OFFICEMASTER SUITE 6

Installation and Configuration Manual for Administrators
Version 1.0

Manual 01/29/2018 | Ferrari electronic AG

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info@ferrari-electronic.de

This user manual contains information on using the OfficeMaster Suite and is addressed to end users.

Revision History

Revision	Date	Changes
0.1	28.04.2017	**New Chapters added** (Licensing, Basic Configuration; Connector for Microsoft Office 365)
0.2	06.10.2017	**Format changes**
0.3	12.01.2018	**Chapter „Connector for Microsoft Exchange“ added**
1.0	29.01.2018	**Enhanced with new features of the latest OfficeMaster Suite release version 6.2**. (Table 2.1 -extended; Chapter 2.3: DirectSIP-revised; Chapter 2.6: OfficeMaster SMS via Service Provider; Chapter 2.7: Voicemail Server- revised; Chapter 2.11.1: General Settings- new features outlined; Chapter 3.3.3: User Defaults (Voice)- New features outlined; Chapter 3.3.4: User Permissions -New permissions outlined; Chapter 3.6: User Administration -New Screenshots; Chapter 4.5.8: User Configuration- New features in the Voice tab outlined;

Note! This document describes the most important tasks to configure OfficeMaster Suite. Please have a look in an older Version of the manual for missing chapters.

Publisher: Ferrari electronic AG
Ruhlsdorfer Str. 138
(DE) 14513 Teltow

Internet: www.ferrari-electronic.com
Phone: +49 (3328) 455 90
Fax: +49 (3328) 455 960
E-Mail: info@ferrari-electronic.de
Authors: Chris Helbing, Jeffrey Nimpadu
Translation: Jeffrey Nimpadu
Editorial Office: Chris Helbing
Layout: Ferrari electronic AG

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LICENSING

Licensing the OfficeMaster Suite 6

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1. Licensing

With OfficeMaster Suite 6 license keys will be provided for the first time. They have to be imported and activated through the configuration interface (OfficeMaster Suite configuration). During that process a unique (virtual) hardware ID for the system is calculated. This ID in connection with the license key, will be communicated to the activation servers of the Ferrari electronic AG. From those two sets of information license files will be generated. This key will then be imported through the configuration program.

User Account

Activating a license key requires a user account to log in to the web portal of the Ferrari electronic. With this account you can check the contents of your licenses, activate them for your system, and request test licenses. You will only need a valid e-mail address to receive the confirmation e-mail for the activation of the account.

Automatic Activation

If the system that runs the OfficeMaster Suite is connected to the Internet, activation and subsequent submission of the license file(s) is carried out immediately after importing the license key, in direct communication between OfficeMaster Suite and the activation server.

Manual Activation

If the system is not connected to the Internet, you can save the license information on a data storage medium. Afterwards you open the Ferrari electronic AG‘s service center: https://service.ferrari-electronic.de.

If you don‘t have a user account to log in to the web-portal yet, create one now. Copy the requested information from the data medium to the corresponding fields of the web-portal and download the now activated licenses for your system. You can input them through the activation dialog of the OfficeMaster Suite server.

Test Licenses

You can request test licenses at any time using the licensing wizard mentioned above.

Note! Either activation process can be carried out without regard to our business hours.

