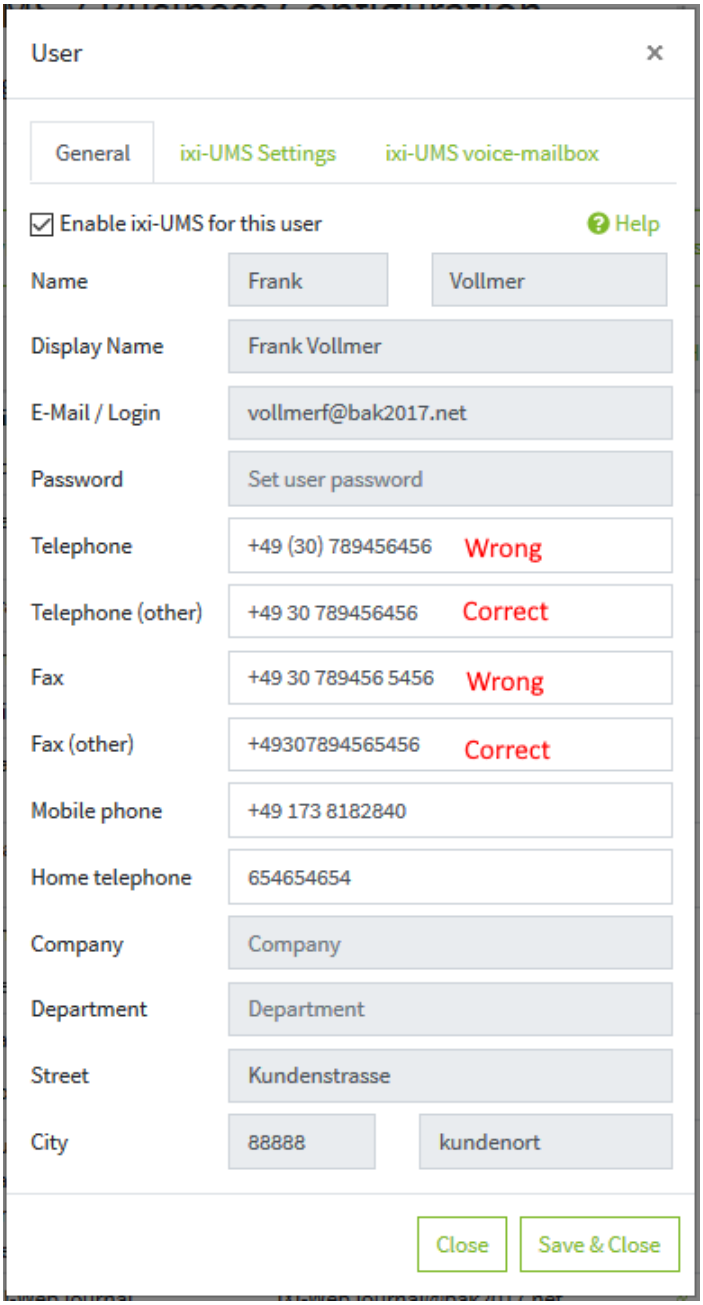
+49 8142 47990	One blank space between country code and area code as well as between area code and connection number
+49814247990	without spaces

Basically: No () - / or other characters may be included.

7.1.2 User in Active Directory

If you have selected "User management in Active Directory" in the ixi-UMS Business configuration, the users from the Active Directory are displayed and you can edit the user to configure the ixi-UMS properties. You can also enter/change the numbers.

To send and receive ixi-UMS Messages, the recipient numbers and the default e-mail address **must be present per user**.



E-Mail:
The default e-mail address **must be** entered for each user.
All UMS-messages will be **sent to this e-mail address.**
With this e-mail address, the user must also log on to the web-based pages for the ixi-UMS Web Journal and ixi-UMS Voice-mailbox Configuration also.

Telephone number / **Telephone** number **(Other)**
A phone number that can be evaluated for ixi-UMS Business is only required if you use

- the voice mailbox function "Shared voice mailbox number"
- login on the Phone without PIN
- notification per MWI.

Fax number / **Fax** number **(Other)**
Here you must enter the recipient number for which the user should receive the ixi-UMS messages (fax and voice).
Two receiver numbers can be assigned to each user.

Mobile phone number
This is only evaluated when sending SMS messages. The prerequisite is that the SMS provider supports the function "individual senders".

The data for company, department and the address can be evaluated for the coverpage.

Please note:
The phone number to be evaluated by ixi-UMS Business must be entered in one of the following formats:

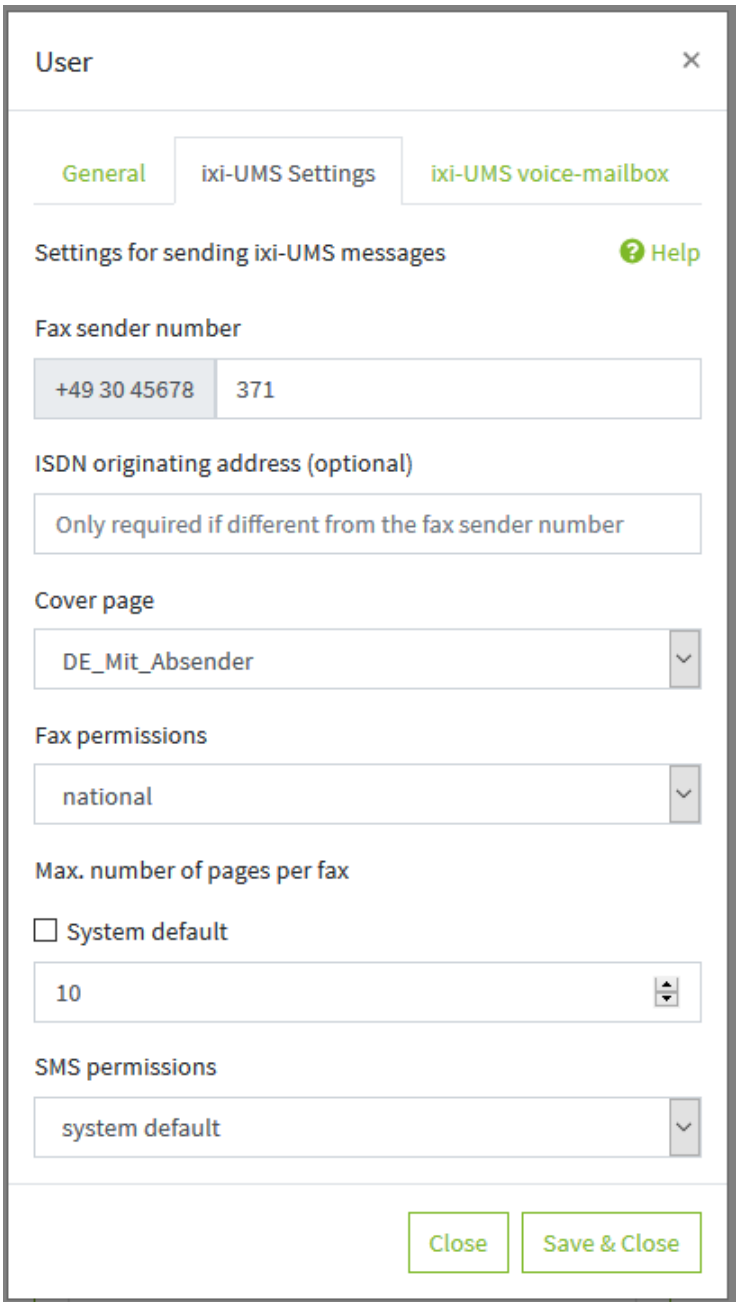
+49 8142 47990	One blank space between country code and area code as well as between area code and connection number
+49814247990	without spaces

Basically: No () - / or other characters may be included.

7.1.3 ixi-UMS Settings

Here the sender information, permissions and the coverpage of the user are defined.

Fax sender number:
This is the number that appears in the header of the fax being sent. This is usually an extension.
This is then combined with the Sender ID of the ixi-UMS Business.
Example:
In ixi-UMS Business is entered as Sender ID: +49 30 789524 (Will be displayed here)
The user is entered as extension: 3579
The header is printed on the fax: +49 30 7895243579



ISDN originating address:
This is the "Calling Party Number", which is signaled for outgoing UMS messages for this user to the telephone system. You only need to enter something here if the ISDN (D-channel) information must be different from the entered fax sender number.
This **is not the "sender ID"** that is printed in the headers of the fax message.

Cover page:
If nothing is entered here, the cover page selected on the ixi-UMS Business server is taken.

Only if the user is to have an individual cover (different from the one defined in the server), specify the directory name of the coverpage subdirectory.Here, you specify the directory name of a Coverpage subdirectory. This directory must contain the fax cover sheet and layout for outgoing UMS messages. See also Creating a Coverpage

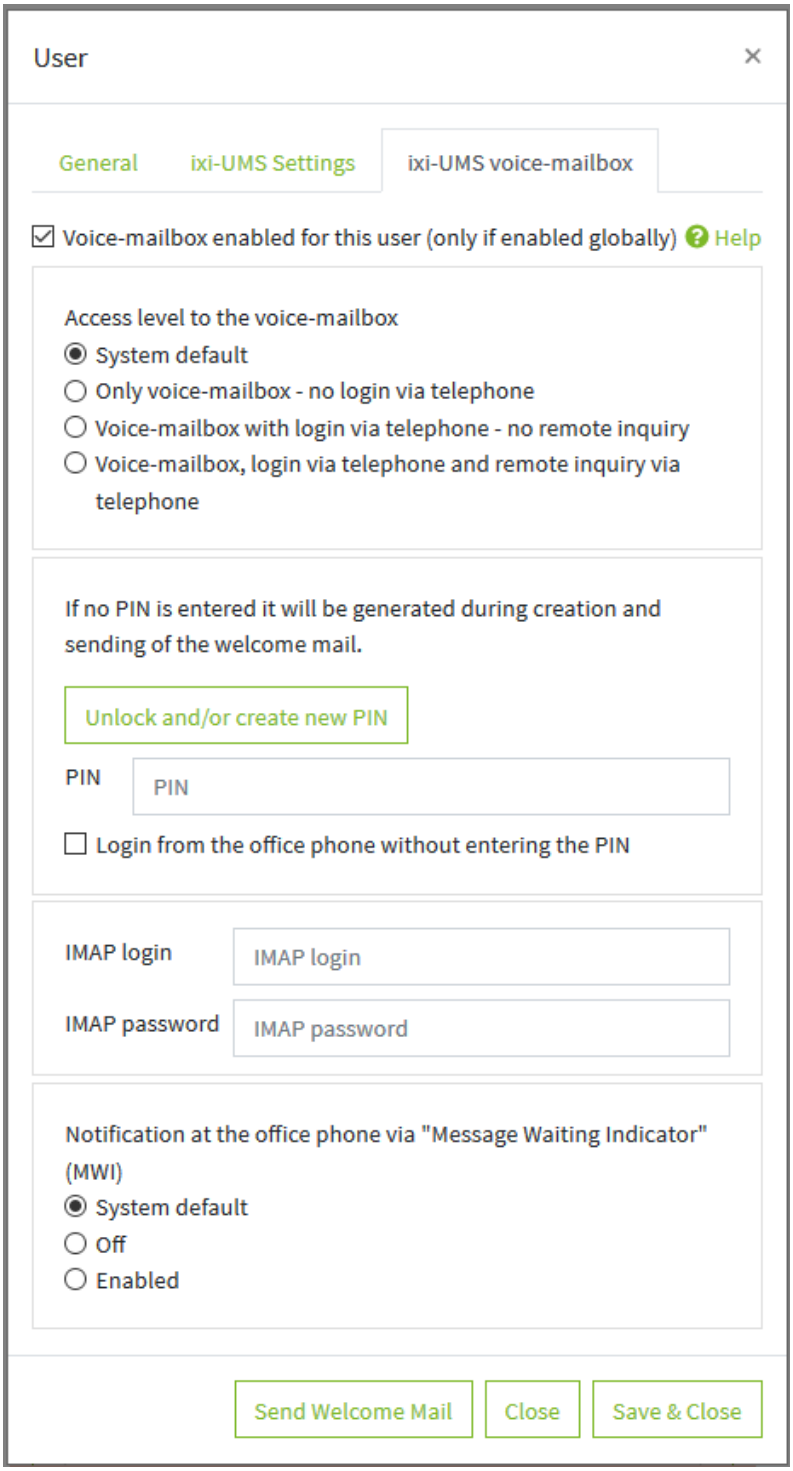
Fax permissions:
This allows you to set how far a user may send fax messages.
If you select "System Settings", the default permission set at the ixi-UMS Business server is valid.

Max. number of pages per fax:
You can set the maximum number of pages per fax in Outbound fax messages in the ixi-UMS Business server configuration. If the user wants to send a fax with more than the number of pages specified on the server, he receives an error message.
If ***System default*** is selected for the user, the default is valid. Remove the check box to give the user an individual number of pages per fax.

SMS permissions:
This can be used to set whether the user is allowed to send SMS messages.
If you select "System Settings", the default permission set at the ixi-UMS Business server in "SMS Setting" is valid.

7.1.4 ixi-UMS Voice-Mailbox

To enable users to use an ixi-UMS voice mailbox, the "Voice-mailbox" function must be activated on ixi-UMS Business Server. The basic settings can be made globally on the ixi-UMS Business server and are valid for all users when "System default" is selected in the configuration. It is only necessary to enter user-specific settings in the user administration. If the Voice-mailbox is deactivated for a user, the caller receives a corresponding announcement and can not leave a message.
Set an authorization level if it is different from the settings on the ixi-UMS Business server.



System defaults:
The settings on the ixi-UMS Business server are valid

Only Voice-mailbox:
The user can only set up his voice-mailbox via the browser-based ixi-UMS voice-mailbox configuration.

Voice-mailbox with login via telephone
The user can log in by phone, recording his/her announcements, and make all profile settings.

Voice-mailbox, Login via telephone and remote inquiry:
The user can log in, make the profile settings, and listen to his messages.
This setting is not available if you selected "Store ixi-UMS Messages only locally".

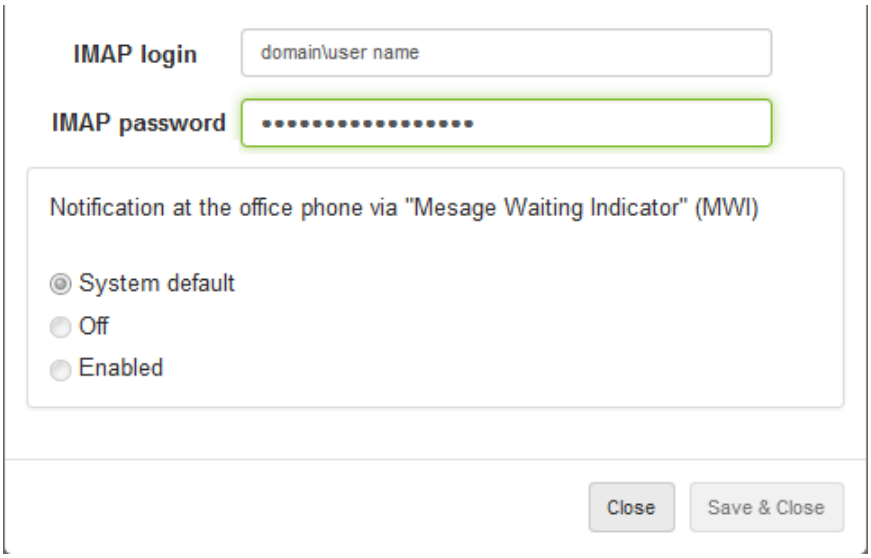
PIN:
The PIN is required for login on the phone. If no PIN is assigned, the PIN is automatically assigned when sending the welcome mail
If no welcome mail is sent, the PIN is default set to 12345.

Unlock and / or create new PIN
If the voice mailbox has been blocked by entering the wrong PIN several times, this can be unlocked here.

If ixi-UMS Business is connectet to a mail system, a "Welcome mail" will be automatically sent the next time you call to the voice mailbox number or if you send the mail via the Button "**Send Welcome Mail**"
If a (new) PIN is stored, this is entered in the mail, if the field is empty, a new PIN is generated.

By default, the users of each phone can select their voice mailbox number and log in using a PIN input.
If "**Login from the office phone without entering PIN**" is activated, the user can connect his voice telephone with his voice mailbox without a PIN.
The office phone is the telephone number entered in the LDAP database under "telephone number".

MAP login and IMAP password are essential for remote enquiry of messages by telephone.
This setting is not available if you selected "Store ixi-UMS Messages only locally".



If a Microsoft Exchange Server as mail server and Active Directory is used as a user database, only the (Windows) password must be specified.

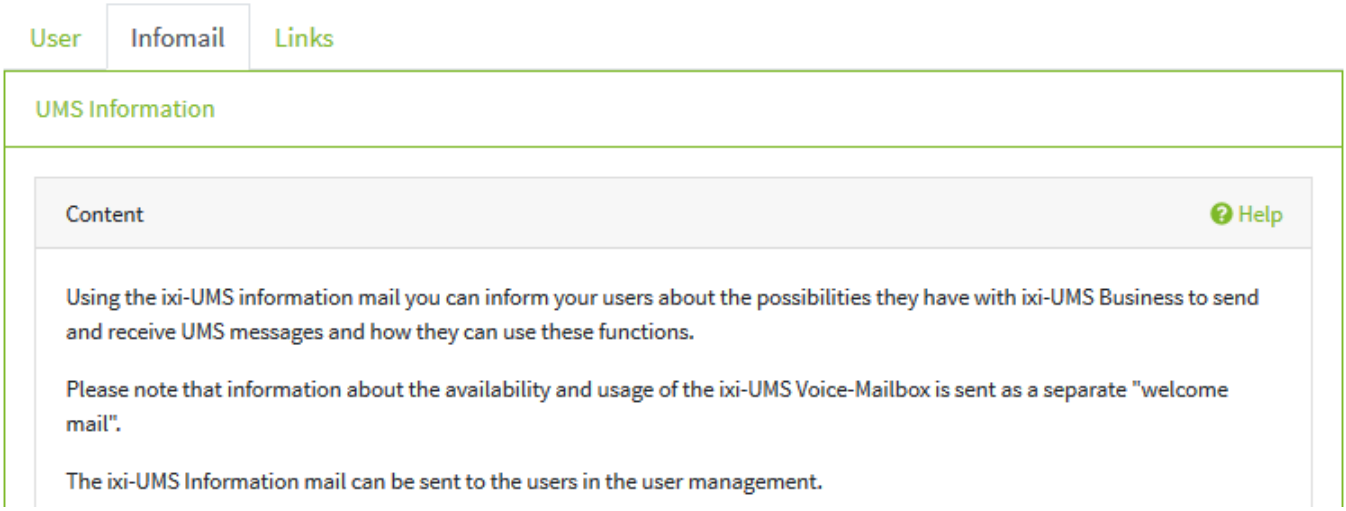
The users can store these data themselves via the web-based ixi-UMS voice-mailbox configuration.

In order to use the **notifications at the office telephone by means of "Message Waiting Indication"**, you must make the corresponding settings in the ixi-UMS Business configuration.
The user is then informed of incoming voice messages via MWI.
If you set it in the ixi-UMS Business server configuration, the user can change this setting in the ixi-UMS voice mailbox configuration.

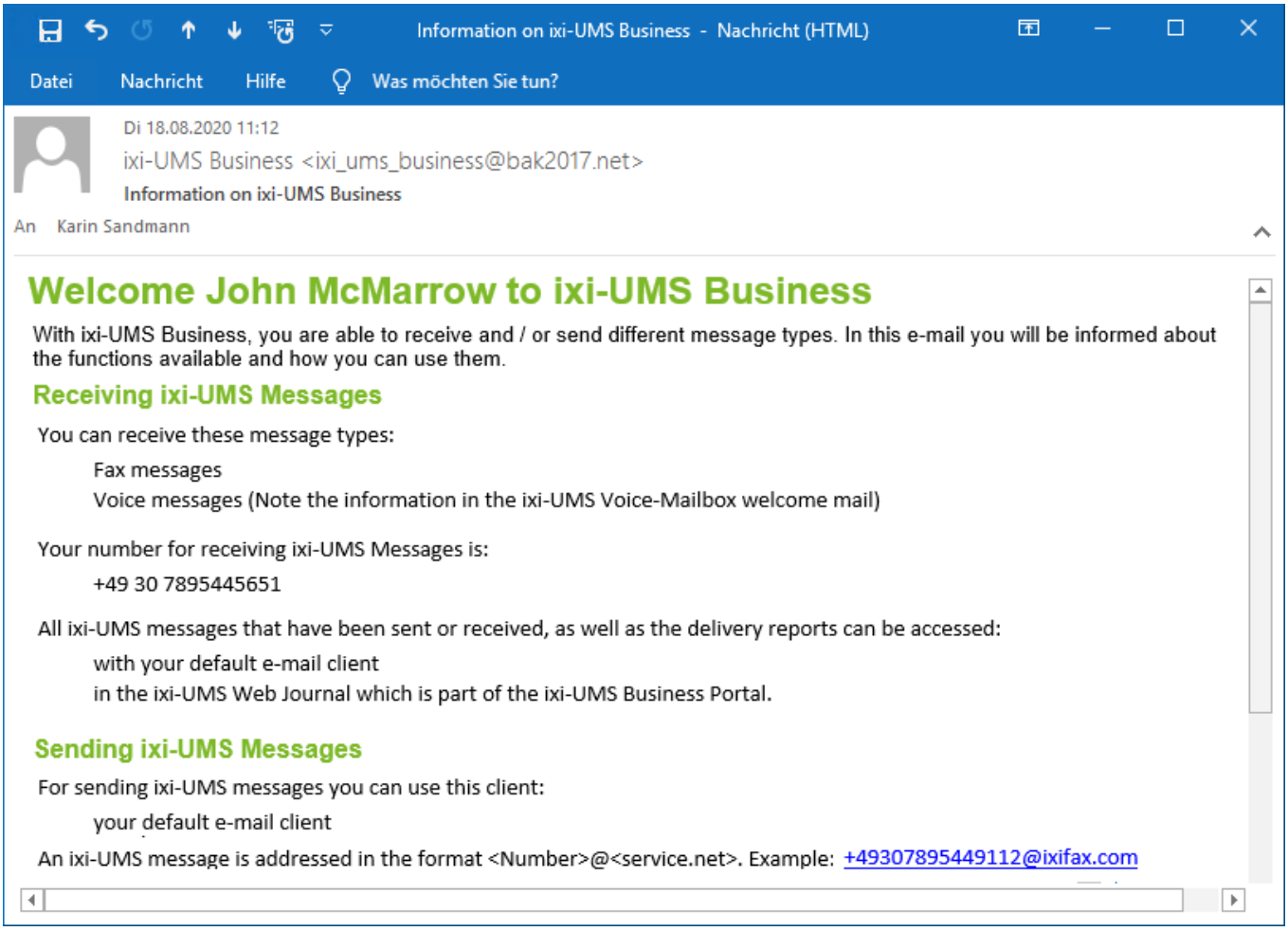
Note:
In order to inform the user via MWI, his telephone number must be entered in the user administration in the format:
+49 8142 4799555.

8 Infomail

You can use the ixi-UMS Information Mail to inform users about the needed information for sending and receiving ixi-UMS Messages and also about the login informations to the ixi-UMS Business Portal.



In the configuration you can define the content and the entered data. You can send the e-mail per user from the overview of user administration.



Please note that the availability and use of the ixi-UMS voice-mailbox will be sent in a separate "welcome message".

Define Content and informations

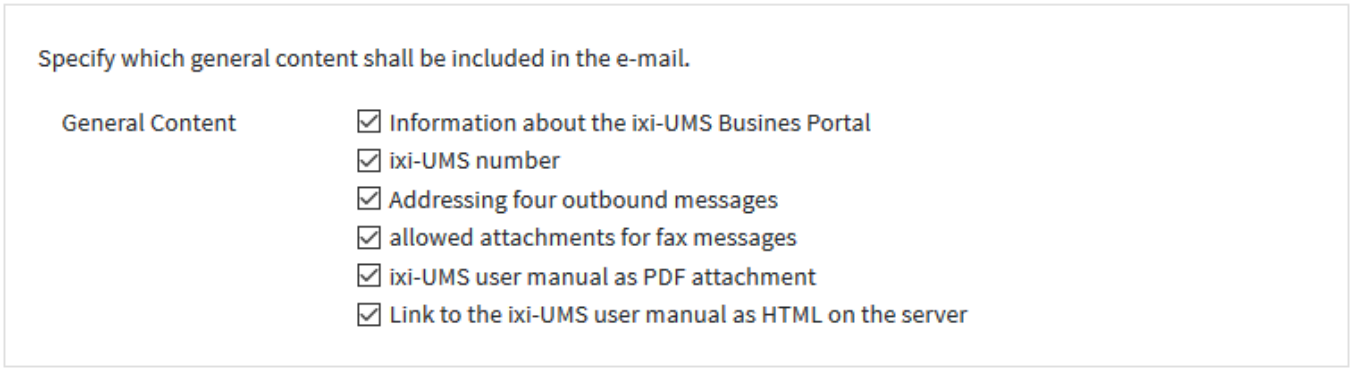
You must specify which information should be contained in the e-mail. Where this information should be read out, or which information the user is to receive, you specify separately.

General Content:

Select the content of the e-mail wich will be send to the users.

The first item depends on the user database.

- If you manage the users in the integrated ixi-UMS user management, the ixi-infomail can also be used to create the password. The ixi-infomail contains the user's e-mail address and the (newly generated) password.
- If the users are managed in Active Directory, only the user's e-mail address is added with a reference to the Windows password to be used.



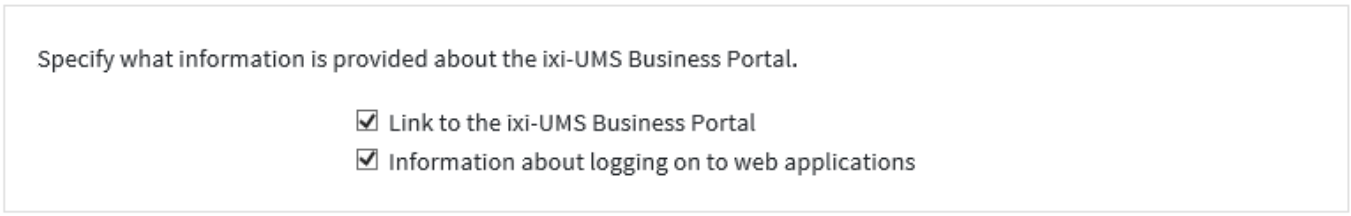
ixi-UMS Business Portal

If the users should use the ixi-UMS Business Portal, the link and the required login information can be sent to the users.

Note: The link to the ixi-UMS Business Portal is also sent with the welcome message for the ixi-UMS Voice-Mailbox.

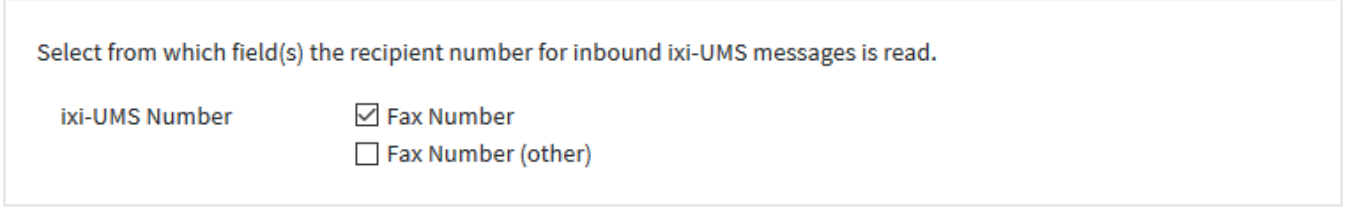
The information about the login data depends on the set user database.

- If you manage the users in the Integrated ixi-UMS User Management, the password is created and sent to the user when the ixi-Infomail is sent. The ixi-Infomail contains the e-mail address of the user and the password (generated each time).
- If the users are administered in Active Directory, only the user's e-mail address is inserted with reference to the Windows password to be used.



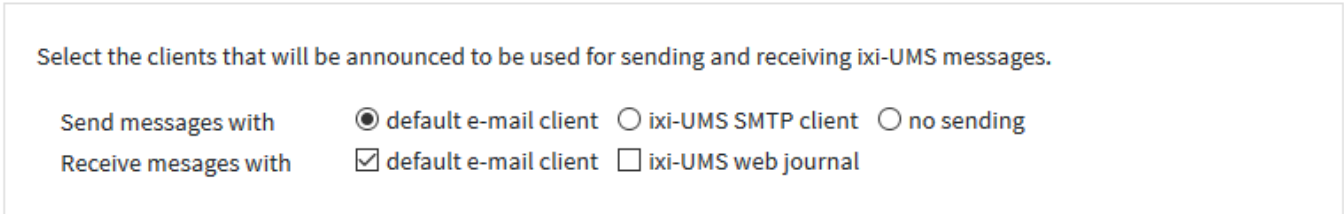
ixi-UMS Number:

Select from which field the recipient number of the users should be read out.



Send messages with:
If a mailserver is available in the existing IT environment, the user can use the default e-mail client to send ixi-UMS Messages.
If outgoing ixi-UMS Messages are not sent via an existing mailserver, the ixi-UMS Client Tools can be installed at the workstations. These optionally provide the ixi-UMS SMTP client to send ixi-UMS Messages directly to the ixi-UMS Business system.

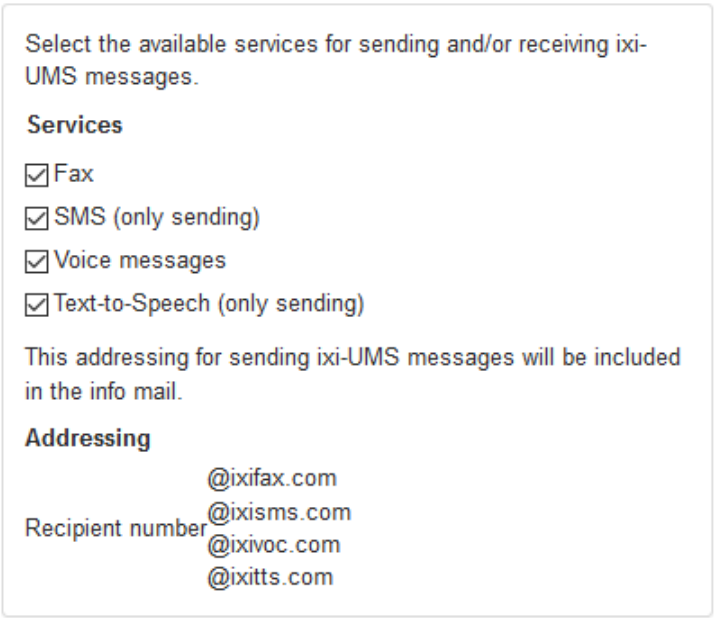
For more information on the ixi-UMS Business Client Tools, please refer to the ixi-UMS Business Client Tools Installation Guide and the ixi-UMS user guide.



Receive messages with:
Depending on the connection to an e-mail system and the configuration of ixi-UMS Business, the user has different possibilities to access his received ixi-UMS Messages and confirmations.
If the archiving of ixi-UMS Messages is activated, users can access the ixi-UMS Messages via the ixi-UMS Web Journal.

If you have set "Store ixi-UMS messages only locally", the users can only use the ixi-UMS Web Journal to access the ixi-UMS Messages.

Further informationa are required for the sending and receiving of ixi-UMS Messages.

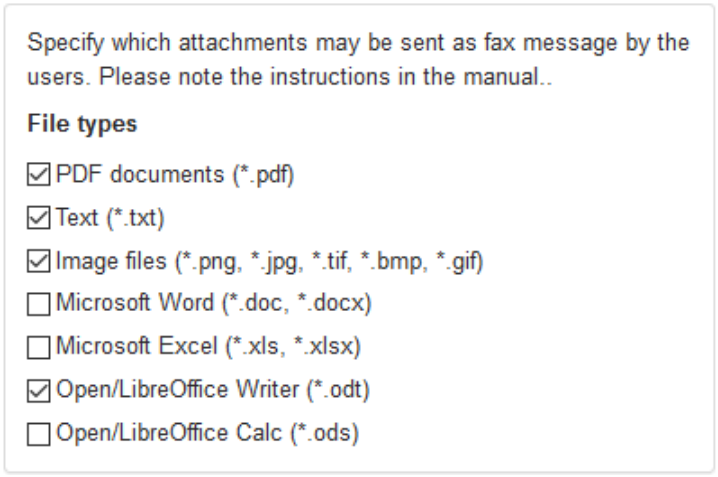


Services:
Specify the types of ixi-UMS Messages that users can send.

SMS and TTS messages can only be sent

Adressierung:
This entry is only relevant if the ixi-UMS mail is sent via a mailserver.
The addressing is defined in the settings of the ixi-UMS Business system and must be entered accordingly in the mailserver.

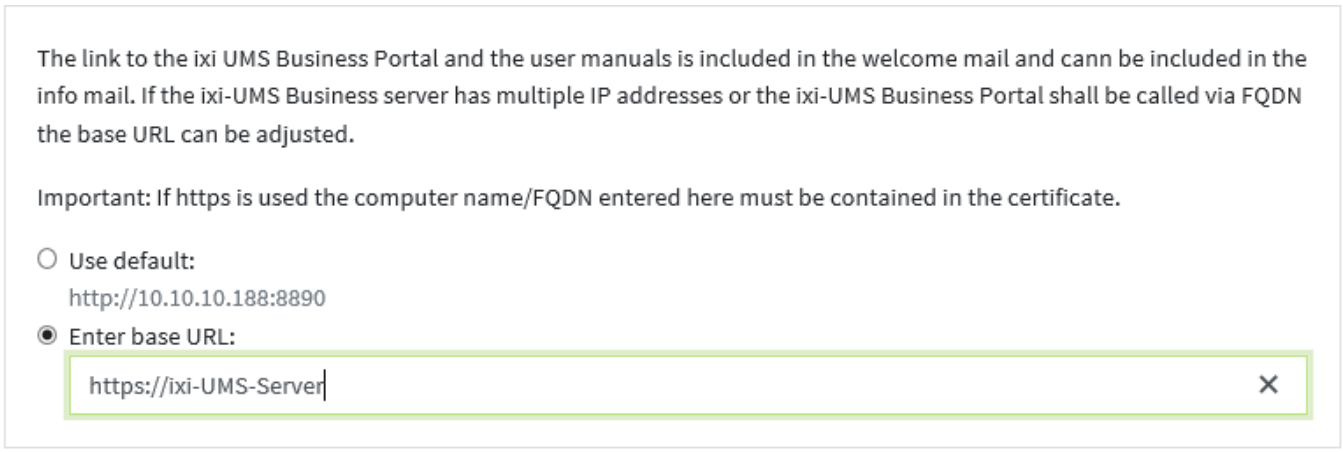
If the ixi-UMS SMTP Client is used to send ixi-UMS Messages, the addressing is fixed when installing the ixi-UMS Business Client Tools.



File Types:
Depending on which applications are installed and set up on the ixi-UMS Business server, the users can attach documents to the e-mail when it is sent as a ixi-UMS fax message.

The processing of TXT and PDF files as well as the specified picture formats is contained in ixi-UMS Business.

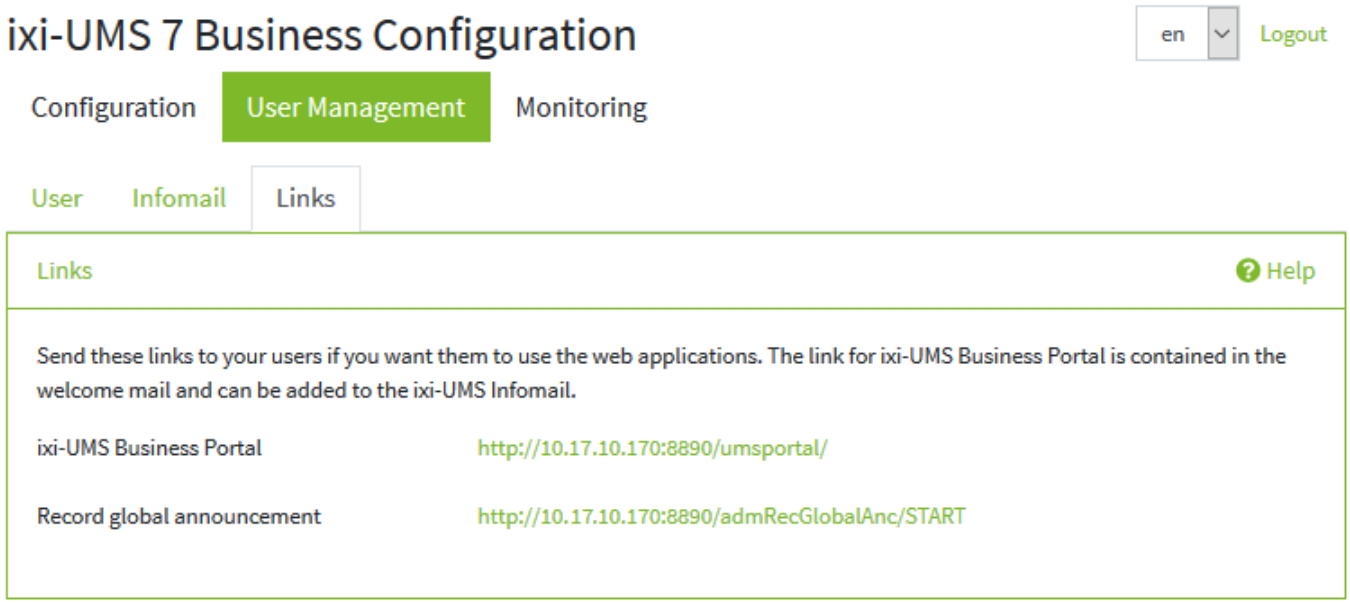
Server address:
The URL for accessing the ixi-UMS Business Portal and the user manuals is automatically generated and communicated to the users in the ixi-UMS Infomail and the welcome message. If the ixi-UMS 7 Business has several IP addresses or if a specific FQDN is to be used explicitly for the call, the base URL can be changed.
Important:
If the ixi-UMS 7 Business is set to HTTPS, the FQDN entered in the certificate must be specified.



Save the desired settings and send the ixi-Infomail to the users. You can change the selection at any time and save it again. The content of the e-mail is taken over immediately on saving. No services have to be restarted.

9 Links

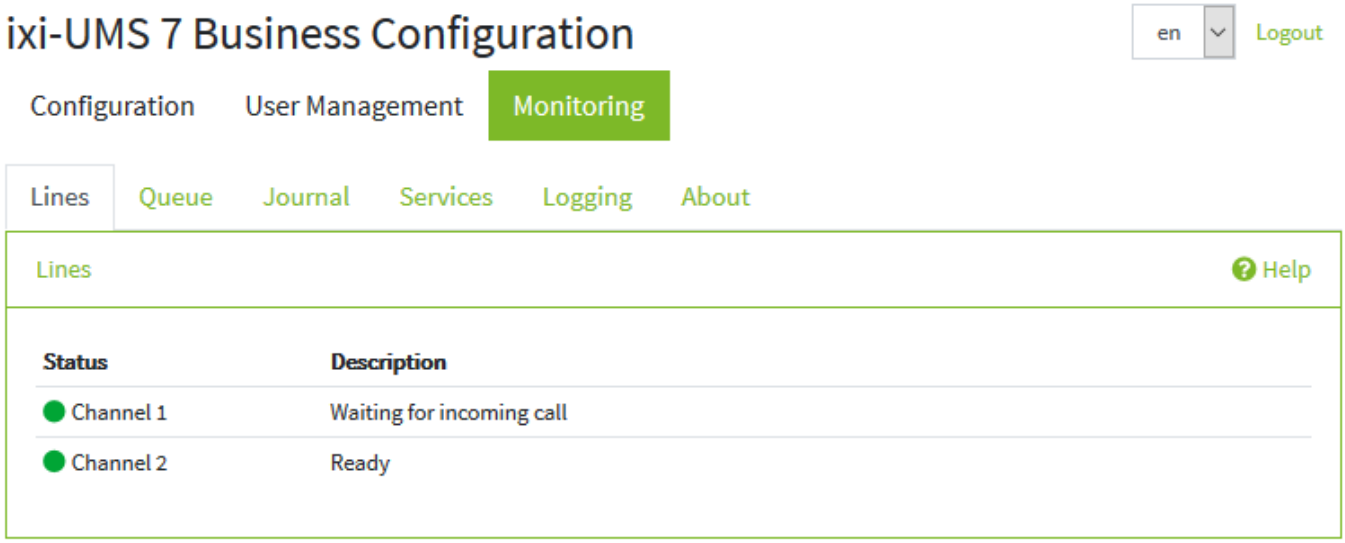
Here you can see the currently valid links for the web-based user interfaces. The link to the ixi-UMS voice-mailbox configuration is contained in the welcome mail and the link to the ixi-UMS Web Journal can be added to the Infomail.



The link to record the "Global Announcement" can be sent via the configuration in the ixi-UMS Business server.

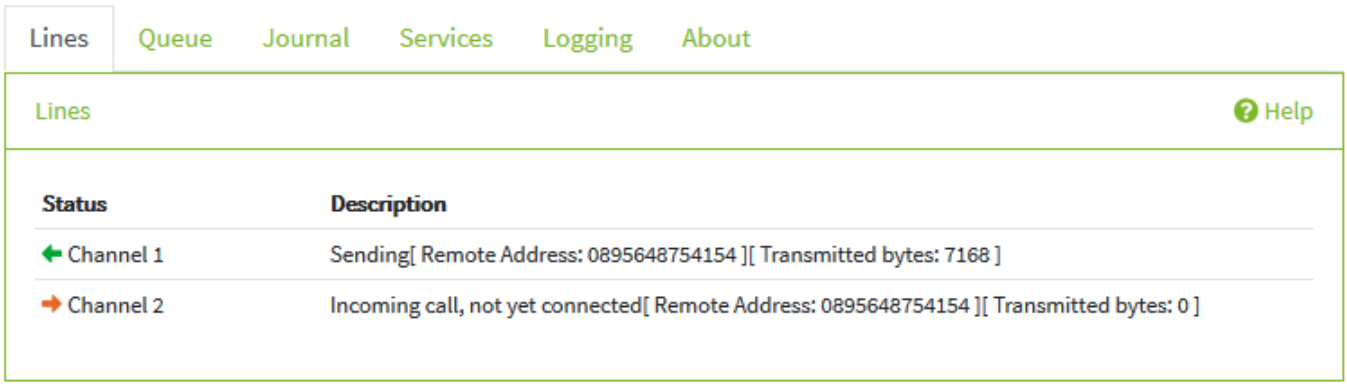
10 Monitoring

The current operations can be monitored in ixi-UMS Business under the "Monitoring" menu item.