1.1. License key Activation

Open License Dialog

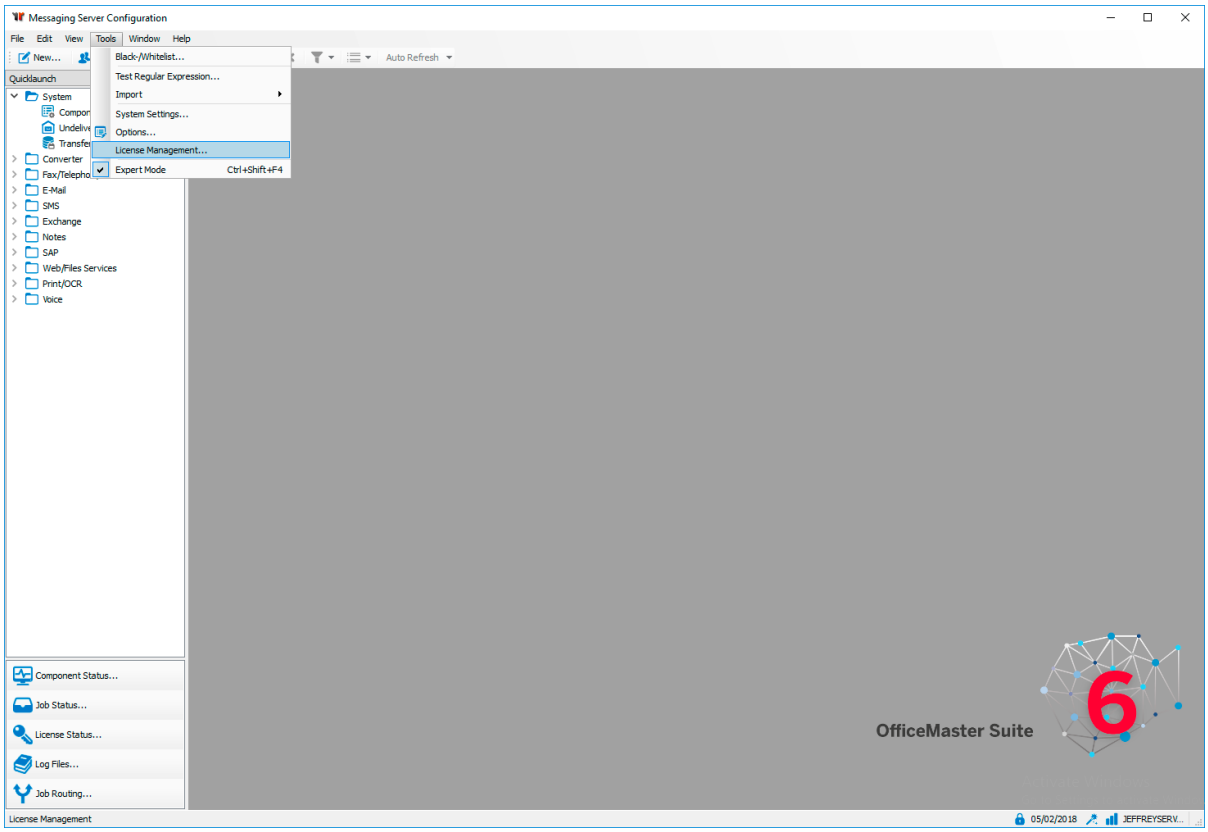

Image 1.1: Open license dialog window via Tools > License Management

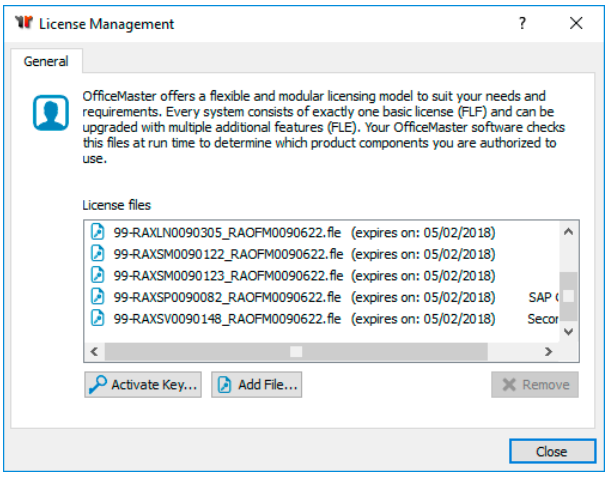

Image 1.2: Overview of imported licenses

To add a new license key, select *Activate Key*.

Activate License key

To import a new license key, click this button. Different dialog windows will follow for successful and unsuccessful connection to the activation servers of Ferrari electronic.

1.1.1. Offline Activation

There is no direct connection to the activation servers. The opening dialog shows you the hardware ID (you can always view this in Help > About) of this OfficeMaster Suite. Please jot down this information and open the service center (https://service.ferrari-electronic.de) from a computer with Internet access.

Service Center Login

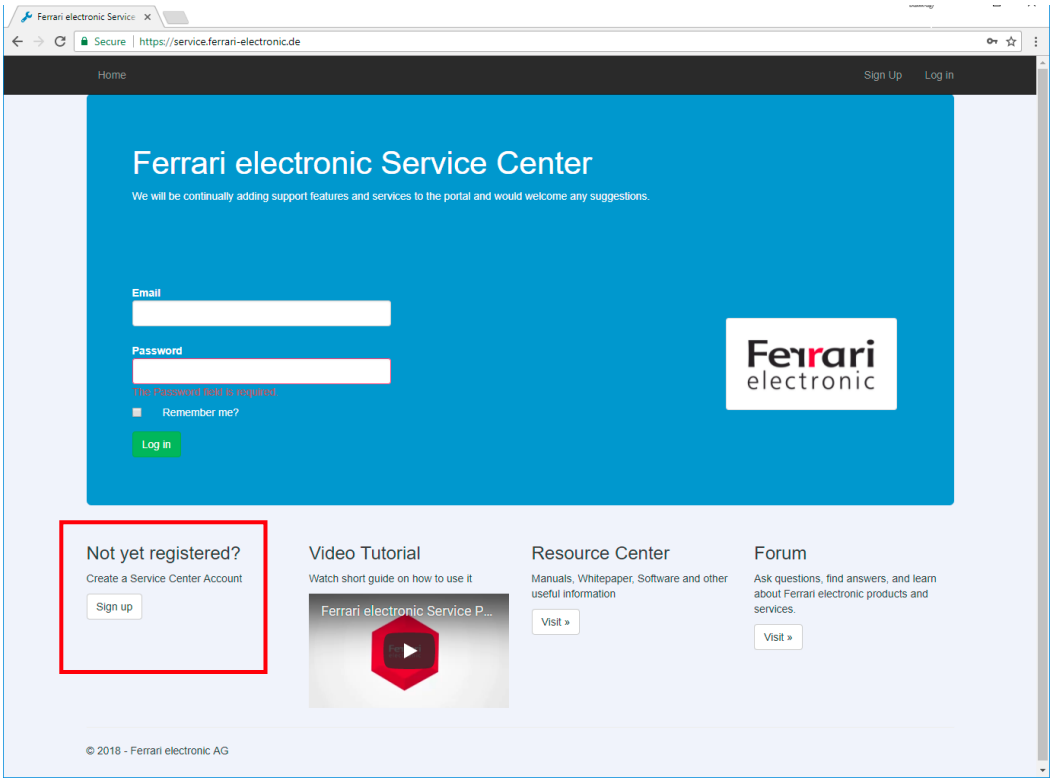

Image 1.3: Registration and login at the service center

If you have no user account, please register and wait for the automated e-mail to activate the account.

Use Hardware ID to set up a System

After login, you can activate new license keys. You will need your license key and the previously noted hardware ID.

First, you will need the license key of the basic version of your OfficeMaster solution. Acquired extensions (e.g. lines) can be activated later on.

Image 1.4: Activate license key of basic license

Activate License Key

Because of the flexible licensing concept of OfficeMaster Suite you have to enter additional data for some license keys to receive the correct, activated, license. Currently, additional information is necessary for the following products.

The information you enter here has direct impact on the actual license!

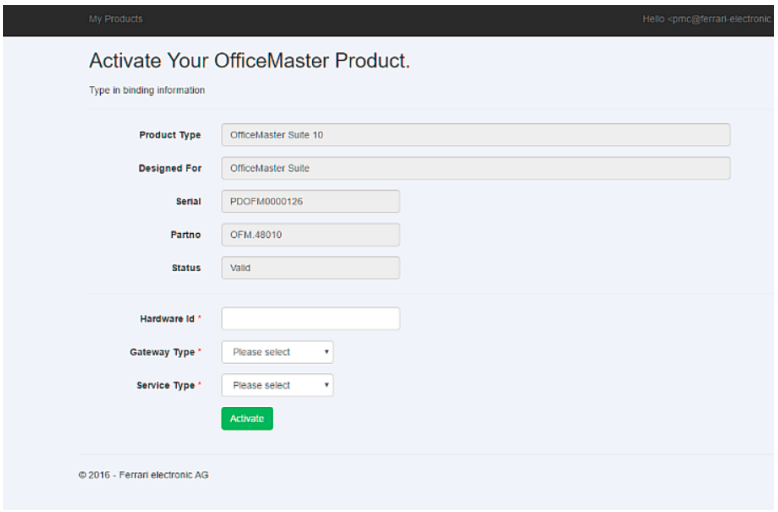

Image 1.5: Activating license key

► Basic Licenses

► OfficeMaster Suite (all types)

You will be prompted to enter a hardware ID, you can find this hardware ID at the OfficeMaster Suite configuration program in Help > About

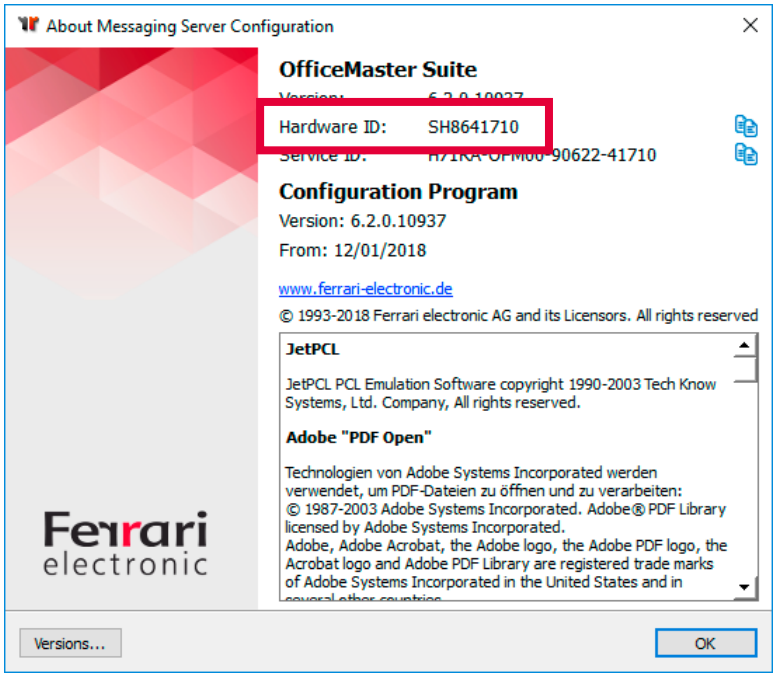

Image 1.6: Hardware ID

You will then be asked which connector (Exchange, Notes, ...) and which service (Fax or Voice) you are using. This decision is final for the particular license.

► Extension Licenses

► Connector

You will be prompted to enter the connector you are using.

► Second Service

You will be prompted to specify which additional service you want to activate.

After completing this short wizard the necessary licenses will be available for download at the overview page of the service center. Save the license on a data device that you can access with the OfficeMaster Suite server and log out of the service center.

Note! In case you have accidentally entered the wrong connector or service, you can correct that free of charge within a grace period.

Import License Files

Open the license management in the configuration program of the OfficeMaster Suite again (Extras > License Management) and click Add File.

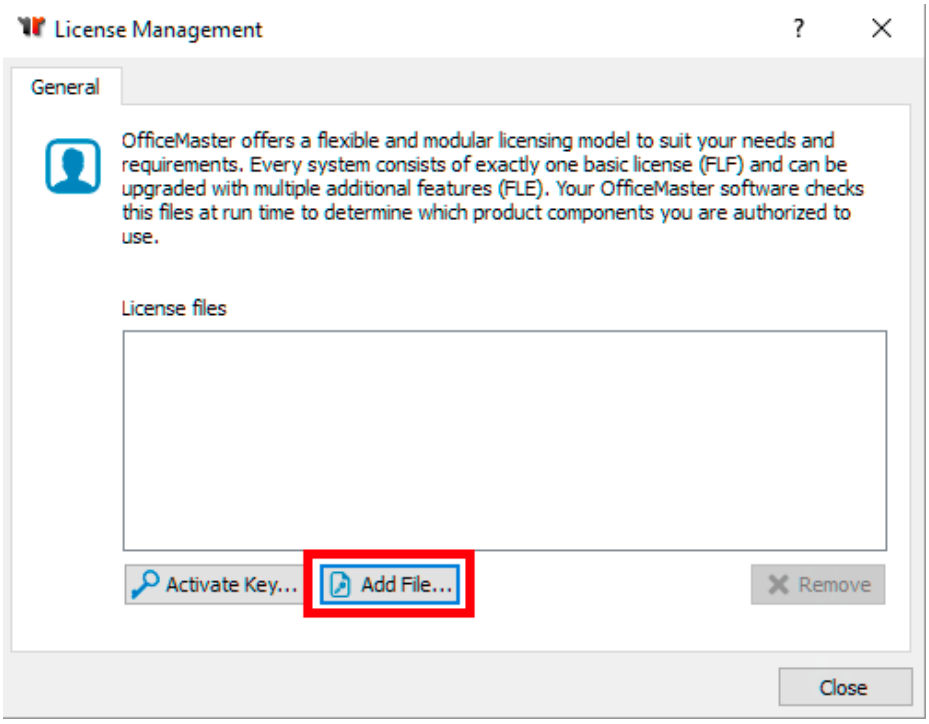

Image 1.7: Add activated license files

Afterwards, you see the new license file(s) in the overview. The system can now use this license.

1.1.2. Online Activation (follows)

1.2. Verify License Keys

If you want to verify your license keys before launching the solution, you can do so at https://service.ferrari-electronic.de/PubService/VerifyProductKey. Enter the license key to review its contents and its validity. You will need an active user account, which you can create through the web portal or the configuration program.