10.1 Channels

The line view gives you information about the current status of the lines

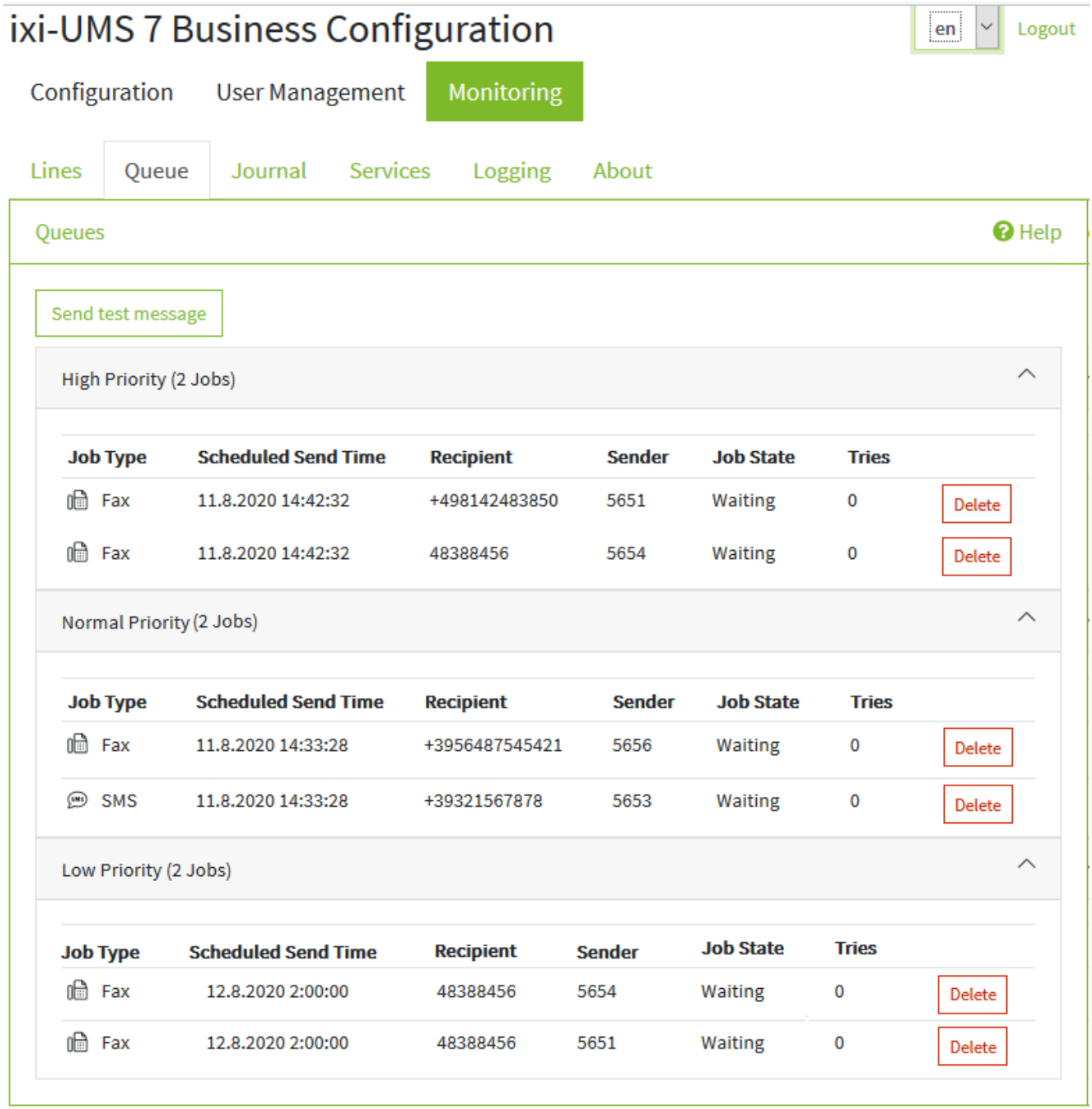


The following status are possible:

Channel 1 Inaktiv	Channels are initialized
Channel 1 Start...	Channels are started
Channel 2 Ready	Idle state
Channel 1 Waiting for incoming call	Idle state
Channel 1 Dialing[Remote address:0049162	Dialing
Channel 2 Sending[Remote address:004981	Sending of data , Information about the destination number and the bytes already transmitted
Channel 1 Incoming call, not yet connected[Remc	A call comes in and is waiting to be accepted
Channel 1 Receiving[Remote address:34 ...	Reception of data, Information about the sender number and the bytes already transmitted

10.2 Queue

In the "Queue", all the outbound messages to be processed are displayed according to their priority.

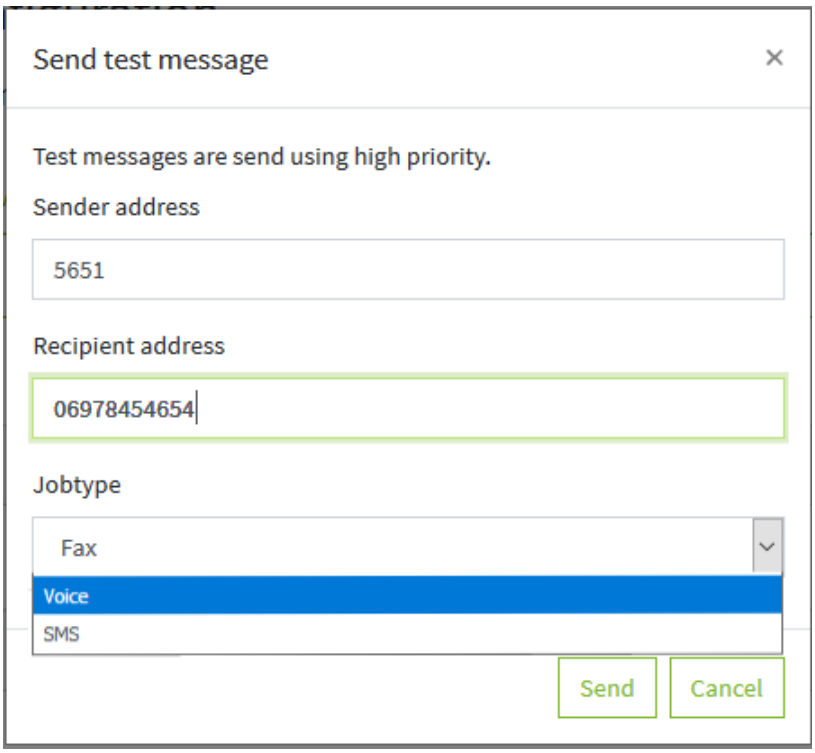


The columns show the following information:

Job Type	Indication about the type of messages (Fax, Voice, SMS)
Scheduled Send Time	Information about the time of the next try. Messages with low priority are sent in the set time window
Recipient	To which number the message is sent
Sender	Sender of the message
Job State	Information about whether the job is done or is waiting to be processed
Tries	Number of transmission tries
Delete	Delete the job file from the queue (Only available in the "Waiting" state)

Send test message

With the button Send test message you can create outgoing/sending ixi-UMS Messages for the services Fax, SMS and Voice. The sending result or the reason for not sending can be viewed in the journal.



It is mandatory to enter a recipient number and to specify the fax, SMS or voice service to be used.

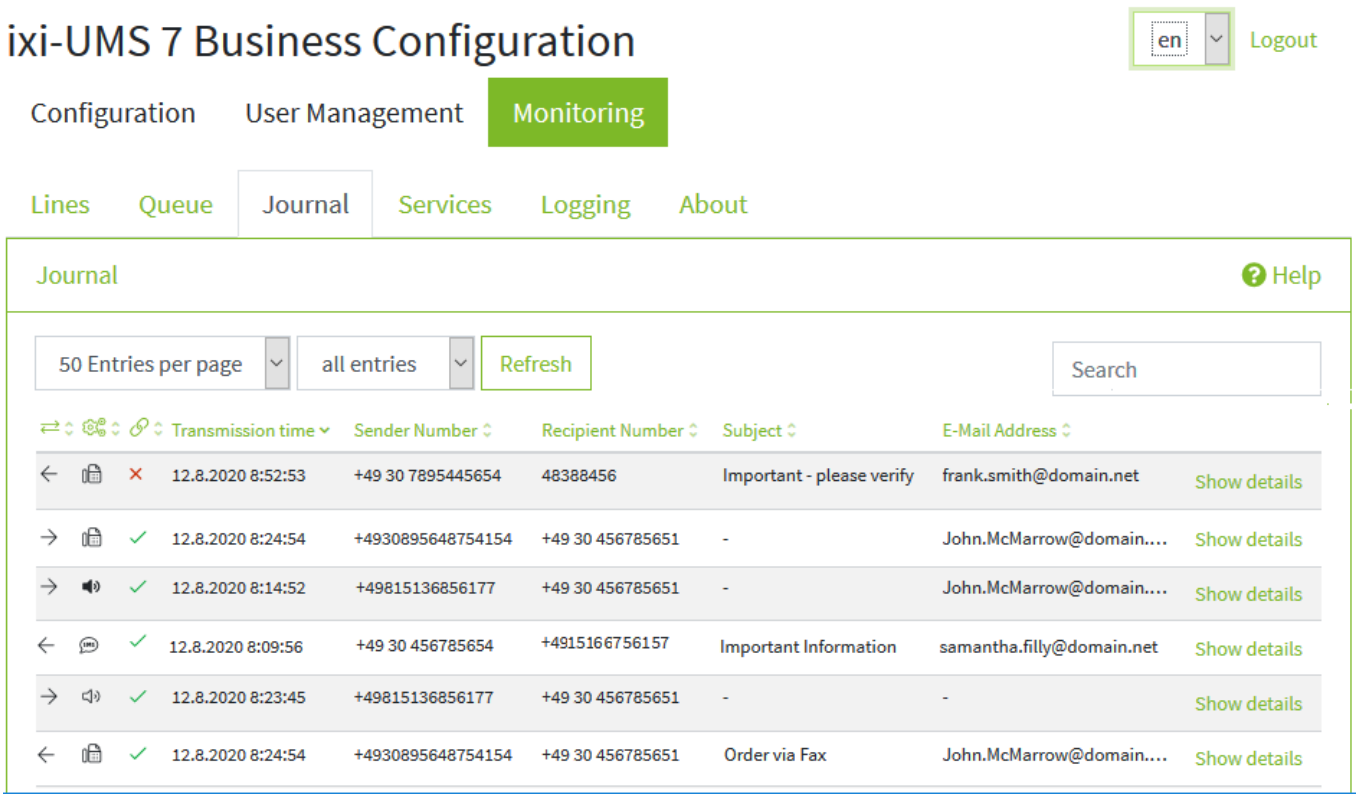
Note:
Depending on the PBX configuration and type it is not allowed to initiate an outgoing call without an ISDN sender number. If this is the case, a (ISDN) sender number must be entered in the corresponding field.

10.3 Journal

All the sent and received ixi-UMS messages are logged in the journal.

Please note:
ixi-UMS Business regularly performs a backup of the journal database. The journal database will be moved files older than 30 days to a backup directory every first month.

By clicking the column headings, you can sort the entries ascending / descending. You can also specify a time range, or search for a subject or a remote.

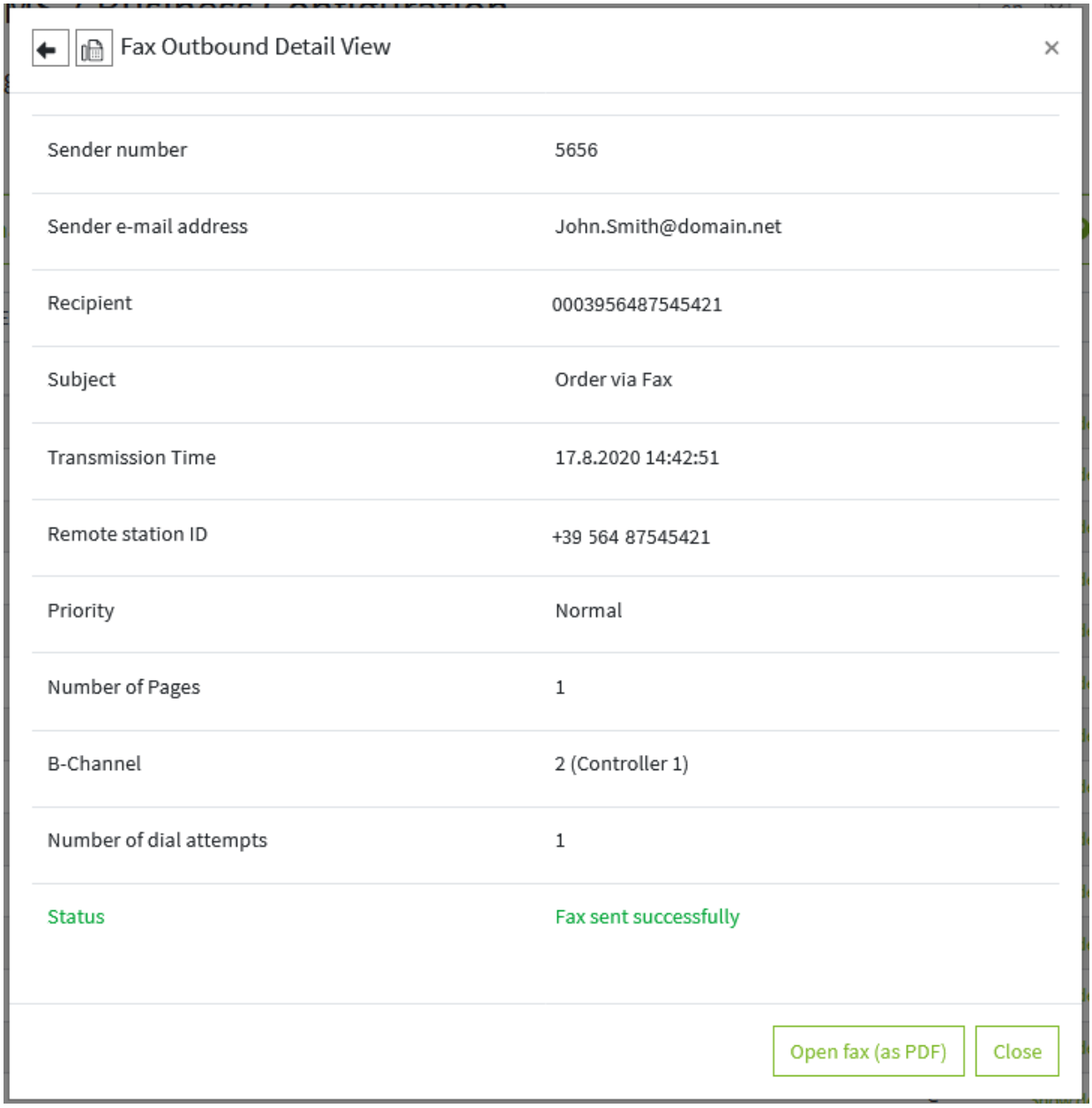


Direction, type and transmission of the data are displayed in the first 3 columns:

←	Direction: outgoing
→	Direction: Incoming
	Service Fax
	Service SMS
	Service Voice, for incoming calls: Message recorded,
	Service Voice, for incoming calls: Message not recorded,
✓	Transmission without errors
✗	Errors occurred during the transmission
	Service MWI

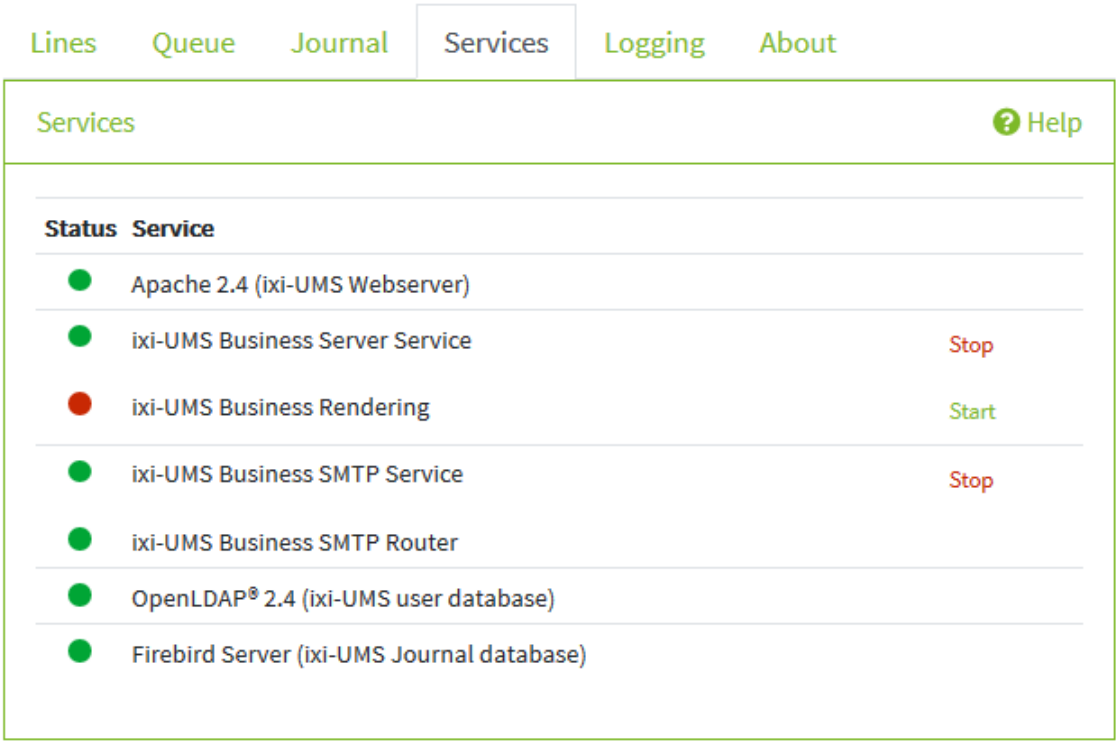
You can use "Details" to open the information on the individual ixi-UMS Messages.

If the option Archive associated files activated in ixi-UMS Business Server, you can open, print and save all SMS and fax messages include reports. Also you can save and listen voice messages.



10.4 Dienste

The functions of ixi-UMS Business are divided into individual services. All services must be started for the complete function, including the local user administration. You can stop and start services for test purposes and troubleshooting.



Service	Functional overview
Apache 2.4 (ixi-UMS Webserver)	Web server for the web-based surfaces Provides the scripts for the voice mailbox
ixi-UMS Business Server Service	Connection to the Capi / telephone system Send and receive the messages
ixi-UMS Business Rendering	Processing incoming and outgoing messages
ixi-UMS Business SMTP Router	Send and receive the UMS messages to / from mailserver via SMTP
ixi-Framework SMTP Router	Sending the welcome mail and messages answered / forwarded via the telephone.
OpenLDAP® 2.4 (ixi-UMS user database)	local user database
Firebird Server (ixi-UMS Journal database)	Journal database

10.5 Logging

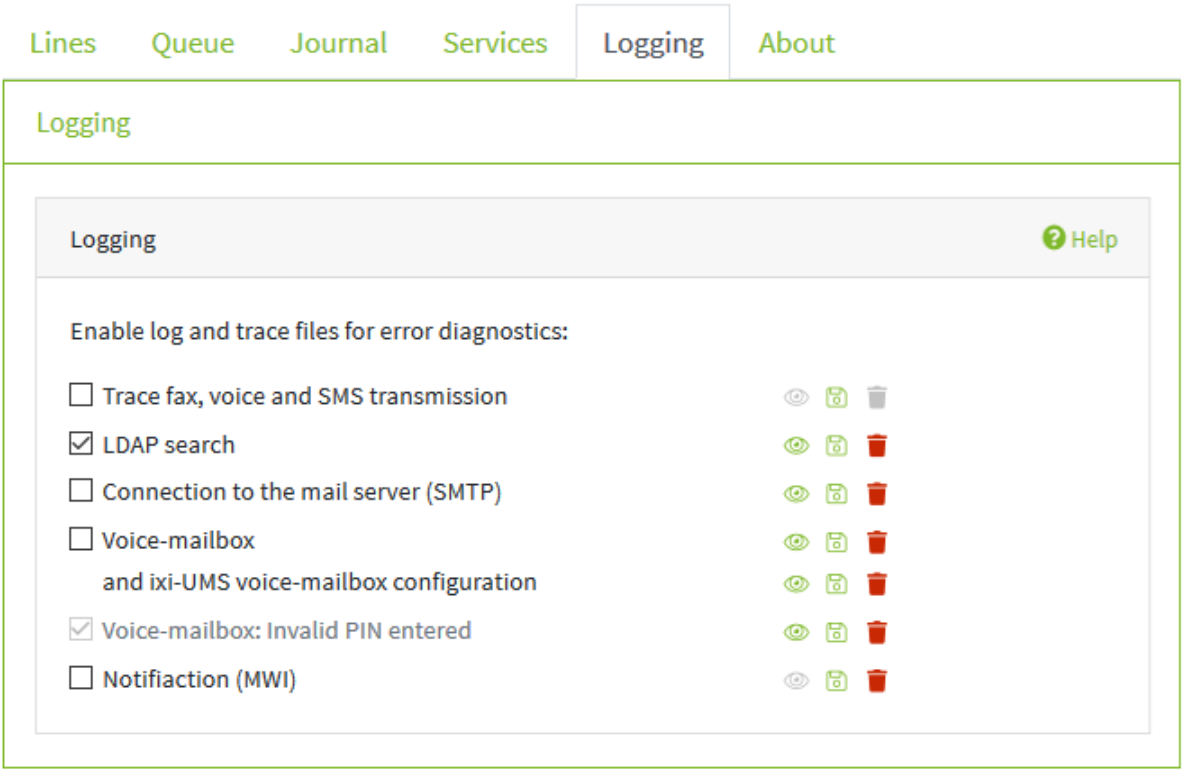
If problems occur with the function in ixi-UMS Business, some logs/traces can be created. You can evaluate most of the log files yourself. You can

open save delete

the log files.

Exception: trace for fax / voice and SMS transmission

These files can not be deleted or viewed. They can only be downloaded as a ZIP package.



Trace for fax and voice transmission

This switch activates several trace/logs:

The **Fax/Voice-Data transmission** trace should only be activated if problems with the ISDN connection and/or on the advice of the company estos GmbH.

This switch activates several trace / logs:

Type	file name	Description
Fax/Voice-Data transmission	IFTRCx.txt	CAPI-Trace, Communication with PBX-System
voice transmission	VMLTRCx.txt	Transfer of the voice data to / from the UMS system
SMS	IFXSMS2Soap3.TXT	Communication with SMS provider via HTTP

This is a trace, which can only be evaluated by specially trained personnel. If the evaluation is carried out by the company estos, a PBX configuration sheet, which has been filled out by the corresponding TK-technician, is absolutely necessary! In addition, only the problem should always be contained in the trace, that is, It should always only one call, fax etc. "getraced". For VoIP connections please use the XCAPI trace.

For each channel, 4 log files are written. The first log file IFTRCx.txt is not overwritten after reaching 10 MB. The IFTRCxa.txt - IFTRCxc.txt files are created. When all files have reached the 10 MB, the files are overwritten, starting with the IFTRCxa.txt file. The IFTRCx.txt is retained.

In the log for the **voice transmission**, the operations of the answering machine are logged between the CAPI and the ixi-UMS Business system. This trace is only relevant to estos employees.

The connections to the selected SMS provider and any problems that occur are logged in the **SMS log**.

LDAP Search

This Log is enabled by default.
LDAP queries are logged for the search and the search result for incoming and outgoing messages.

Connection to the mail server (SMTP)

SMTP communication errors between ixi-UMS Business and mailserver are logged.

Voice mailbox and ixi-UMS voice mailbox configuration

This log should only be activated in the event of an error.
In the log file for the **voice mailbox**, all LDAP processes and user inputs as well as scripts are logged.

The log for the "**Voice mailbox: Invalid PIN entered**" is always written if an incorrect PIN is entered or the mailbox is blocked.

Notification (MWI)

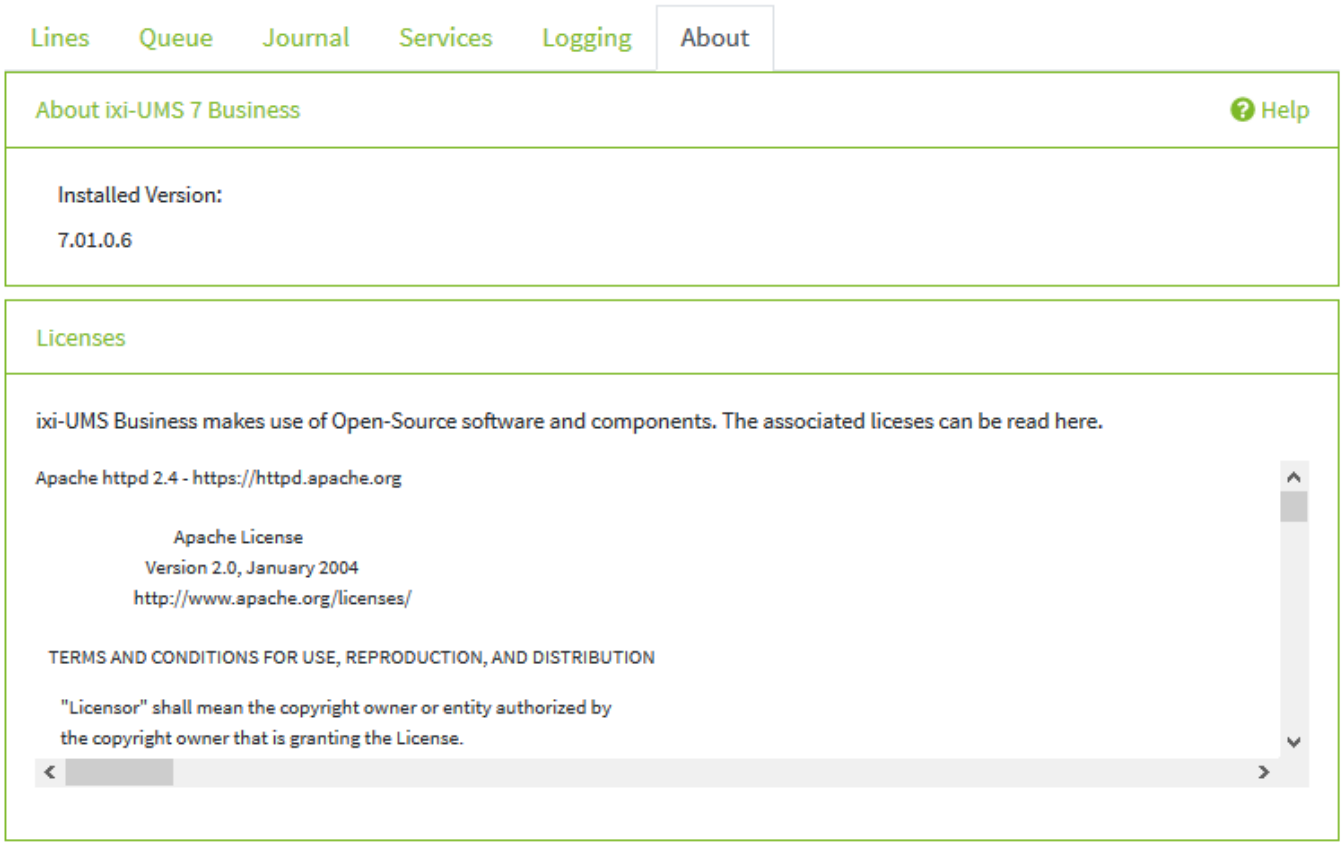
The creation and dispatch of MWI messages is divided into 3 steps.

1. LDAP search for receiver settings:
   ixiNotifierExpress.log
2. Creation of the file:
   ModMWI.log in the ixi-UMS Business \ ixi-UMS Kernel \ RConn \ logs directory
3. Send the MWI (through the ixi-UMS Business server service):
   Displayed in the journal

These files can not be viewed here. They can only be downloaded as a ZIP package.

10.6 About

Here the installed ixi-UMS Business version and the licenses of the open source products used in ixi-UMS Business are displayed.



11 Additional Informations

11.1 Connection to PBX and phone numbers

An important point by the integration from ixi-UMS Business is the binding to the public telephone network.
This binding over a PBX should be carried out by a TK engineer. On this occasion, it is about configuration of the PBX and connection near the PBX.
For the connection from ixi-UMS Business is necessary bintec elmec device for ISDN binding or a XCAPI for VoIP connections.

In order to find out how many B-channels you need, you must take into account the number of incoming and outgoing messages per day. You can use the following figures:

- A **fax page** takes 1 minute to be transmitted. Failures and retries included.
- One **SMS-message** takes only a few seconds to be transmitted and can be neglected in this calculation.
- **Voice-massages** should be treated like fax messages in this computation.

Another important thing that has to be kept in mind are the peak hours, e.g. in the morning when people start to listen to their new voice-messages or in the evening when marketing people might start fax campaigns.

Examples:

Example a)

- A company has only two employees,
- the task of these employees is to send a large amount of mail merge faxes every day (e.g. mailings).
- A mailing consists of 500 fax-messages à 2 pages (=1.000 pages)
- ixi-UMS Business Server configured with four B-channels.

A fax page needs 1 minute to be transmitted, in this case the transmission of the mailing would take 250 minutes using the 4 B-channels

Please bear in mind: In these 2 to 4 hours, no other messages can be sent or received, except one channel has been reserved for the reception, which prolongs the delivery time.

Example b)

- Company with 100 employees
- The services Fax and Voice are used
- About 1000 fax pages are send and received per day
- The faxes are sent and received mainly between 8 a.m. and 6 p.m.
- Every telephone shall get a call forwarding (when busy) to the ixi-UMS Business Server

Calculation Fax:
1.000 pages x 1 minute / page = 1.000 minutes = 16.6 hours

The delivery time for 1.000 fax pages with 1 B-channel would be about 16.6 hours. In order to be able to receive the faxes in the period between 8 a.m. and 6 p.m., at least 2 channels would be required.
During this period, no channel would be available for the feature Voice (voice box). Moreover, you have to take into account that the distribution of the send and received fax messages is not consistent.

Calculation Voice:
At the company, roughly every 15 minutes, a call is forwarded to the ixi-UMS BusinessServer. They want to make sure that there is always a free line available for the voice box.

In order to guarantee the availability of the voice box and the sending and reception of faxes for every user, at least 8 channels should be deployed.
For further information and calculation examples, please contact: sales@servonic.com.

11.1.1 Types of ISDN Accesses

For the connection from ixi-UMS Business near your PBX / NTBA you need a BRI – BASIC rate interface (also famously as a S0) connection. This permits a maximum number of 2 concurrent connections.
The connection can be configured two different kinds:

- **Point-To-Multipoint (PMP)**

This mode can only be applied with S0 accesses. PMP means that you have a number of so called MSNs (Multiple Subscriber Number) available on the access for addressing end users. The number of MSNs depends on whether you have a Telecom ISDN (up to 10) access or a PBX ISDN access (limit depends on PBX). Each MSN represents the address of one end user on this access.

- **Point-To-Point (PP)**

Instead of MSNs, so-called DDI digits (Direct Dial In) are used to address end users. This means you have a main number for the access and a number of dial in digits which may follow after the main number (usually at least 2). For example with two direct dial in digits, 100 (00-99) end users can be addressed.
In many PBX's, Q-SIG offers most features in combination with ixi-UMS Business and the ixi-UMS Business Enhanced Voice Package.

Call number transfer to the ixi-UMS Business Server

For the operation of a server-based Unified Messaging Systems, the transfer of the **recipient** number and the **sender** number are relevant. With inbound calls, the call numbers are canonized by the ixi-UMS Business Server into a number in the international E.123 format according to ITU-T E.164 (international numbering plan).

In special cases, it may make sense to transfer the recipient number in international E.164 format. If so, this funktion must be aktivated in the ixi-UMS Business Server.

- **Recipient number**

The ixi-UMS Business recipient number should be transferred to the ixi-UMS Business Server as extension/MSN. The ixi-UMS Business Server completes this to an E.123-standard number.

- **Sender number**

With the sender numbers sent to ixi-UMS Business by the PBX, "NumberingPlan" (NP) and "TypeOfNumber" (ToN) information must be consistent with the format of the number itself.

Example:
A ixi-UMS message is received at the site in Munich from the sender number +49 89 123456. The transfer from the PBX / NTBA to ixi-UMS Business e.g. can be transferred via one of the following "information pairs" (NP/ToN):

NP (NumberingPlan)	ToN (TypeOfNumber)	Transferred Number
unknown	unknown/ISDN-E.164	089123456
ISDN - E.164	unknown/ISDN-E.164	089123456
ISDN - E.164	unknown/ISDN-E.164	12345
ISDN - E.164	national	8912345
ISDN - E.164	subscriber	12345
ISDN - E.164	international	498912345

When a number NP or (and) ToN "Unknown" is signaled by the PBX or the outside line, the internal number conversion rules of the ixi-UMS Business are activated. If "Remove outside line access" is selected, for example, the ixi-UMS Business Kernel can remove this. In every other case, these rules do not apply.

- **Redirecting and Redirection Number**

When the ixi-UMS Business with the inbound routing option global "voice-mailbox number" (Route-by-Redirection) shall be used, this must be transferred to ixi-UMS Business as:

with DSS1
Redirection Number, ETSI ETS 300 207

with QSIG
divertingLegInformation, ECMA-174

- **Call transfehr and callback with ixi-UMS Business**

When the features transfer and/or callback shall be used, the following features must be supported in addition:

- ECT (ExplicitCallTransfer)
- HOLD
- Retrieve

- **Additional information:**

The service HOLD is needed to hold an active call in order to make the call transfer after having made a consultation call. Retrieve is needed when the consultation call or the call transfer was not successful in order to reactivate the held call.

Punkt-to-Multipoint (PMP)	Point-to-Point (PP), DSS1	Point-to-Point (PP), Q-SIG
HOLD/Retrieve (Call Hold, ETS 300 139) ECT (Explicit Call Transfer, ETS 300 367)	KEIN ECT möglich	Path Replace ECMA 175/176 Call Transfer ECMA 177/178

If the PBX does not support the ECT or a PP must be deployed, the ixi-UMS Business Server can "emulate" this feature. Please turn to ixi-UMS Business support department.
This features is only possible with the ISDN-board Dialogic DIVA Server BRI.

Remarks:

- In a lot of PBX's, Q-SIG offers the most features in combination with ixi-UMS Business. Because of this, we recommend to use the protocol Q-SIG with the deployment at a PP-connection.

11.1.2 Voice over IP

A connection of ixi-UMS Business via IP can be realized via H.323 or SIP. The ixi-UMS Business Server hereby can initiate calls via a gateway or a gatekeeper / proxy. Requirements for the connection via VoIP in order to guarantee the functionality of the single services of ixi-UMS Business:

Fax:
Variant 1: T.38
Variant 2: "SoftFax" / "Fax pass trough" with
RTP/RTCP with Codec G711 ALaw or µLaw, Clearchannel (no echo cancellation, no VAD, no ComfortNoise, etc.)

Voice:
RTP/RTCP with the Codecs G.711 ALaw or µLaw
SMS via fixed lines:
RTP/RTCP with Codec G711 ALaw or µLaw, Clearchannel (no echo cancellation, no VAD, no ComfortNoise, etc.)

- **Call number transfer to the ixi-UMS Business Server**

For the operation of a server-based Unified Messaging Systems, the transfer of the recipient number and the sender number are relevant. With inbound calls, the call numbers are canonized by the ixi-UMS Business Server into a number in the international E.123 format according to ITU-T E.164 (international numbering plan).

In special cases, it may make sense to transfer the recipient number in international format. If so, this funktion must be aktivated in the ixi-UMS Business Server.

- **Recipient number**

The ixi-UMS Business recipient number should be transferred to the ixi-UMS Business Server as extension/MSN. The ixi-UMS Business Server completes this to an E.123-standard number.

- **Sender number**

With the **use of H.323**, the sender number information of the "NumberingPlan" (NP) and "TypeOfNumber" (ToN) sent to ixi-UMS Business from the PBX must be consistent with the format of the number itself.

Example:
A ixi-UMS message is received at the site in Munich from the sender number +49 89 123456. The transfer from the PBX / NTBA to ixi-UMS Business e.g. can be transferred via one of the following "information pairs" (NP/ToN):

NP (NumberingPlan)	ToN (TypeOfNumber)	Transferred Number
unknown	unknown/ISDN-E.164	089123456
ISDN - E.164	unknown/ISDN-E.164	089123456
ISDN - E.164	unknown/ISDN-E.164	12345
ISDN - E.164	national	8912345
ISDN - E.164	subscriber	12345
ISDN - E.164	international	498912345

When a number NP or (and) ToN "Unknown" is signaled by the PBX or the outside line, the internal number conversion rules of the ixi-UMS Business are activated. If ""Remove outside line access" is selected, for example, the ixi-UMS Business can remove this. In every other case, these rules do not apply.

In the **SIP-protocol**, the fields "NP/ToN" do not exist. The call number format always is "unknown".
With the use of SIP, the ixi-UMS Business must be set up in dependence of the transferred call numbers. Recommended is the transfer of the recipient number as "extension" (DDI/MSN) and the sender number as national (089 598741) or international (0039 1 6554788), this means always with prefix.

- **Redirecting and Redirection Number**

When the ixi-UMS Business with the inbound routing option global "voice-mailbox number" (Route-by-Redirection) shall be used, this must be transferred to ixi-UMS Business as:

  - with SIP: SIP Diversion Header
  - with H.323: H.450.3

- **Call transfehr and callback with ixi-UMS Business**

When the features transfer and/or callback shall be used, the following features must be supported in addition:

bei SIP:	bei H.323:
Standard SIP "INVITE" und "REFERE"	H.450.2 "Call Transfer supplementary service for H.323." H.450.4 "Call Hold supplementary service"

- **Additional information:**

The service HOLD is needed to hold an active call in order to make the call transfer after having made a consultation call. Retrieve is needed when the consultation call or the call transfer was not successful in order to reactivate the held call.

11.1.3 Call Number Transfer in E.164-Format

The ixi-UMS Business Server can be activated for the procession of call numbers in the international format E.164 (according to ITU-T E.164). In this case, neither information of the ToN are analyzed by the ixi-UMS Business Server, nor rules for the canonization are executed.
The call numbers must be transferred in the format <country code><area code><call number>
(e.g. 4981424799585).

With outbound calls, for the CallingNumTypePlan" and the "CalledNumTypePlan" are passed on to the ixi-UMS Business Server: E.164/international

In the configuration, the following differentiations can be made:

E.164 only inbound	With inbound calls, all the call numbers are signaled to ixi-UMS Business in E.164-format: Recipient number (Called Party Number) Sender number (Calling Party Number) Redirection Number
E.164 only outbound	With outbound calls, ixi-UMS Business passes on the number to the CAPI in E.164 format: Recipient number (Called Party Number) Sender number (Calling Party Number)
Inbound and outbound	All the call numbers are transmitted in E.164-format, as described above.

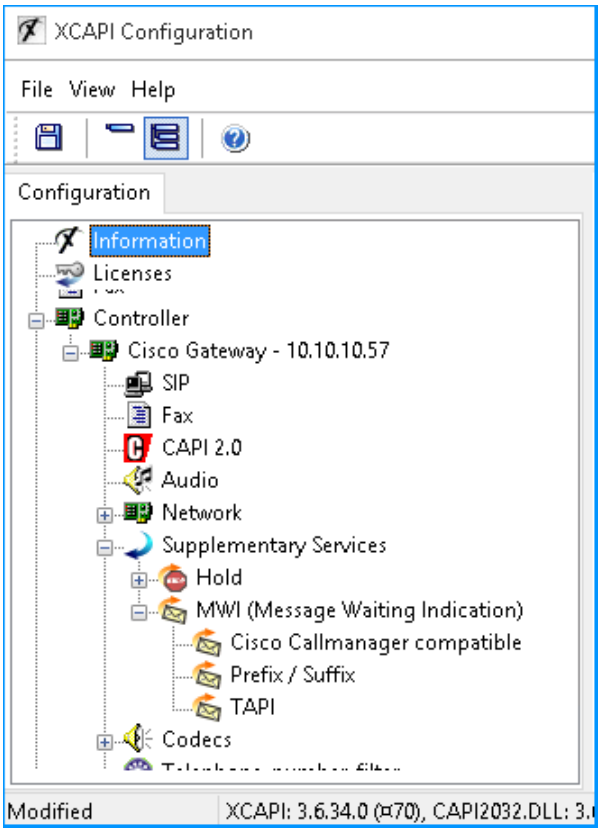
11.1.4 MWI - Signaling

Basically, the MWI-service (address type "Alert") is used for the signaling of new messages by indication of a signal at the user's telephone. This is normally the light up of a signal lamp or the indication of a message at the telephone display.

Tthe following protocol properties are required, depending on the protocol:

- DSS1 - MWI, ETSI ETS 300 650
- QSIG - mWIActivate and mWIDeactice, ECMA-242
- VoIP/SIP - Message Waiting Indication, RFC 3842
- VoIP/H.323 - H.450.7 "Message Waiting Indication supplementary service"

In detail, the feature is dependent on which PBX is used.



VoIP (XCAPI)

In ixi-UMS Business no configurations required. The PBX-specific settings must be made in the VoIPconnect / XCAPI an the PBX.

In the XCAPI, the type of signaling under "Supplementary Services" can be selected and set.

You can find information on setting up telephone systems connected via VoIP on the estos website for "Unified Messaging with ixi-UMS Business".
(www.estos.de/produkte/ixi-ums-business)

or ask ixi-UMS Support.

ISDN - Qsig und DSS1

Depending on the telephone system and its configuration, code numbers and/or prefixes must be defined, a user created.
These configurations must be stored in a configuration file in ixi-UMS Business.
Because the configuration depends very much on the required values, please contact ixi-UMS support for setup.

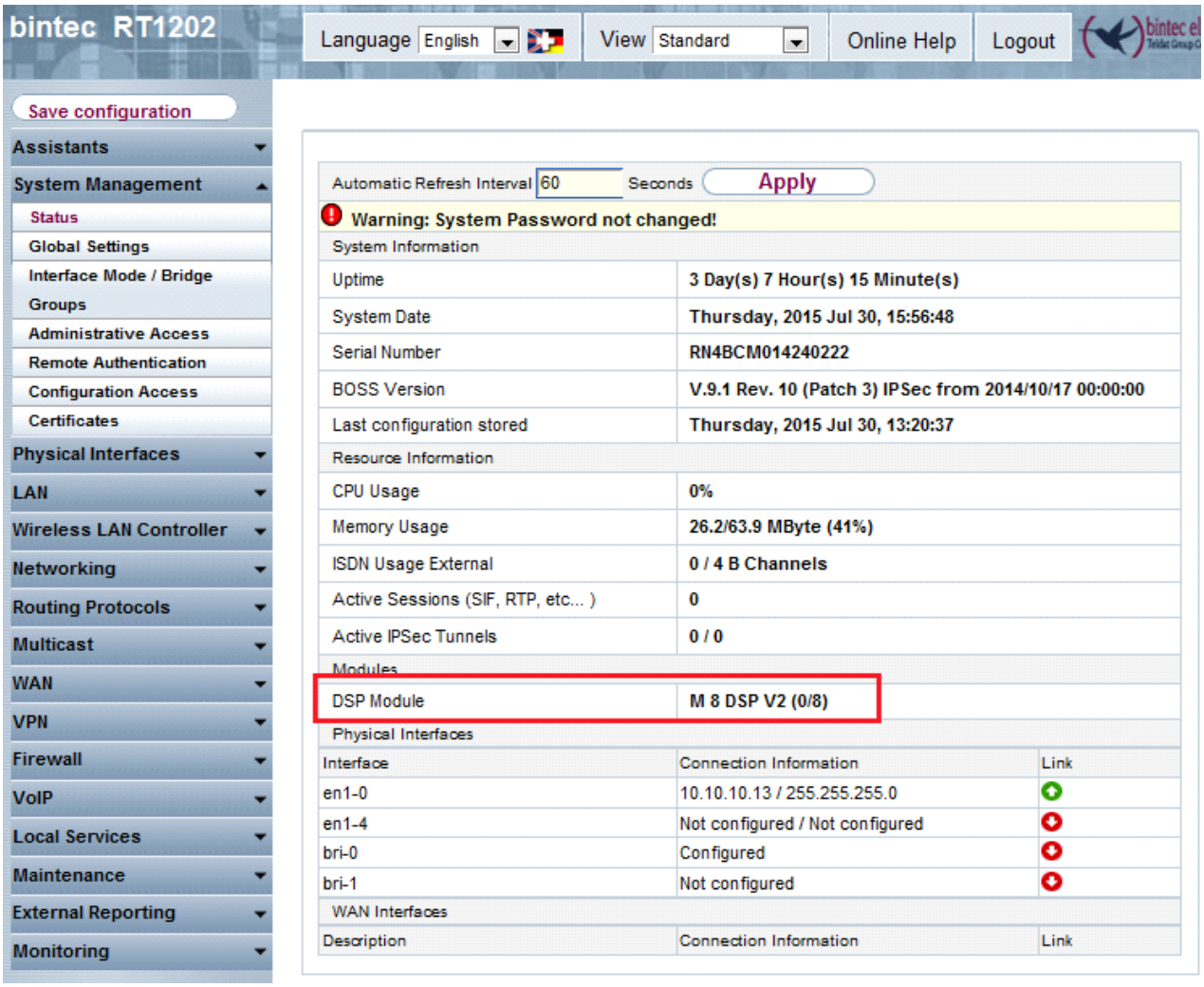
11.1.5 Set-up bintec elmeg Media Gateway

To send and receive Fax/Voice/SMS a "CAPI" must be installed on the ixi-UMS-Server. The CAPI must support "Fax G3". This function are available in all bintec emleg products if a DSP-Module is built-in.
This chapter describes the configuration of a "bintec elmeg" media gateway for connection to ixi-UMS Business. As of today (07.2019), this manual is valid for all RT products and the be.IP 4 ISDN. The configuration interface depends on the installed firmware.
The „Remote-CAPI for MS-WINDOWS“ (at least version 1.1.7 from 07.2015) from „bintec elmeg“ must be installed on the ixi-UMS Business server.
ixi-UMS Business can be installed bevor or after the LANCAPI.

11.1.5.1 Requirement

1. Ein „bintec elmeg“ with integrated DSP

In all RT-Produkts the DSP ist integrated ist. In the older R-Version the DSP can be build-in seperat.



The newest firmware should be installed.