1.3. Test Licenses

Test licenses for OfficeMaster Suite allow for the operation of OfficeMaster Suite with its full functional range.

With the test license imported you can use all connectors and interfaces of OfficeMaster Suite for a limited time. Excluded are 3rd party products like ***OfficeMaster Sign*** and ***OfficeMaster OCR***.

Test licenses are perfect to test new functions, configurations, or the complete solution.

To test OfficeMaster Suite, open Help > Test License ... in the configuration program after basic installation.

You will be lead to the service center of Ferrari electronic and download a key for temporary use. (https://service.ferrari-electronic.de/PubService/Evaluate)

1.4. Register and Request Support

If you want to enter into a support contract for your OfficeMaster installation, or benefit from our free first-installation support, you have to register the products you use.

Please fill in the corresponding registration request through the configuration program.

Choose Help > Register OfficeMaster...

After that, your data will be verified by Ferrari electronic and, if available, added to your existing user account.

BASIC CONFIGURATION

OfficeMaster Suite 6

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2. Basic Configuration

The *Messaging Server Configuration* is used to start up the *OfficeMaster Messaging Server*. It is a program that can be installed and used on the server itself as well as on administrative work spaces.

To open up the *Messaging Server Configuration*, follow this path:

Start > Programs > OfficeMaster > Messaging Server Configuration

The *Messaging Server Configuration* can be managed by using the program menu or the quick start tab. All entries that have been added to the quick start tab are found on the program menu as well.

In order to ensure a swift start-up, the *Messaging Server Configuration* incorporates an '*Expert Mode*'. This mode is turned off by default and only allows access to basic configurations and settings. Turn the *Expert Mode* on to gain access to more complex configurations/ settings (Tools > Expert Mode).

We recommend to set a configuration password after the initial start-up as every user, regardless on prefigured windows user permissions, may edit all settings of the *Messaging Server Configuration*. This password request can be set up at Tools > System Settings.

Table 2.1 provides an overview on the necessary (X) and optional configuration steps. Configuration steps for Exchange, Lotus Notes and SAP are covered in separate chapters.

2.1. Network Settings

2.1.1. Windows Firewall

The Messaging Server is a multi-server installation that maintains communication over TCP/IP. However, Windows Firewall, if left at default settings, blocks data communication of network program via TCP/IP.

Individual OfficeMaster components and programs need to be added to an exception list in order to run the *Windows Firewall* and *OfficeMaster Messaging Server* on a single system. Add them by following this path: Start > Control Panel > Network settings > Windows Firewall settings.

Executable files of components can be selected and added as exception to the list. An overview of OfficeMaster programs that open TCP/IP ports, and thus require to be enclosed in the *Windows Firewall* list of exceptions, can be found in Table 2.1. On a default setup, find these files in the directory %Program-Files%\FFUMS\FMSRV\bin.

Table 2.1: List of components that open TCP/IP ports and thus need to be added the Windows Firewall exception list

Program	Desired Functionality			
	Regular Operation (TCP/UDP	Restricted Remote Configuration(1) (TCP)	Full Remote Configuration (TCP)	Client Access (TCP)
fmsx2kgate	X/-			X
fmsxbcsgate	X/-			X
fnotesvoice	X/-			
fnotesconn	X/-			X
fmailgw				X
fsmtprx(2)	X/-			

Program	Desired Functionality			
	Regular Operation (TCP/UDP	Restricted Remote Configuration(1) (TCP)	Full Remote Configuration (TCP)	Client Access (TCP)
fsmtptx				
funivoice	X/-			
ffilegw	X/-			
fclientgw	X/-			X
fstore	X/-			X
fvoice	X/X			X
flpd	X/-			
fomcums	X/-			
fjcisdn	X/-			
fucprx	X/-			
fprovidersms	X/-			
fsmpp	X/-			
fcfg		X	X	X
fctrl		X	X	X
fsnfs			X	X
fuid				
fsip	X/X			
fipmedia	X/X			

(1) Restricted remote configuration: Log files and letter paper cannot be displayed.

(2) SMTPRX: Only if the Messaging Server receives E-mails, e.g. reception of mails within SAP or operation of the mail gateway. OfficeMaster Messaging Server needs to be restarted after the program has been successfully added the Windows Firewall exception list.

2.1.2. Distributed/Deposited Installation

The OfficeMaster Messaging Server software allows components to be distributed within an IP sub network. The distributed components are either software (file interface or digital signature components) or hardware (OfficeMaster Gate).

You may set up a main server, sub server or use the configuration tools for setup.

Routing

A distributed *Messaging Server* system is distinguished between a main server and one (or more) sub servers. Basic system components run on a main server while "deposited" components run on a sub server. Network connections are established in the direction main server -> sub server and vice versa. Additionally, connections are established between *Messaging Server* and *Messaging Server Configuration* as well as between *Messaging Server* and OfficeMaster Gate.

If Messaging Server components are contained in different IP sub networks, the bidirectional connection establishment requires the IP routing to be correctly configured by all involved sub networks ... If the Office-Master Gate is to be taken as an example, this would mean that a ping requires to be sent and received from the Messaging Server's main server to OfficeMaster Gate as well as from OfficeMaster Gate to the main server.

Note! To test the connection establishment of OfficeMaster Gate, use telnet as root.

Gateways, Tunnel and VPN

Gateways are commonly used to transfer messages between networks that use different communication protocols. The relevant components, that communicate over a gateway, won't notice the existence of it. However, as for network connections that are led through a gate are managed in internal tables, it may not be clear whether a connection is still running or has been terminated not according to protocol, once network packages cease to transfer. Hence all connections that haven't shown any signs of activity are cleared from the internal management of the gateways.

Note! A gateway may treat a connection as interrupted if the Messaging Server's components are connected to each other via the gateway but communication has been absent for a prolonged period of time. Also, if the Messaging Server components fail to properly break up a connection the gateway may treat these connections as still open.

These problems occur due to the manner of operation of each gateway. There is no certain solution available. A gateway configuration may however ease the side effects.

Firewalls

Firewalls are required to manage information about open connections just as gateways do, hence all information that was given about gateways further up top are relevant for firewalls as well A general problem with firewalls is that the communication between the Messaging Server and its components may not be correctly configured and thus cause them to be blocked. In order to prepare the firewall for a distributive operation of the Messaging Server, insight information about the used IP-Port numbers is inevitable.

The numbers *0 – 65535* are reserved for port numeration. If every programme would self-assign their ports, conflicts would quickly arise between two ports of the same number as one number can be assigned to one port only (same time). So called *Well Known Ports* are reserved for services such as HTTP and SMTP. These ports are specifically designed to be accessed by unknown users and span from *0* to *1023*. *Registered Ports* span from *1024* to *49151*.

If neither a *Well Known Port* nor a *Registered Port* can be assigned to a programme, the port that has been dynamically assigned by the operation system is used. As these ports don't possess a fixed number and thus any vacant ports can be assigned, conflicts can effectively be averted. The number area used for these ports is dependent on the operational system and spans from *1024* to *65535*.

Note! Ferrari electronic has been assigned to the port number 3216 by IANA (**I**nternet **A**ssigned **N**umbers **A**uthority). To change the port, open the system settings within the OfficeMaster Suite at Tools > System Settings (see image below)

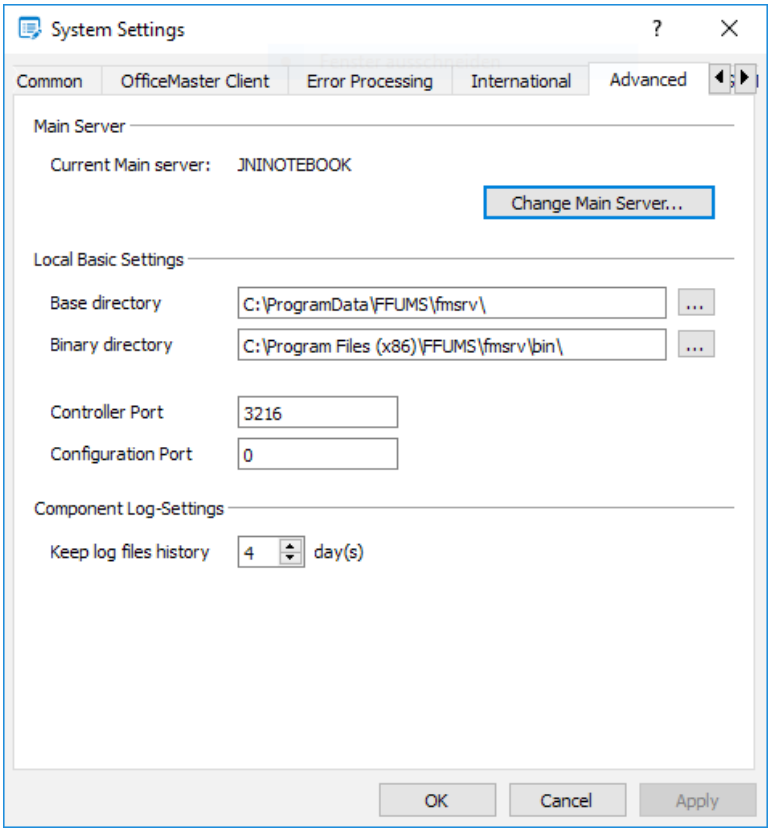

Image 2.1: Change the Controller Port in the system settings

The Messaging Server's controller component uses the *port 3216*. Any other components use dynamically assigned ports, except for the OfficeMaster Gate. This is due to the fixed and unchanging amount of programs that run on the gate. The table 2.2 lists ports that need to be enabled in order to guarantee communication between the Messaging Server components.

The range of ports necessary for enablement may seem long, but they don't include any *Well Known Ports* which are particularly targeted by malicious attackers. However, we recommend to configure the firewall to only allow port communication between computers where Messaging Server components are running on.

Table 2.2: Messaging Server ports

Component A	Component B	Ports from A to B	Ports from B to A
Software component of the Messaging Servers	Software component of the Messaging Servers	1024-65535	1024-65535
Software component of the Messaging Servers	OfficeMaster Gate	3216-3220	1024-65535

Broadcasts

Broadcast messages are sent by the *Messaging Server Configuration* as well as from the gates solely for the purpose of autonomous search. The search is not executable if the broadcast messages are filtered out by either a router, a gateway or a firewall. In this case we recommend to manually install the OfficeMaster Gate.

2.1.3. Enable Port Restriction for Used Ports

It is recommended to restrict ports that are used by the Messaging Server on distributed installations. In order to achieve it, the character string *FMS_PORT_RANGE* in the OfficeMaster registry (which can be found under HKLM/Software/Ferrari/fmsrv/BaseCfg) is filled with the respective value. Enter the value using numerical keys separated by dashes.

Example 2.1. *10600-10700*

»End of example

Note! The registry path differs if the installation has been carried out on a 64-Bit operation system. Find the actual path in the character string "*CAUTION!*" (German: "*ACHTUNG!*") at HKLM/Software/Ferrari.

The ports listed in Table 2.3 are required for communication to the Messaging Server.

Port Restriction Towards OfficeMaster Gate (not Changeable With the Registry Entry!)

Table 2.3: Ports for Messaging Server

Port	Service
22	SSH
23	Telnet firmware version 1 and 2
3215	snfs
3217	Job control for 1. D-channel
...	One additional port (from 3217) per configured D-channel
9999	Update of firmware version 1 and 2

Port Restriction Towards Messaging Server (Based on the Indicated Port Range)

As the ports are dynamically obtained, any amount of ports per component is used. These ports are selected within the given port range.