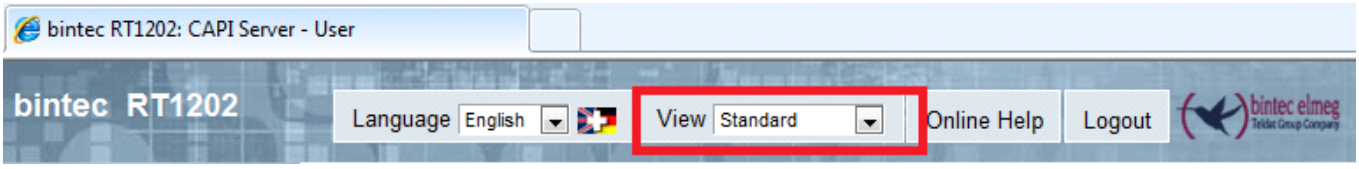
Check the Router:
Open the Configuration and navigate to „System Management – Status“ . In section "Moduls" you can see the installed DSP modules. If this information not present you can't use this device with ixi-UMS

2. Outside Line

The PBX must be connected to an ISDN-Connection. Either directly to a NTBA/PRIMARY-MULTIPLEX or to a PBX
The connection qualities must be known! (See ixi-UMS_TK-Konfigblatt. pdf)
Example: Investment connection (PP), Mehrgeräteanschluss (PM), protocol: DSS1 or Q-SIG (only by using Siemens/Unify PBX)

11.1.5.2 Configuration the Media Gateways

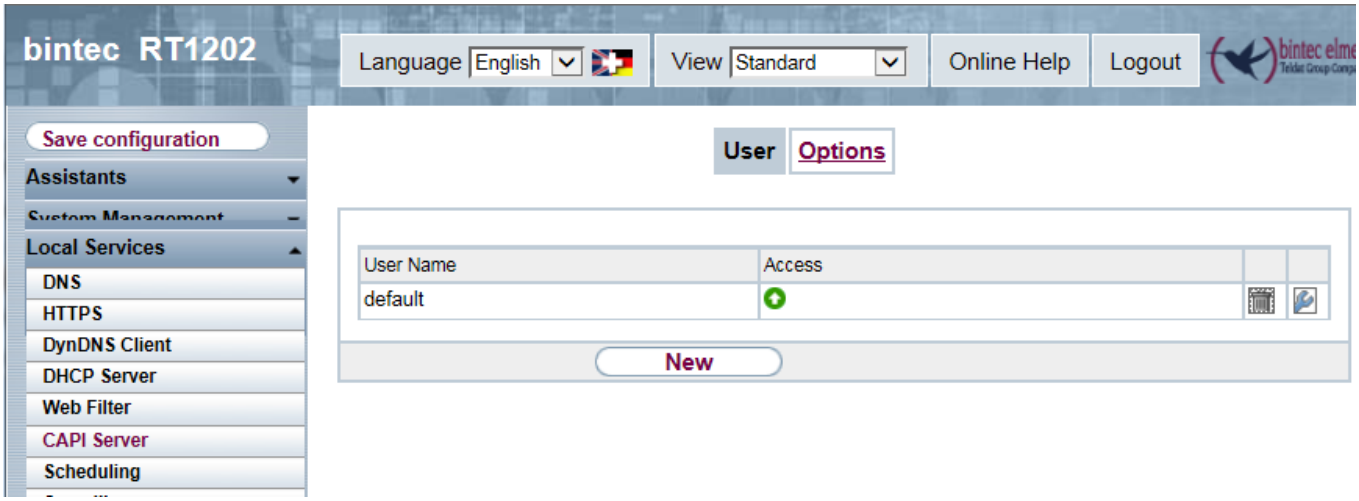
The following settings should be carried out compelling and/or the settings be checked.
All in the following described settings can be carried out above the web Konfigurations surface in the view "standard".



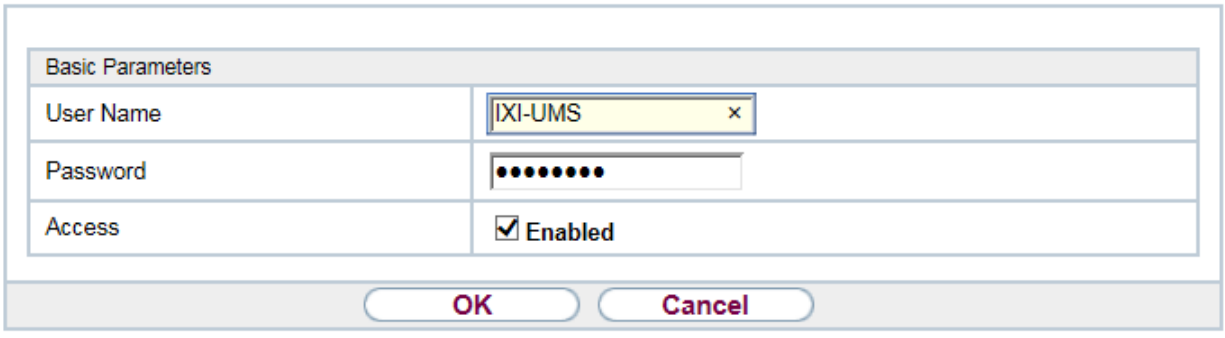
11.1.5.2.1 CAPI-Server User

Normally the user "default" is put on for the access to the CAPI. The user has no password
Optionally you can put on a user with password to use the CAPI.

Open the menue in the Web configuration and navigate to "Local Services". Open the menue "CAPI Server", select the Tab "USER".

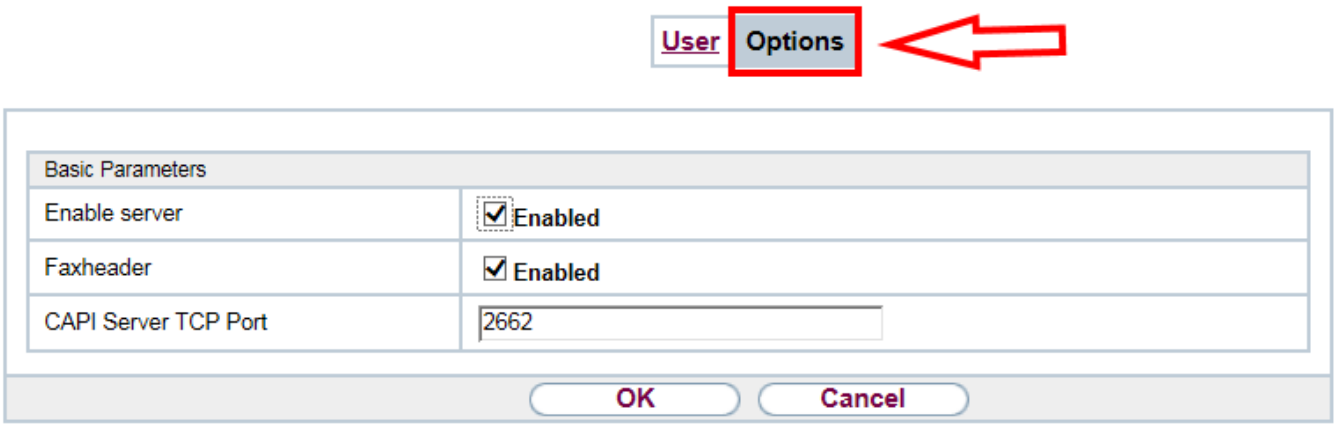


Click on "New" and add a new User object.



The following settings had to go no matter whether you put on a new user or not:

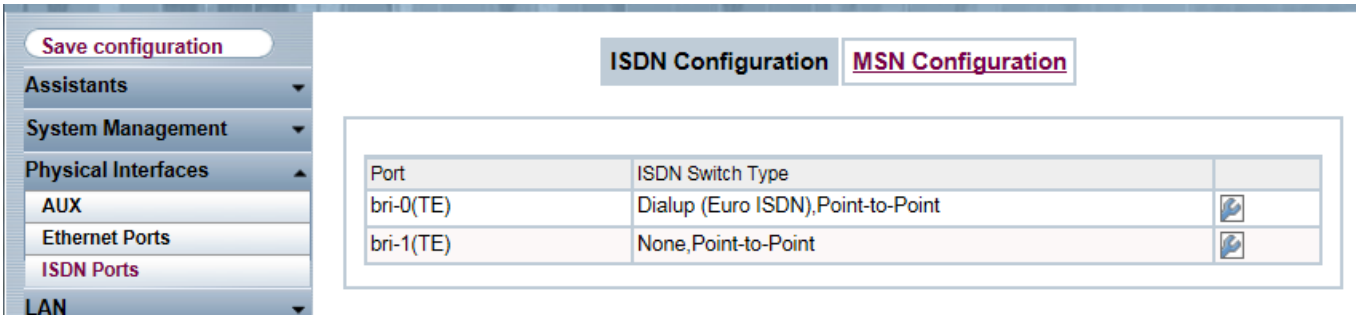
Open with click on the Symbol to open the properties of the user. Change to Tab **Options.**



Here you must enable the server and the Faxheader. Please don't change the CAPI Server TCP Port.
See also: Switching On / Off the Header and Logo in the Router

11.1.5.2.2 Configure ISDN connection

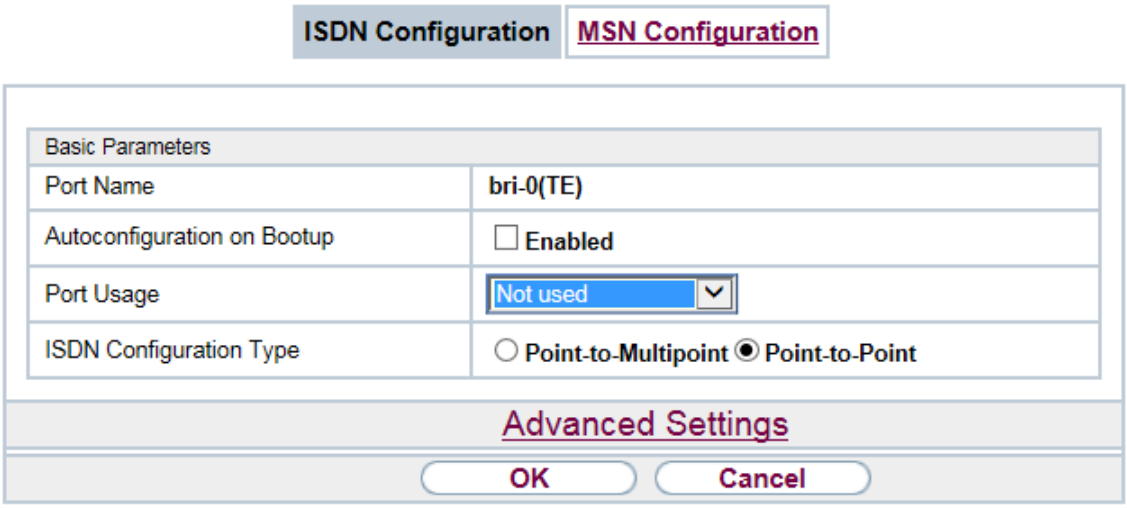
IMPORTANT: The device must be connected with an active and configured connection of the phone arrangement / NTBA.



Open the Menue „Physical Interfaces“ and select „ISDN-Ports“. Depend on the device you can see „BRI“ ans/or „PRI“-Ports.

Note:
Normally the ports on "automatic" recognition are put. If the device was restarted after the connection of the ISDN management and the connection was recognised, this is already indicated you under "ISDN Switch type".
In this case you can ignorethe next step. If the connection was not recognised (e. g. because as a protocol Q-SIG“ is furnished), you must configure the connection manualy.

Select Symbol beside the desired connection.



Unmark the option "Autoconfiguration on Bootup"

As „**Port-Usage**“ select:

Dialup (Euro-ISDN)	If the connection with PBX is a Point-to-Multipoint or Point-to-Point with DSS1 or you use an NTBA/Primärmultiplexer (S2M)
Q-SIG	If the connection with PBX use the Protokoll Q-SIG.

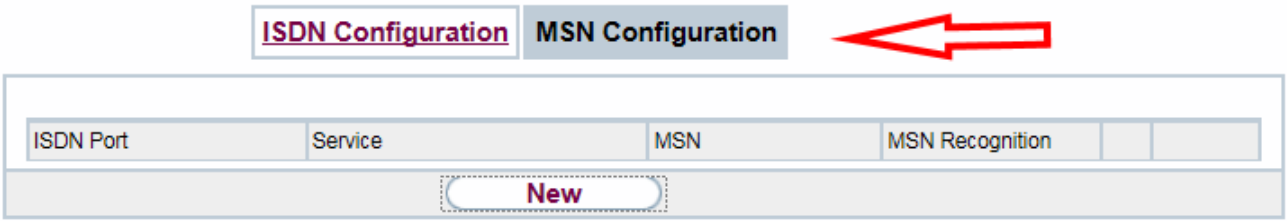
In „ISDN-Configuration Type“ select:

Point-to-Multipoint	Called Party Number in accordance with ETSI ETS 300 102-1: 4.5.8 complete in Setup Message 3.1.16 or in accordance with ITU Q.931: 4.5.8 complete in Setup Message 3.3.9
Point-to-Point	PP means that Overlap Receiving is enabled in accordance with ETSI ETS 300 102-1: 2.1.1.16 as well as 2.1.2.17 or in accordance with ITU Q.931: 5.1.3 - CalledPartyNumber in accordance with ETSI ETS 300 102-1: 3.1.16 or in accordance with ITU Q.931: 4.58

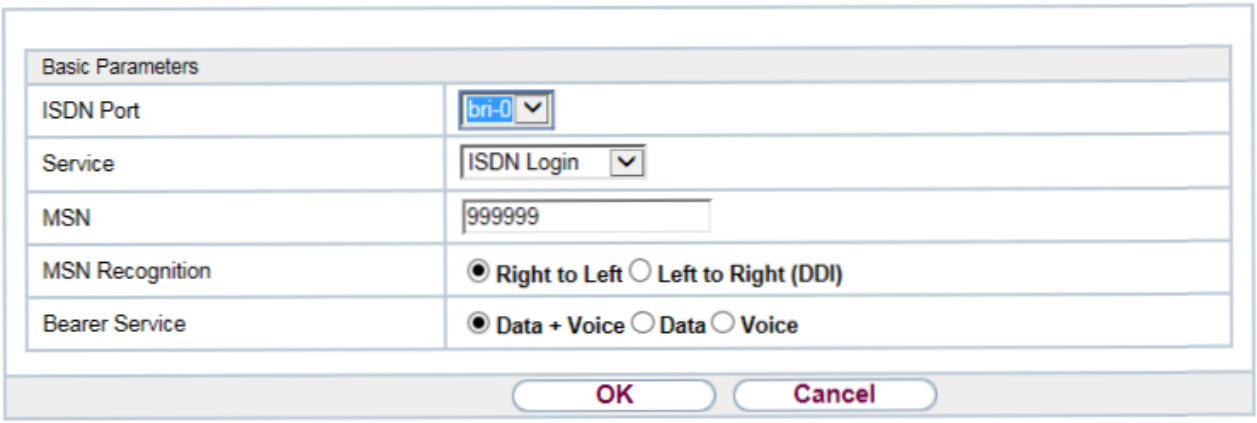
Note:
If you select „Point-to-Point, a new line " P-P Base Number" is indicated. **Please don't type in anything !**

Click on OK to store the settings

Change to **MSN Configuration** – also if the connection recognised be reboot.



Normally there is no entry. Click on "New" to provide an entry.
The following configuration are independent of the connection. You need to configure always.



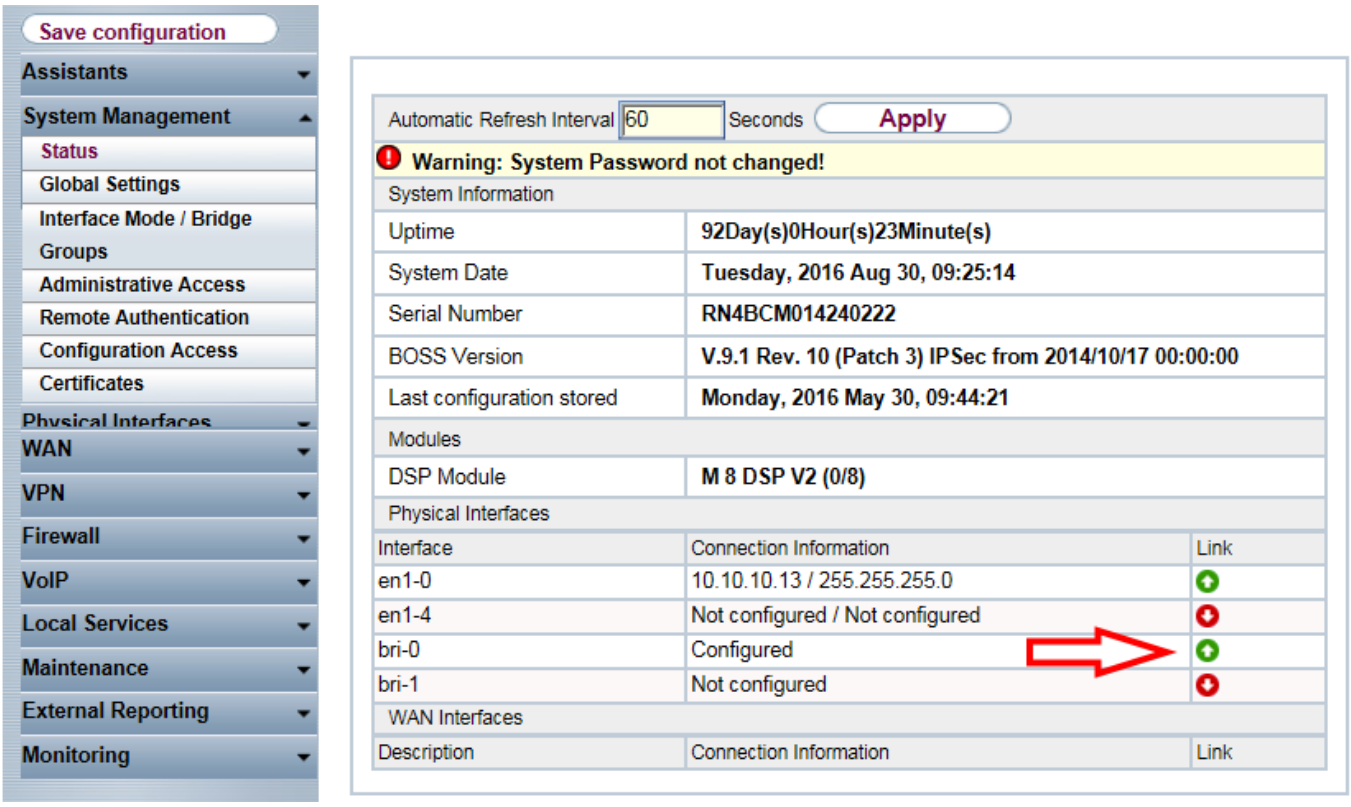
ISDN-Port	Select the used ISDN Port
Dienst	ISDN-Login
MSN	999999

The adjustment in„**MSN-Recognition**“ depents of the connection type.	
Right to Left	If you use a Point-to-Mutlipoint connection
Left to Right (DDI)	If you use a Point-to-Point connection

Bearer Service set to " Data + Voice

Save the configuration with "OK"
At the end select "save Configuration" on the left side about the menu .
Recommendation – but not compelling necessarily: Now they should restart the device!

After that check the Status of the Connection



11.1.5.3 Advanced Configuration- Headline and Logo

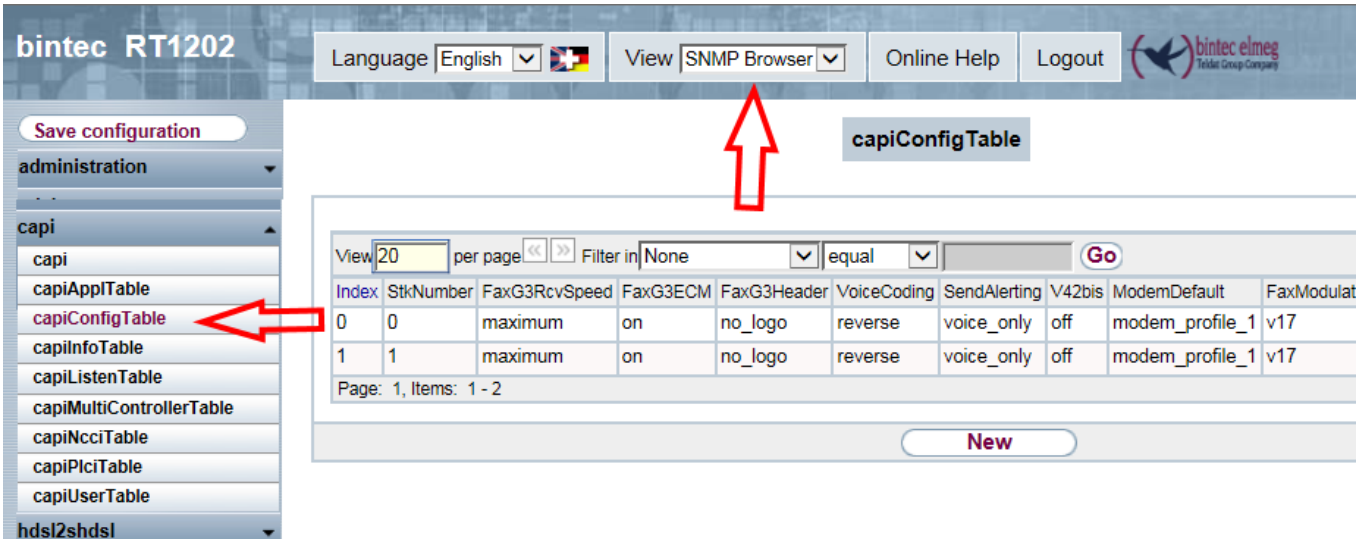
By default, a so-called fax header should be printed on every fax to be sent.
The fax header should contain data / time as well as the sender as text and the fax sender ID:

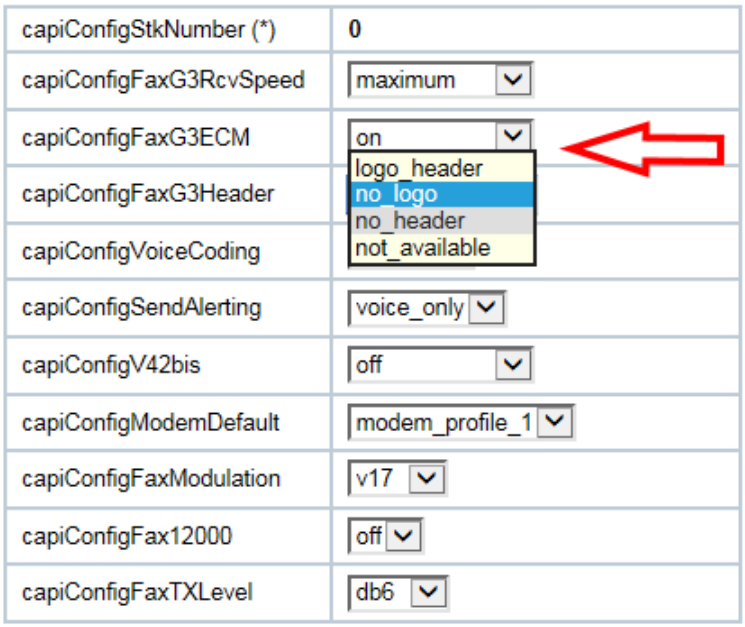
```
BIANCA/FAX +49 8142 4799385        Mustermann GmbH & Co. KG        13.01.2010 13:05  P.001(001)
```

The fax header consists of information from the ISDN-board / VoIPconnect module / Funkwerk Router and ixi-UMS software. Name and sender number are passed on to the CAPI-interface (e.g. ISDN-board) by the ixi-UMS Kernel. Date and time are inserted by it.

When deploying a Funkwerk ISDN-Router you can determine, whether and which of the information shall appear in the header generally.
Please proceed as in the following:

1. Open the web-interface of the Funkwerk Router and log on.
2. Change the view from Standard to SNMP-Browser
3. Open the tab capi in the menu bar on the left side
4. Open the sub item capiConfigTable in the tab capi

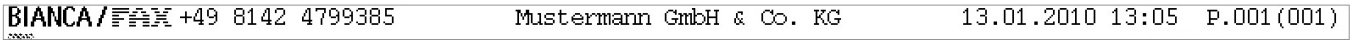




5. Select  Symbol to open the used controller.
6. Select the **capiConfigFaxG3Header** :

Zur Auswahl stehen:
Logo_Header
No_Logo
No_header
Not_available

logo_header
The header as well as the Funkwerk / Bianca fax logo are displayed



No_Logo (Empfohlen)
The bintec elmeg / Bianca is switched off. The header consisting of date / time from the router and the sender information from the ixi-UMS Kernel are displayed.

Note:
If no sender information are deposited at the ixi-UMS Kernel or delivered by the sender, only date and time are displayed in the header:

No_header
Neither date / time, nor any other information are printed with the sending.

7. Confirm the configuration with OK.
8. Save the configuration so that it is available when the router has to be restarted.

11.1.6 Set-up bintec elmeg be.ip plus

To send and receive Fax/Voice/SMS a "CAPI" must be installed on the ixi-UMS-Server. The CAPI must support "Fax G3". This function are available in all bintec emleg products if a DSP-Module is built-in.
This chapter describes the configuration of the "be.IP plus" product from "bintec elmeg" in the "PBX" mode. The bintec elmeg be.IP Plus provides 2 channels. Fax is supported on one channel and voice on 2 channels.

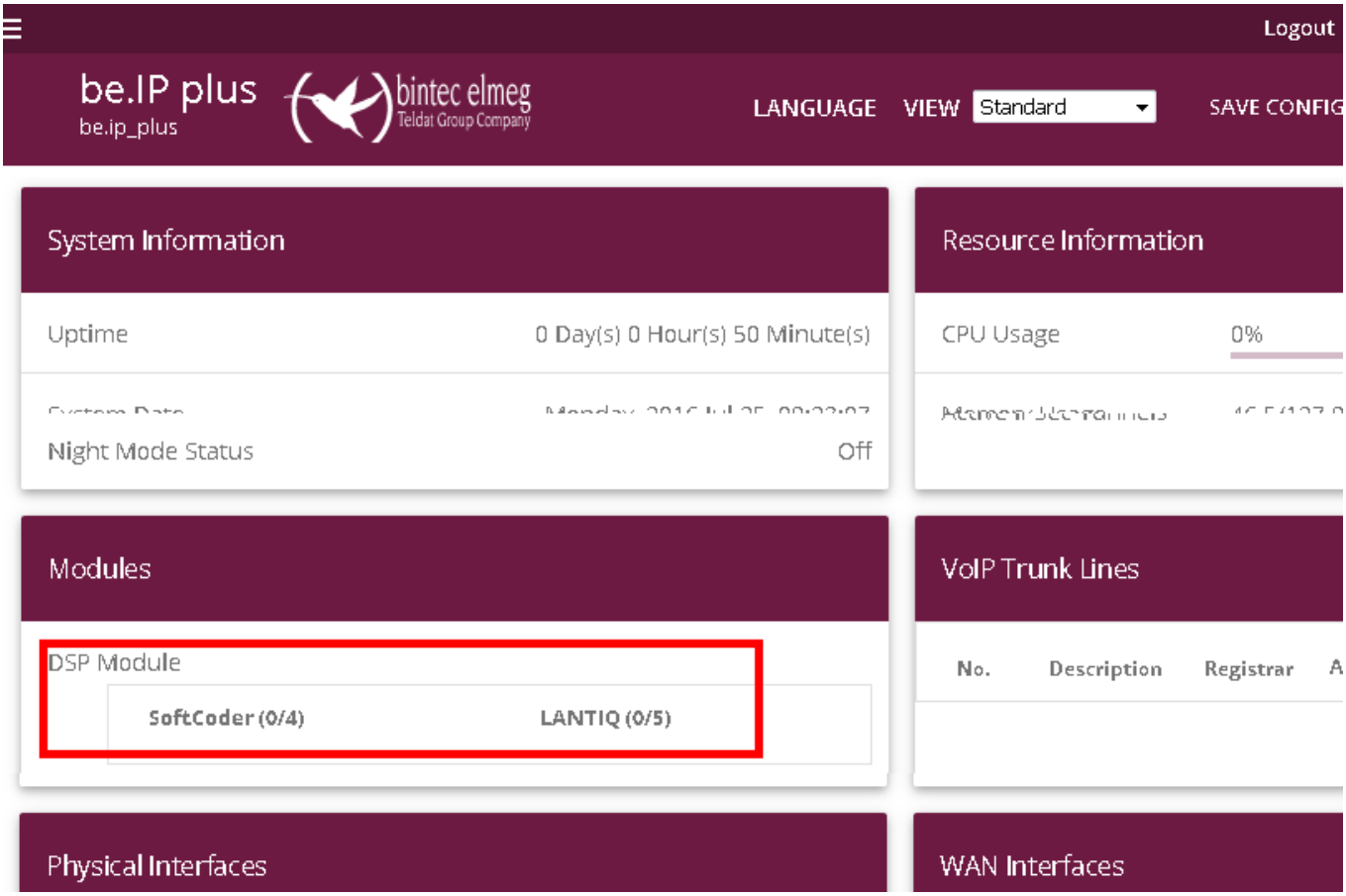
The „Remote-CAPI for MS-WINDOWS“ (at least version 1.1.7 from 07.2015) from „bintec elmeg“ must be installed on the ixi-UMS Business server.
ixi-UMS Business can be installed bevor or after the LANCAPI.

11.1.6.1 Requirement

On the device must installed the firmwae 10.1.7.103 or newer and must set in "PBX-Mode".

1. A „bintec elmeg be.IP plus“ with integrated DSP

Open the Configuration and navigate to „System Management – Status“ . In section "Moduls" you can see the installed DSP modules. If this information not present you can't use this device with ixi-UMS

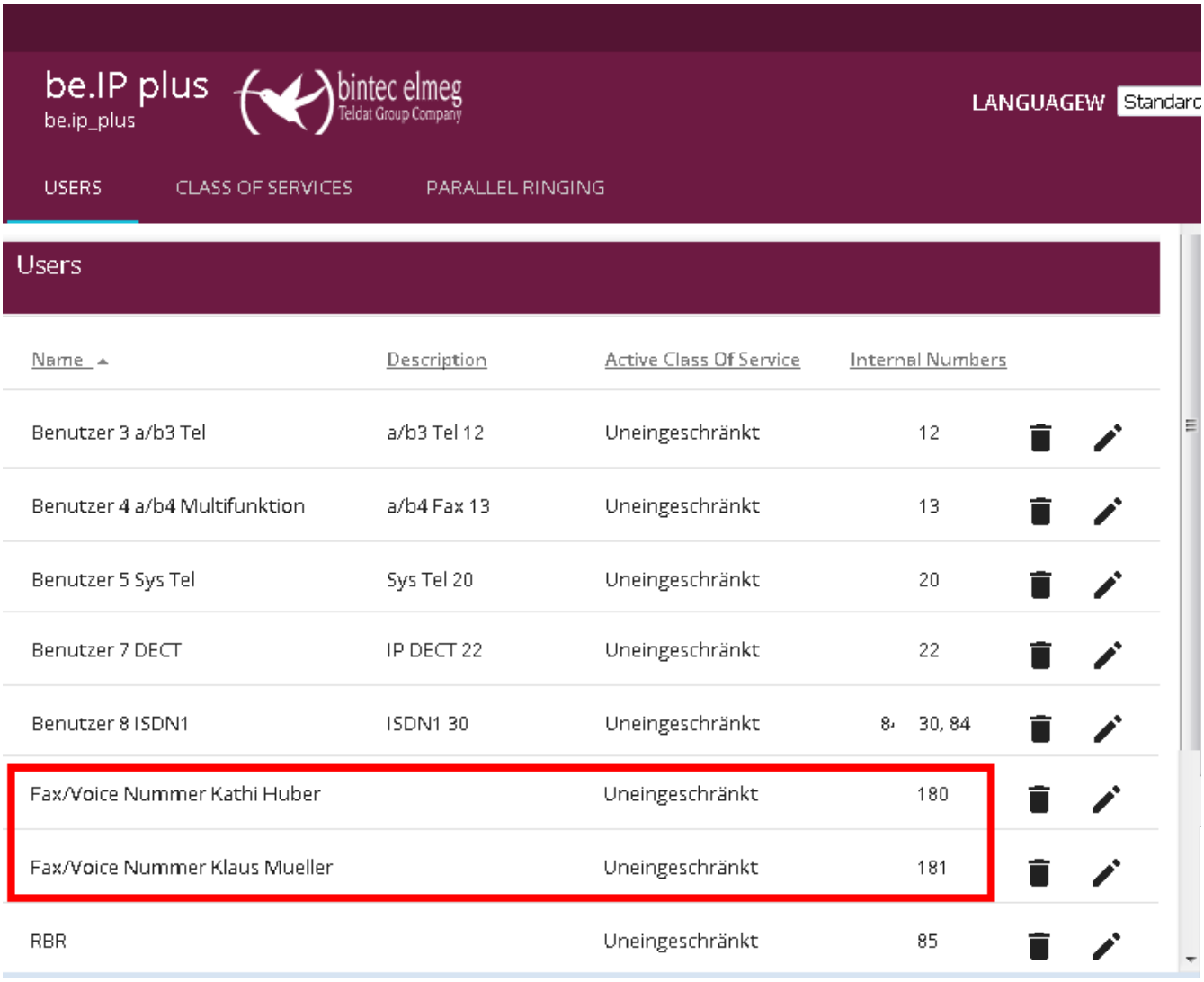


2. Outside Line

The PBX must be connected to a SIP Provider. The conencttion properties must be known!
(See ixi-UMS_TK-Konfigblatt.pdf)

3. User/Phone-Configuration

A user must be put on for every phone number/DDI and for every Fax-Voice-number/DDI.



The desired Fax/Voice numbers must be assigned to the interface "CAPI". -> Moreover you find explanations under Configuration be.IP plus.

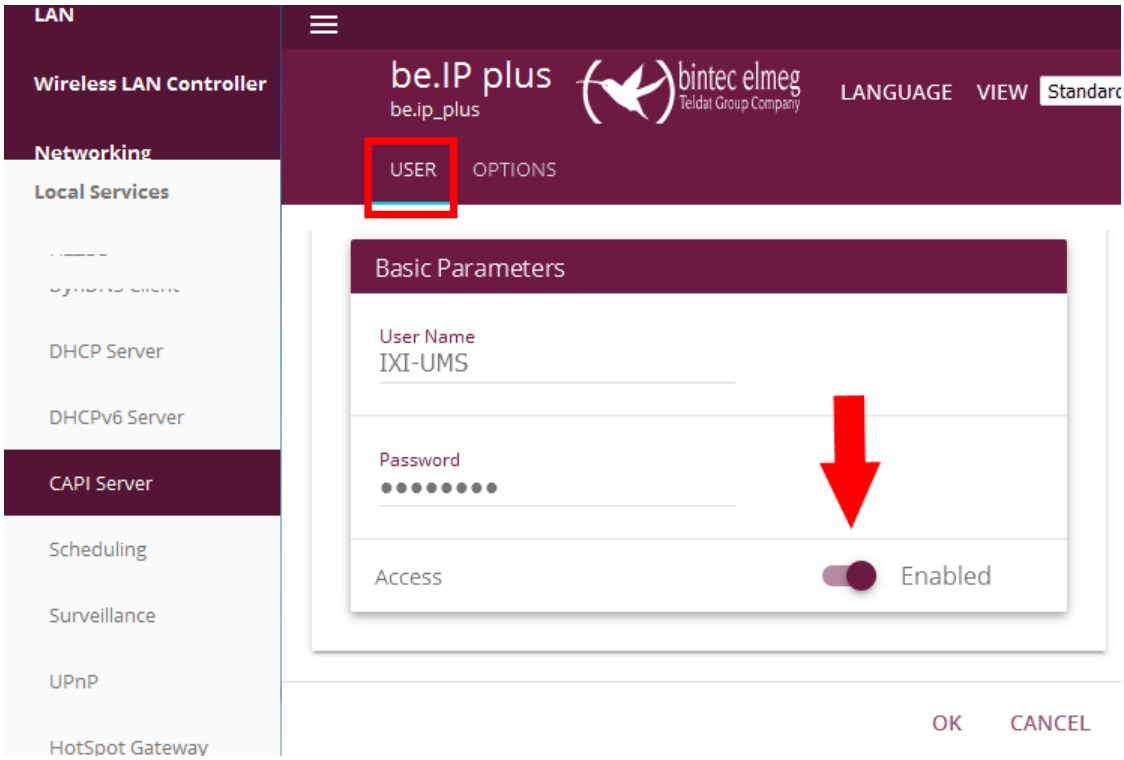
11.1.6.2 Configuration be.IP plus

The following settings should be carried out compelling and/or the settings be checked.
All in the following described settings can be carried out above the web Konfigurations surface in the view "standard".

11.1.6.2.1 Setup CAPI-Server

Normally the user "default" is put on for the access to the CAPI. The user has no password
You should put on a user with password to use the CAPI.

Open the menue in the Web configuration and navigate to "Local Services". Open the menue "CAPI Server", select the Tab "USER". and add a new User object.



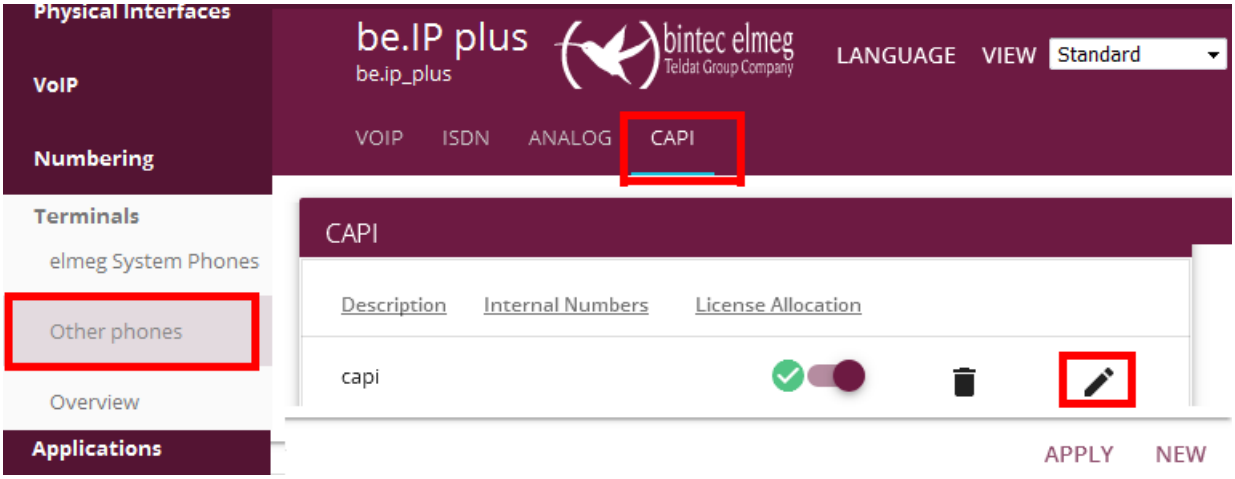
This user data must be defined in the bintec elmeg LANCAPI on the ixi-UMS server later.

Note:
The server CAPI must be Enabled

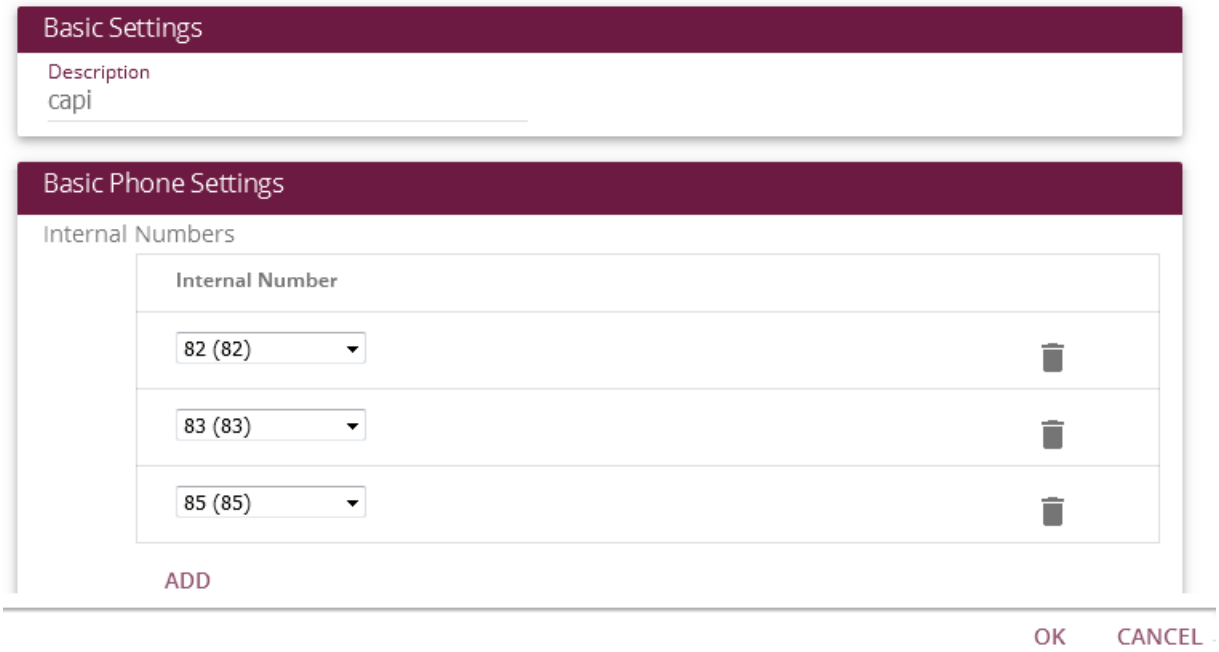
Change to Tab **Options.** Here you must enable the server and the Faxheader. Please don't change the CAPI Server TCP Port.

11.1.6.2.2 Assign phone number

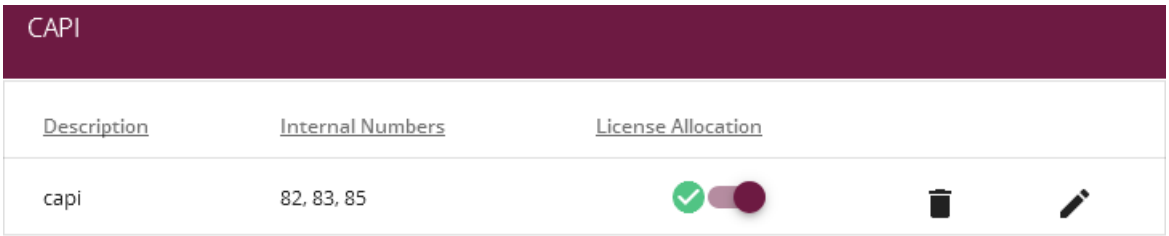
At the next step you must assign the Fax/Voice-Phone numbers of the Capi .
Open the menu "Terminals" – „Other phones“. Choose here the Tab "CAPI".



Klick  to edit the entry. Now choose"ADD" to define the phone numbers which of the CAPI interface should be assigned.



Confirm with OK.



11.1.6.3 Advanced Configuration- Headline and Logo

By default, a so-called fax header should be printed on every fax to be sent.
The fax header should contain data / time as well as the sender as text and the fax sender ID:

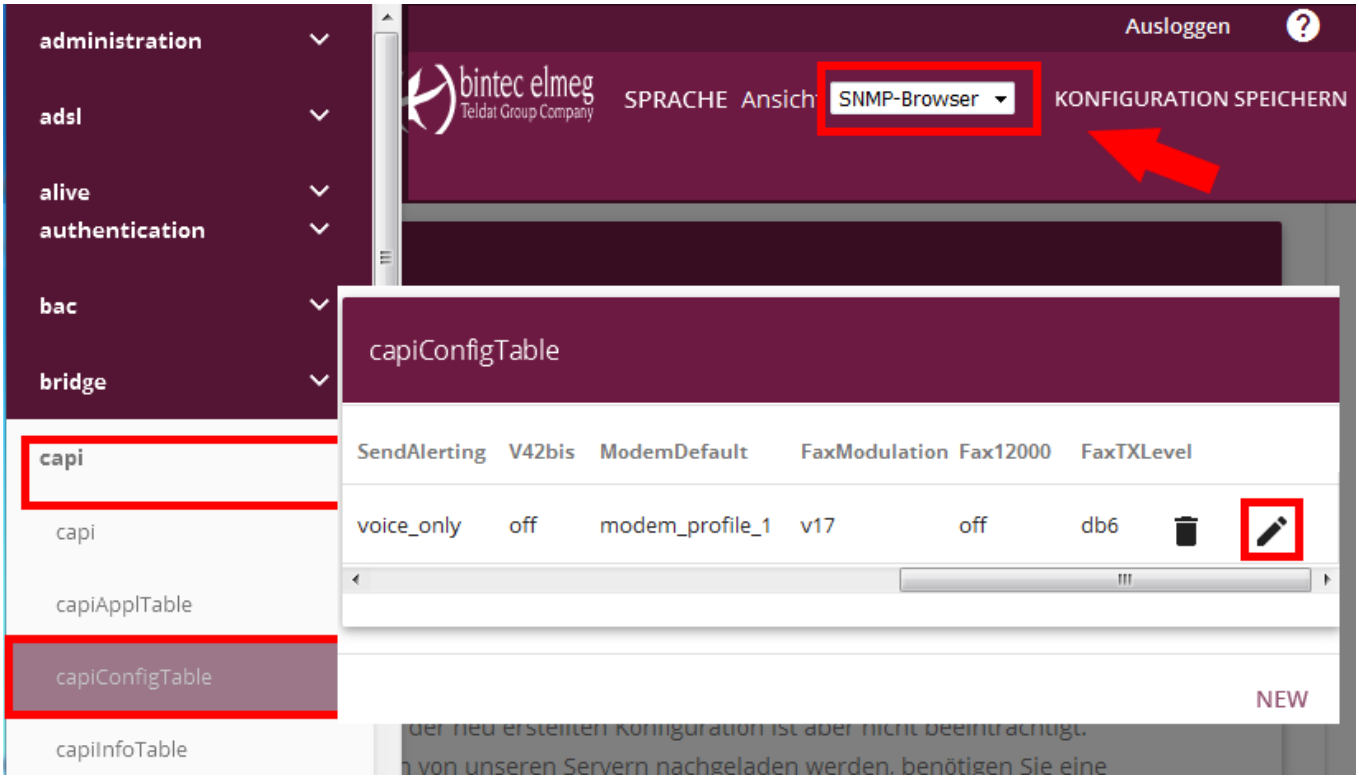
BIANCA/FAX +49 8142 4799385 Mustermann GmbH & Co. KG 13.01.2010 13:05 P.001(001)

The fax header consists of information from the LANCAPI and ixi-UMS software.
Name and sender number are passed on to the CAPI-interface (e.g. ISDN-board) by the ixi-UMS Business. Date and time are inserted by it.

When deploying a bintec elmeg pe.IP plus you can determine, whether and which of the information shall appear in the header generally.

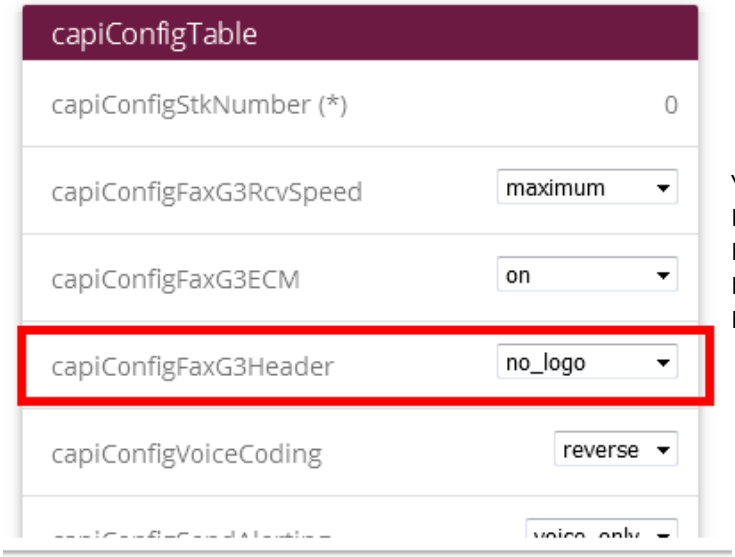
Please proceed as in the following:

1. Open the web-interface of the Funkwerk Router and log on.
2. Change the view from Standard to SNMP-Browser
3. Open the tab capi in the menu bar on the left side
4. Open the sub item capiConfigTable in the tab capi



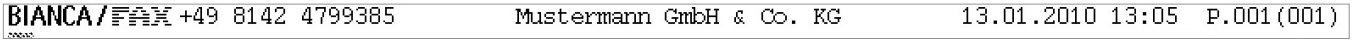
5. Scroll to the right and click - Symbol in order to change the settings for the wanted port.

6. Adjust your wanted capiConfigFaxG3Header:



You can select:
Logo_Header
No_Logo
No_header
Not_available

logo_header
The header as well as the Funkwerk / Bianca fax logo are displayed



No_Logo (Recommended)
The bintec elmeg / Bianca is switched off. The header consisting of date / time from the router and the sender information from the ixi-UMS Kernel are displayed.

Hinweis:
If no sender information are deposited at the ixi-UMS Kernel or delivered by the sender, only date and time are displayed in the header:

No_header
Neither date / time, nor any other information are printed with the sending.

7. Confirm the configuration with OK.
8. Save the configuration so that it is available when the router has to be restarted.

11.1.7 Installation and Configuration Remote-CAPI

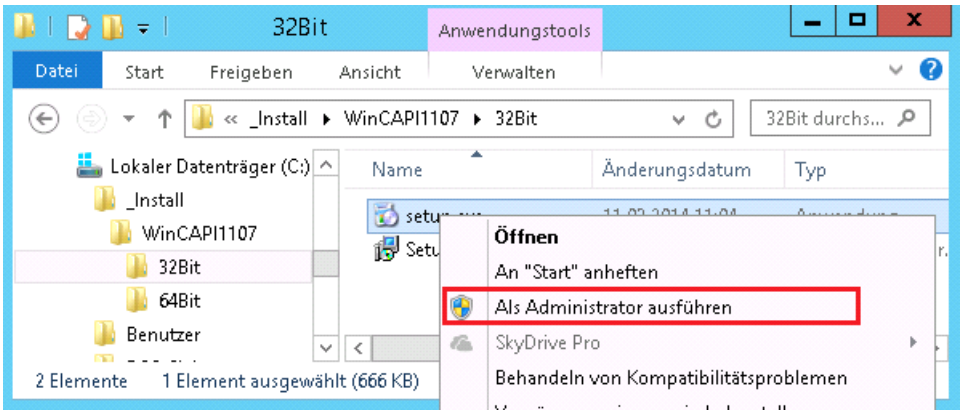
On the ixi-UMS Business-Server must be installed .NET Framework 3.5.
The installation file of „Remote-CAPI for MS-WINDOWS“ (at least version 1.1.7 from 07.2015) from „bintec elmeg“ must be stored on the ixi-UMS Business server. The ixi-UMS Software can be installed bevor or after the LANCAPI.

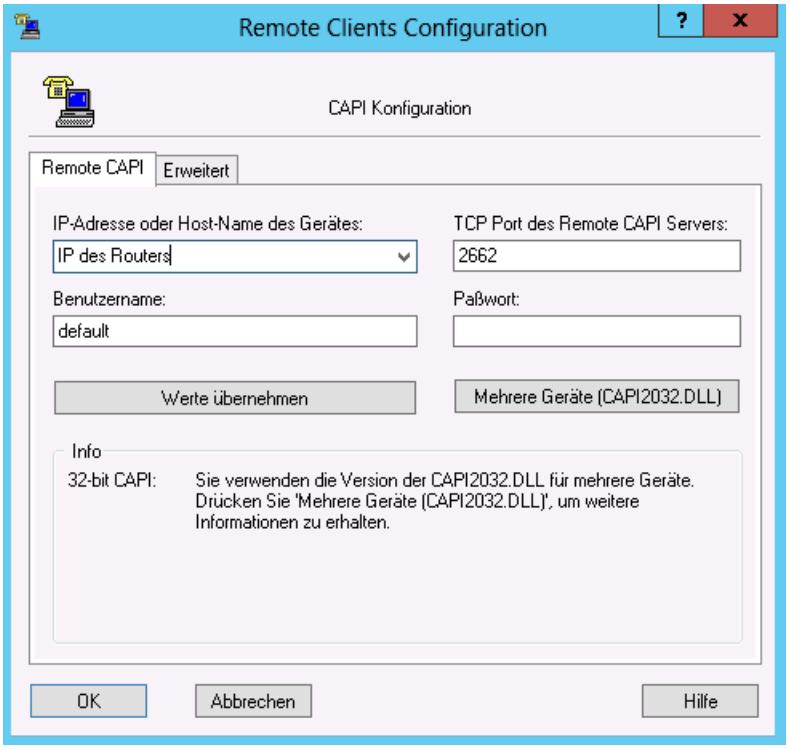
Note:
The ixi-UMS Business Software is an 32bit-application. Therfore the installation of 32bit CAPI is required – independent of the version of the operating system. The set-up for 64 bits instal normally 32 bits CAPI. dll automatically with.

Please note: the Configuration of the LANCAPI is only in german available !
If you are installing or updating the LAN Capi after the ixi-UMS software, you must first terminate the ixi-UMS Kernel service

Don't start the setup from inside the zip-file.

Start the Setup.exe with right mouse-klick :
„Run as administrator“.





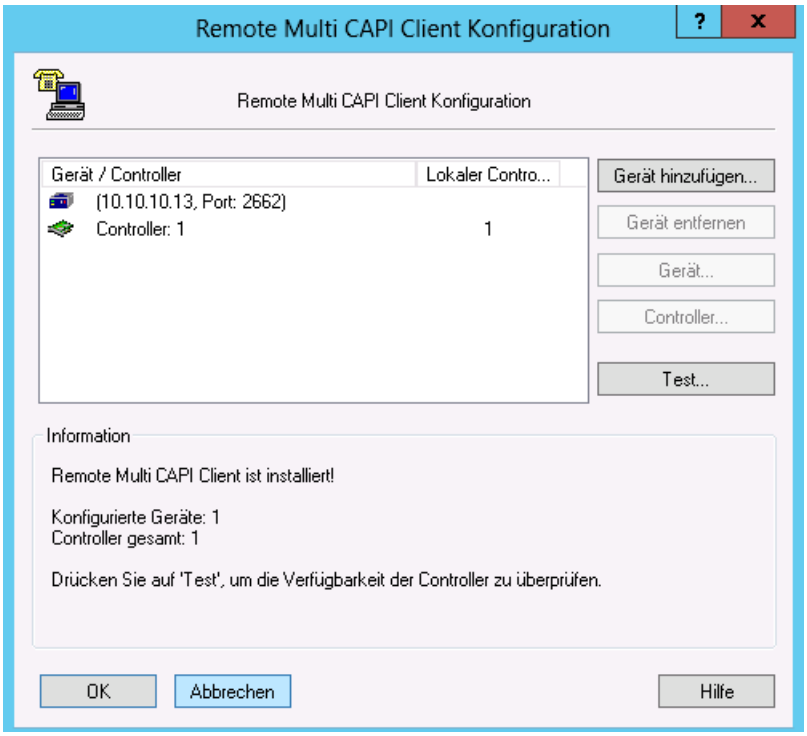
At the end of the installation the configuration of the Remote CAPI is open.

Type in the IP-Address of the PBX

If you don't like to use the Default user, enter the CAPI user and passwort, wich you has defined in the PBX.

Select „Werte übernehmen“ and after that select „Mehrere Geräte (CAPI3032.dll)“

In this window the IP address of the be.IP Plus is indicated you as "Gerät/Contoller" and under it the active controller.



Should several PBX and/or bintec elmec Router be bound, you can add this here with "Gerät hinzufügen".

Click on the button "Test" to make sure that the Remote-CAPI a connection with the Router can be based.

Note:
The announcement means that the connection with the Router can be produced and that there a controller is furnished.
The test does **not check** the registration data and NOT whether the ISDN connection functions.

Confirm all Tabs and restart the server.
For the next steps you can login via RDP session. But note: alway login with the ixi-UMS installation account !!

11.1.8 Site Settings - Creating the Call Numbers

On the basis of the site settings, ixi-UMS Business generates the UMS-recipient number and the sender number with incoming messages and creates the number to be called with outgoing messages.
Both processes and the required information depend on the settings at the PBX as well as the signaled information about the call number (ToN).

Incomming Calls:
All phone numbers are converted into the full-canonical format (+49...).

Outgoing Call:
If the phone number begins with + (is addressed in the international format +49304567489) this is shortened on grounds of the location information max. and then the PBX Outside lin access Number is added.
If the outgoing news is addressed in the local or national format (does not begin with +), the phone number is complemented only around the PBX access Number is added..

Incomming - Reciptnumber

Becomes no ToN, or ToN = unknown signalled, the location address puts of the ixi-UMS Business Server normally to the receiver's number (Called party Number) ALWAYS at the head.

If the receiver's number is signalled as a direct dialling number follows:
Server Side: +49 30 456987
direct dialling number: 123
from ixi-UMS Business **provided receiver's number around:**: +49 30 456987123

If the receiver's number is signalled inclusiv acces number:
Server Side: +49 30 456987
direct dialling number 456987123
from ixi-UMS Business **provided receiver's number around**: +49 30 456987456987123

Solution possibilities :

- Configure the PBX for:
  - direct dialling number is Recipient number
  - correct ToN for the Called Party Number (not possible with SIP)
  - **all** phone numbers are signalled in the E. 164 format
- delete the access numer in the server site
- define the access number as "Internal code" (Point-to-Ponit only)

Incomming - Calling number

The sender's number (caling number) can be signalled to ixi-UMS Business as an internal, local, national or international phone number. Follow the information about phone number transmission and ToN - sender's number.

Some phone arrangement signal, in addition, the PBX acces number. In this case the setting Phone number format must be change.

Signal from PBX: 00896487798 - The PBX access code is include
from ixi-UMS Business **Server generate sender number: +89**
Activate "remove outside line access..." in ixi-UMS Business Server
Precondition: the transmitted outsite line access corresponds in the location for outgoing talks registered outsite line access and as a ToN it is signalled "unknown"

Signal from PBX: 896487798 - the nationale Access code ist missing
from ixi-UMS Business **Server generate sender number: +49 89 896487798**
The problem can't fixed in the ixi-UMS Business Server The PBX must be configured:

- correct ToN for the Calling Party Number (not with SIP)
- the Calling Party Number must signals with the nationale Access code

Outbound - Recipient number

In Germany can be chosen within the city without local prefix. If addressed in the international format, the phone number shortens of the ixi-UMS Business Server on grounds of the location setting:

Example:
Address: +493014987978

1) Server Site : +49 89 xxxxxxx
   the ixi-UMS Business Server shortens: 03014987978
2) Server site : +49 30 xxxxxxx
   the ixi-UMS Business Server shortens : 14987978

In some countries, the area code has to be dialed also with local calls. In this case, it must activate "Dieal alway national access and area code".
Is to be followed with this setting, how the phone numbers in int. Format addressed / are shown:

e.g. Italien:
national = local shown: 02 64489945
national = local shown: +3902644899 -> the "National AccessCode" 0 is a component of the phone number
ixi-UMS Business Server Konfiguration:
In the Server Site must be put down 02 as a "Area Code" and the "National Access Code" must be empty

e.g. Belgien:
national = local shown: 083 64489945
national = local shown: +3983644899 -> the "National AccessCode" 0 is **not** a component of the phone number
In the Server Site must be put down 83 as a "Area Code" and in the "National Access Code" must must be put down 0

E.164-Format

If ixi-UMS Business Server is configured for E.164, all phone numbers are send in format 49.. to the PBX and all phone numbers must signale in this format from the PBX , Please see: Call Number Transfer in E.164-Format
In this case
- the incomming phone numbers are added with + only
- the + will be removed in the outgoing phone numbers

11.1.9 Route by Redirection

The method "Route by Redirection" allows that all the users can use the same voice mail number (voice pilot number) and nevertheless have their individual voice box. Because of this, this number can be entered in the PBX globally as "dropping number".
Moreover, all the users can call this number from their office telephone in order to access their mailbox by telephone.
If available, a key for the call-back to the mailbox can be configured in the PBX globally.

Example:
As "voice mail number", the number 9999 has been determined. The PBX routes all the calls to this number to the ixi-UMS Business Kernel.

A user switches the call transfer at his telephone to the number 9999. When a call comes in at the user's phone, this call is transferred to 9999.
The ixi-UMS Business server accepts the call, but evaluates the originally dialed number, the telephone number, and searches for this telephone number in the specified LDAP database. When user is found to this number, the deposited announcement is played. The caller can leave a message, which is sent to the mail server and then to the mailbox of the user.
The user can access this voice-maiboxl e.g. by calling the number 9999 from his office telephone. He then is connected to his mailbox immediately.

Set up ixi-UMS Business

In order to set up "Route by Redirection" on the ixi-UMS Business system, the following steps have to be taken:

1) ixi-UMS Business must be enabled for the evaluation under "Voice-Mailbox" - Basic Settings - Shared Voice-mailbox number and the future global number must be specified.

2) The Welcome Mail must contain the valid "Voice-mailbox number" for all users.

3) The telephone number of the forwarding telephone must be entered in the LDAP database with the user in the format: +49 956 8411288 or +499568411288 in the fields:

- TelephoneNumber (telephone number) or
- OthetelephoneNumber (phone number - other).

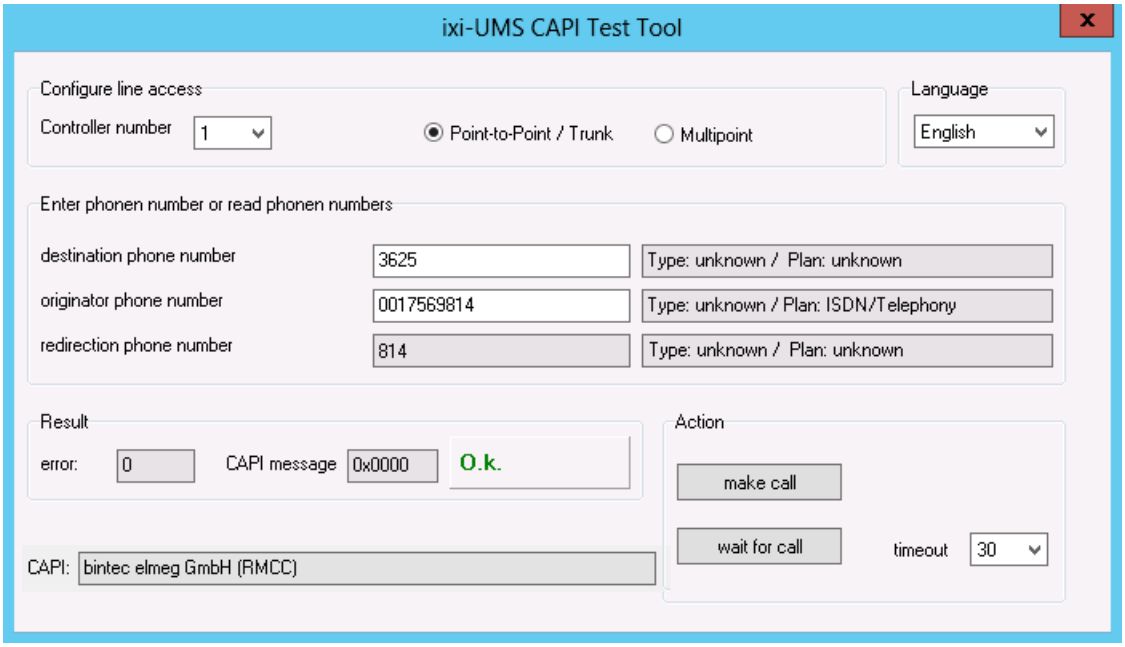
Determine the required numbers

"Route by Redirection" can only be used when the PBX forwards the actually dialed phone number as RedirectionNumber (or Diversion Number / diversion leg info with QSIG).
In addition, it must be ensured that when using "E.164" also this call number is transmitted as E.164 call number.

In the following tests, please note that the ixi-UMS kernel service must be terminated.
If the tests are completed after the base configuration is complete, you must open the Windows Services console and stop the ixi-UMS Business Server service.

1) using the bintc elmeg Remte-Capi - test with CAPI test tool

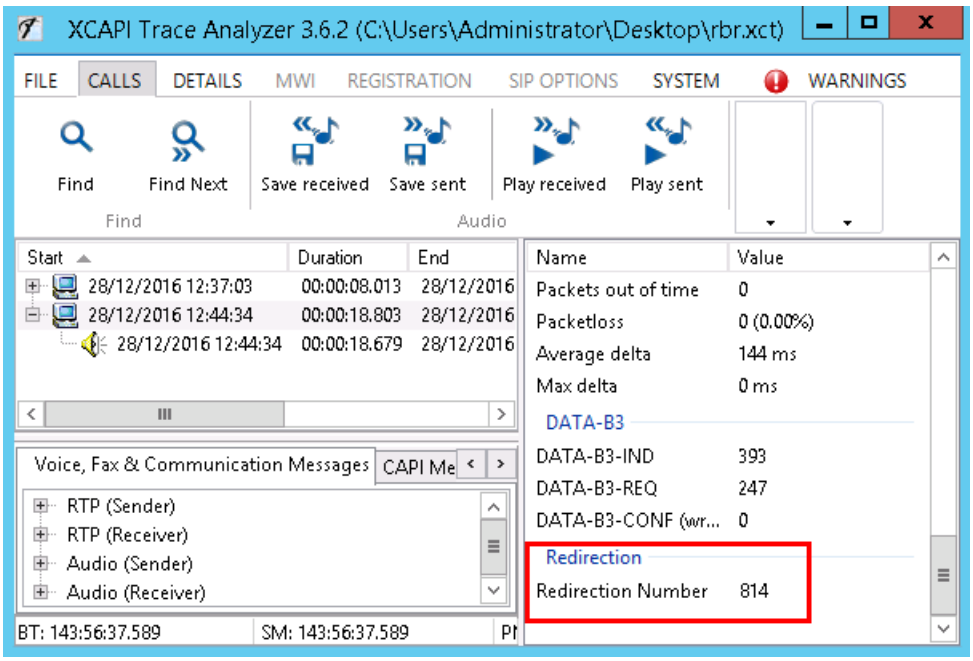
a) Start the test tool in the directory from ixi-UMS Business Web configuration
b) Set up a call forwarding on the telephone to the number of the common voice-mailbox number.
c) Activate the "wait for call" button (if necessary change the timeout) and call from your mobile phone on the phone.



In the field "redirection phone number", you will be shown what the telephone system transmits to ixi-UMS Business.
It must be either the extension number or (with using E.164) the E.164 number of the phone.

2) when using XCAPI - test with the XCAPI test tool

a) Activate the trace in the XCAPI
b) Start the XCAPI Trace Analyzer from the Start menu
c) Set up a call forwarding on the telephone to the number of the common voice mailbox number.
d) Call from your phone on the phone. When the call is displayed in the test tool, you can hang up again.
e) Open the trace and select the test call.
f) On the right hand side, you will see the "redial number".



It must be either the extension number or (with using E.164) the E.164 number of the phone.

11.2 Preparing Messagings System

The mail server must accept incomming ixi-UMS messages from the ixi-UMS Business server and send outgoing ixi-UMS messages to the ixi-UMS Business server.
According to construction and configuration of the available mail servers organisation there is a separate "Hub-Transport" server and/or already a suitable "ReceiveConnector".
Moreover, in the mail server a "Routing entry" must be defined for sending the ixi-UMS messages to the ixi-UMS Business server.

Configuration examples and tips for Microsoft Exchange and IBM Dominoes are shown in the following.

Exchange Server 2013/2016
Receive Connector in Exchange 2013/2016/2019
Creating a Send Connector in Exchange 2013/2016/2019

If the ixi-UMS Business should be installed on the same server as the MS Exchange Server, please not the article:
Exchange Server and ixi-UMS Business on the same Server

IBM Domino Server
Preparing IBM Domino Server

If the ixi-UMS Business should be installed on the same server as the IBM Domino Server, please not the article: Binding IBM Domino Server to IP-Address

Voice-mailbox - remote Enquery:
To be able to access to the mailbox, change the IMAP4-settings are required in the mail to servers.
With all mailsystems the mailbox access by IMAP4 can be executed by means of an "*Individual IMAP4* User Log-in".

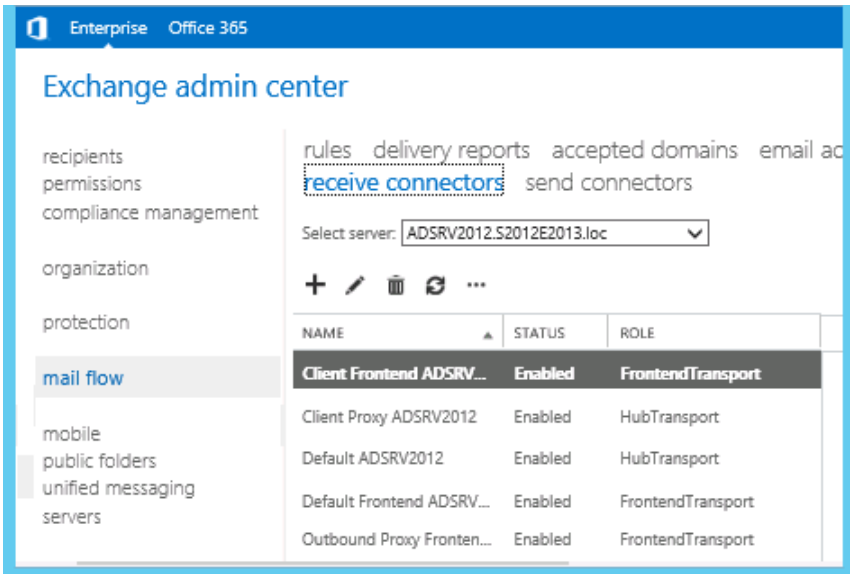
According to mail server and used LDAP-database the users must deposit the IMAP-user name and/or the mail server password in the ixi-UMS Business Voice-mailbox configuration.

By using a Microsoft Exchange server the kind of the IMAP4 authentication must be changed in general with it ixi-UMS Business by IMAP4 can access this.
For forwarding and sending ixi-UMS messages by phone the "Relaying" must be permitted, in addition, for the ixi-UMS address types.

Information to configure IMAP 4 you can find in the article:
Configure IMAP4 in Micrsoft Exchange
Configure IMAP4 in IBM Domino

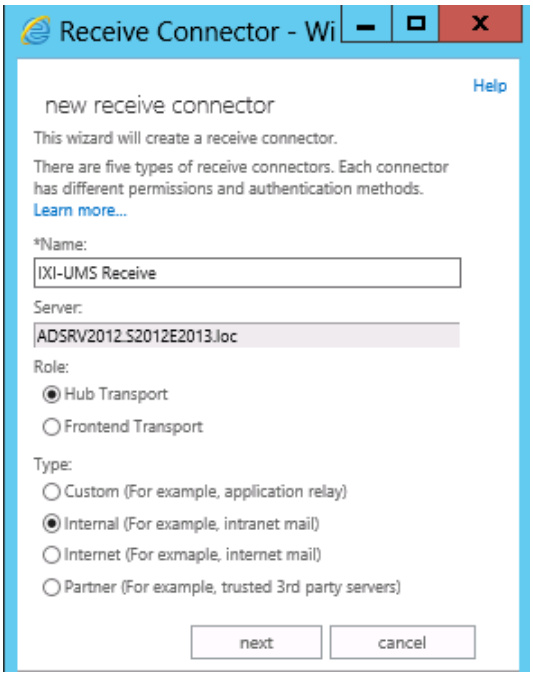
11.2.1 Receive Connector in Exchange 2013/2016/2019

If the ixi-UMS Business should be installed on the same server as the MS Exchange Server, please not the article:
Exchange Server and ixi-UMS Business on the same Server



Open the Microsoft Exchange Admin Center and navigate to the mail flow - receive connectors.

Start the wizard via the **plus**-sign to set up a "new receive connector".



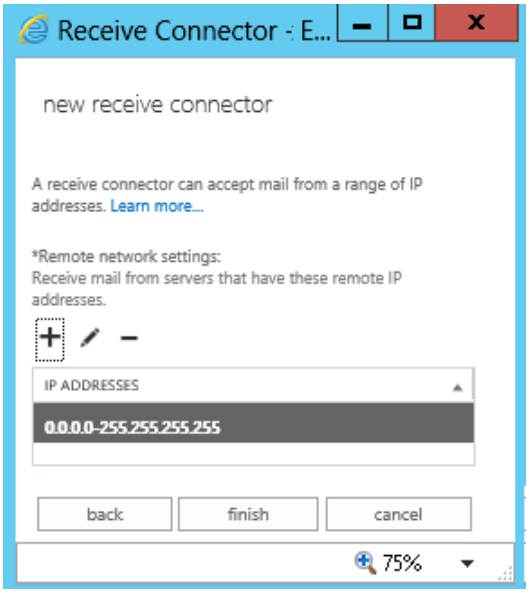
Appoint a name and select "Custom"

As the IXI-UMS is located in the local network by default, you can select "Internal" as type.

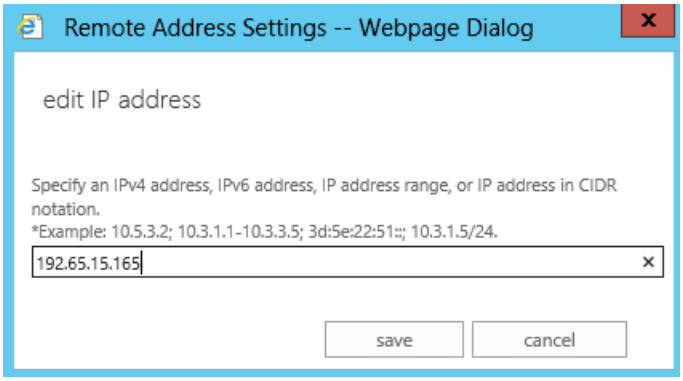
In a more complex environment, please adjust the settings according to your organization.

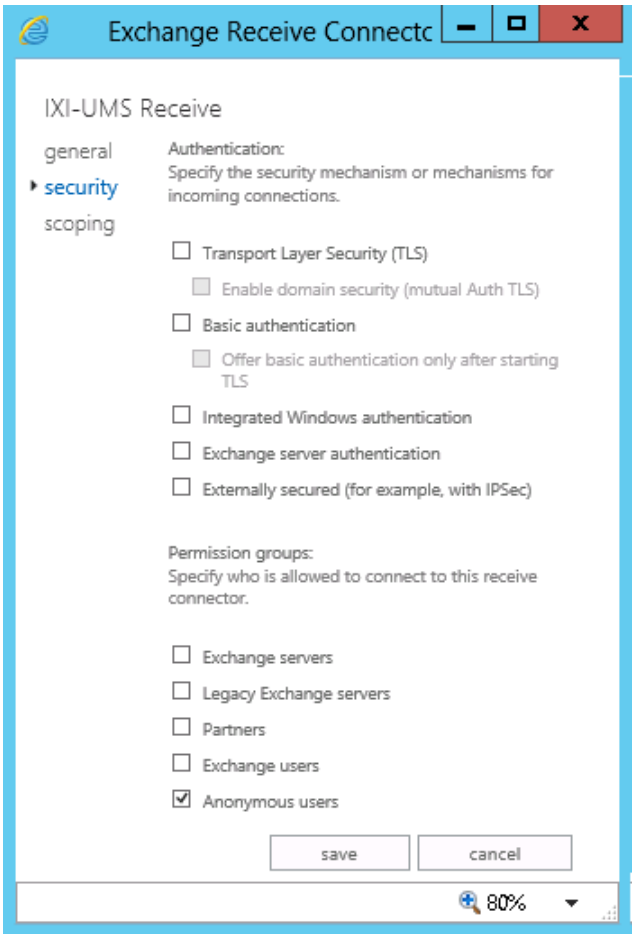
Depending on which setting you have selected, various settings are queried now, which can be changed any time later on, however.

Click on "Next".



State the IP-address of the ixi-UMS Business Server,





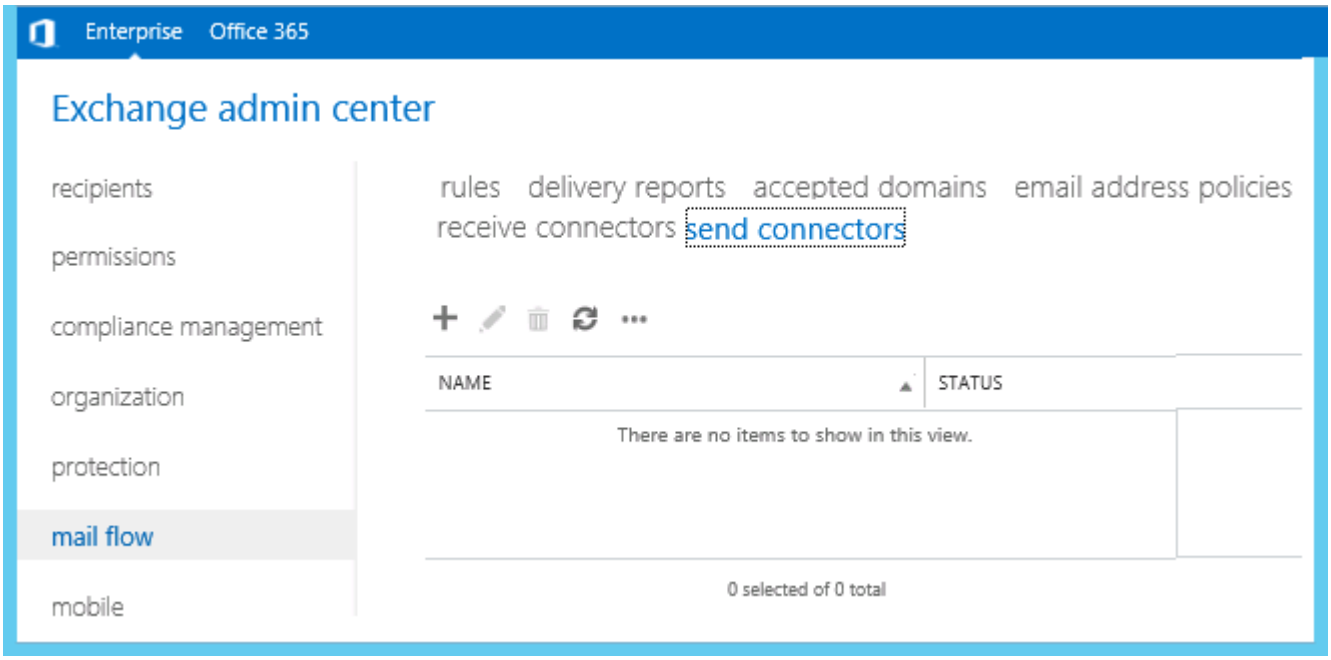
After that, please open the Connector entry and remove all the checkmarks at "security"

At "Permission Groups", "Anonymous users" must be marked

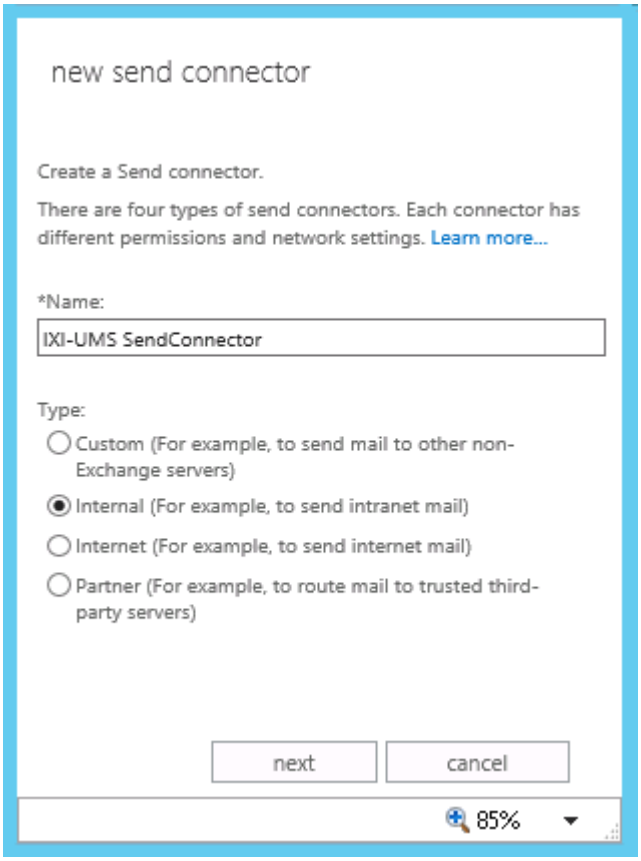
Click on "save" in order to create the Receive Connector

11.2.2 Creating a Send Connector in Exchange 2013/2016/2019

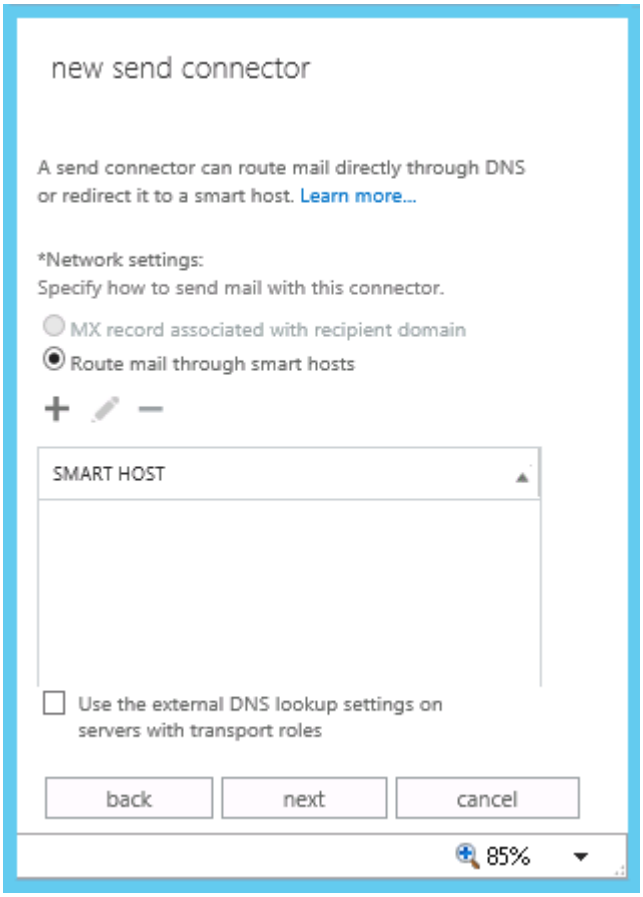
Please open the "Exchange admin Center" and navigate to "mail flow – send connectors.



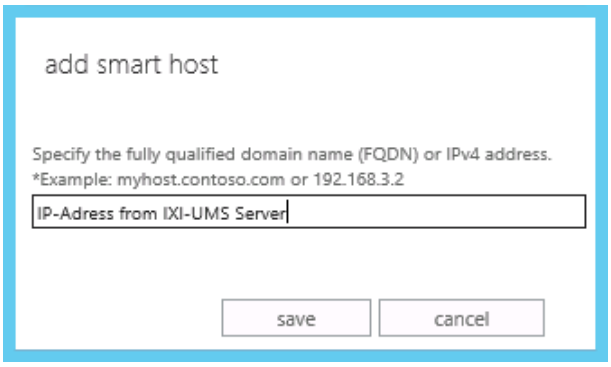
In order to set up a "new send connector", please click on the **plus**-sign.

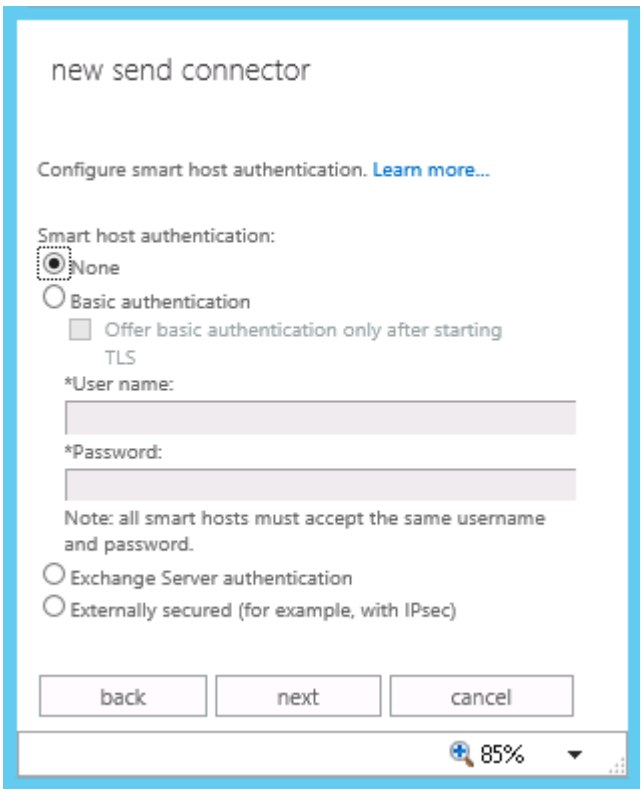


Please enter a name and select "Internal".
Enter "next" to continue.



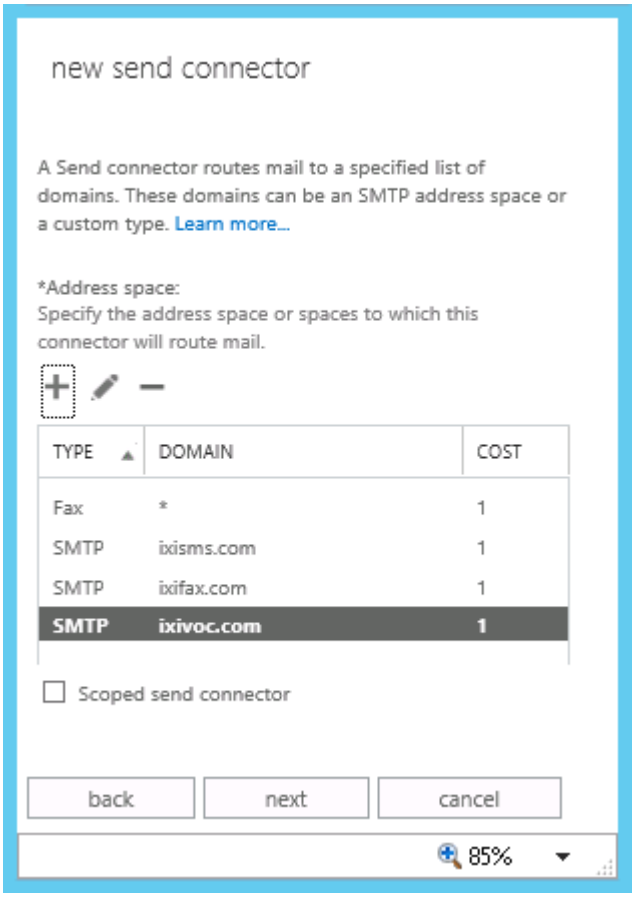
Select "Route mail through smart hosts" in the next window and add the IP-address of the IXI-UMS Exchange Connector.



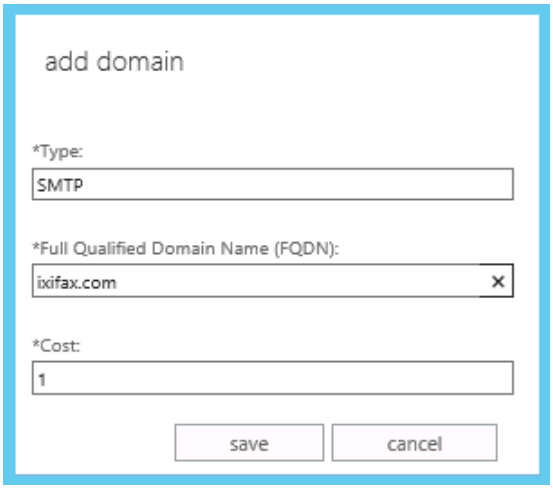


An authentication for the sending of e-mails (ixi-UMS messages) to the ixi-UMS Business Server is not required.

In the next window, you have to enter the required custom domains.



You have to enter all the wanted domains for the addressing. However, they can be added subsequently as well. This can also be changed later on.



The domain with Type "Fax" has to be entered only then that messages can be sent as fax out of the Outlook-Contacts via the "To"-field.

To finish the wizard select the correct exchange server in the next window and save the settings.

11.2.3 Configure IMAP4 in Micrsoft Exchange

To be able to access to the mailbox, change the IMAP4-settings are required in the mail to servers.
With all mailsystems the mailbox access by IMAP4 can be executed by means of an "*Individual IMAP4* User Log-in".

Depending on the mail server and the user administration used, the users must store their IMAP user name and/or mail server password in the ixi-UMS Business Portal in the ixi-UMS Voice-Mailbox configuration.

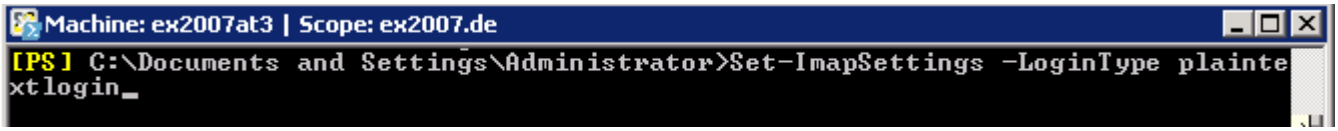
By using a Microsoft Exchange server the kind of the IMAP4 authentication must be changed in general with it ixi-UMS Business via IMAP4 can access this.
For forwarding and sending ixi-UMS messages by phone the "Relaying" must be permitted, in addition, for the ixi-UMS address types.