2.2. How to use the Configuration Programme

2.2.1. User Interface

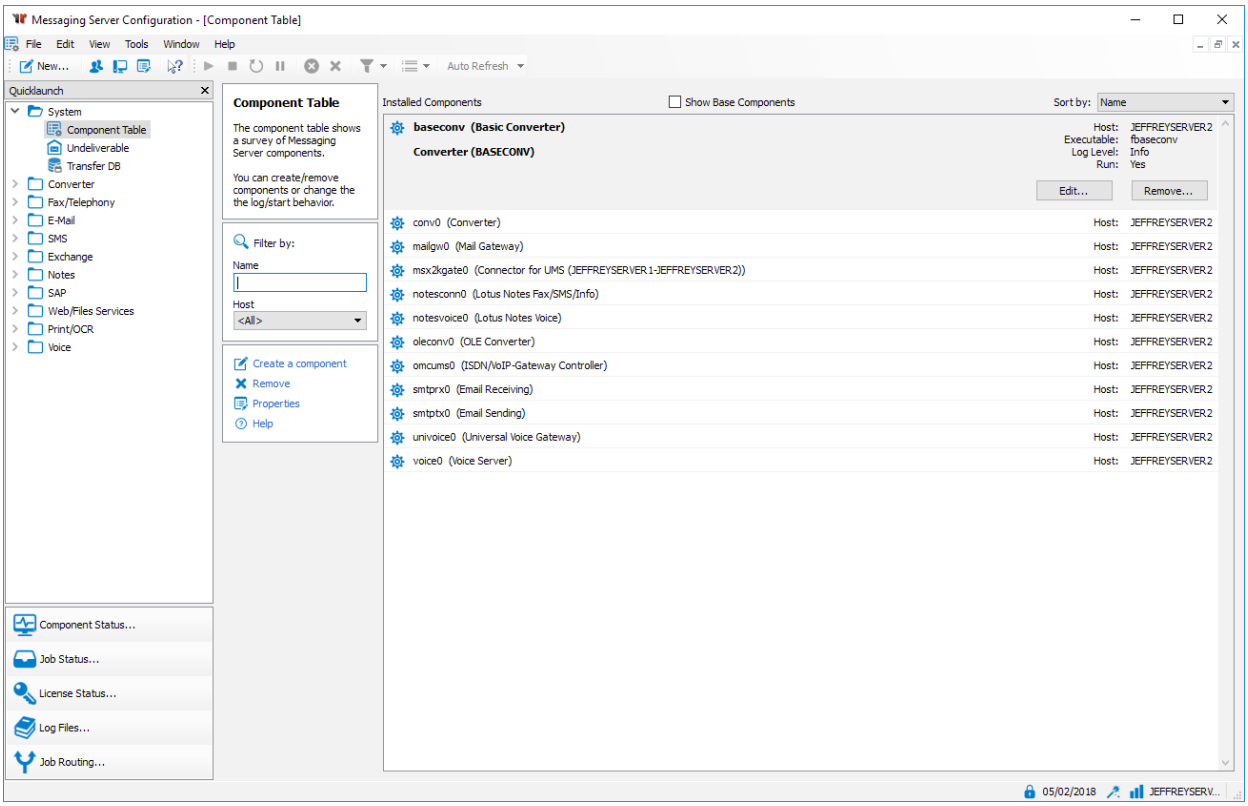

Image 2.2: The segments within the Messaging Server configuration

The user interface of the Messaging Server configuration programme is separated into three segments:

- Menu bar (top): Selection of options or components
- Tool bar (left): Selection of options or components
- Main panel: Choose/edit settings

▶ Menu Bar

The menu bar serves as main control panel for the Messaging Server configuration. Each sub item is static and thus fully independent on the OfficeMaster licence used. By restricting the user rights and deactivating the ***Expert Mode*** (Tools > Expert Mode), some boxes may be disabled or hidden.

▶ Tool Bar

Quick links for accessing the MessagingServer, user administration, common settings, and creating new components are embedded in the tool bar. A separate field allows for running various actions, dependent on the selected content in the menu bar.

► Component Status:

- Start, terminate and restart the selected component
- Hide component of particular type
- Sort component in the overview
- Adapt the refresh rate

► Job Status:

- Abort or delete the selected job

► Quick Launch Area

The layout in the upper segment of the quick start area varies, dependent on the licence used. Thus, if a Notes installation of OfficeMaster was selected upon first installation, a Notes folder and not an Exchange folder is displayed.

All components listed here may be accessed in the menu bar by selecting *Edit*.

► Component Status

If the component status is selected, the main window will display an overview of information about all components connected to the Messaging Server.

stopped

running

paused

processing a job

Error

can‘t run/unknown status

not configured

► Job Status

Select this tab to get an overview on each component and the respective job that currently runs on it. Additional information, such as a fixed time for processing a fax message can be accessed here.

► License Status

An overview on used and actually activated licenses on the system is displayed in this tab.

► Log Data

Select this tab to view all log data created for every component on the system. The key ***F5*** will trigger the selected file or the entire folder to reload.

▶ Job Routing

Here, the job processing queue of inbound and outbound messages of the type fax, SMS, mail and voice is visualised.

Note! Selecting *Rebuild* will adopt the routing of the currently saved configuration. If a new job queue for these messages is required, either this button need to be clicked or the OfficeMaster service need to be restarted whenever the routing shall be refreshed.