11.2.3.1 Configure IMAP4 Access

In an Microsoft Exchange organization, the Client Access Server takes care of the authentication of the users. In larger organizations, the settings relevant for IMAP4 thus have to be made at the CAS Servers.
The IMAP4 service has to be started at the CAS Servers.

The transmission of the password for the IMAP4 login is performed in plaintext. The IMAP4 protocol settings have to be changed at the servers accordingly.

Open the Exchange Management Shell on your Exchange Server and enter the following command:
Set-ImapSettings -LoginType PlainTextLogin



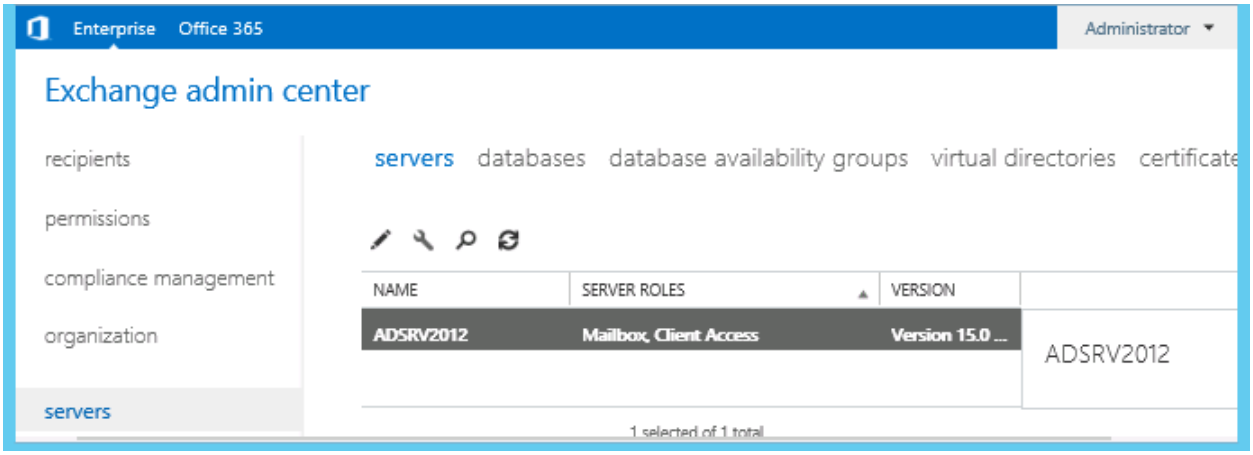
If the powershell had not been started on the CAS Server, the CAS Server has to be stated in addition:
Set-ImapSettings -Server "CAS-Server-Name" -LoginType PlainTextLogin

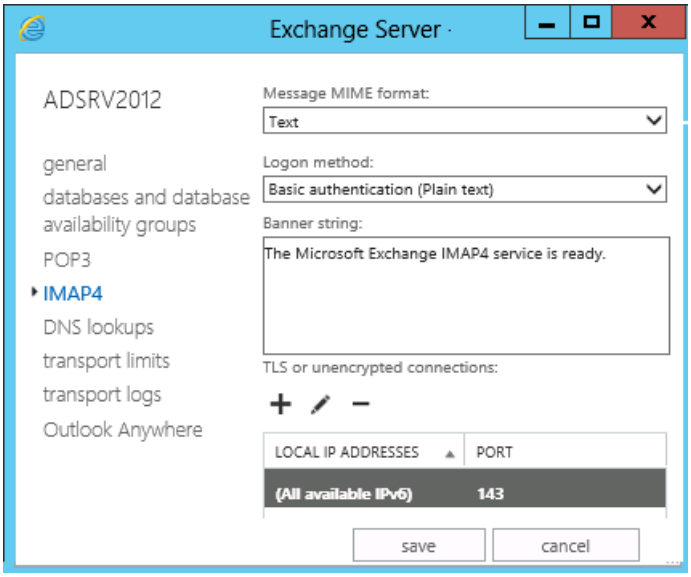
Alternatively, this setting can also be executed in the Exchange System Manager.

- Exchange admin center 2013/2016

11.2.3.1.1 Exchange admin center 2013/2016/2019

The setting for IMAP authentication can be made in the Exchange Management Console.
Navigate to "Server", select the server and click on "edit".





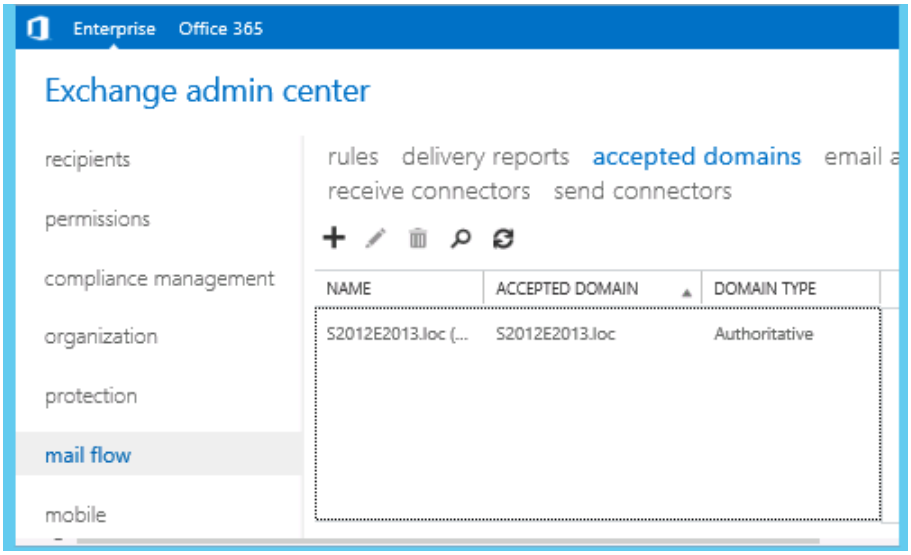
Please open the properties of "IMAP4" at "logon method" and choose "Basic authentication (Plain text)"

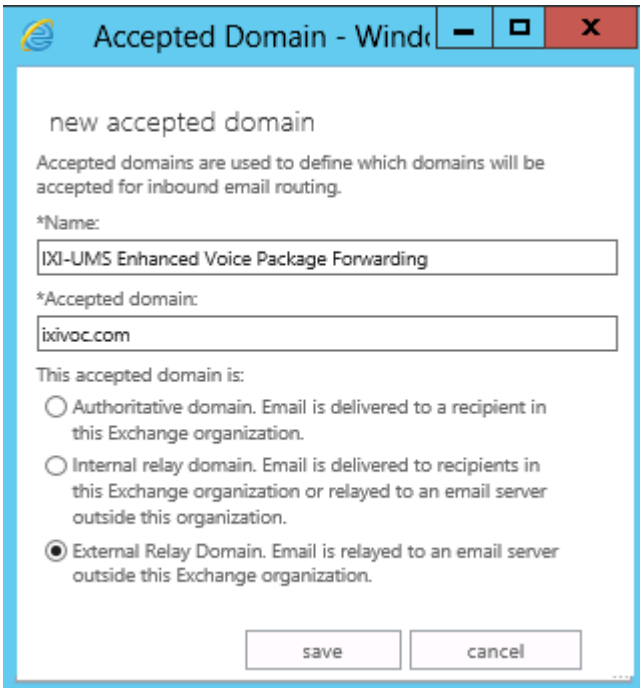
After having changed the settings, the IMAP4 service has to be restarted.

11.2.3.2 Relay Enabling in Exchange 2013/2016/2019

When the version "ixi-UMS Business Mobile" is installed and the user can access his UMS-messages by telephone, he may have to option to answer or forward the messages. This procedure is a "relaying" for the MS Exchange Server. The domain enabled for the relaying must be enabled explicitly.

Open the Exchange admin center. Select the tab "Accepted Domains" at "mail flow".





Create a "New Accepted Domain" via the +-Button". The "Name" can be freely selected.

As "Accepted Domain", have you to enter exactly the sames as determined in the ixi-UMS Business Configuration at "Mailserver Settings - Addressing".

You have to determine that this is an "External Relay Domain" and confirm with "New".

These entries must be made for all types of messages, that can be forwarded by telephone.

11.2.4 Preparing IBM Domino Server

The SMTP-Listener-Task is used for receiving SMTP e-mails. If you have a default installation, the SMTP-Listener-Task is enabled, since IBM Domino 7.
However, the enabling of the SMTP-Listener-Task must be executed in the context with the installation of the ixi-UMS Business, anyway.

ixi-UMS messages that shall get from the IBM Domino Server to the ixi-UMS Business Server are normally "routed" by a Foreign SMTP Domain
In IBM Domino, further routing configurations are absolutely possible or even necessary in more complex environments.

In order to allow mobile access to users' mailboxes, you have to configure the IMAP4 protocol also.

Note:

1. The IMAP protocol is an Internet protocol for IBM Lotus Domino Server. **Therefore, Internet passwords are used, if needed.**
   If have not used Internet passwords so far, **you have to set them up now**. This password must be informed of the users with it he can deposit it for the access to the Voice-May box. Alternatiev they must deposit it directly in the ixi-UMS user management.
   Follow moreover also the article:
   http://www.ibm.com/support/knowledgecenter/en/SSKTWP_9.0.0/com.ibm.notes900.help.doc/sec_pass_syncweb_t.html
2. In order to use ixi-UMS Business IMAP queries, you have to create a fulltext index for mobile enabled mailboxes. Please consider: A fulltext index exhausts hard disk free space on your IBM Lotus Domino Server.

In this manual, the easiest way - from estos's point of view - is demonstrated.

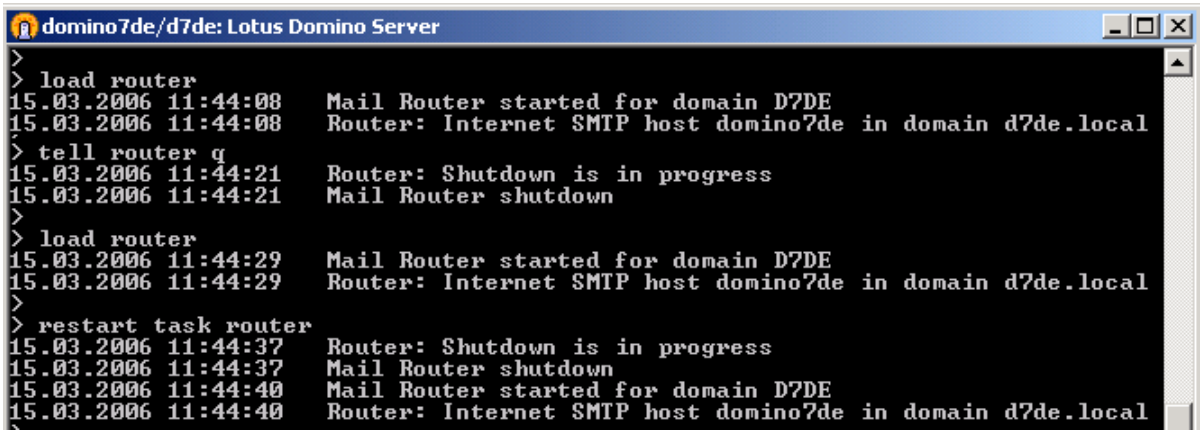
11.2.4.1 Start, Stop, Restart Tasks

All tasks can be controlled via the "Console". Required are

for the area	**the tasks**
message transfer and message routing	Router and SMTP
access users' mailboxes (remote inquiry)	IMAP

These tasks can be controlled via the Console as in the following:

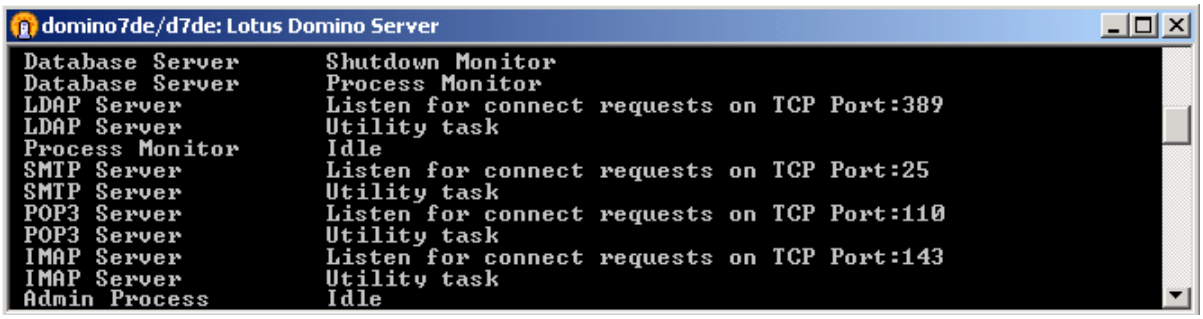
command	**Action**	**Example**:
load <Task>	starts a Task	load router
tell <Task> q	stops a Task	tell router q (tell router quit)
restart task <Task>	starts a Task new	restart task router



Note: Stopping and restarting tasks may take a while.

11.2.4.2 Task Status

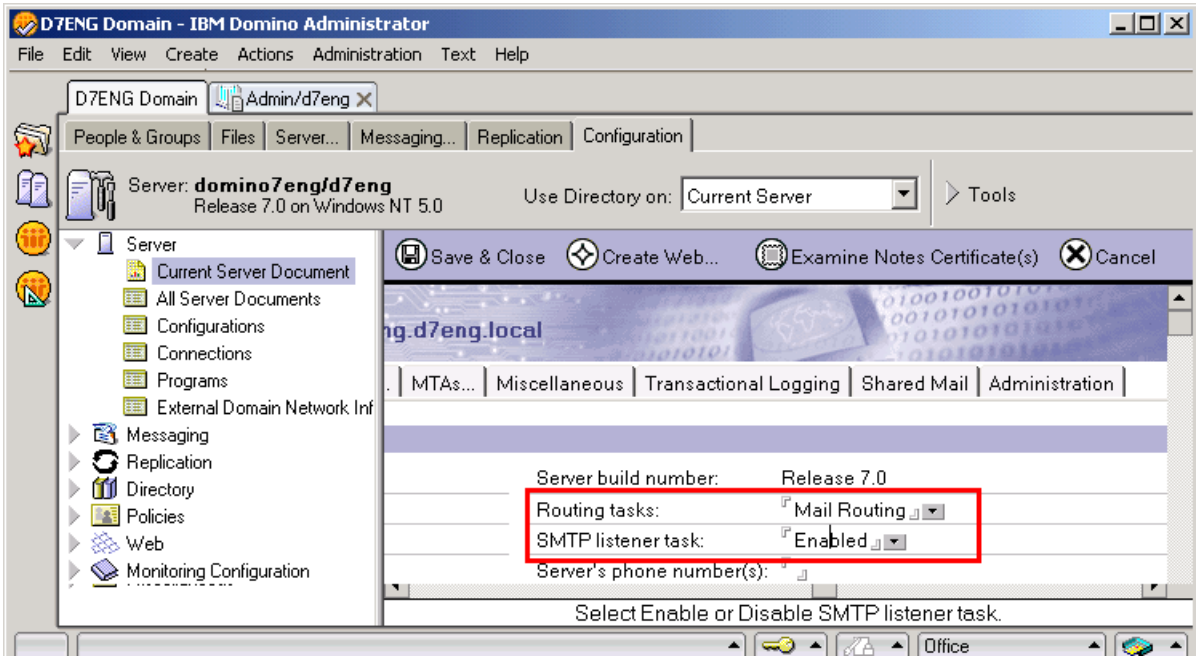
The command "show task" displays all running Domino tasks. Here you can see whether the task is up and on which port.



11.2.4.3 Enable SMTP

The SMTP-Listener-Task is used for receiving SMTP e-mails. If you have a default installation, the SMTP-Listener-Task of the Domino 7 Server is enabled. However, the enabling of the SMTP-Listener-Task must be executed in the context with the installation of the ixi-UMS Business Domino Connector, anyway.

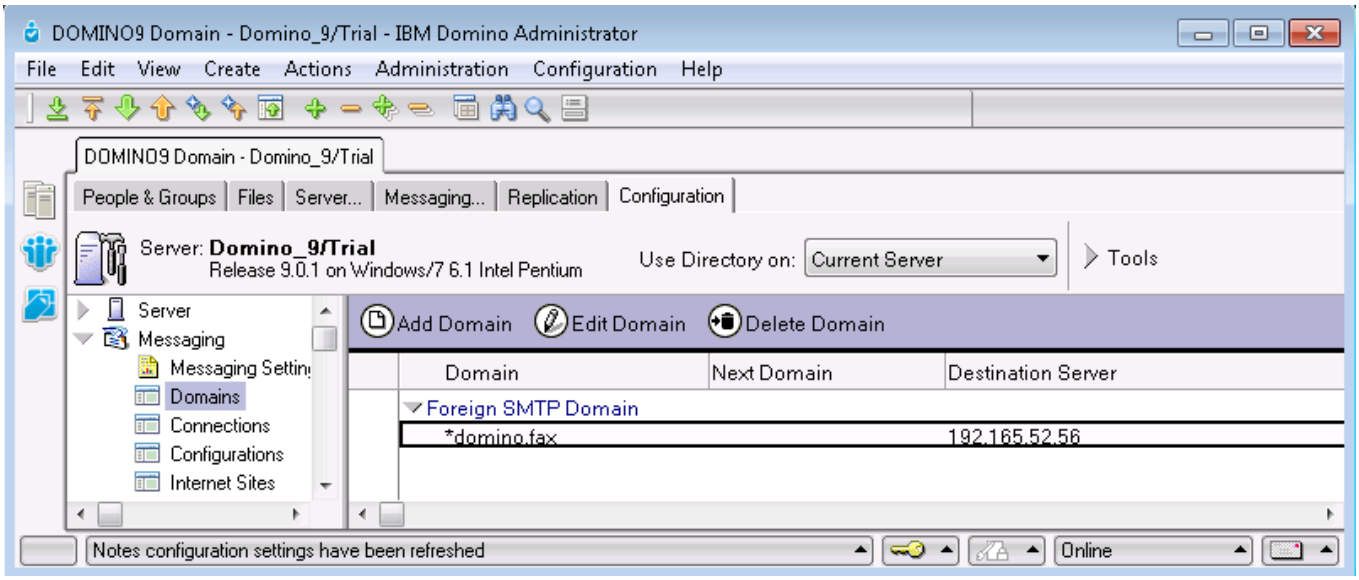
If the SMTP listener task is not enabled so far, you will have to enable the task now. If the SMTP listener task is configured like shown below, the SMTP listner task is entered automatically in the "notes.ini" of the server. As a result, the SMTP listener task is started as well when you restart your IBM Domino Server.



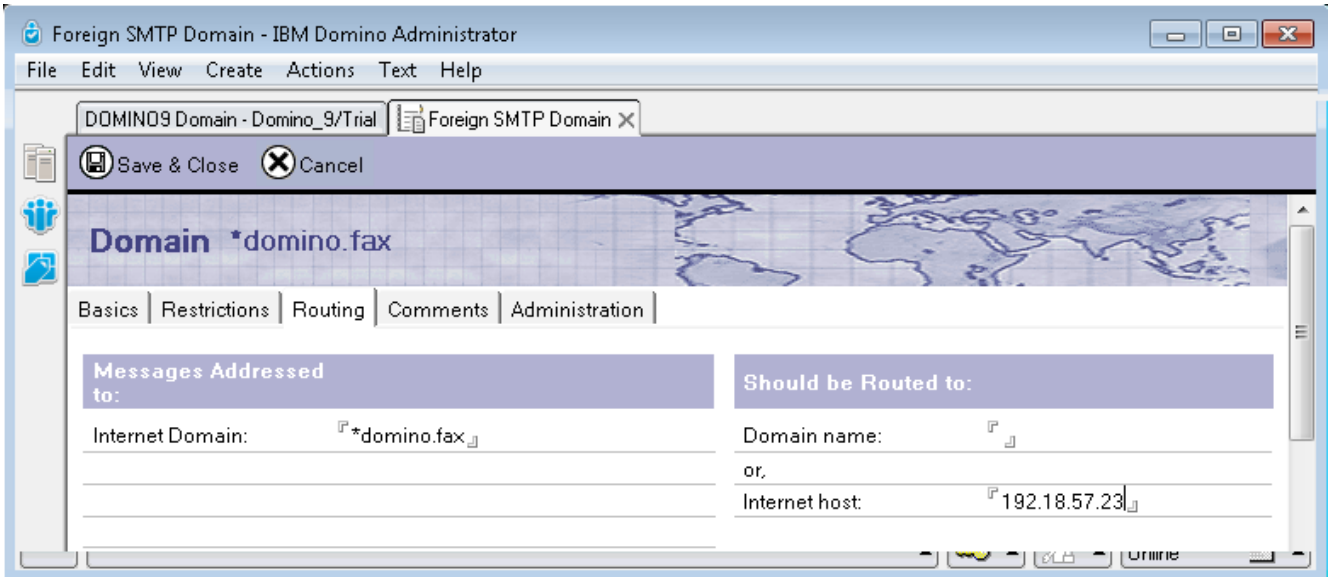
11.2.4.4 Routing of UMS Messages to ixi-UMS Business

In the ixi-UMS Business Configuration - Mailsystem you have defined the domains for sending ixi-UMS messages.
In order to add ixi-UMS Business domains, please proceed as in the following:

1. Open the IBM Domino Administrator.
2. Switch to the IBM Domino Server, which shall route the ixi-UMSmessages.
3. Go to Configuration - Messages - Domains



4. Now klick "Add Domain" and add a Foreign SMTP Domain.
5. As "Internet Domain "you give the addressing for the fax sending. e.g. *fax.company or *company.fax)
6. As "Internet-Host" enter the IP-address of the ixi-UMS Business Server



7. Proceed the same way with the domains for the services

- Voice (e.g. voc.company or voice.company)
- SMS (e.g. sms.company)
- ALERT (e.g. alert.company).

Remark: The taking over of the routing may take some time. In order to accelerate the process, it may be helpful to restart the Router Task and SMTP Task.

8. "Restart" the IBM Domino Router Task.
9. "Restart" the IBM Domino SMTP Task.

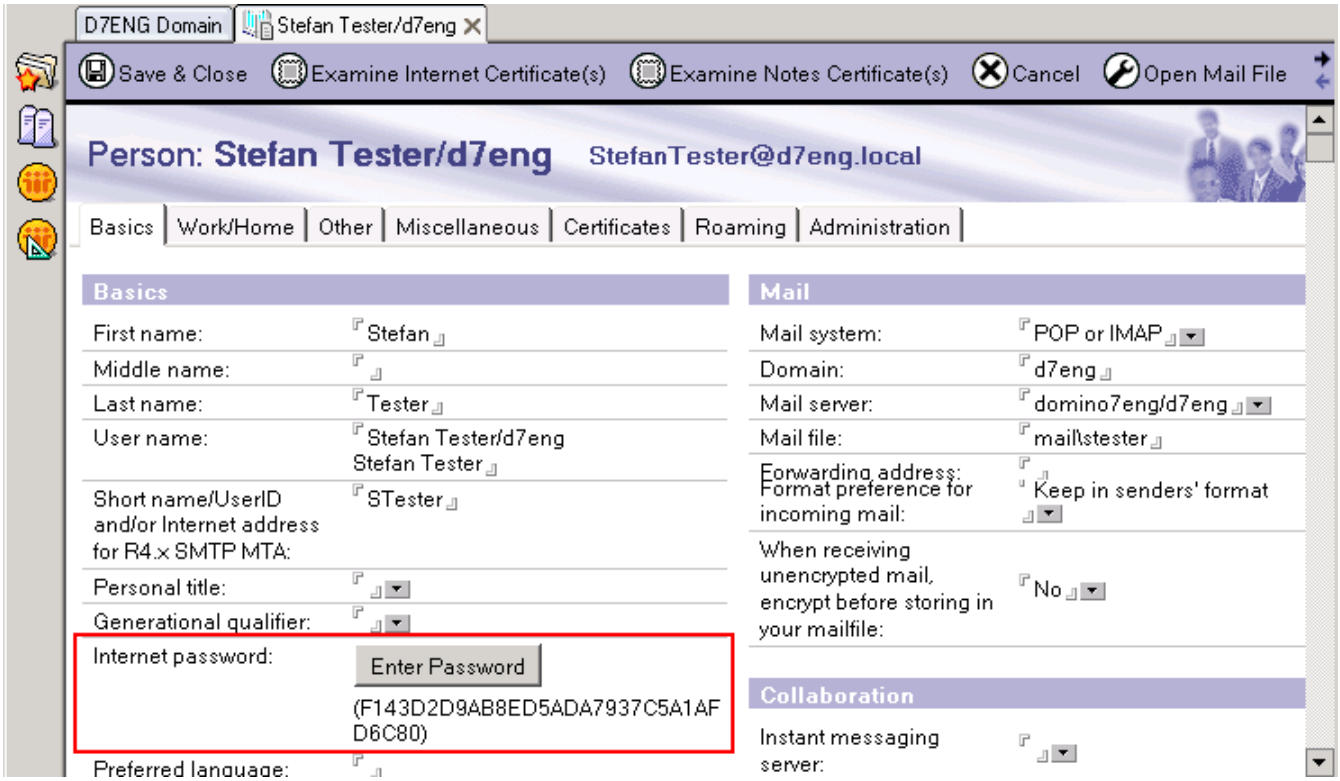
11.2.4.5 IMAP

In order to allow mobile access to users' mailboxes, you have to configure IMAP4 as the following.

11.2.4.5.1 Enable Mailbox for IMAP Access

For full functionality of the solution, the IBM Lotus Domino person document must be configured like shown below.

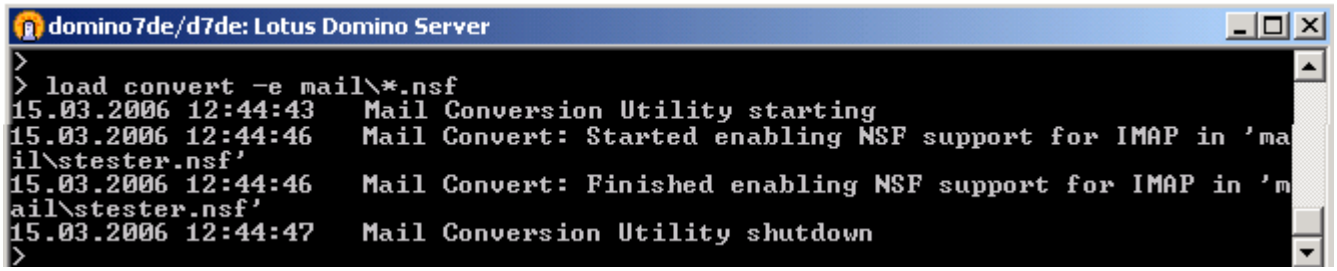
- **Mail system** to **POP or IMAP**
- an **Internet password** must be assigned
- an **Internet address** must be assigned



With

- **load convert -e <mailbox directory>\<mailboxname>.nsf**

the mailboxes are converted and enabled for IMAP. You can find more information about this topic in the IBM Lotus Domino Administrator manual.



- **load convert -e mail\stester.nsf**

Mailbox with name "stester.nsf" is converted

- **load convert -e mail*.nsf**

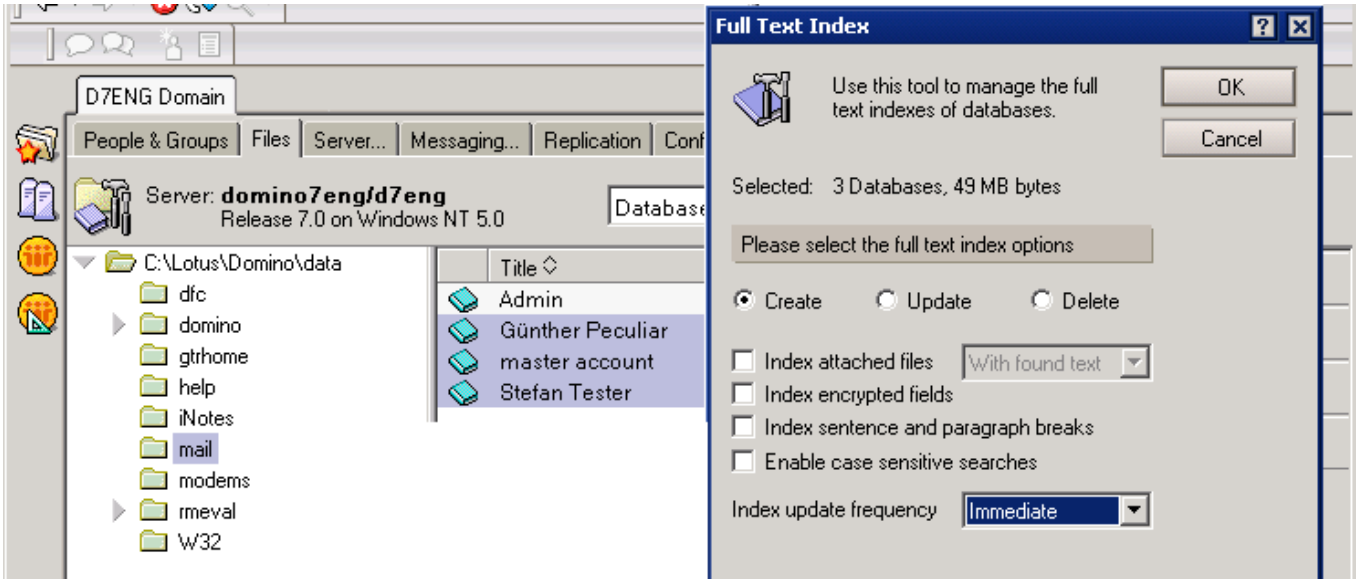
All mailboxes in directory mail are converted

Note: If you do not use Microsoft Window OS, you have to substitue "\" by "/". (Example: "load convert -e mail/*.nsf" on Unix)

11.2.4.5.2 Mailbox Full Text Index

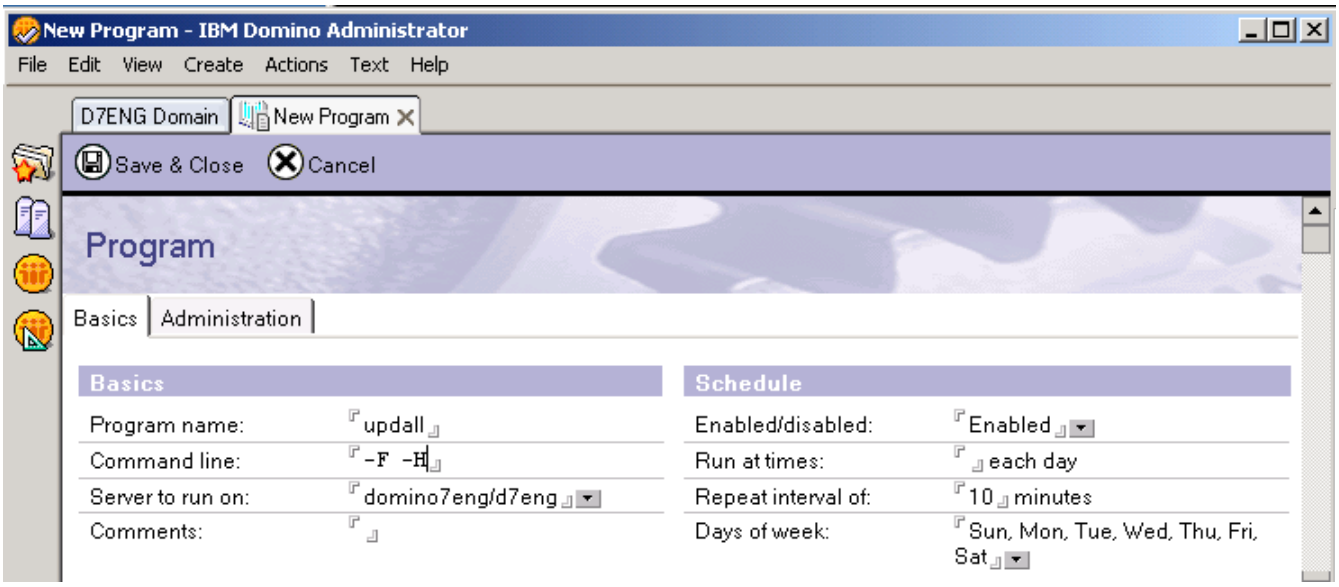
A full text index must be created for every mobile enabled mailbox in order to receive correct results on IMAP queries.

The full text index should be updated every time a new messages is delivered to the mailbox. For this reason, "index update frequency" should be set to "immediate".



Pleas note that not all Domino versions - especially older versions - work as expected, even though all settings are configured correct. As a matter of this, not all actually present messages are sent by ixi-UMS Business. In this case, the full text index must be updated like shown below.

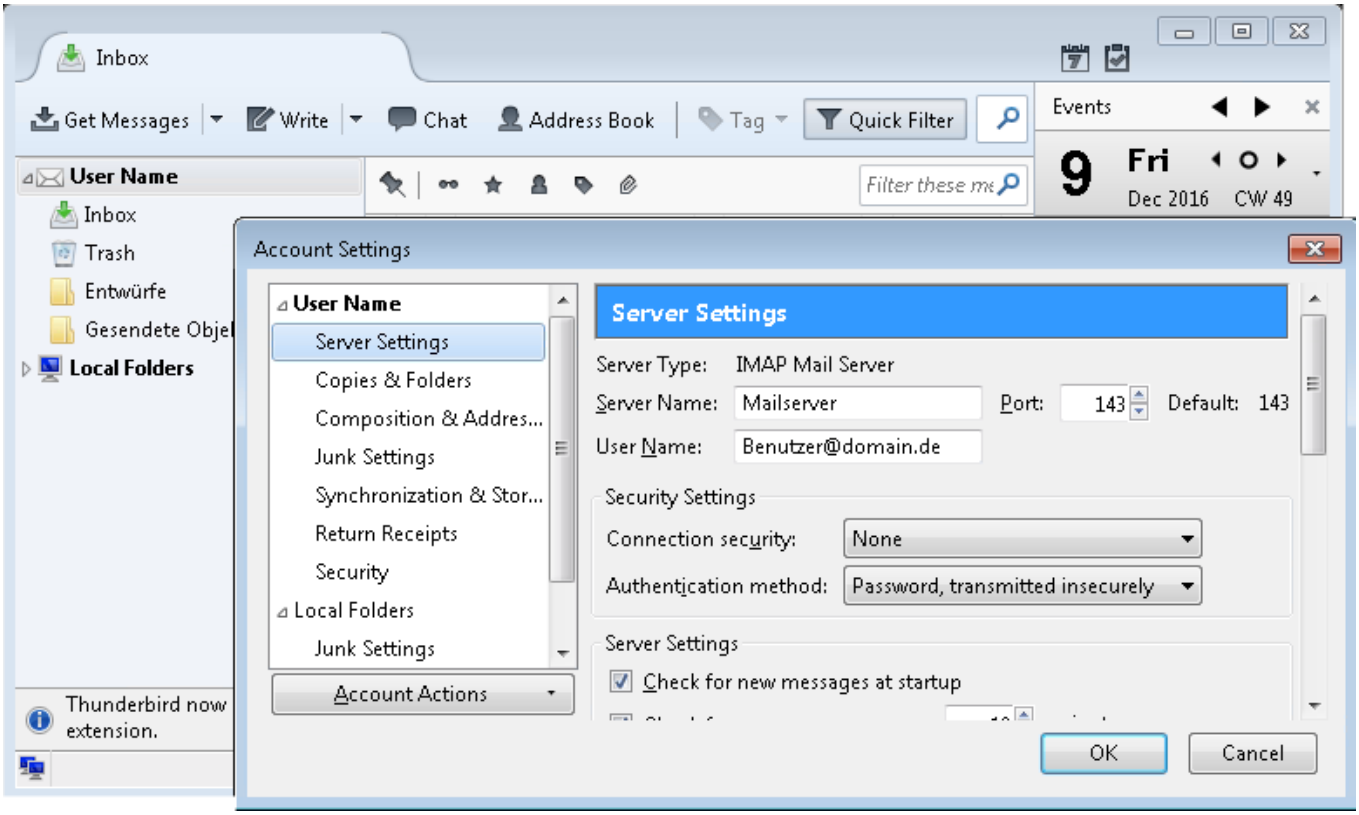
More information about "updall" and its parameters can be found in the IBM Lotus Domino Administrator help.



11.2.4.5.3 Check IMAP Qccess with MS Outlook Express

The easiest way to check if it is possible to login in the mailbox via IMAP4 is with an mail client like Microsoft Outlook Express or "Win Mail"

The screenshot below shows the successful and correct integration of "Stefan Tester's" mailbox into "master account's" mailbox.



If the result you get does not look like the one above, please refer to "Force configuration changes".

11.2.5 Exchange Server and ixi-UMS Business on the same Server

This setting is only required if the ixi-UMS Business is installed on the same server as the MS Exchange Server!

Recommended for Microsoft Exchange 2007 and higher:

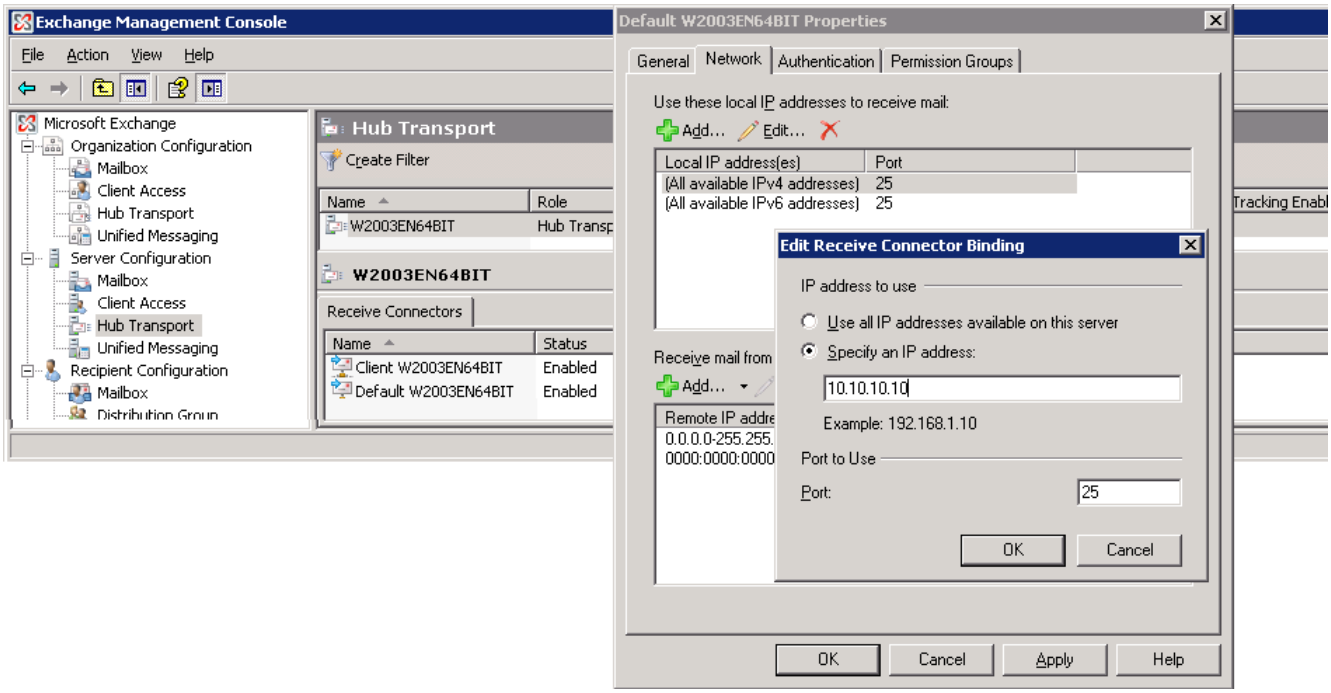
1. Change the port for the reception of messages in the ixi-UMS Business, e.g. 2588. Check the port with Telnet beforehand, in order to make sure that it is not used by another service.

2. After having set up the send connector via the "Exchange admin center", the port must be changed via the "Exchange admin shell". The send connector must send to the IP-address and the port, which had been entered in the IXI-UMS Exchange Connector at "General".

Start the shell and enter: Changing the port: Set-Sendconnector “Name-of-the-sendconnector” -Port 2588
Displaying the port: Get-Sendconnector “Name-of-the-sendconnector” | fl Port*

Alternatively in addition you can assign to the computer 2 firm IP addresses and assign to the Exchange server one of the IP address.

Open the Microsoft Exchange Management Console and navigate to the Server Configuration - Hub Transport
Edit the **Default Receive Connector** properties



Switch over from "(***All available IPv4 addresses***)" to "Specify an IP address" and type in the IP address of the MS Exchange Server. Save and close all masks. The change will be activate after few secunds

11.2.6 Binding IBM Domino Server to IP-Address

This setting is only necessary when the ixi-UMS Business is installed on the same server als the IBM Domino Server is installed or will be installed!

You must have **at least two IP-addresses** configured at the machine in order to be able to execute the following steps successfully! (In this example, the IBM Domino Server is bound to the IP-address 194.11.242.40.)

1. Open the IBM Domino **Server NOTES.INI**.
2. Insert the parameter

   TCPIP_TCPIPAddress=0,194.11.242.40:1352
3. Start the IBM Domino Server with "Restart Server".

11.3 Testing XCAPI and Tracing

The XCAPI has its own functions for testing, tracing and analyzing problems with the connection to the telephone system / gateway and establishing the connection characteristics.

First, make sure that:

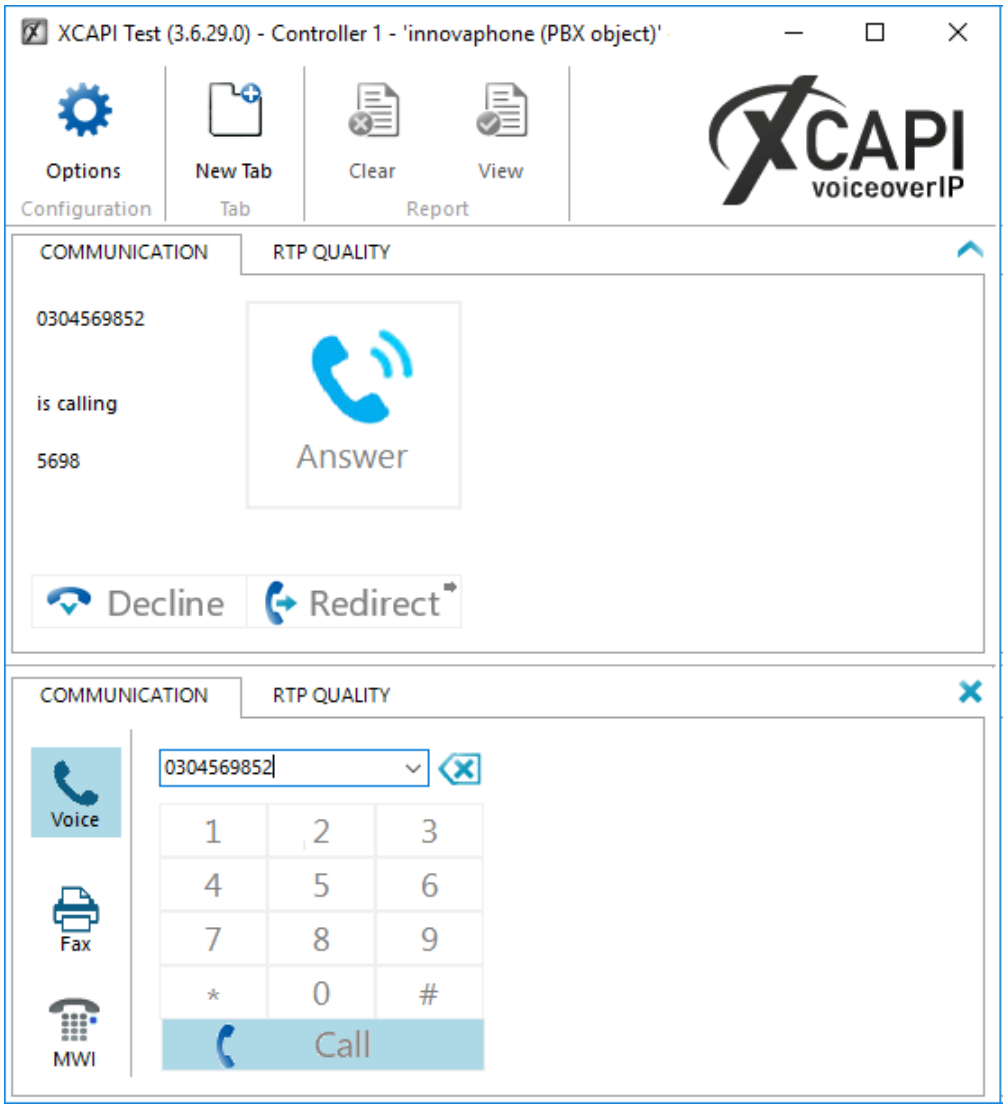
- The VMWare is configured according to the specifications
- The PBX / Gateway is set up according to the recommendations

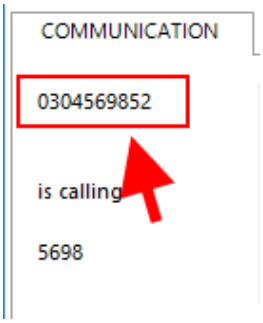
You can open the "XCAPI Configuration" and the "XCAPI Test Tool" in the ixi-UMS Business Configuration under Hardware or from the Start menu.

11.3.1 XCAPI Test Tool

The "XCAPI Test Tool" can be used to test incoming and outgoing voice calls and faxes as well as setting MWI.
Before you start the "XCAPI Test Tool", please stop the ixi-UMS Business Service !!

Start the XCAPI Test Tool in the ixi-UMS Business Configuration under Hardware or from the Start menu.. The test tool shows you all channels / lines for **one** controller.



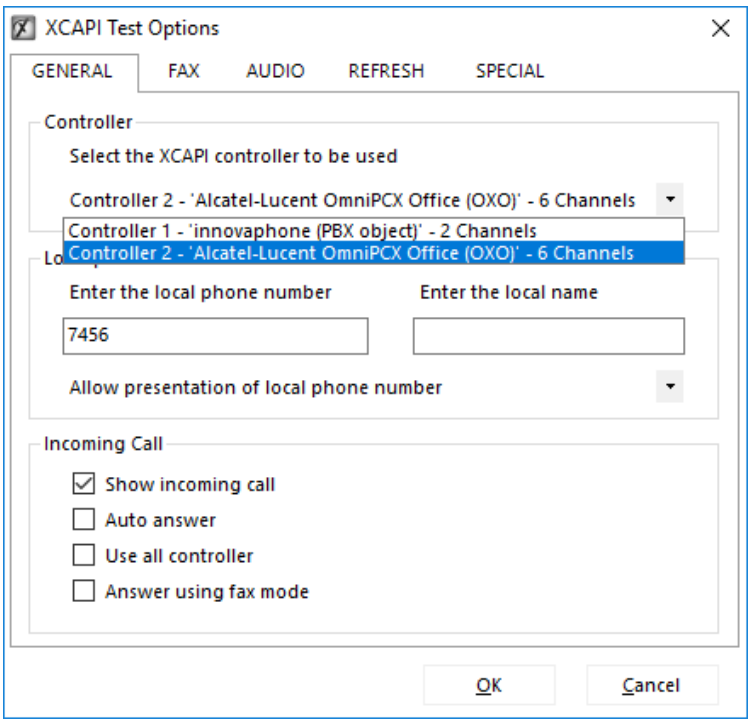


In the left part you see a tab "COMMUNICATION" for each channel/line. All actions of this line are displayed on the tab.

Here you can find out how the numbers are transferred from the telephone system to ixi-UMS Business in order to remove a leading 0 by ixi-UMS Business
Basic Configuration - Call Number Format

In the right part - depending on the current status of the line - calls can be accepted or started.

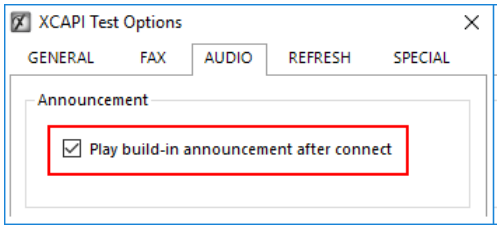
Via the menu - Extras - Options - you can set which controller (configured in the XCAPI) should be used.



On the "General" tab, you can also enter a sender number and specify how the test tool should behave when an incoming call is signaled.

If ixi-UMS server is already in productive operation, we recommend not to activate the "**Auto answere**"!

You should enable the "Play build-in announcment.." function on the "AUDIO"" tab.



Only if this announcement is to be heard on the telephone is ensured that the RDP packets are transmitted.

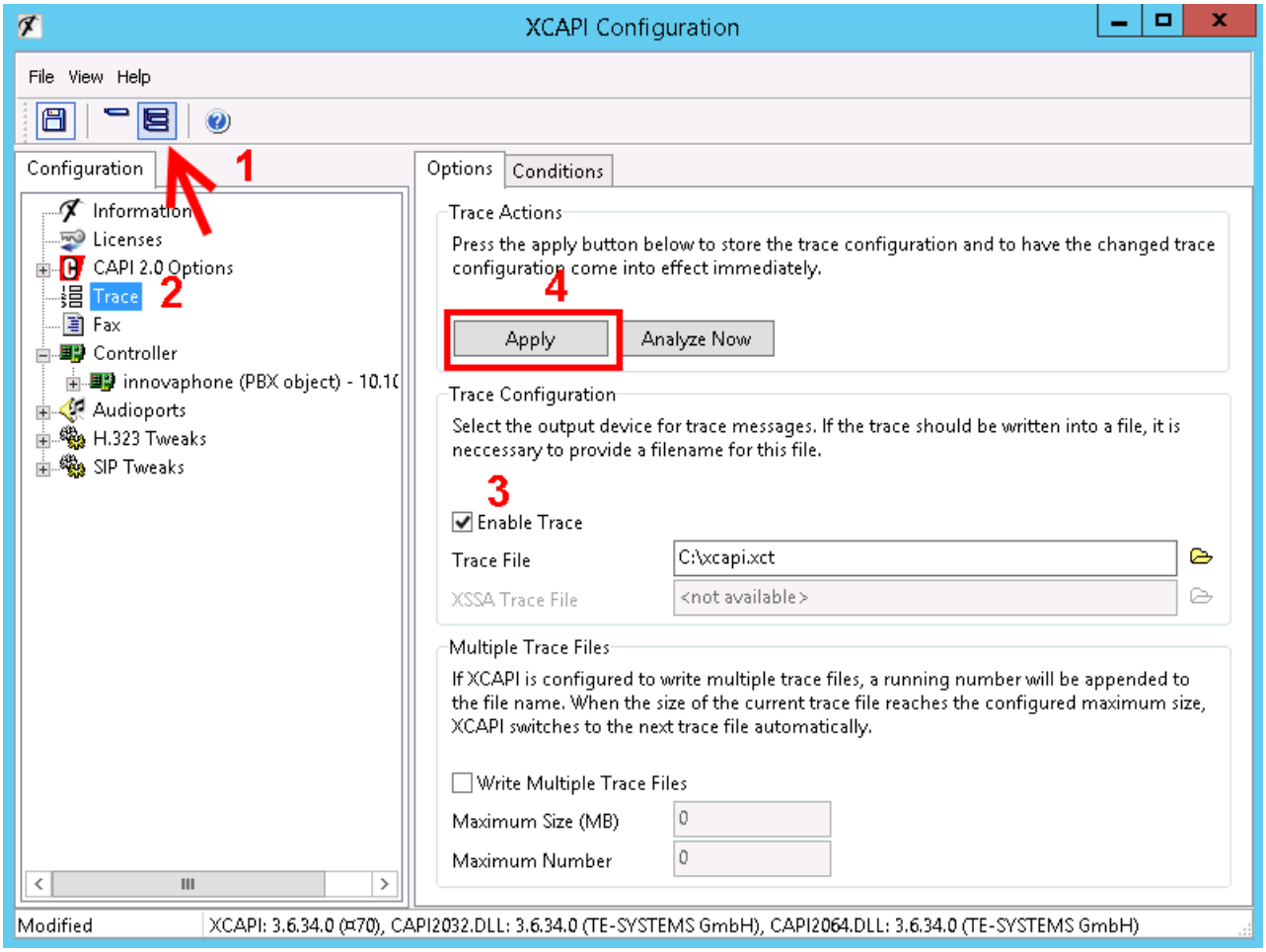
11.3.2 Trace and Analyze

If problems arise while using the XCAPI, you can create a trace file. A trace file is a type of protocol that logs all events occurring within the XCAPI. It is highly recommended that you enable the creation of a trace file if problems arise that report a reproducible error.
Now execute this action which led to the error. When the error occured you can disable the trace. Now you can see from the trace-file which event respectively which adjustment led to the error.

The evaluation occurs about a provided analysis tool. Some problems can be determined with it independently and be repaired.
Should you be able to ascertain no problem or need help with the Lösungsfindung, turn please to the ixi-UMS Support.

11.3.2.1 Activate trace

Start the "XCAPI Configuration" via the windows startmenue and activta the "Advanced" viewing.(1)
Click "Trace" in the right menu. (2)



Activate the option "Enable Trace" (3), select a directory with write access for the current user account, **and click Apply**.(4)
The log data is saved as an .xct file. Enter the path under Trace File or click the browser button and go to the directory where you want to save the file. The file can then be viewed using the Analyze Now option, which will open XTraceAnalyzer.

Note: XCAPI will create a backup of the latest trace file before overwriting it, so you don't have to worry about using different file names.

For systems that operate under heavy load, there is an option to "write multiple trace files". A high number of concurrent calls will generate a lot of trace data, and you should try to keep the file size below 1 GB. This can be accomplished using the "Maximum Size (MB)" option.

For the mistake search in connection with ixi-UMS Business you should always provide 2 separate trace-files. The (faulty) process start with:

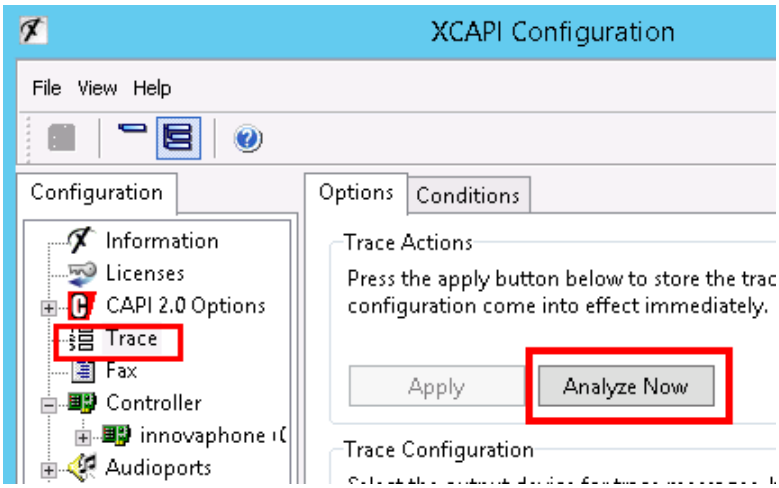
- the XCAPI Test Tool
- with ixi-UMS Business

How to create a trace file:

1. Stopp ixi-UMS Kernel and close the XCAPI Test Tool
2. Open the configuration dialog of the XCAPI and enable Trace
3. Start ixi-UMS Kernel or the XCAPI Test Tool and repeat the procedures that lead to the problem
4. Finish the application as soon as the error has occurred.
5. Disable the trace function.

11.3.2.2 Trace analysis

After creating the trces, the "Analyze" button is active. The evaluation of the SIP / H.323 communication or the

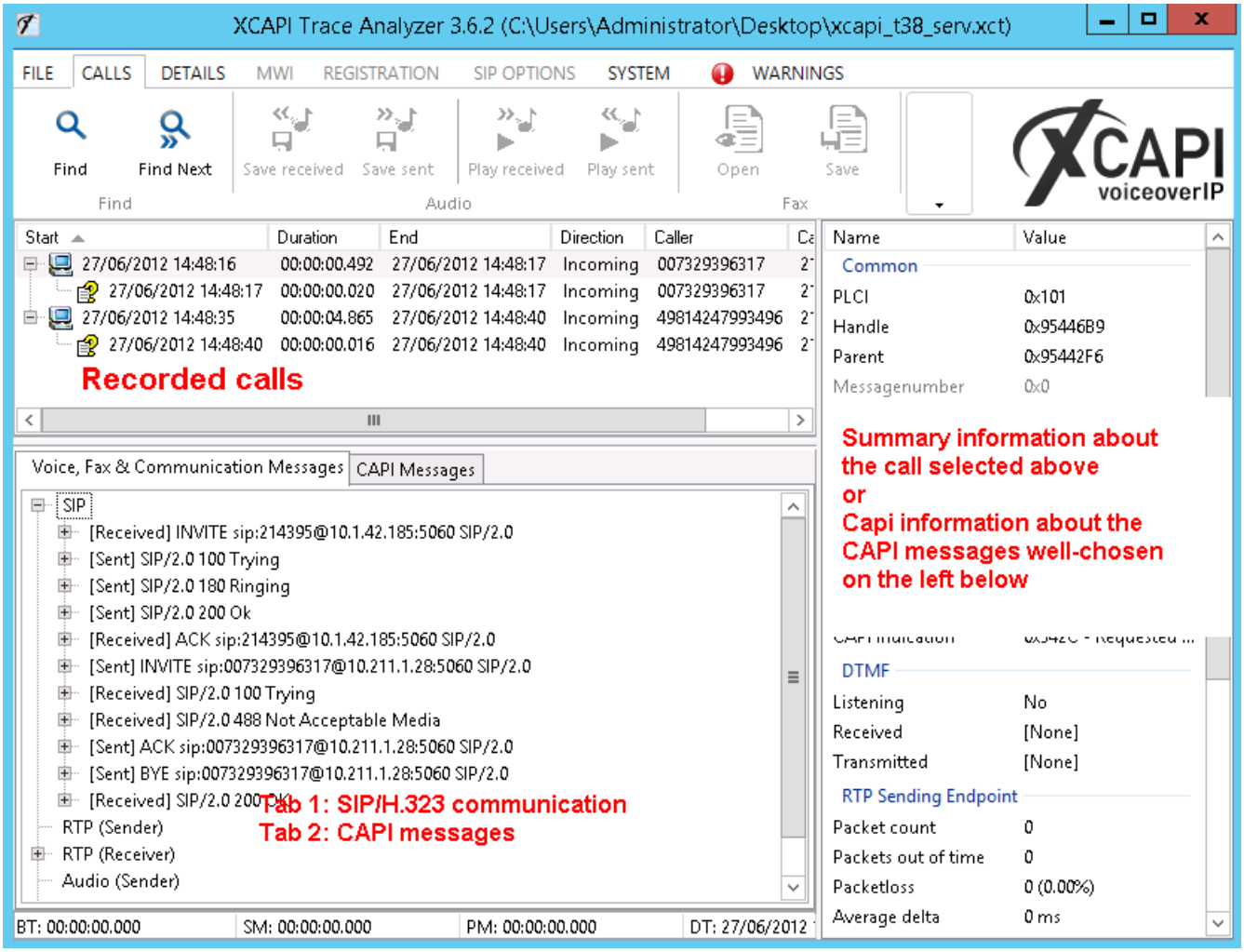


CAPI messages should be carried out by every telecommunication technician.

To open the trace, click on "Analyze" or open the trace by double-clicking on the created file.
In this case, you must first link the file "with the tool" xtraceanalyzer.exe "in the installation directory of the XCAPI.

Apart from the extensive menu, the view is divided into 3 areas:

Top left:
List of recorded calls / events. Select the desired call to display the detailed information in the further windows.
Bottom left:
Depending on the selection of the tab, the SIP / H.323 packages or the CAPI messages can be seen. Open the individual entries to get more information about each section.
The evaluation on TAB1 is only relevant for SIP
Right:
Some important parameters for the SIP / H.323 communication resp. Detailed presentation of the CAPI news



Notifications:

- When "Softfax" is used, you can listen / save the transferred voice data.
- If red values are displayed in the right area under "RTP-Sender" / "RTP-Receiver", the files are delayed or not transmitted at all. In this case, check the network and settings for the VMWare. You will also get problems when clicking on the red! Is displayed.
- You will receive information on the SIP messages, e.g. In RFC 3261

11.4 ixi-UMS Business virtualisiert

If ixi-UMS Business is installed in a virtual environment, note the following:

Voice applications are by no means as real-time-prone as fax applications. This is very important in the resource configuration and planning of the virtual environment, as, for example, database servers can deal with time delays much better than fax applications. The intention here is to distribute the resources optimally to the existing VMs.

Basic / general to virtual environments:

- **Fixed MAC address**
  If ixi-UMS Business is installed on a virtualized operating system, please note that the MAC address must be fixed, otherwise the license will be invalid after moving to another server.
- **Assigning system resources (resource pools)**
  In many virtual environments, you can perform a CPU reservation for individual VM clients. If possible, you should assign at least one CPU with all available cores of the ixi-UMS Business VM. In addition, the VM should be allocated sufficient RAM (without ballooning). Thus, the power-reducing swapping out of RAM to the hard disk (swapping) is prevented.
- **For VoIP: Configuration of the PSTN gateway (large jitter buffer) as compensation for the RTP differences**
  Not only the time differences of the RTP packets within the virtual environment can lead to a fax break, but also the correction behavior of the PSTN gateway used. Therefore, it is highly recommended to increase the jitter buffer accordingly in order to buffer these time differences sufficiently and prevent crashes.

The following is a few specific configurations

- VMware ESXi Server version 5.5 or higher
- Microsoft Hyper-V environment

11.4.1 VMWare ESXi

The company Te-System, manufacturer of the XCAPI, strongly recommends following configuration of the virtual machines.
In the event of a fault, eg in the case of connection interrupts during transmission, no support is provided if subsequent configurations have not been carried out.

The original document of the company TE-Systems can be requested in ixi-UMS Support.

Introduction

This document is intended to support you with the configuration of the VMware ESXi Server version 5.5 for optimal XCAPI interoperability.
In this guide, we are going to adjust the resource management of the VMware ESXi Server for sufficient system resources that will be assigned exclusively to XCAPI, assuring an operation without the disruptions that are common when sharing hardware resources between several guest operating systems.
At this point, we suppose that the hardware the VMware ESXi Server is running on and the software installations, particularly the VMware ESXi Server itself and the guest operating systems, are already installed properly. Here the vSphere client is used for configuring the VMware ESXi Server that has to be installed separately on a workstation, assuring access to the VMware ESXi Server.

For some extended information on installation procedures regarding the VMware ESXi Server and the virtual machines, please refer to the respective manuals.

Note:
Using the latest VMware ESXi server version, at least version 5.5, is recommended.

Requirements for VMware environments

Transmitting facsimile data in real-time requires the activation of the Pseudo Performance Counters for VMware and XCAPI.

Please note that VMware Snapshots significantly impact the performance and thus interfere the real-time behavior of the media stream within a virtual environment. For this reason VMware point-out that Snapshots shouldn't run in production on a permanent basis for virtual machines. Thus **it's necessarily required that Snapshots won't be used on the guest systems**.

For more details please review the VMware knowledge base entry http://kb.vmware.com/kb/1009402.
Please review the knowledge base entry http://kb.vmware.com/kb/1008360 for additional information about VMware performance.

Please take note of the following requirements for VMware environments:

- **No VMware Snapshots utilization.**
- **Enabling the VMware performance counter for real-time based applications and protocols.**
- **Disabling of the Power Management in the host Bios and vSphere.**

Further information, especially in the case of high channel and fax usage, are given in the following documents:
• Deploying Extremely Latency-Sensitive Applications in VMware vSphere® 5.5
• Best Practices for Performance Tuning of Latency-Sensitive Workloads in vSphere® VMs
• Performance Best Practices for VMware vSphere® 6.0
• Power Management and Performance in VMware vSphere® 5.1 and 5.5

Configuring VMware ESXi Server

This guide describes the configuration of the VMware ESXi Server using the vSphere client. We suppose that up to now, the configuration of the VMware ESXi Server was limited to the installation of virtual guest operating systems on the server.

XCAPI License

The license key is amongst other things bound to unique MAC addresses of a network interface. This does not apply to virtual machines as the Mac address can be easily manipulated and thereby this would make an XCAPI license invalid. Please avoid Mac address manipulation in any circumstances after requesting a XCAPI license.

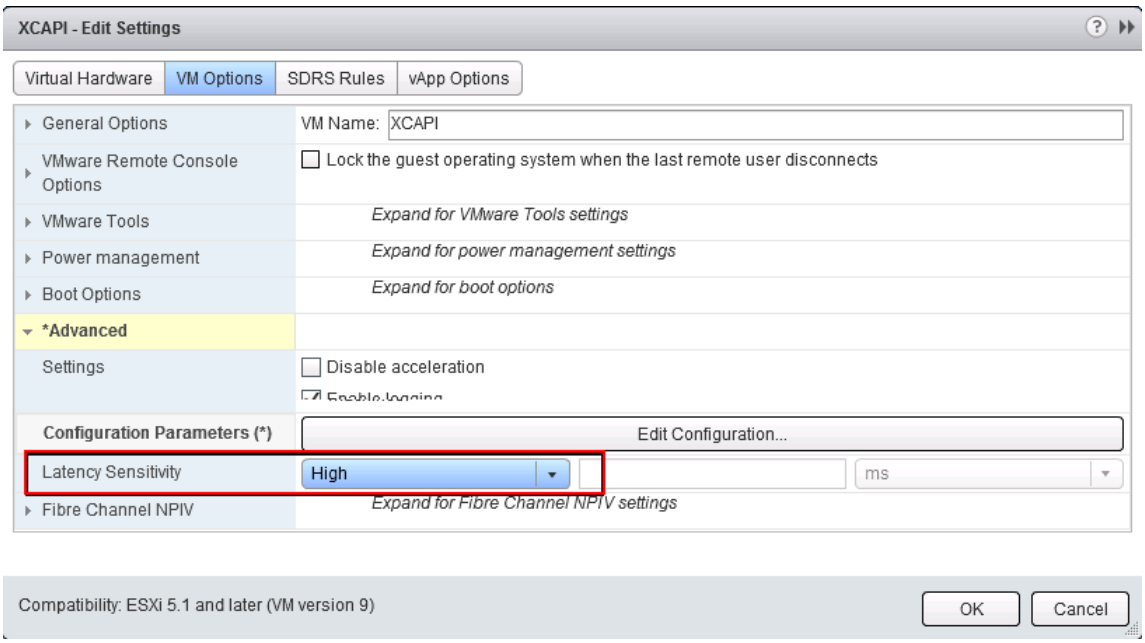
Please bear in mind that this also includes virtual machines movements. At this juncture you will be asked to choose a new Identifier at the first reboot. Without exception you have to select the option Keep its old identifier.
For ESXi server requests about Did you move this virtual machine, or did you copy it? has always to be confirmed with I moved it.
When generating a new identifier by means of Create, the Mac address of the virtual machine will be changed and thus the XCAPI license will become invalid.

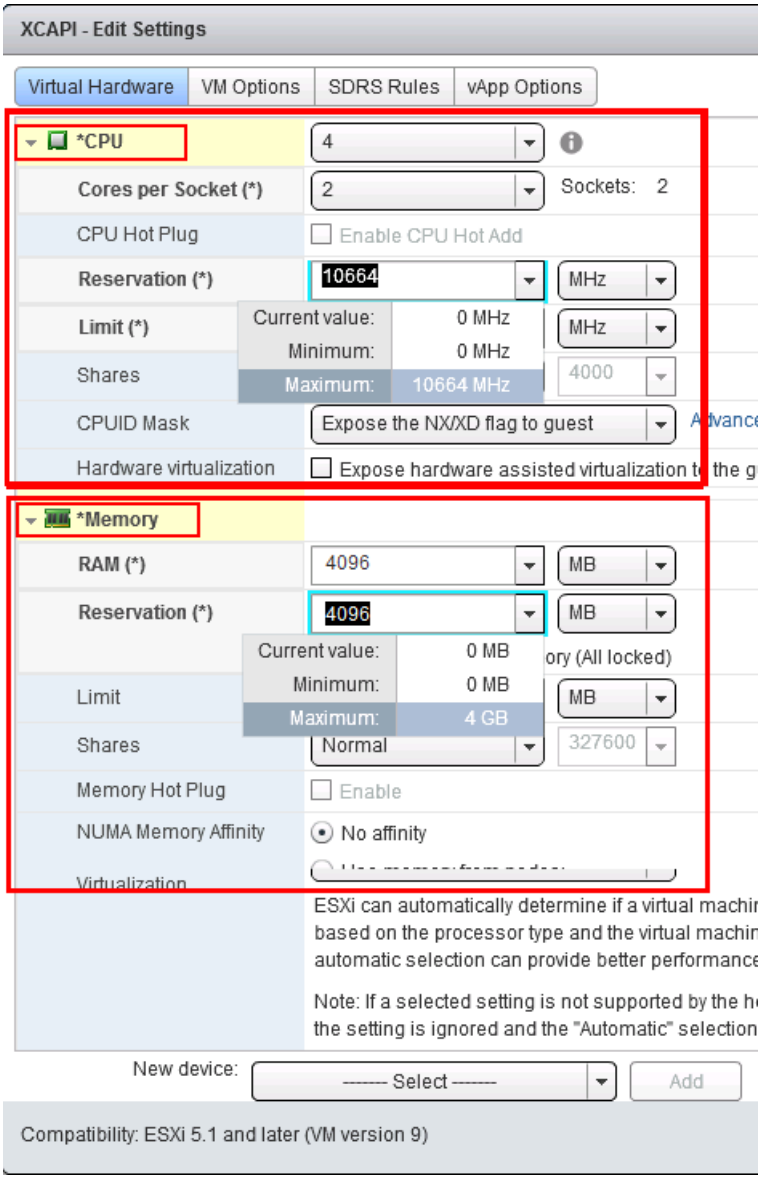
You can avoid such issues in advance by allocating a fixed Mac address for the virtual machine before installing the XCAPI. The Mac address must be set to 00:50:56:XX:YY:ZZ (http://kb.vmware.com/kb/507).
The variables XX, YY and ZZ can be valued with:
XX : 00h–3F h,
Y Y : 00h–F F h,
ZZ : 00h–F F h.

If the virtual machine will be moved after XCAPI installation, the MAC address can be reverted to the manually defined value afterwards for appropriate use of the original XCAPI license, presuming an untouched virtual machine.

CPU, Memory, Latency Sensitivity

When using VMware 5.x, the latency sensitivity in the virtual machine properties - Advanced must be set to High.





Please consider to reserve 100% of the CPU to guarantee exclusive PCPU access. This helps to reduce CPU halt/wake-up states.

Please note that the number of physical CPUs in the host are above the amount of allocated virtual CPUs. If this is ensured and detected by the VMware ESX Server, no CPU affinity has to be assigned.

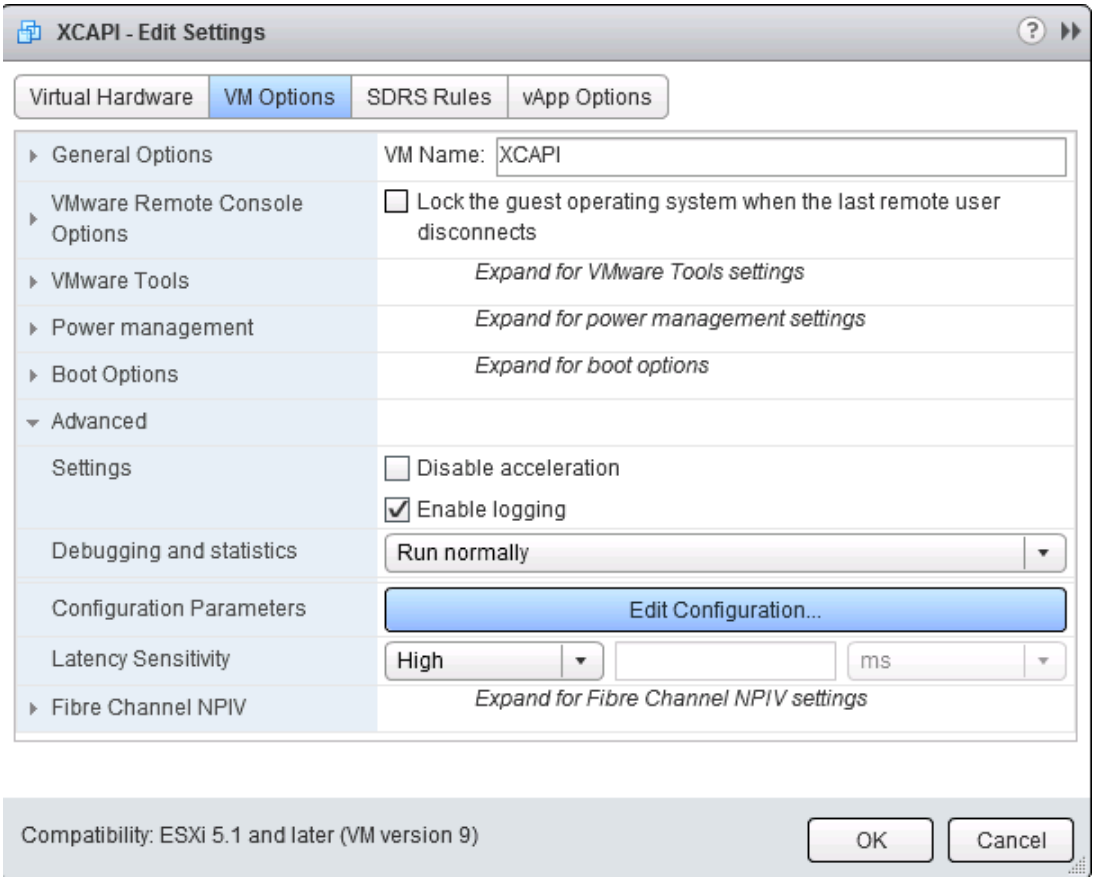
Additionally, a 100% memory reservation is required.

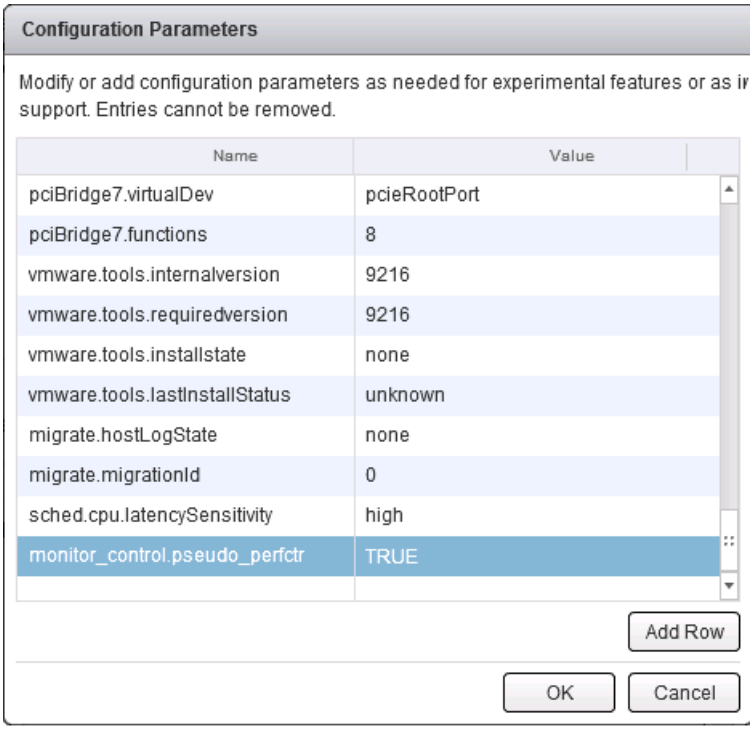
Improving Real-Time Performance

Up to a certain degree, the XCAPI can cope with time shifts in the virtual machine which is a general problem when a virtual machine does not have sufficient CPU time due to other time-consuming processes on the host. Without this adjustment, real-time applications like Softfax are not feasible because of gaps in the audio stream which can lead to aborted fax transmission.

Pseudo Performance Counter for VMware ESXi Servers

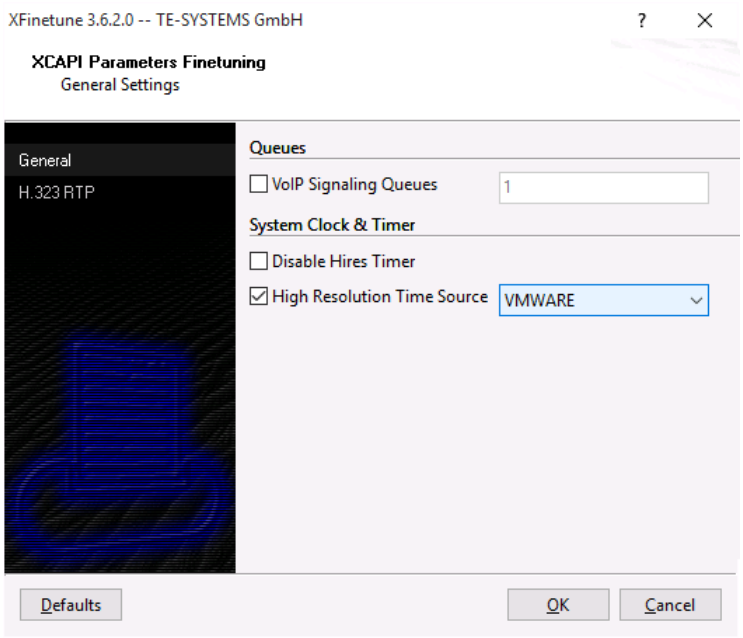
For setting up the pseudo performance counter for an ESXi server, you need to stop the VM with the running XCAPI and open the property configuration dialog. Beneath the Advanced settings, please open the Configuration Parameters dialog.

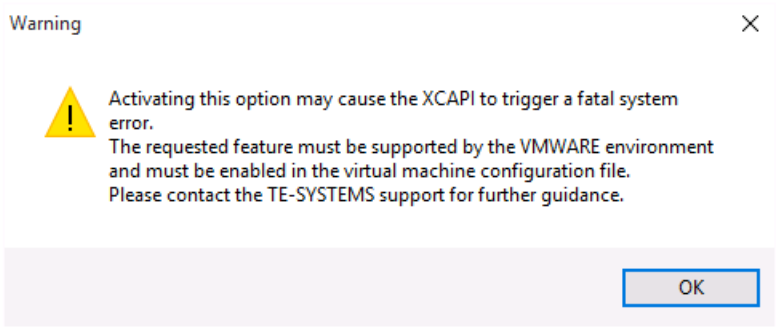




Next, please use the Add Row button for entering the command monitor_control.pseudo_perfctr.

Enable this parameter with value TRUE. Afterwards you can start the VM again.





Pseudo Performance Counter support for XCAPI

If the pseudo performance counter has not been enabled, but the XCAPI timer source has been set to VMWARE, this function call will instantly lead to a system error within the related VMware session. Please ensure that the pseudo performance configurations are done before switching the timer source.

For enabling XCAPI pseudo performance counter support, you need to run the configuration tool xfinetune.exe.
This executable can be found in the installation folder of ixi-UMS Business\XCAPI. There, you have to activate the option High Resolution Time Source within the General Settings.
Please select the option VMWARE for the time source parameter.

Afterwards, you will be informed about the fact that this configuration can only be made when the pseudo performance configurations were made previously.

11.4.2 Microsoft Hyper-V

The company Te-System, manufacturer of the XCAPI, strongly recommends following configuration of the virtual machines.
In the event of a fault, eg in the case of connection interrupts during transmission, no support is provided if subsequent configurations have not been carried out.

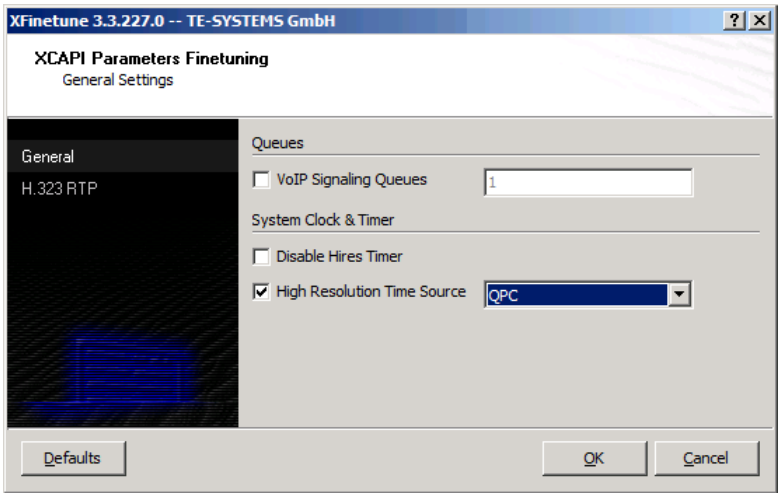
The original document of the company TE-Systems can be requested in ixi-UMS Support.

Introduction

This document is intended to support you during the configuration of the XCAPI in a Microsoft Hyper-V environment. For this we are going to adjust the energy options and the clock source of the Microsoft Hyper-V for sufficient timing behaviour, assuring an operation without disruptions which are commonly based on wrong CPU clocking between several guest operating systems and the host. Please note that it is essential testing the Microsoft Hyper-V and VoIP environment for sufficient resource and real-time behaviour.
For some extended information on installation procedures regarding the Microsoft Hyper-V and the virtual machines please refer to the respective manuals. A short installation manual for the XCAPI is available at XCAPI Website.

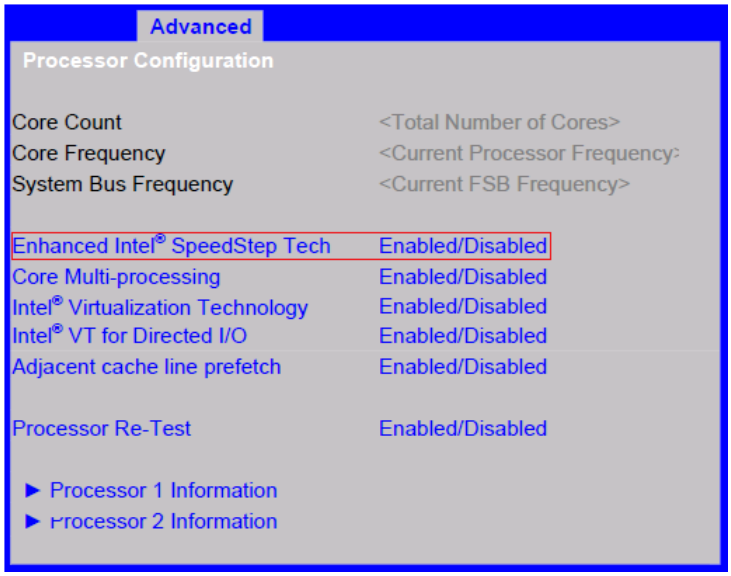
Improving Real-time Performance

Up to a certain degree, the XCAPI can cope with time shifts in the virtual machine which is a general problem when a virtual machine does not have sufficient CPU time due to other time-consuming processes on the host. Without this adjustment, real-time applications like Softfax are not feasible because of gaps in the audio stream which can lead to aborted fax transmissions.



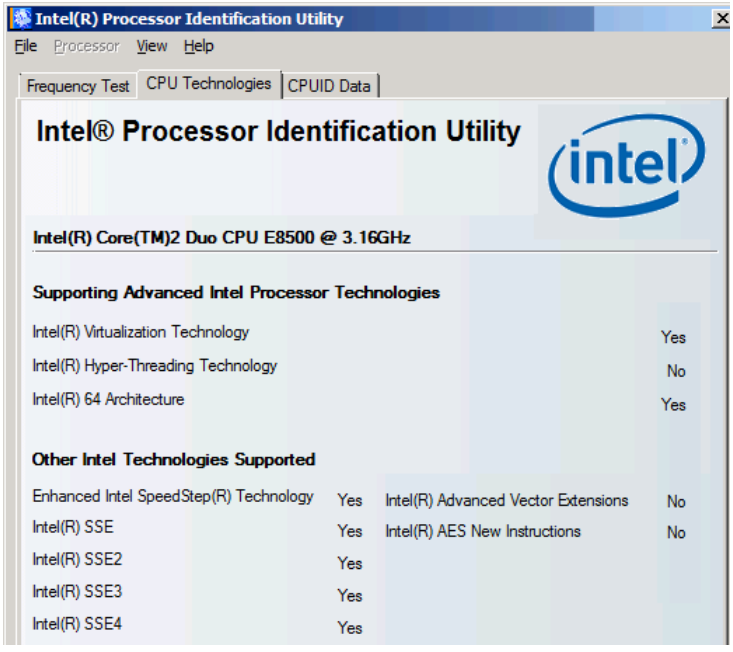
Query Performance Counter Support inside the XCAPI

For enabling XCAPI Query Performance Counter (QPC) support, you need to run the configuration tool xfinetune.exe. This executable can be found in the installation folder of the XCAPI. There you have to activate the option High Resolution Time Source within the General Settings. Please select the option QPC for the time source parameter. Afterwards, please restart the CAPI application.



Enhanced Intel SpeedStep(R) Technology

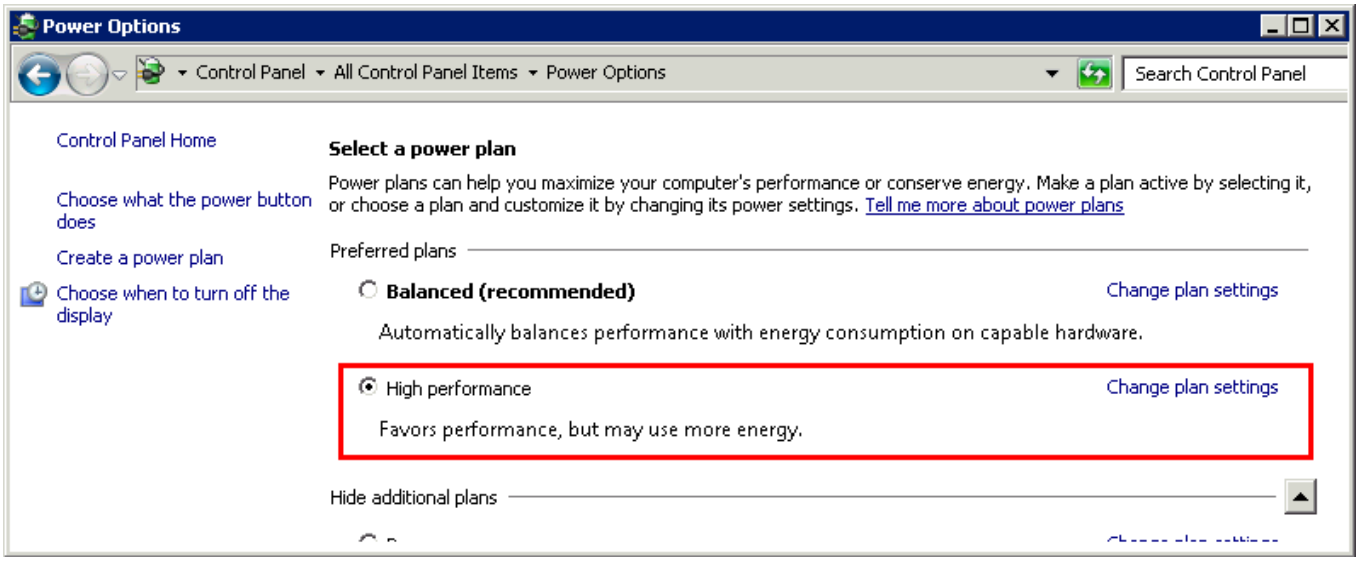
Please review the Bios of the Hyper-V host and disable all related Enhanced Intel SpeedStep(R) Technology settings.



You could use the Intel(R) Processor Identification Utility to verify the SpeedStep(R) technology support of the CPU.

Power Options

Additionally you might have to disable any Power Options within the Windows host and client. Referring to this, please review also the BIOS settings.