2.2.2. Create/ Delete Component

Creating new components can be variously achieved:

1. Menu bar: New
2. Tool bar: Edit > Component Table... > Create a component

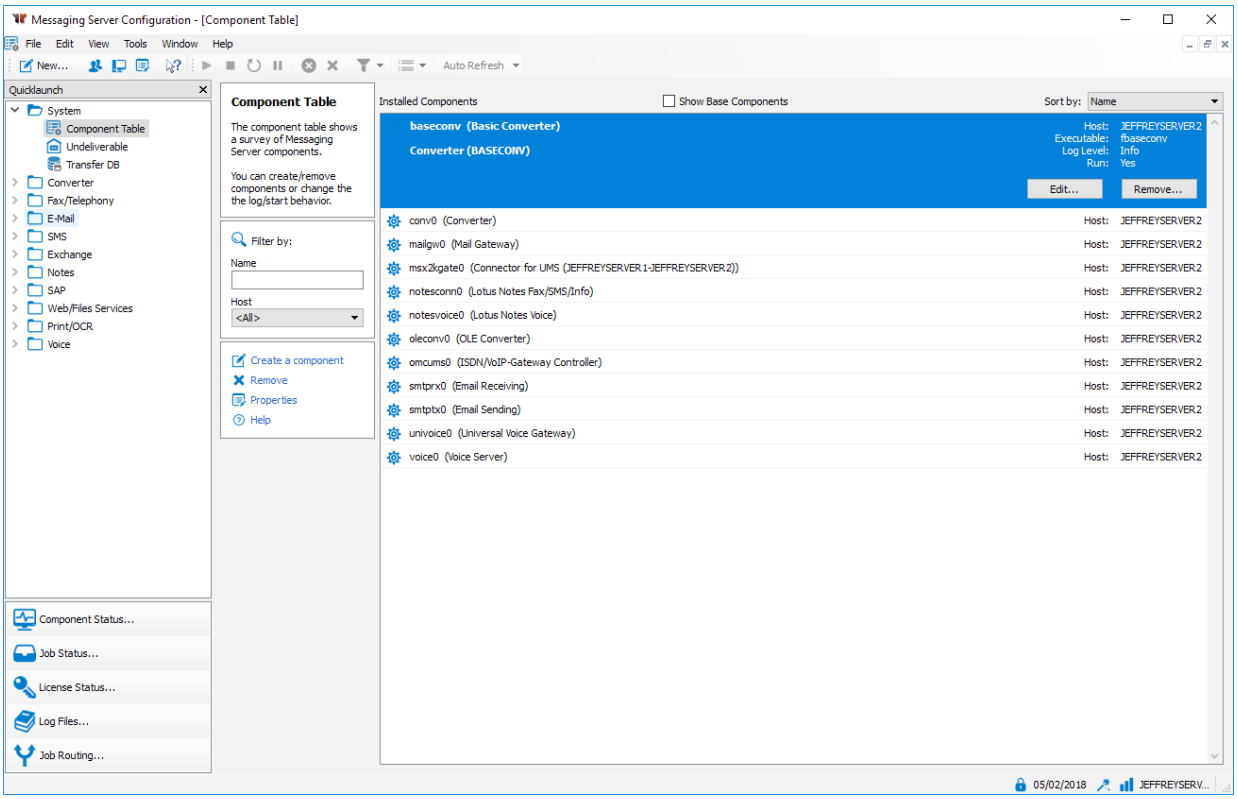

Image 2.3: Messaging Server component table

3. Quick launch area: COMPONENT TYPE
4. Toolbar: Edit > COMPONENT TYPE

A wizard pops up if step 1 or 2 for creating a component has been selected. Use this wizard to install the desired component.

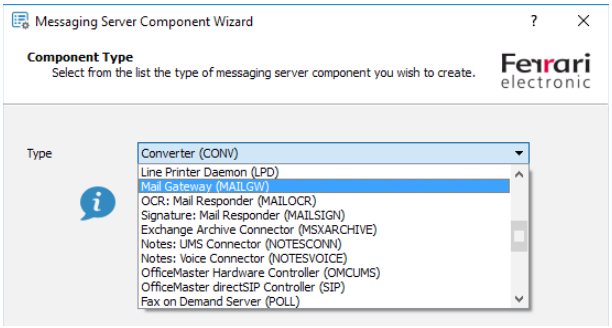

Image 2.4: Installing a component

If step 3. or 4. has been chosen, you will be prompted to either select a default installation or a common installation. Choose the default installation if the component is supposed to run on a distributed system.

The following dialogue concludes the installation.

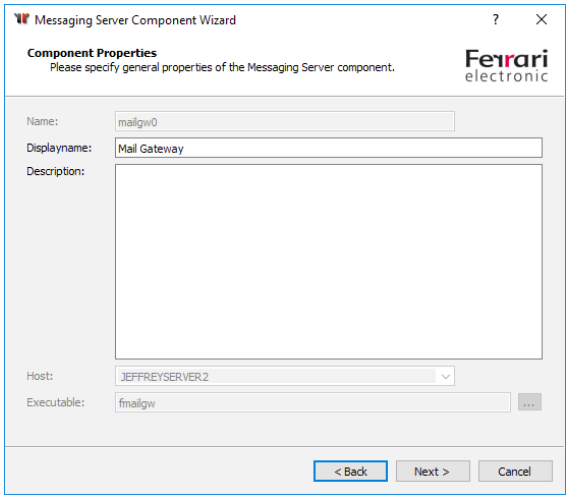

Image 2.5: Applying the basic settings

2.2.3. Configure a Component

The Messaging Server components are divided into two categories: Configuration and Properties.

Properties

Properties are non- functional settings that are critical for the proper execution of the respective component. Edit these settings by either:

- Selecting the component and right- click on *Properties*
- Selecting the component from the component table and click on *Edit*

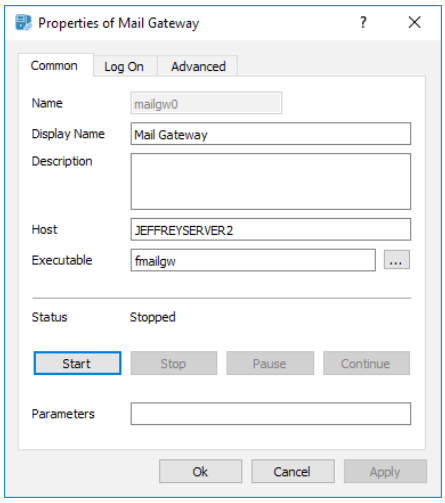

Image 2.6: General component settings

Once the porperties window has opened up, the tab *Common* becomes visible.