If necessary, the power scheme can be set via the CLI/CMD:

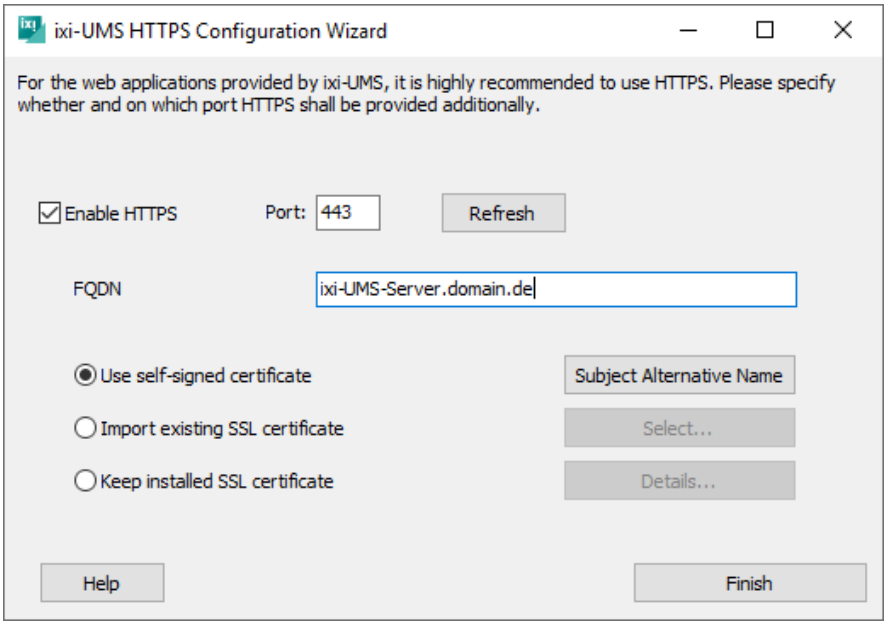
```
C:\Windows\system32>powercfg.exe -L

Existing Power Schemes (* Active)
-----------------------------------
Power Scheme GUID: 381b4222-f694-41f0-9685-ff5bb260df2e  (Balanced) *
Power Scheme GUID: 8c5e7fda-e8bf-4a96-9a85-a6e23a8c635c  (High performance)
Power Scheme GUID: a1841308-3541-4fab-bc81-f71556f20b4a  (Power saver)

C:\Windows\system32>powercfg.exe -setactive 8c5e7fda-e8bf-4a96-9a85-a6e23a8c635c

C:\Windows\system32>powercfg.exe -L

Existing Power Schemes (* Active)
-----------------------------------
Power Scheme GUID: 381b4222-f694-41f0-9685-ff5bb260df2e  (Balanced)
Power Scheme GUID: 8c5e7fda-e8bf-4a96-9a85-a6e23a8c635c  (High performance)*
Power Scheme GUID: a1841308-3541-4fab-bc81-f71556f20b4a  (Power saver)

C:\Windows\system32>
```

11.5 SSL Support

The web pages for the ixi-UMS Business Configuration and the ixi-UMS Business Portal with the browser-based pages "ixi-UMS Web Journal", "ixi-UMS User Information" and "ixi-UMS Voice-Mailbox Configuration" are provided by default via HTTP on port 8890. You can also publish them via HTTPS.

To do so, the Apache HTTP Server installed with ixi-UMS Business must be set up and an SSL certificate must be deposited.

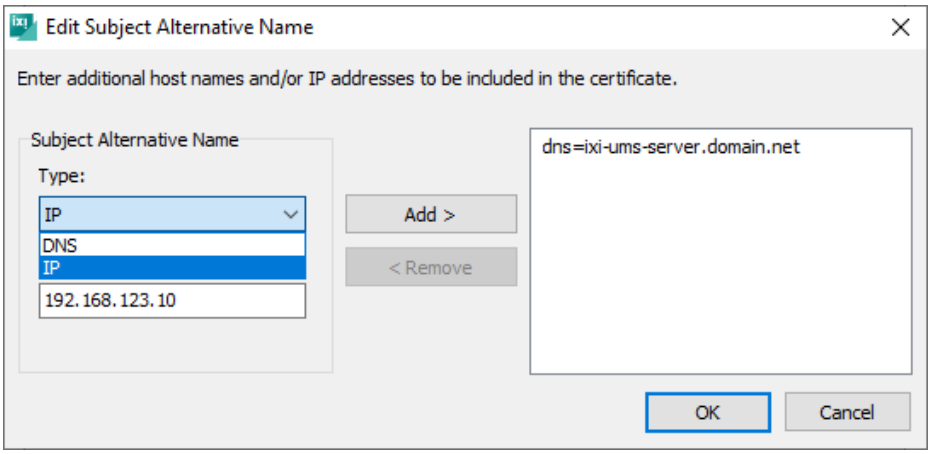
Start the "ixiHttpsConfig.exe" in the directory ...\ixi-UMS Business\ixi-Framework\Tools\HttpsConfig



To use HTTPS a SSL certificate is necessary.
You can

- create from the setup a selfsigned SSL certificate,
- import an available SSL certificate
- or (with an update) already in the Apache servers available certificate take over.

On the internal network a selfsigned certificate is sufficient to use the websites from ixi-UMS Business.



If a self-signed certificate is to be used, additional "Subject Alternative Name" (SAN) can be specified as DNS name or IP address during creation.

When "Save and Exit" is chosen, the certificate is stored in the Apache HTTP Server. The required restart of the service is queried.

A self-created and self-signed certificate must be imported into the certificate store of the local computer on all computers (which should use this certificate) under "Trusted Root Certification Authorities".

11.6 Rendering of Office Documents

"Office Documents" usually mean word processing files, table calculations and presentation files.
The most common formats are:

Word Processing		Table Calculation	
File Endings	**Software**	**File Endings**	**Software**
.docx, .doc, .rtf	Microsoft Office	.xlsx, .xlsm; .xls	Microsoft Office
.odt .sxw	OpenDocument	ods	OpenDocument

When e-mails with an attached Office-document shall be sent as fax, this attachment must be "rendered" into a fax-capable format.
In order to be able to render attachments, the respective application must be installed on the ixi-UMS Business machine,.

Tested by estos GmbH for the rendering of "Office-documents":

Microsoft Office from version Office 2010 on
OpenOffice.org from version 4.0 on
LibreOffice from version 6 on

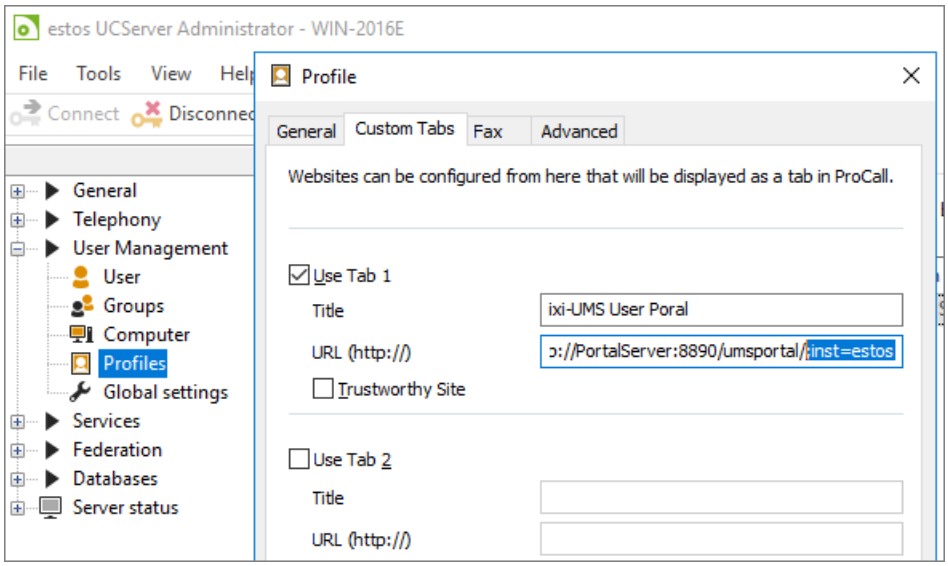
The Office-package should always be installed "User-Defined - Complete".
After the installation, the applications must be opened with the ixi-UMS Business installation account. All messages and notes must be terminated in such a way that they no longer appear when they are reopened.

Automatic updates should be disabled.

Please bear in mind, that a loss in formatting may occur when for the rendering, another rendering software is used at the server than at the clients.

11.7 ixi-UMS Business Portal in ProCall

The ixi-UMS Business Portal can be made available to the users as a "Custom of tab" in the estos ProCall. If these sides are made available to the users, some settings / options are to be considered:
Open the UCServer Administrator.
Open the Profile in menue "User Management - Profiles"



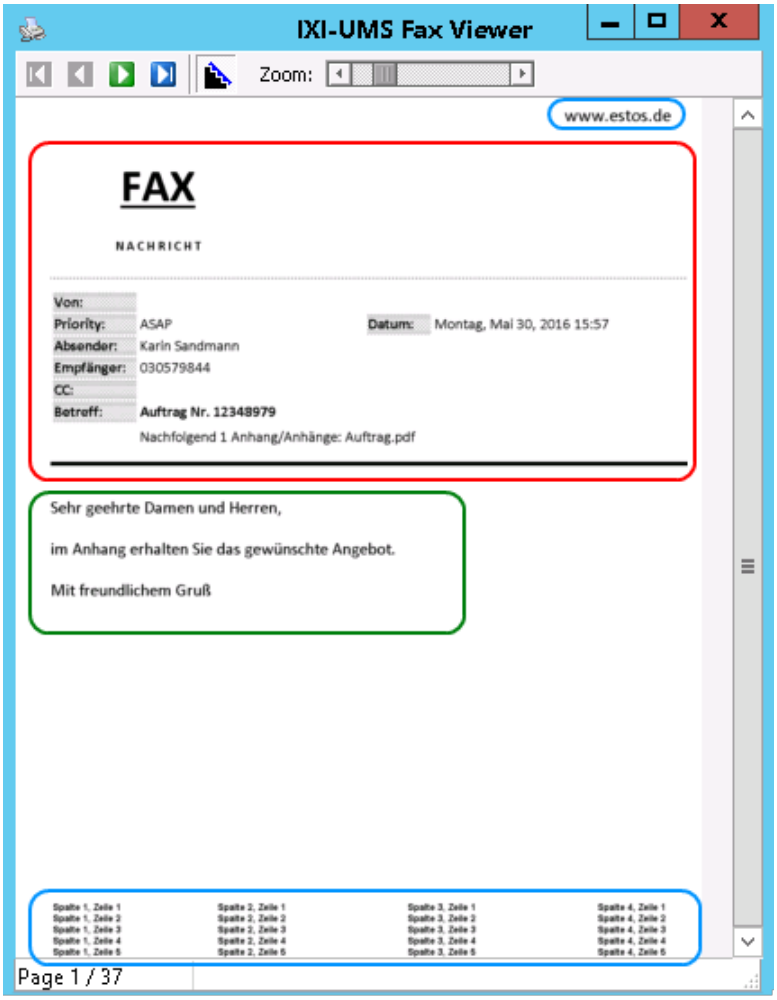
Put down the URL of the ixi-UMS Business Portal on the configuration.

Note:
In conjunction with ProCall 6 Enterprise and shared user management in the Active Directory, logon to the ixi-UMS Business Portal can be done via "Single-Sign-On".
To be able to use the shared login the UCServer must be entered in the ixi-UMS Business and the "Trusteworthy Site" must be activated in the Custom tabs.

The ixi-UMS Business server communicates with the estos UCServer via the standard ports 7224 and 7225 (for HTTPS) of the UCServer.

11.8 Creating Coverpages

A cover page consists of several parts:



Fax coverpage
(crate and change fax.htm)

Layout
(crate and change layout.htm)

SMS "Layout"
(sms.htm)

VCard (Optional)
(vcard.htm)

The single parts are shown below:

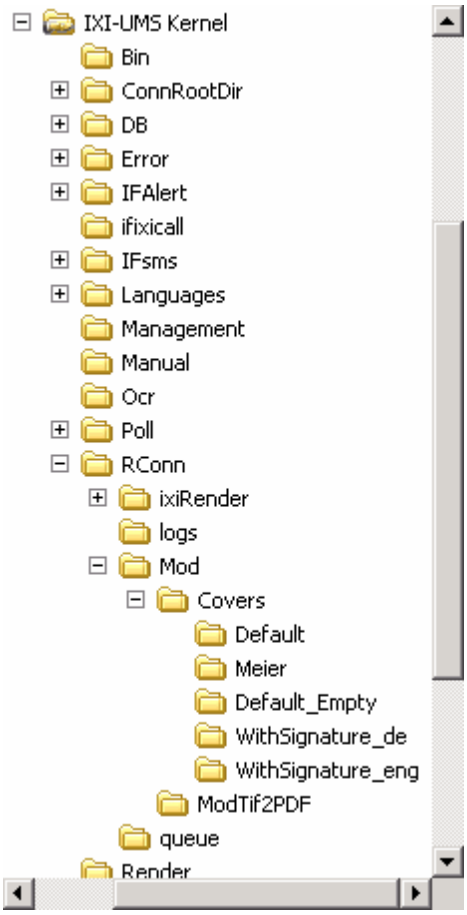
Red:	coverpage
Green:	#content tag
Blue:	layout

For more detailed information, please follow the links.

11.8.1 Adding Coverpage-Folders

The coverpages and layout-files are deposited in a folder. All the inserted pictures must also be stored in this folder.
Default paths:
.\ixi-UMS Business \ixi-UMS Kernel\Rconn\Covers

The assignment which user shall use which coverpage is determined in the user administration. There, the **folder name** must be entered. In this folder, all the required files and pictures must be deposited.
160/5000
To make a new, additional coverpage available, only a new folder with the required files must be stored in the "root directory".



In the folders, at least a Fax.htm and a SMS.htm must be deposited.
The other files are optional. If pictures are inserted, they have to be stored in the folder as well.

It is determined in the Fax.htm and SMS.htm, which part of the message shall appear where.

<#Subject> = subject line
<#Content> = bodytext

At least the bodytext should appear on the coverpage.

11.8.2 Creating or Processing Coverpage

The fax coverpage is defined by the "fax.htm" and therewith is created in HTML-format. Please note that not every HTML-editor can be used.

There are two criteria for the editor to be used:

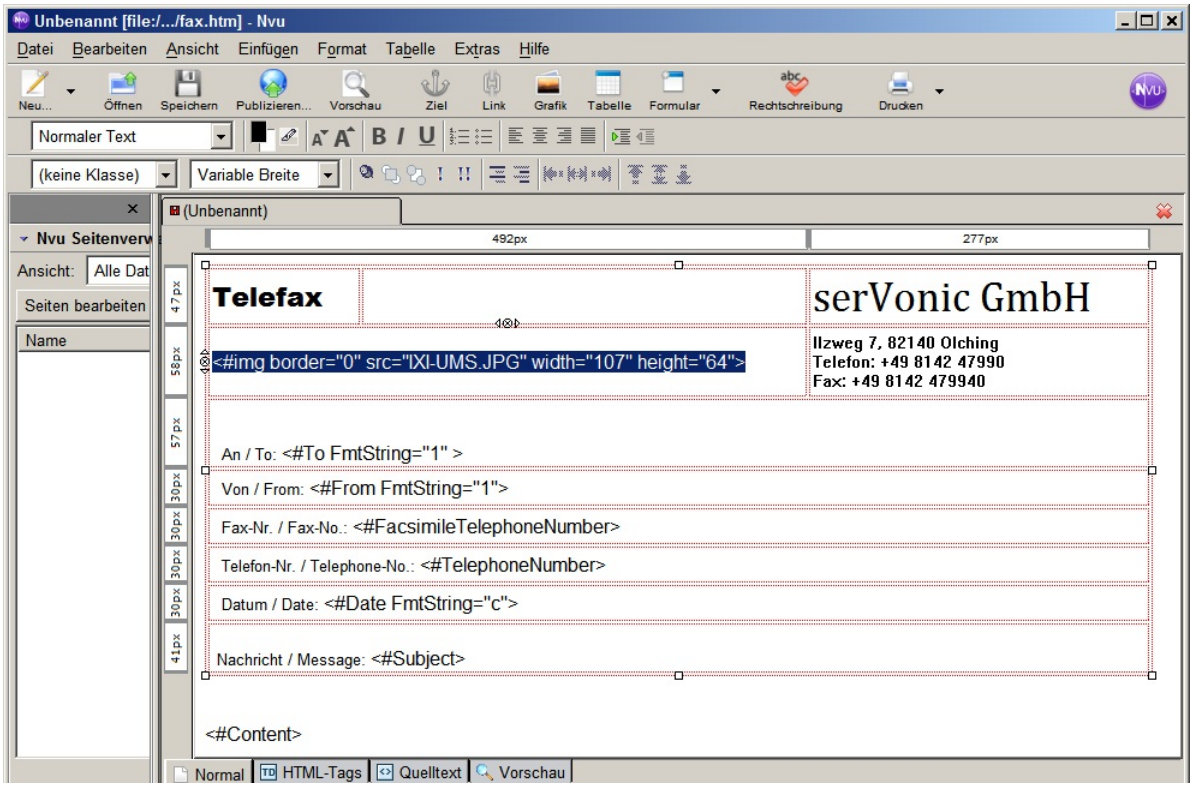
1. Some HTML-editors insert unnecessary "tags" when creating the page, by which the coverpage cannot be processed any more.
2. The %PRODUKTNAME% Render Connector processes some "special" HTML-tags, which are not supported by any editor.

Ideal is the use of Notepad (editor) for the change of the fax.htm.

As grafical-based HTML-editor, the free "NVU" in version 1.0 has been tested. In order to remove the "tags" added by it or convert them into a character valid for the ixi-UMS Business Render Connector, a "CoverPageConverter" is added from ixi-UMS Business Version 5.85 on.

The "Converter" is is deposited at "ixi-UMS Business Kernel\Rconn\Tools" after the installation. The language can be changed in the "CoverPageConverter_localization.ini".

Create your coverpage in NVU:

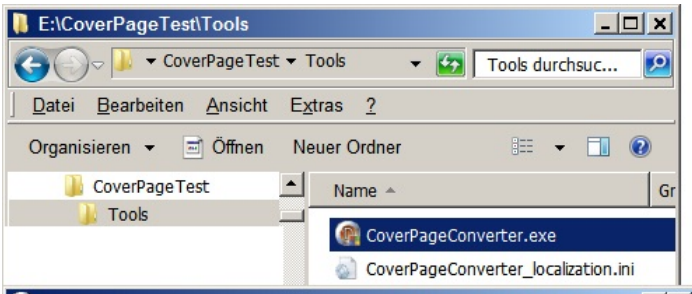


Please pay attention to the following:

- Pictures to be inserted should be stated in the following form **including** the picture size:
  <#img border="0" src="ixi-UMS Business.JPG" width="107" height="64">
- Please take care that the page is not too wide.
- The font types used must be available on the ixi-UMS Business Server.
- The font sizes should not be too small as there is a loss of quality with the fax sending.

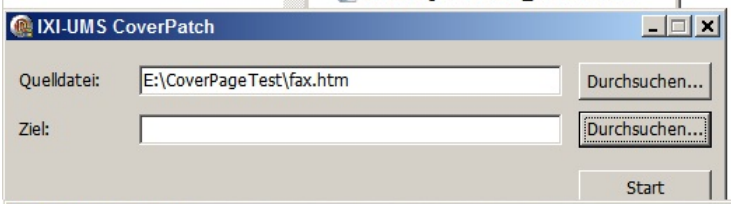
Store the page as "fax.htm" on the hard disk. The "page title" asked for then is irrelevant.

Copy the folder with the "CoverPageConverter.exe" to the machine, on which the fax.htm is stored.

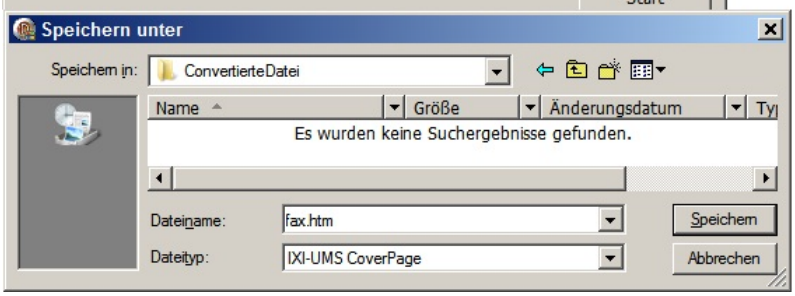


Start the EXE by double-click.

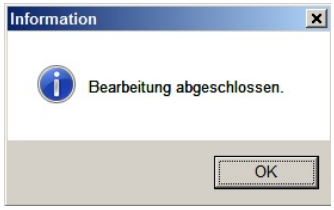
Select the created fax.htm.



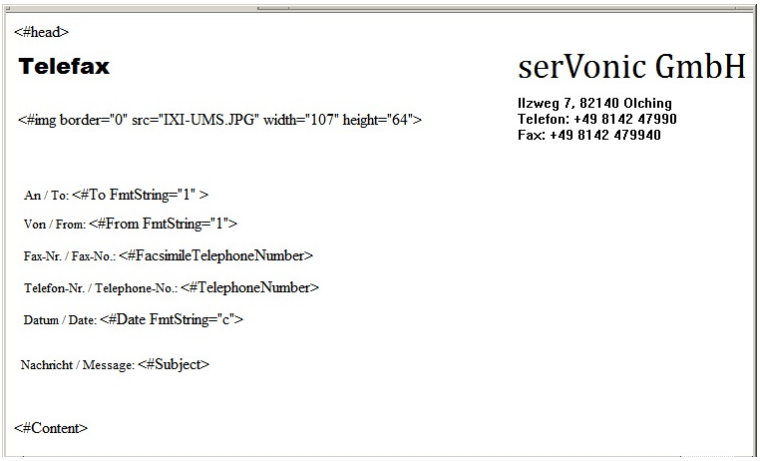
Select the destination folder, which may be the same one.
Please take into account that then the "original" fax.htm is overwritten.



When both folders are selected, please click on "Start".
After the processing, a respective message appears.



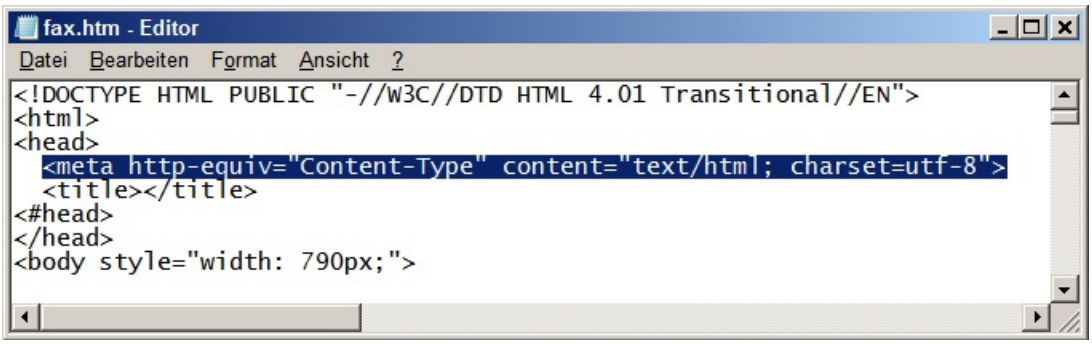
When the fax.htm now is opened in the web browser, it sould be displayed like that:



On the top left: <#head>

The picture is NOT displayed!

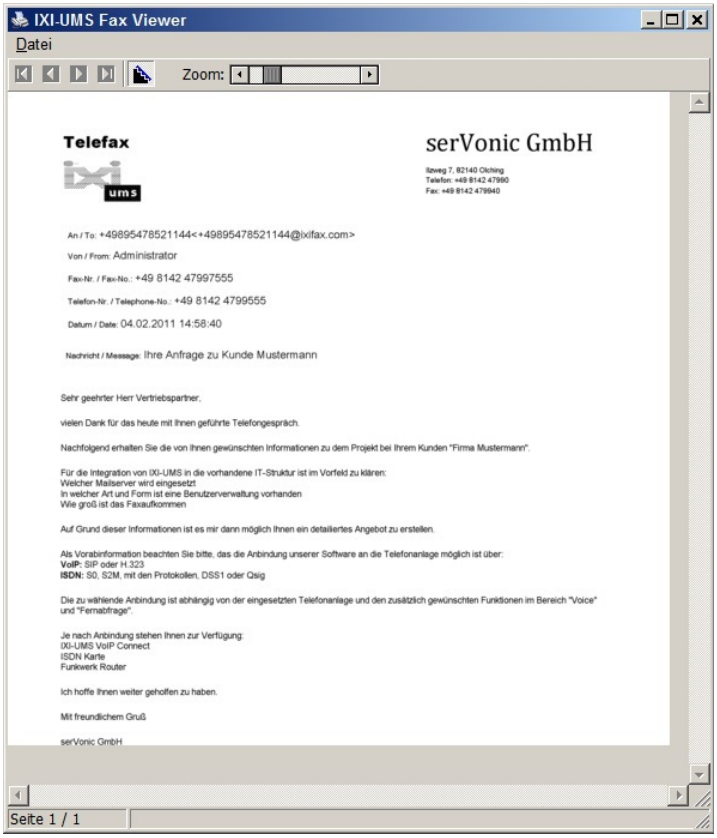
Open the fax.htm and check the coding:



If another coding is entered, please change this here.

Copy the fax.htm and all the required pictures to the respective folder at ...\ Rconn\Cover
Restart the Render Connector and send a fax.

After the rendering or the sending, the result should look like this:



Depending on the fax viewer and the use of a Layout.htm, only the printed part or a complete DIN A4-page are displayed with a TIFF-format.

We highly recommend that you print the result and adjust the margins, if necessary.

If an ixi-UMS Business FAPI Connector with txt-files as attachment is deployed, a special Fax.htm may be required. The font type and maybe the font size must be defined in this:

Example:
Font Type = Courier New
Style = Bold

```
<html>
 <head>
        <meta http-equiv="Content-Type" content="text/html; charset=utf-8">
        <#head>
 </head>

<body>
<p><strong><font face="Courier New"><#Content></font></strong></p>
</body>
```

11.8.3 Adjusting the Print Area

The bodytext of a fax is printed "into" the coverpage.

Depending on the structure and the content of the coverpage, problems with the print area may arise.
The margins are too narrow or the text is printed into the footnote inserted in the Layout.htm.

The width of the margins (print area) can be adjusted in the ModMHTML.ini at ..\RConn\Mod.

```
        [Margins]
        # in cm
Left:   Left=1.5
Right:  Right=.25
Top:    Top=1
Bottom: Bottom=1
```

After having changed the values, the ixi-UMS Business Render Connector service must be restarted.

11.8.4 Tags and Attributes

On the coverpage, only information can be displayed that are available in the outgoing message (Tmp-File). Basically, the following information is available that is used in the coverpage:

Header Fields in Tmp-file	**Source / Default LDAP-Field**	**HTML-Tag in Coverpage**
From:	Mime-Header	<#from>
To:	Mime-Header	<#to>
cc:	Mime-Header	<#cc>
bcc:	Mime-Header	<#bcc>
Date:	Mime-Header	<#date>
Subject:	Mime-Header	<#subject>
Importance:	Mime Header	<#Priority>
Attachments:	Mime Header	<#Attachments>

Please note the remarks at "Format Hints and Options" as well.

11.8.4.1 Sender Information

The sender information delivered by ixi-UMS Business are written into the outgoing message (tmp-file) and then can be adopted into the coverpage "fax.htm" .

Header Fields in the Tmp-file	**Source or Default LDAP-field**	**HTML-Tag in Coverpage**
X-COVERINFO-Businessfax:	facsimiletelephonenumber	<#facsimiletelephonenumber>
X-COVERINFO-Businessphone1:	telephonenumber	<#telephonenumber>
X-IFAXDATA-SenderID:	IXIISDNOriginatingAddress (from the ixi-UMS Business user data attribute)	<#IXIISDNOriginatingAddress>
X-IFAXDATA-DChID:	IXIFaxSenderNumber (from the ixi-UMS Business user data attribute)	<#IXIFaxSenderNumber>
X-COVERINFO-Company:	company	<#company>
X-IFAXDATA-Department:	department	<#department>
X-COVERINFO-Address:	streetAddress, postalCode l - physicalDeliveryOfficeName	<#address>

Header Fields in the Tmp-file	Source or Default LDAP-field	HTML-Tag in Coverpage
X-COVERINFO-Street:	StreetAddress	<#StreetAddress>
X-COVERINFO-StreetAlternative:	Street	<#StreetA>
X-COVERINFO-PostalCode:	PostalCode	<#PostalCode>
X-COVERINFO-Location:	l	<#City>
X-COVERINFO-Office:	physicalDeliveryOfficeName	<#Office>

11.8.4.2 Format Hints and Options

With some of the “Tags“, you can determine how the value is displayed, other representations are definitely defined. Please find a list of the characteristics of the tags in the following:

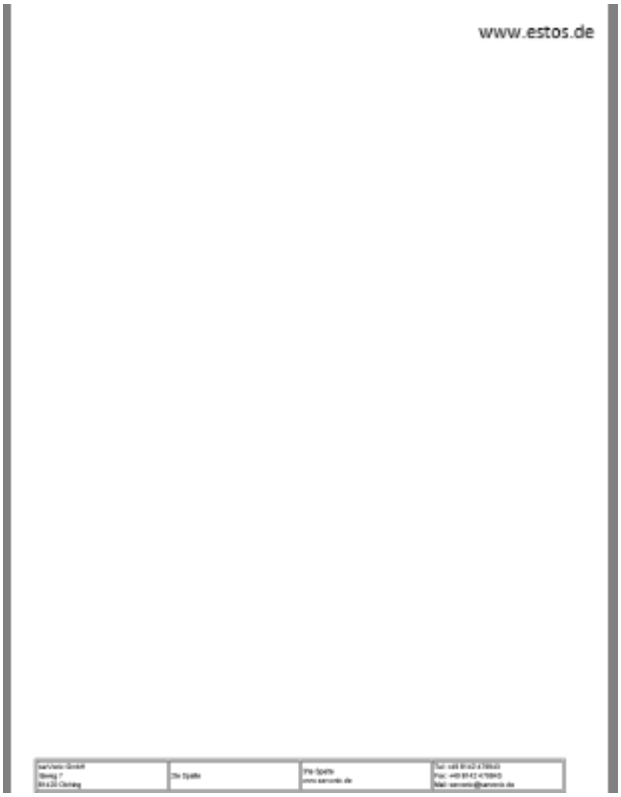
HTML-Tag	Remark
<#address>	Entry until version 5.90; the entry - as until now - consists of: StreetAddress, PostalCode l - physicalDeliveryOfficeName. From version 5.90 on, the fields to be read out are determined by the entry of the fields in the % PRODUKTNAME% SMTP Connector.
<#from> <#to> <#cc> <#bcc>	Must be entered with with format specification. Example: <#From FmtString="1"> `FrmString:` 0: Display name and Address 1: Display name only 2: Address only 3: Everything before the @ of the e-mail address / with IMCEA including the decoding/removal If no display name is available, the e-mail address is entered as display name instead. Exception 1: no letters before the @: -> everything before the @ is used as display name Exception 2: the address begins with IMCEA -> everything before the @ is used as display name, IMCEA is decoded/removed
<#Attachment>	Insert some information about the message attachments, can contain the following parameters: $(attno)=number of attachments $(attlist)=comma-separated list of attachments Example:<#Attachments label="subsequently $(attno) attachment/s: $(attlist)" >
<#Date>	The string can contain specifier to format the message date meeting your needs. Example: <#Date FmtString="dddd, mmmm d, yyyy hh:mm">
<#Priority>	The tag is replaced by the display text corresponding to message priority. <#Priority high="URGENT" normal="ASAP" low="FYI">
<#VCard>	Inserts the vCard template after replacing the tags in it. Will only be applied if the message contains a vCard file.
<#Content>	**Mandatory if the text shall be sent out of the mail body.**

11.8.5 Fax Layouts

The Layout.htm, among other things, defines the size of a page. When a Layout.htm is applied, it is imperative that it is in the correct format. The layout file is always required when the same information shall appear on every page of the fax, e.g. a bank account in the footer or a watermark.

You find an example file with footing line in the folder:....RConn\Covers\examples

You have to take care that only "absolute" position descriptions can be made, e.g. no percentage descriptions can be made with column width.
For the centering, "align="center" is not possible in every case.



Example:

```
<div style="position: absolute; top:1030px; left:30px">
<table border="1" width="100%">
<tr>
<td width="255"><font face="Arial" size="1">
      estos GmbH<br>
      Petersbrunner Str. 3a<br>
      82319 Starnberg </font>
</td>
<td width="255"><font face="Arial" size="1">
      2te Spalte</font>
</td>
<td width="255"><font face="Arial" size="1">
      3'te Spalte<br>
      www.estos.de</font></td>
<td width="255"><font face="Arial" size="1">
      Tel: +49 8142 479943<br>
      Fax: +49 8142 479943<br>
      Mail: vertrieb@estos.de</font>
</td>
</tr>
</table>
</div>
```

The length of a page is approx. 1080px. When a footer is inserted (see example), the upper table height must be stated there (e.g. top:1030px).

For a test, the Layout.tif must be deleted in the cover folder and a new fax has to be sent by the Render Connector. A new Layout.tif is created.

If the footer is very high or if the text in the body is printed into it, the “margin” (printable area) can be adjusted in the ModMHTML.ini at ..\RConn\Mod.

The layout-file is deposited as letter paper at EVERY page. If the layout-file has a footer and attachments (Word, PDF-files) are sent, for example, you have to take care that they have an adequate margin for the footer.

When using the MS Office Viewer, display errors may occur, as the length of the page is not displayed properly.

The test should always be done with a fax with 2 or more pages.

When checking the Layout.tif please take care, that this TIF-file is really in DinA4-format!

If no "fax layout" is needed, the layout.htm and layout.tif in the folder can be deleted.

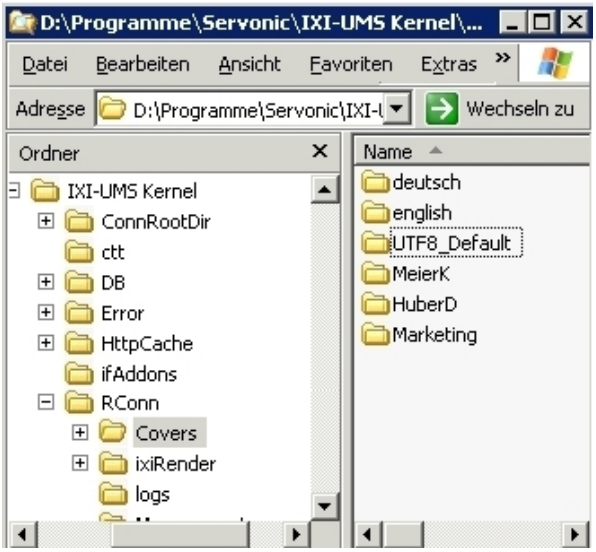
11.8.6 vCard Templates

The vCard template file (vcard.htm) can be used in order to insert data from a vCard attachment file in the message into the resulting fax or sms. Like the coverpage file the vCard template file contains special HTML tags (<#TagName Attributes>) which will be replaced by the corresponding values in the coverpage file.

The following tags can be used:

- Tag
- JobTitle
- Name
- Email
- BusinessWebPage
- HomePhone
- Pager
- Mobile
- BusinessPhone
- BusinessFax
- Department
- Office
- CompanyName
- StreetAddress
- PostalCode
- Nation
- Region
- Locality

11.8.7 Creating Signatures for Fax



Step 1: Create a Message Header for every user

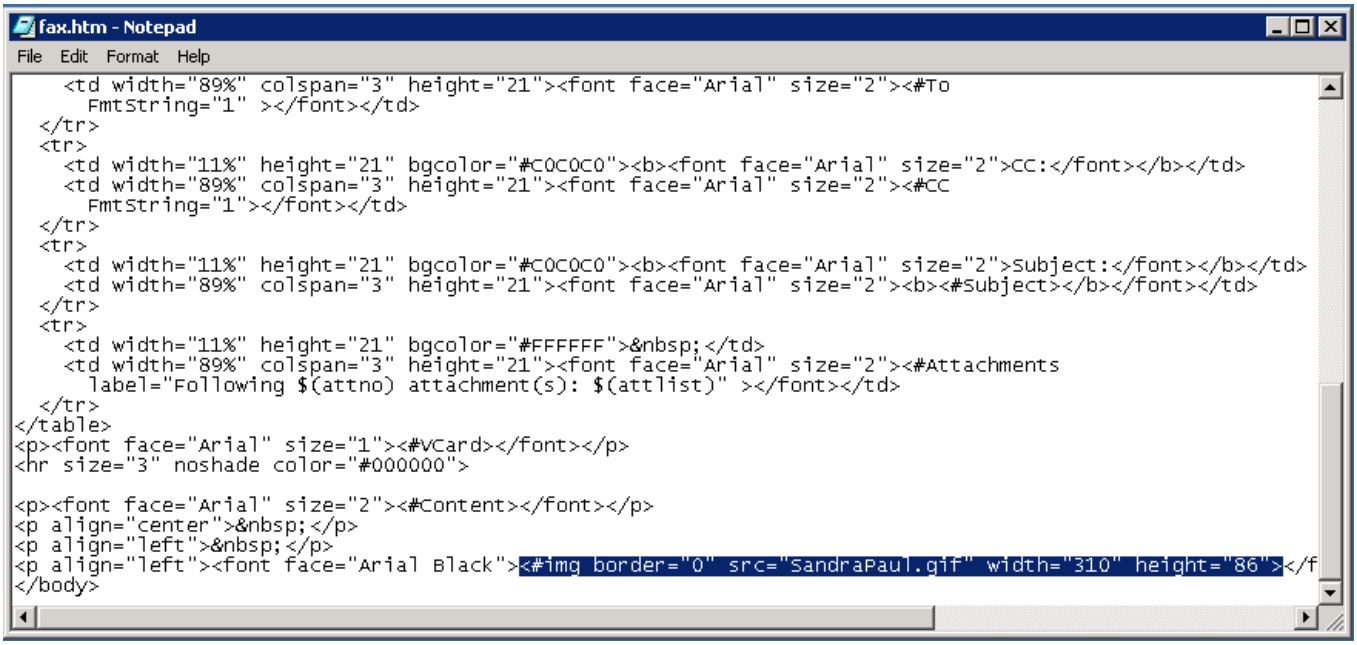
- Create a subdirectory in the covers directory for every user
- Copy the default message header files in every directory

Step 2: Insert the signature

Copy the signature image files to the appropriate message header directory.

The image file can be bmp, gif, jpeg or png

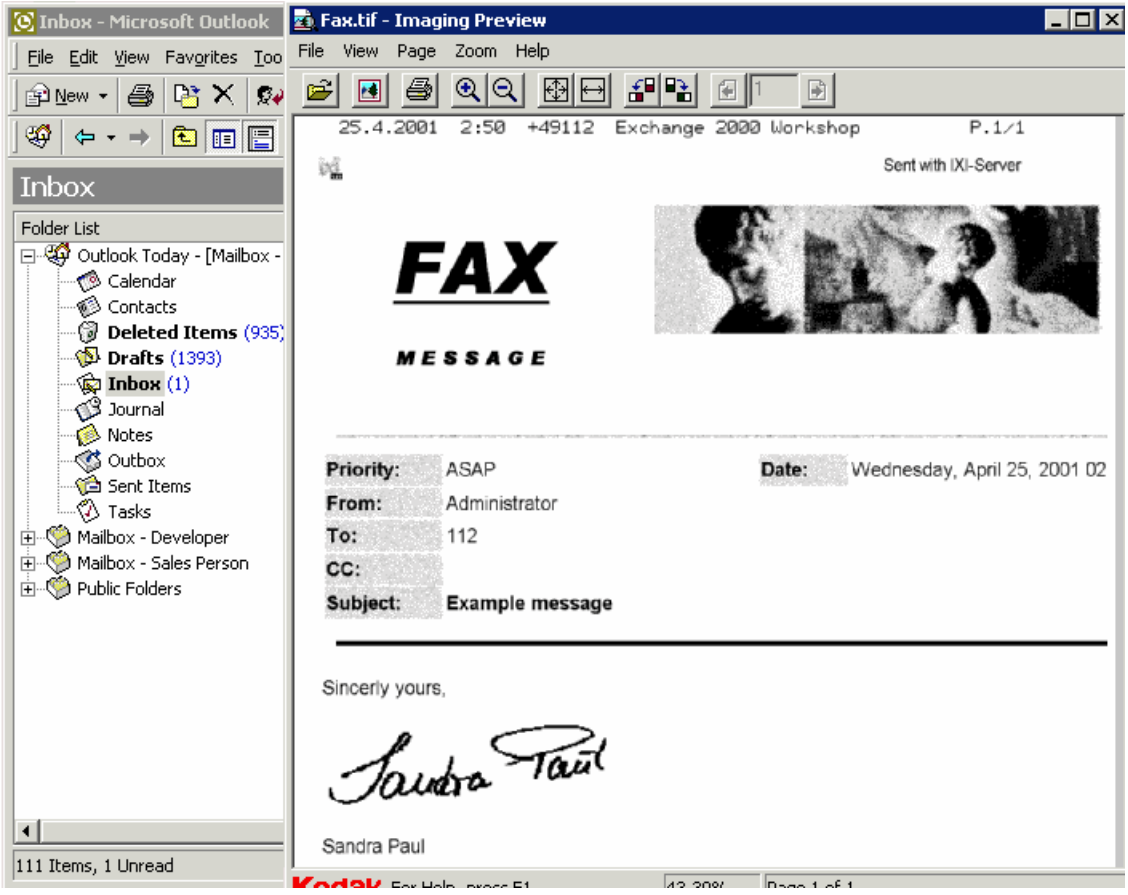
- Insert an img custom link in fax.htm (i.e. the fax cover page). In order to do this, first you have to insert the signature file by using an ordinary HTML img tag. Secondly, edit the HTML source code and make the img tag a custom tag by replacing it with #img.



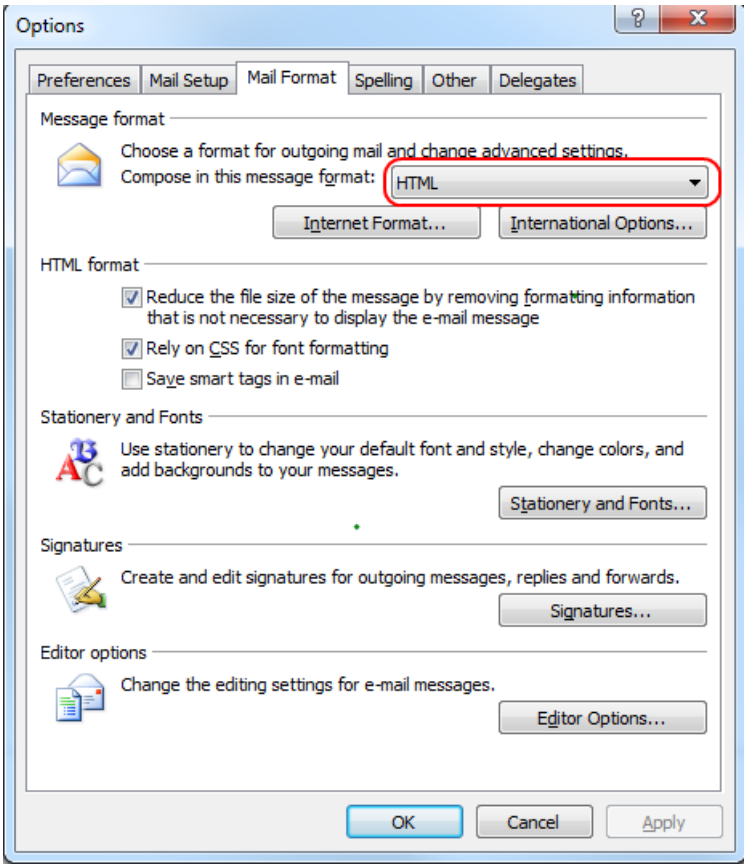
Step 3: Assign Cover Pages to users

Now you can assign the cover pages to the appropriate users by setting the message header property in your user configuration. The following shows this process for the ixi-UMS Business Exchange Connector:

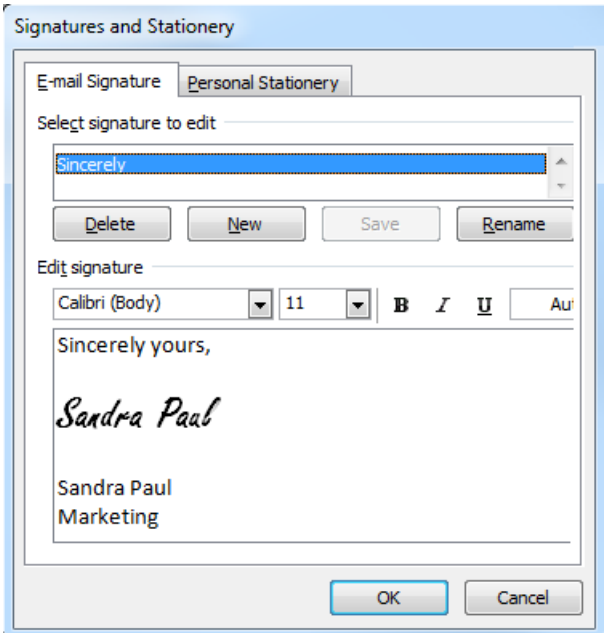
- Select the user, you want to modify and right click on it
- Select "IXI-Properties" and set the message header.
- Now send a test message via Outlook and the signature will be attached automatically.



11.8.7.1 Creating a Signature in MS Outlook



Step 1: Set "Message Format" to HTML
Select Options | Mail Format. Make sure that the "Send in this message format" is set to HTML.



Step 2: Create a new Signature
- Create a new Signature file with the Signature Picker and make it your default signature
- In Windows Explorer search for this Signature file
- Edit the Signature file with your favorite HTML Editor and insert a link to the signature image file.

Note: The image file must be gif, jpeg, bmp or png

- Create a new message in Outlook. The message will contain the signature
you created (see below). Now you can send this message as fax.

11.9 Performing the schema extension

An extension of the schema for ixi-UMS is only required If there is no Microsoft Exchange Server, but the user administration shall be done in the AD

By default, one of the "extensionAttributes" for the storage of the ixi-UMS Business user data created by MS Exchange is used.

If there is no MS Exchange Server, but user administration should be done in the AD (for example, when using an IBM Domino), a schema extension must be performed and the "ixiumsUserData" attribute added.

An extension of the schema can only be

- done by a user who is a member of the "Schema Admins" group and" Enterprise Admins "group

and

- performed on a domain controller, the schema master role owner (also FSMO Role Owner).
  By default, the first domain controller that has been installed has this role.

The server name on which the schema extension can be performed is displayed at the beginning of the setup.

But you can also determine it yourself:

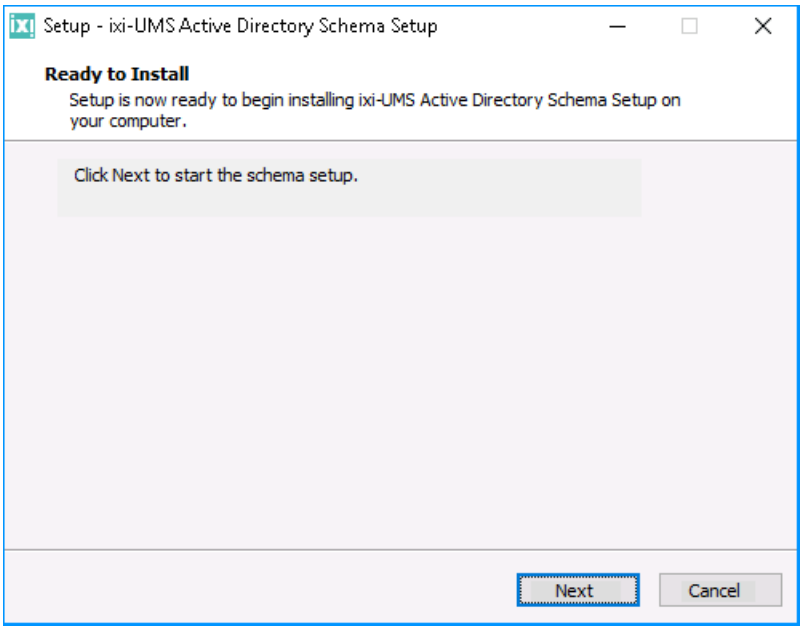
Allow the modification of the schema on the Schema Master

If you want to find out which domain controller is the schema master role owner or want to allow the modification of the schema on another domain controller, proceed as follows:

- Register the "Active Directory-Schema" snap-in by calling start -run - "regsvr32.exe schmmgmt.dll"
- Open the "Active Directory-Schema" snap-in by means of MMC
- Click on Active Directory Schema with the right mouse button and choose "Operations Master"
- The Operations Master is also the Schema Master
- If you want to have another domain controller as Schema Master, you have to connect with this machine first and then transfer the Operations Master Role on it
- Click on "Schema ***may be modified on this machine***" and OK after that

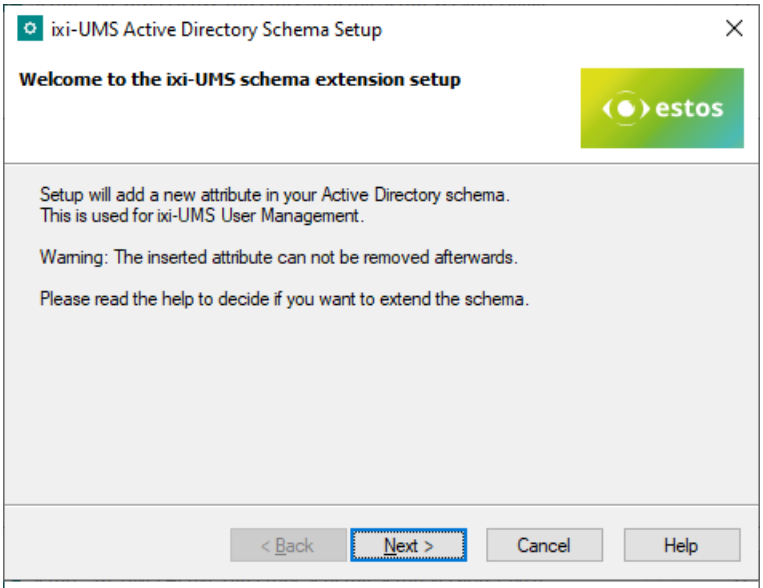
To perform a schema extension, proceed as follows:

Download the schema extension setup from the ixi-UMS Business Web Configurtaion and copy the "ixi-UMS Active Directory Schema Setup.exe" to the domain controller that is the schema master role owner.



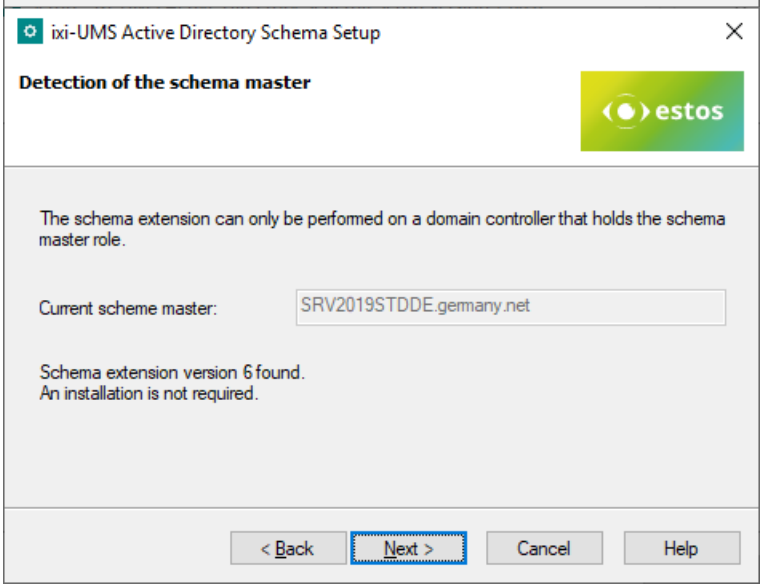
Start the "ixi-UMS Active Directory Schema Setup.exe" and run the setup und click on "Next" to serch the Schema Master and start the schema setup.

Note:
You can cancel the setup later.



You are reminded that a schema extension in Active Directory can not be undone.

Click on "Next" to find the schema master.

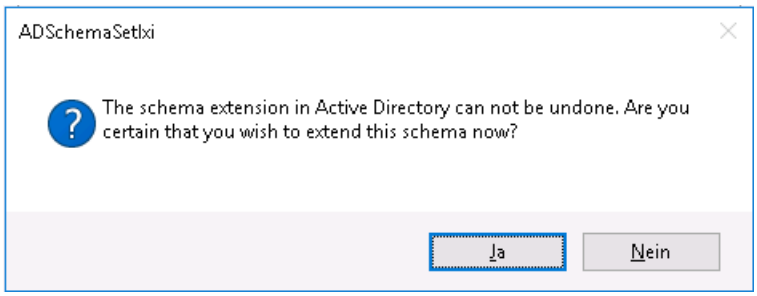


On the server specified here, the schema extension can be performed.

It also verifies whether the "ixiumsUserData" attribute already exists.

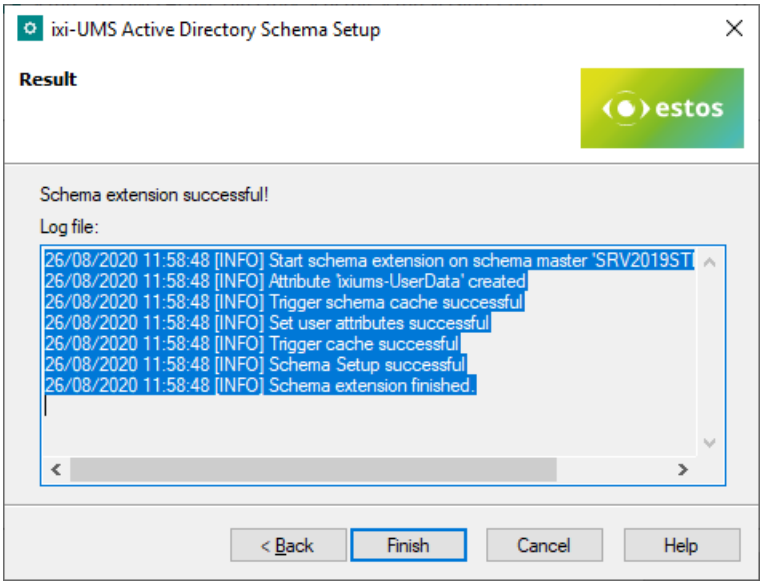
If you have started the setup on another server, quit it with the "Abbrechen" button and run the setup again on the specified server.

Otherwise, click "Next" to continue the setup.



Again, a hint appears that a schema extension in Active Directory can not be undone.

Click "Yes" to expand the schema.



You will see a summary of the setups.

If the schema could not be executed on the above-identified server, the user with whom you are logged on may have no authorization to extend the schema.

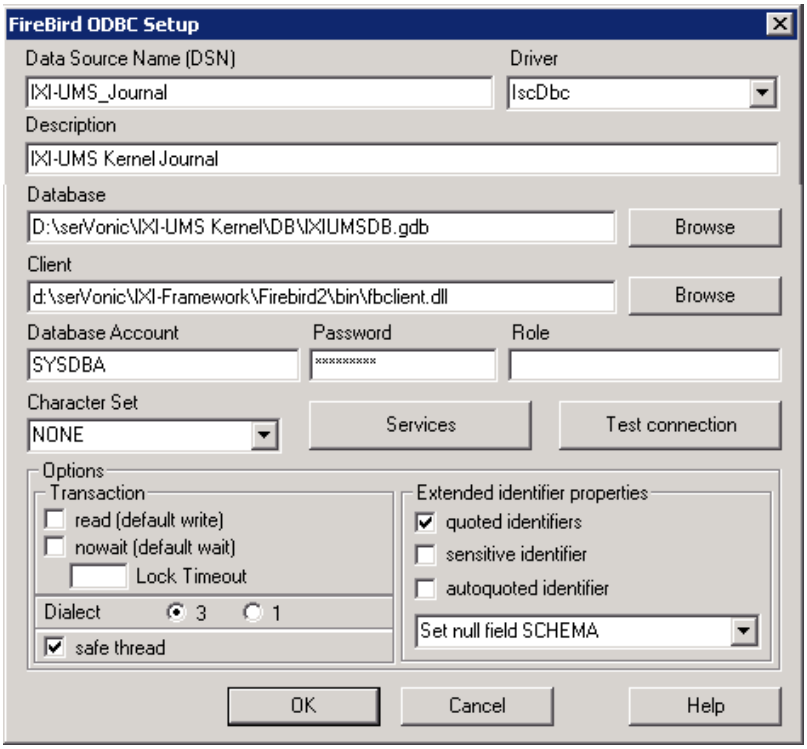
Log on with a user who is a member of the "Schema Admins" group and "Enterprise Admins2 group, and then run the setup again.

11.10 Export Journal Data

The ixi-UMS Business Journal is stored in an SQL database. These data can be exported via various tools via ODBC for further evaluation.

11.10.1 Export of the Journal Data by ODBC

The journal data base can be exported into an Excel- or Access-file by means of the tool "IBQuery" or directly by ODBC.

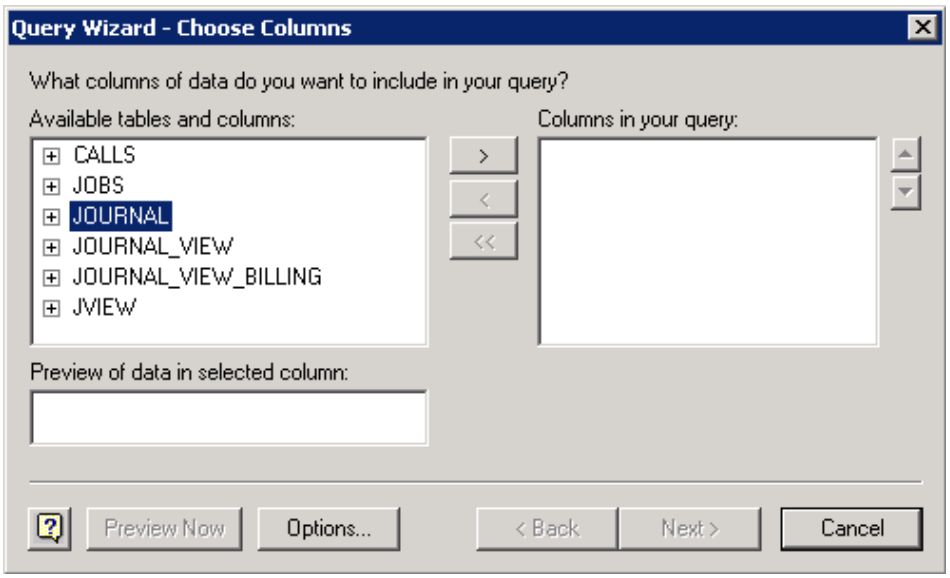


A System-DSN for the **local** access is st up during the installation of the ixi-UMS Business Setup, via that the data base access is executed.

If a backup of the data base shall be accessed, the respective data base file must be chosen.

You can create an own query for the data export or use the queries delivered by ixi-UMS.

Basically, you should proceed as in the following:
Open MS Excel on the ixi-UMS Business Server.
Depending on the Excel Version choose the item:
- Excel 2003 "Import External Data" in the menu "Data".
- Excel 2007 "Data - From Other Sources - From Microsft Query"
You now can make use of the queries delivered by ixi-UMS Business via "Import Data" or create your own query via "Create New Query".



At ...\ixi-UMS Kernel\Tools\Journal-Query, you can find the following queries:

File Names	Columns that are imported
Journal-Basic.xls **Journal-Basic.dqy** **Journal-Basic_x64.dqy**	BONUDTYPE SERVICE SENDERADRESS MAILFROM RECIPIENTADDRESS SUBJECT FAXNUMOFPAGES TRANSTIME TRANSDURATION RESULTMESSAGE
Journal-Advanced.xls **Journal-Advanced.dqy** **Journal-Advanced_x64.dqy**	like above and additionally FAXREMOTESTATION_ID CONNECTOR PRIORITY MESSAGE_ID RETRYCOUNT

The explanations to the single columns can be found at "Data Base Fields".

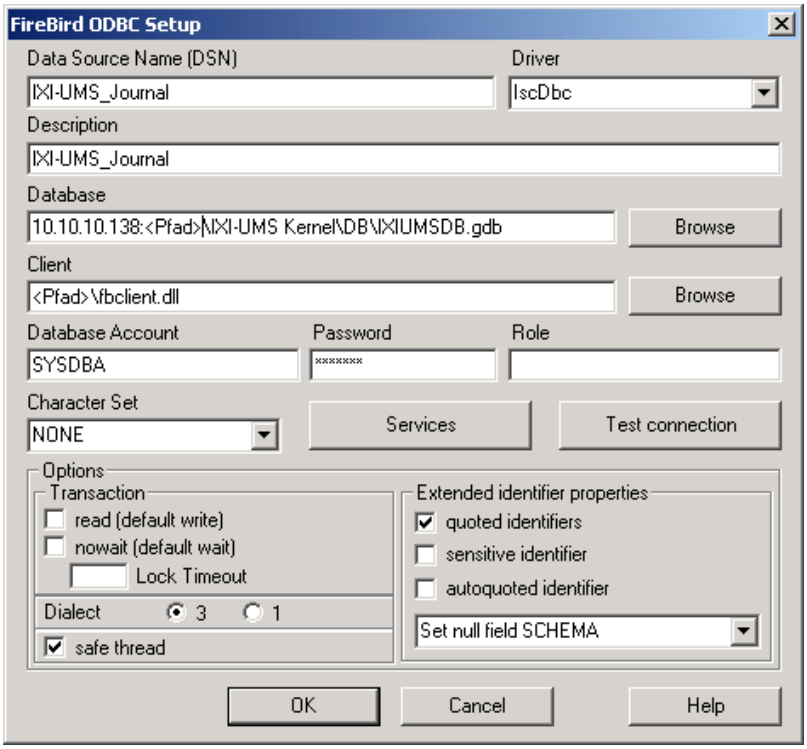
In order to **make use of an available query**, just open the respective *.dqy-file by double-click and import the data.
The columns are displayed in the original column description.

11.10.2 Remote Access by ODBC

The query by ODBC can be configured on any Windows operating system.
Whether the 32bit or 64bit ODBC-driver is required depends on the bit-version of the application, with which the connection shall be accessed.
In order to access the ixi-UMS Business journal database from another machine by ODBC, the following procedure is required:

Remark:
If IBQuery shall be executed at a client, this means not at the ixi-UMS Business Server, please copy the entire folder "DB-Query" from the directory ...\IXI-Framework\Tools to the client. All the required data are contained in it.

- Copy the entire folder "Odbc32" or "Odbc64" from the directory ...\IXI-Framework\Firebird2\ to the machine, on which you want to start the query.
- open a CMD with admin rights
- Register the "OdbcFb.dll" with regsvr32.
- Create a System-DSN at "System Control - Administration - Data Sources" and select "Firebird/Interbase(r) Driver".



At "**Database**", please enter the IP-address of the ixi-UMS Business Server, then a colon and the LOCAL path to the data base (at the ixi-UMS Business Server).

At "**Client**", please browse to the folder "Odbcxx" and select the file "fbclient.dll".

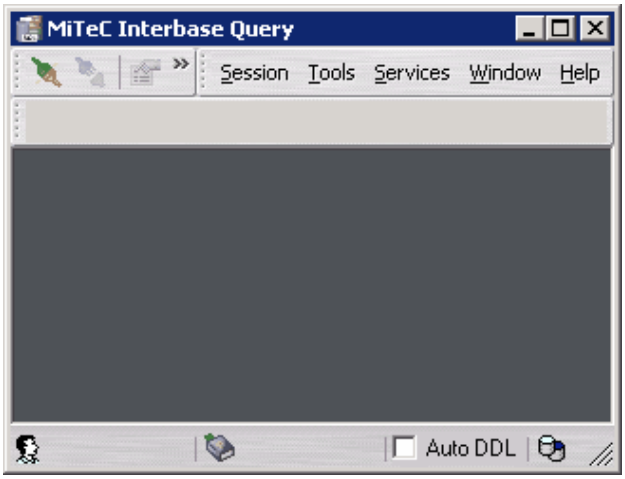
Enter the following connection data:
Database Account: The user name is "sysdba".
Password: With the installation of theixi-UMS Business, the password "IXI-UMS" is assigned by default.

Now you can access the journal database of the ixi-UMS Business from this machine.

11.10.3 Journal Export with IBQuery

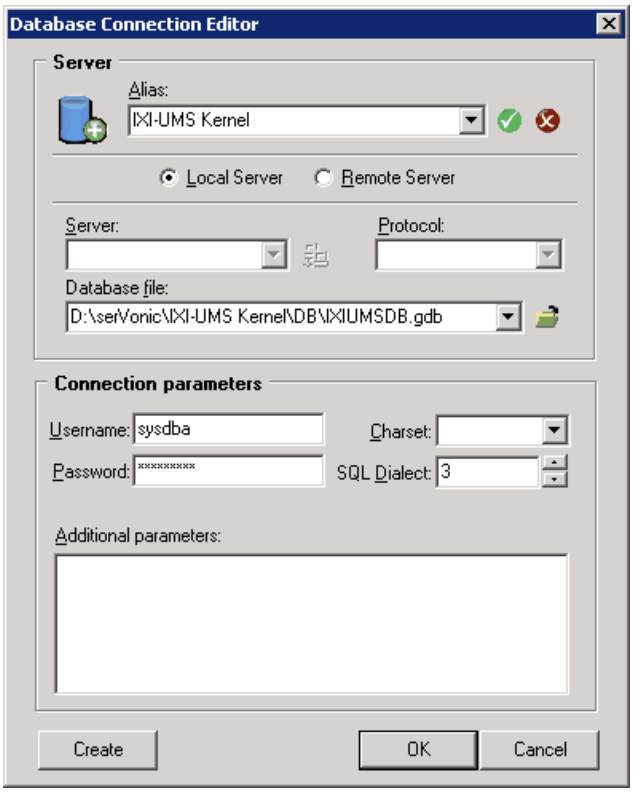
In order to analyze the journal data, they can be exported by means of the delivered tool "IBQuery".
You can get the tool "IBQuery" in the Internet free of charge; with it, you can administer the "Firebird" data base used by ixi-UMS Business. The query can be configured on any 32bit and 64bit Windows operating system.

Remark:
If IBQuery shall be executed at a client, this means not at the ixi-UMS Business Server, please copy the entire folder "DB-Query" from the directory ...ixi-UMS Business\IXI-Framework\Tools to the client.



Operation:
1. Execute the IBQuery.exe at ..\IXI-Framework\Tools
2. Please go to "Session" and then "Connect to database...". Alternatively, you can use the connect-symbol  or the shortcut "Ctrl-N".

3. The "Database Connection Editor" opens



Alias: Enter any name for the connection here.

Local Server can be used if you are on the ixi-UMS Business PC.
Remote Server is the generally valid setting. It can be used on theixi-UMS Business PC as well as from any client.
Server: Enter the IP-address of theixi-UMS Business. This value can only be edited if you have chosen "Remote Server" in advance.

Protocol: Choose TCP/IP. It is the same here: This option can only be edited in "Remote Server" mode.

Database file: Enter the path to the data base here, always in a way as if you are on theixi-UMS Business PC. If you access the data base from a client, you cannot use the browse-dialogue!

Username: The user name is "sysdba".

Password: With the installation of the IXI-Framework, the password "IXI-UMS" is assigned by default. See IXI-Framework Manual.

REMARK: You have to enter the passwords and user names without quotation marks.

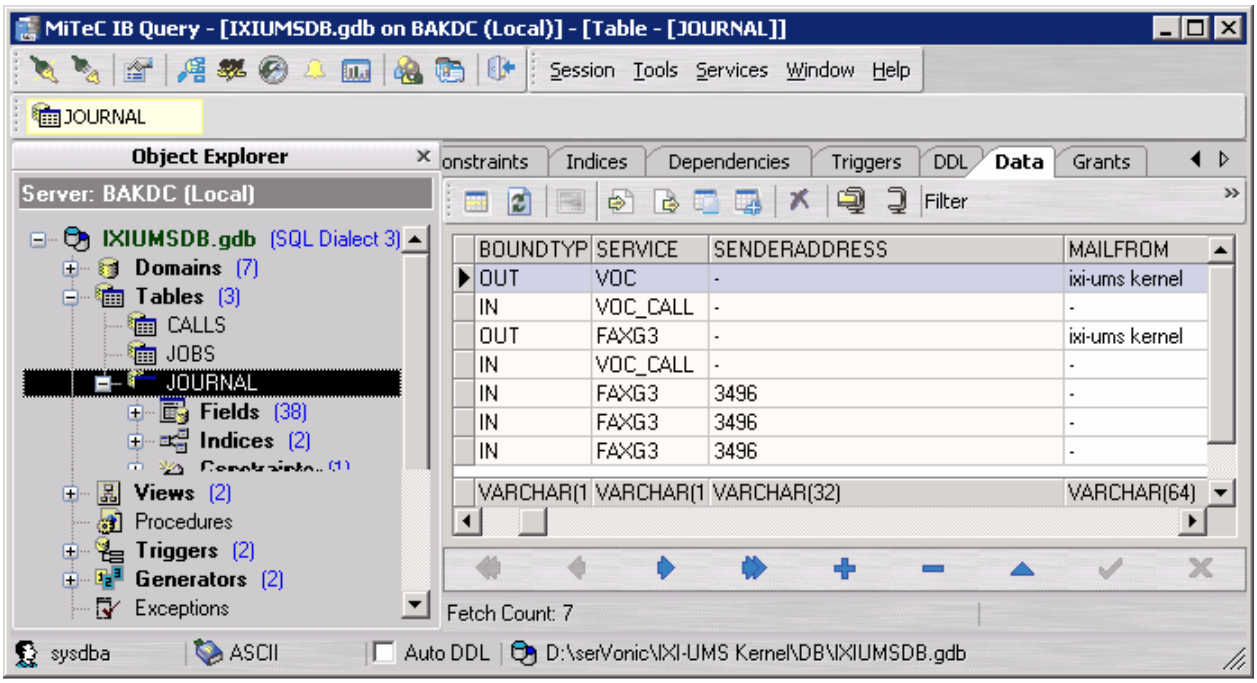
Charset: Please leave these fields blank.

SQL Dialect: Here, the SQL Dialect 3 must be chosen imperatively.

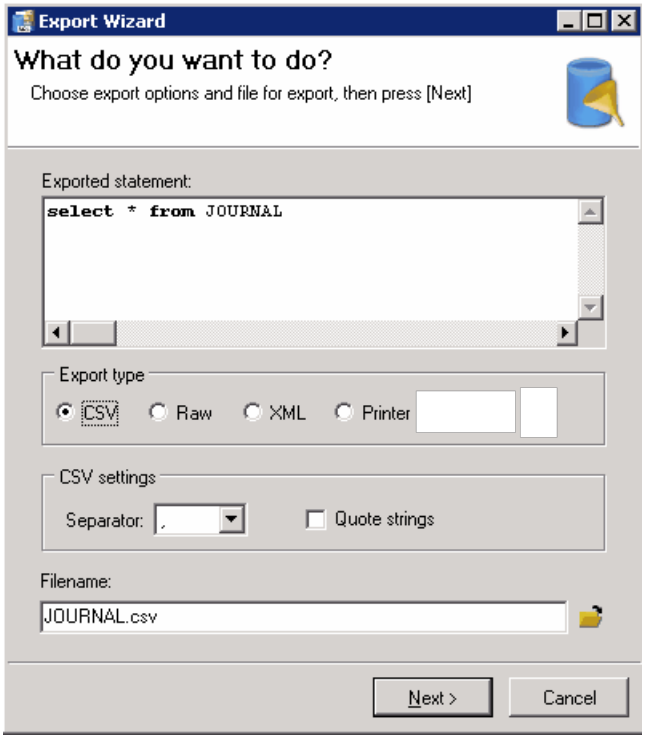
Aditional parameters are not required.

After having clicked on OK, the data base is opened.

4. In order to open the journal, you have to go to "Tables" and then to "Journal". In order to be able to see the journal data, you now have to switch to the tab "Data".



5. Press the export-symbol  . The Export Wizard is opened.



Here you now can determine the format for the export and the path.

Export type: Normally, CSV is used, as this format can be processed e.g. in Excel and also OpenOffice.

Enter the file name including path at "Filename" or use the button "Browse".

6. Click on "Next" in order to execute the export.
den Export auszuführen.

11.10.4 Data Base Fields

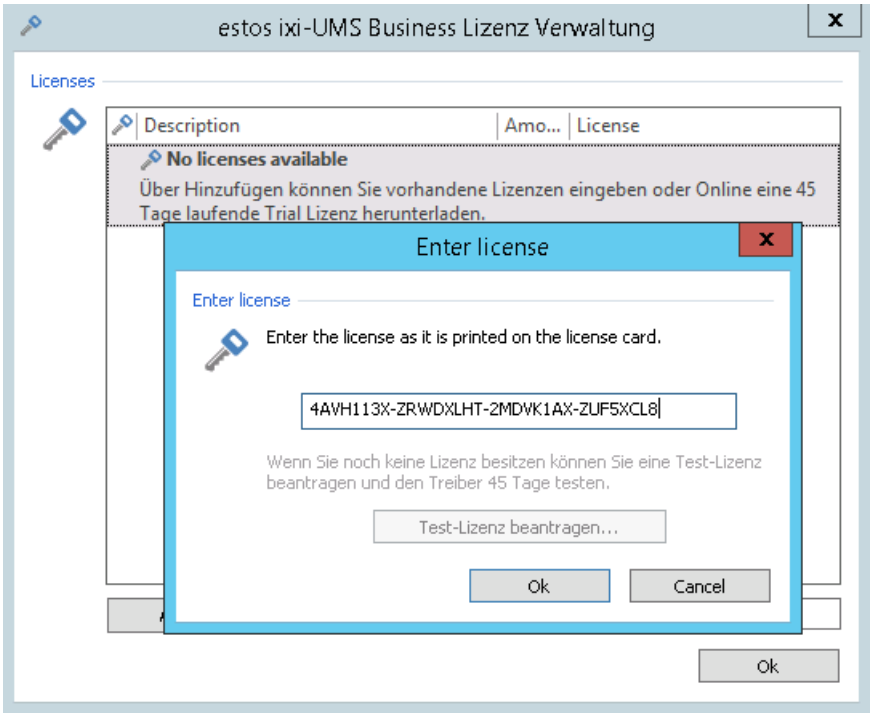
All the available columns of the ixi-UMS Journal Data Base are described in the following. The German description is used for the Export by ODBC in the XML-templates.
For reasons of completeness, all the available columns are described, no matter whether they are needed for an analysis or not.
The order corresponds with the order, which is written into a table with a journal export without query criteria.
For the analysis of the journal data, the field contents marked with "internal use" are irrelevant.

Fieldname	**Description**
RECORD_ID	Internal use - primary key
CALL_ID	Internal use
BOUNDTYPE	Information whether this is an incoming or and outgoing message Values: in, out
SERVICE	Information about the type of the message Values: FAXG3, FAXPOLL, VOC,SMS, ALERT = used services, connection OK FAXG3_CALL,VOC_CALL = not clear because the connection had been interrupted UNKNOWN = could not be detected
SENDERADDRESS	CallingPartyNumber= (D-channel) sender number
MAILFROM	Information of the "Mail From"-field with outgoing messages. This can be an e-mail address (SMTP) or a call number (e.g. SAP), depending on the connection
RECIPADDRESS	CalledPartyNumber - number to which the message is sent by ixi-UMS Business
ORIGRECIPADDRESS	Recipient number as entered by the user in an outgoing message
CHARGE	Must be transferred by the PSTN to ixi-UMS Business with SMS: number of the single messages
BILLINGCODE	Information of the cost center from the user properties
ASSOCFILENAME	Information for internal processing - Internal use
SUBJECT	Subject of the message
FAXTRANSSPEED	Only with fax messages
FAXNUMOFPAGES	Number of the transmitted fax pages
FAXRESOLUTION	Only with fax messages
FAXREMOTESTATION_ID	Only for outgoing faxes, ID of the remote station
FAXLOCALSTATION_ID	Corresponds with the sender call number, made up of the license and the fax sender number of the user. This number is sent in the header as sender number
TRANSTIME	Date and time the entry was written into the journal
TRANSDURATION	Transmission time, duration the channel was busy in milliseconds
RESULTCODE	Final result (as code) after the connection was terminated; passed on from CAPI to ixi-UMS
RESULTMESSAGE	Translation of the final result code into text

CONNECTIONCODE	ISDN protocol information that gives a cause for a disconnect
CONNECTIONMESSAGE	Translation of the connection code into text
TRANSMISSIONCODE	ISDN protocol information that provides information about transmission errors
TRANSMISSIONMESSAGE	Translation of the transmission codes into text
CONNECTOR	Information from which ixi-UMS Connector the outgoing message has been sent
PRIORITY	Priority of the outgoing message
CONNECTOR_ID	Internal description of the ixi-UMS Connector
BCHANNEL	Information via which channel the message had been sent or received
SDNCONTROLLER Controller	Information via which controller the message had been received or sent
CHARGELOCCURRENCY	Must be passed on from the PSTN to the %PRODUKTNAME% Kernel
URL	Information whether and on which script the incoming call had been routed
ROUTEMETHOD	Information whether and how theixi-UMS Business passed on the calls: DDI, REDIRECTING, SUBADDRESS, CALLINGPARTY, DTMF
JOB_ID	Information for internal processing - Internal use
USER_JOB_ID	Currently is not used
MESSAGE_ID	If a message ID is transferred in the outgoing message, it is entered here. If no message ID is entered, theixi-UMS Business generates a new, unambiguous one.
FINALFLAG	With the last connection try of a job, FINALFLAG is set to 1, at all the previous jobs, it is 0. When the value is 1, the job is displayed in the journal. All the other connection tries are displayed in the job details. VALUES: 0 – not final entry for job 1 – final entry for job
RETRYCOUNT	States, which transmission try for outgoing messages the entry represents. VALUES: Depend on the configured connection retries in the spooling

11.11 Create a license offline

The ixi-UMS license is hardware-based and must be created and activated online. If your computer does not have a connection to the Internet, you can create the license on another computer or via the smartphone.



Open the license management and enter your product key.

Proceed as described in "Basic Configuration" - "License".

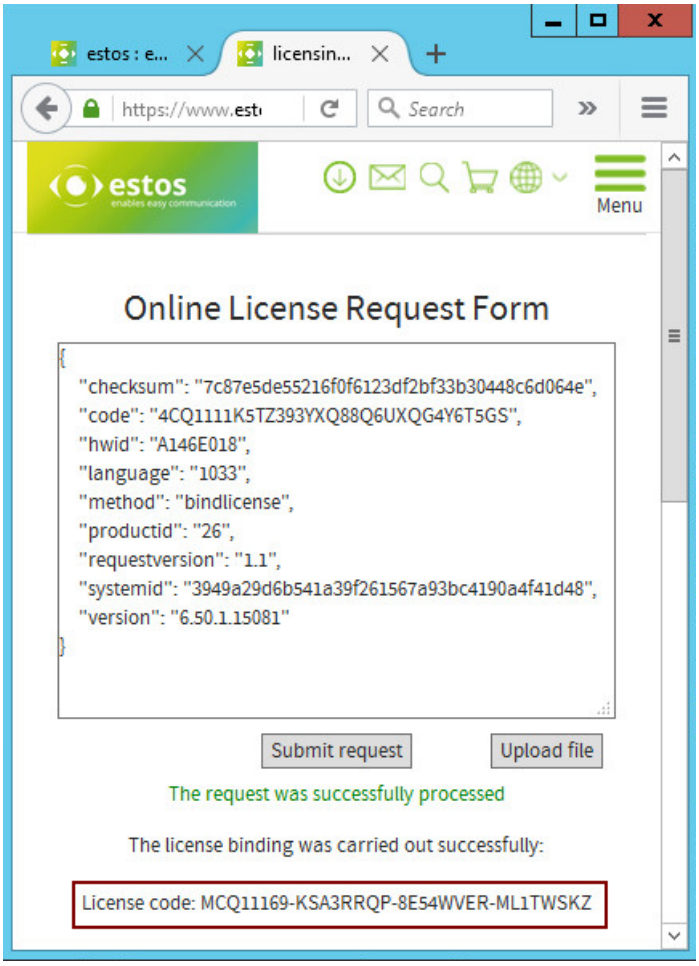
Click on the "Show Details" link to view directly the options for offline licensing, or click "Link license online" to try online licensing.

You can now scan the QR code and go directly to the web page for licensing

or

open the link "http://www.estos.de" in the local web-browser and copy it into a web-browser on another computer.

If you selected "Show details" or could not establish a connection to the license server, you will see the selection below.

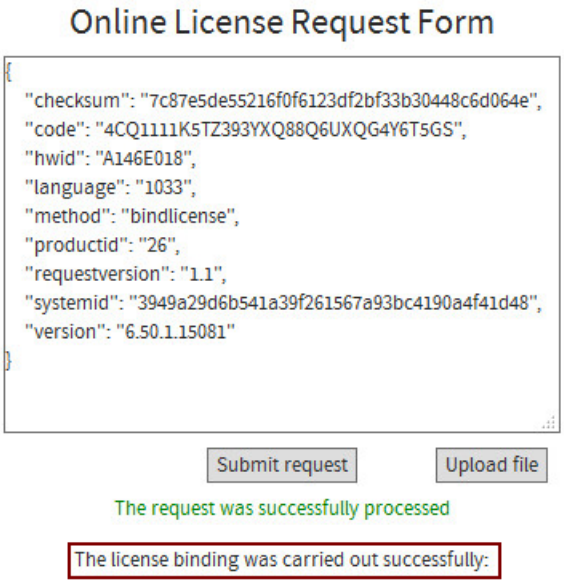


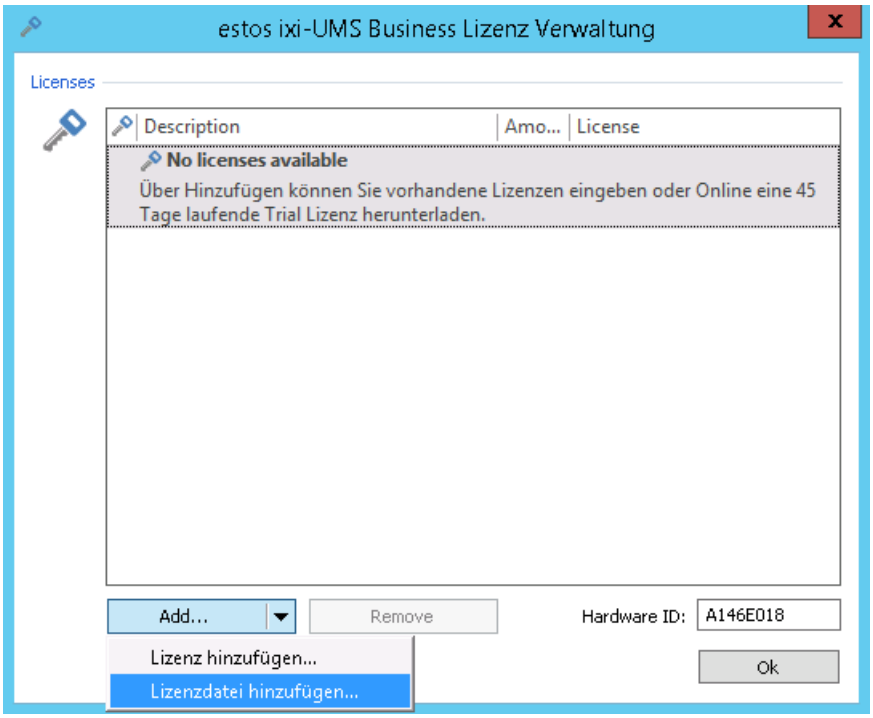
In this case, automatically download a license file after a short time.

The link or CR code generated by the license tool contains all necessary information for generating the license.

If you purchased a **ixi-UMS Business without XCAPI** (ixi-UMS Business TDM), you will be issued with a license code, which can be entered into the license tool. See the left.

If you purchased **ixi-UMS Business without XCAPI** (ixi-UMS Business SIP), NO license code will be issued.





Copy this ".join" file to the ixi-UMS Business server.

Restart the license tool, or close all windows until you see the start screen again.

Click "Add - Add License File" and select the "join file".

11.12 Certificates

When ixi-UMS Business with TLS-data encryption shall be used, the respective certificates must be deposited.
Depending on the service (LDAP, SMTP, IMAP), different certificates are used or processed via different methods.

SMTP - Sending UMS-messages to the mail server

The certificate transmitted by the mail server is checked for validity by the <%PRODUCTNAME%> against the Windows certificate store "Trusted Root Certification Authorities".

LDAP - Query of the user data

The certificate must be imported in the Windows certificate storage under "local computer". The certificate required for the LDAP-connection and the **validity of the certificate are checked by Windows.**

The LDAP-servers stated in the ixi-UMS Business configuration for the LDAP-query must be stated just as in the certificate. In the Windows-domain environment, the FQDN must be stated.

With subordinate CA's, please take care that the certificate-chain can be resolved.

IMAP - Access to the mailbox

ixi-UMS Business offers IMAPS, but does not check whether the certificate from the mail server is valid.

12 Configuration of the PBX

Questionnaire for the Configuration of the PBX - for the Operation of ixi-UMS Business

The settings in the PBX for the connection must fulfill the requirements for the wanted ixi-UMS features as described previously. The PBX should be configured completely before installing ixi-UMS Business.
If the requirements are not fulfilled, the installation / configuration of ixi-UMS Business cannot be realized successfully and further costs may arise from this.

Please fill out the questionnaire in the following carefully after the PBX has been configured, and send it to the UMS support department.

Customer: *[Please fill out the fields]*

Company:	
City:	
Partner/Reseller/AVP:	

PBX: *[Please fill out the fields]*

Manufacturer:			
Name /Type :		Softwareversion / Rev.	
Connection Number / Connection Leading			
Technical Contact / PBX Supervisor:			
name:		surname:	
Phone:		Fax:	
e-mail:			

Connection Type / Protocol Variant *[Please check where applicable]*

☐ **DSS1**	with	☐ PMP	☐ PP	
☐ **Qsig**	with	☐ ISO	☐ ECMA V1	☐ ECMA V2
☐ **H.323**	with	☐ T.38	☐ Softfa›	
☐ **SIP**	with	☐ T.38	☐ Softfa›	

Remarks / Characteristics / Comments:

tions

Transmission of the Call Number

Please note down how the call numbers are transmitted to ixi-UMS Business (in the D-channel or with SIP or H.323). ixi-UMS Business configuration depends on the numbers, which are transmitted from / to the PBX.

Call Numbers in E.164-Format:

When all the call numbers are transferred in E.164 format (<country code><area code><call number>), further information requested at "Call Numbers Incoming" are not required.

Transmission in E.164:

☐ only inbound	With inbound calls, all the call numbers are signaled to ixi-UMS in E.164-format: Recipient number (Called Party Number) Sender number (Calling Party Number) Redirection Number
☐ only outbound	With outbound calls, ixi-UMS passes on the number to the CAPI in E.164 format: Recipient number (Called Party Number) Sender number (Calling Party Number)
☐ inbound and outbound	All the call numbers are transmitted in E.164-format, as described above.

If the call numbers are only processed/transferred in one direction in E.164-format, further information requested at "Call Numbers Incoming" must be specified.

Call Numbers Outgoing:

With outgoing calls, the transmission of the sender call number from ixi-UMS Business to the PBX is required, allowed or not allowed, depending on the PBX.

Please check where applicable] and enter the sender call numbers here or define the respective number range with e.g. 1001 to 3999.

☐ mandatory.	
☐ not necessary, but allowed	
☐ not allowed	

Call Numbers Incoming:

Please state whether and which number information (dependent on protokoll) the is transmitted from your PBX to the CAPI:

☐ **DSS1 - PMP**

Example: A number dialed from the outside is "089 479942", the PBX, however, only transmits (on the bus to that ixi-UMS Business is connected) "42" in the D-channel. In this case, "42" and not "479942" must be noted down as MSN. Please note down the MSN's exactly the way they are transmitted to ixi-UMS Business:

Which MSN's are transmitted? *[Please fill out the field]*

MSNs	

☐ **Qsig / DSS1 - PP**

The overall number, which is transmitted from the PBX to the bus, to that ixi-UMS Business is transmitted, basically consists of two components:
Main number and extension digits. Please state whether and which number information is transmitted from your PBX to ixi-UMS Business.
Example: The number "089 479912345" is dialed from the outside.

089	the area code
4799	the number of the (Telekom-) connection, which leads to the PBX
12	the main number for the bus, at that ixi-UMS Business is connected (optional)
345	3 extension digits (from the part of ixi-UMS Business)

Transmitted Number Information? *[Please check where applicable or fill out the fields]*

Main Number	☐ non	Number:		Number of Extension Digits:	

☐ **H.323 / SIP**

With SIP or H.323, usually only the extension and maybe the main number is transmitted, too.
Example: The number "089 479912345" is dialed from the outside.

089	the area code
4799	the number of the (Telekom-) connection, which leads to the PBX
12	the main number for the bus, at that ixi-UMS Business is connected (optional)
345	3 extension digits (from the part of ixi-UMS Business)

Please state whether and which number information is transmitted from your PBX to ixi-UMS Business:

Transmitted Number Information? *[Please check where applicable or fill out the fields]*

Main Number	☐ non	Number:		Number of Extension Digits:	

Who filled out this form?

First name:		Surname:	
Company:		Department/Position:	
E-mail:		Phone:	

The information stated above is correct .

Date: _____

_____
Name / Signatur

13 Info

13.1 About estos

Estos GmbH, headquartered in Starnberg near Munich, Germany, is a leading manufacturer of software solutions with focus on unified communication with unified messaging and CTI (Computer Telephony Integration). The products of estos IXI-UMS 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.

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

13.2 Version

Software: ixi-UMS 7 Business
Version: 7.00
Manual: 9/29/2020