► Status

Here, the component itself can be controlled simply by clicking *Start*, *Stop*, *Pause* and *Continue*.

► Parameters

Additional initiation parameters can be supplemented in the *Parameter* box.

Please note that it may become necessary to start components with an account other than the system account. You may add the respective account in the tab *Log On*.

If you need to evaluate log entries, you can adjust the logging pattern in the *Advanced* tab.

► Level

In this box, you can adjust the logging level according to your needs.

► Stop Delay

Select how quick the Messaging Server component reacts once the starting or stopping boxes have been clicked.

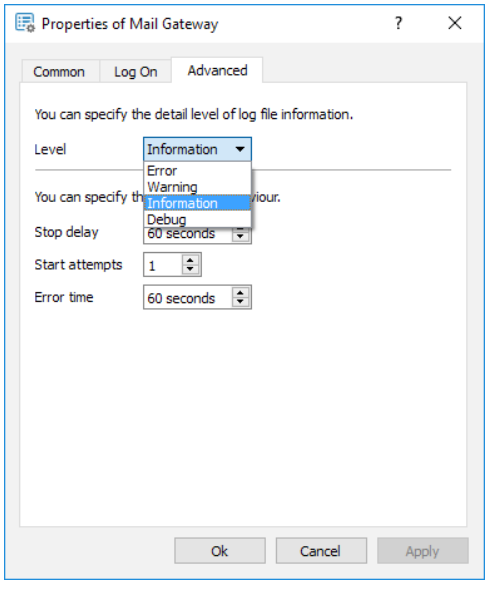

Image 2.7: Debug settings for the selected component

▶ Start Attempts

Define the amount of restart attempts once the initial start-up failed.

▶ Error Time

Set the time interval between individual restart attempts.

Configuration

Access the configuration settings of each component by

- Selecting the component type in the menu bar or
- Selecting the component in the component table, right clicking it and choosing *Show configuration*

Note! If multiple components of the same type have been selected, the configuration settings of the component on top is displayed.

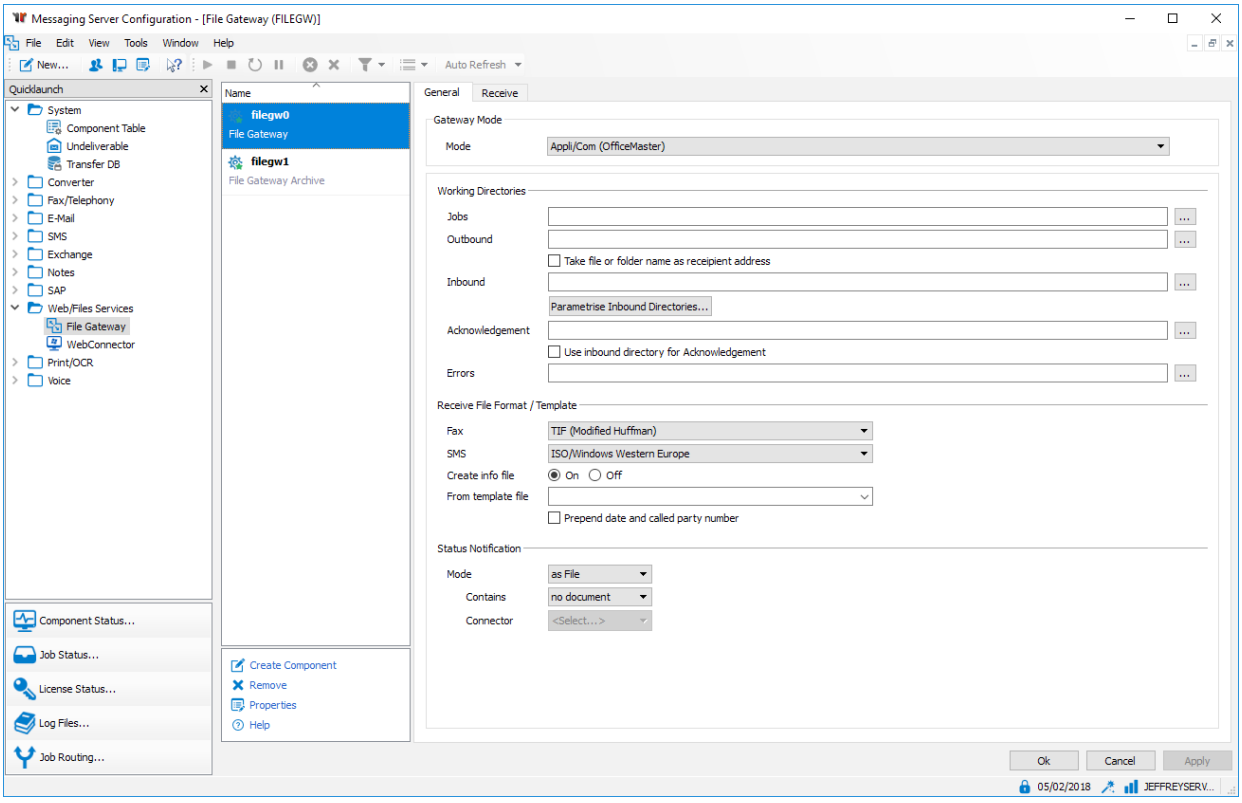

Image 2.8: Selecting the component for configuration

All configuration steps that are necessary to conduct are clarified in the following chapters.

2.3. DirectSIP

The component SIP is available for linking the Messaging Server to SIP Trunks and IP PBX's. To configure SIP, open the OfficeMaster Suite Configuration and select *DirectSIP* from the quick start tab.

2.3.1. Create a new Component

You won't find a pre-configured SIP component on a new system. Select *Create component* to set it up. An installation wizard will follow shortly afterwards.

After confirming or editing the default settings such as ***Name***, ***Displayname*** and ***Server***, the installation wizard for SIP will pop up automatically.

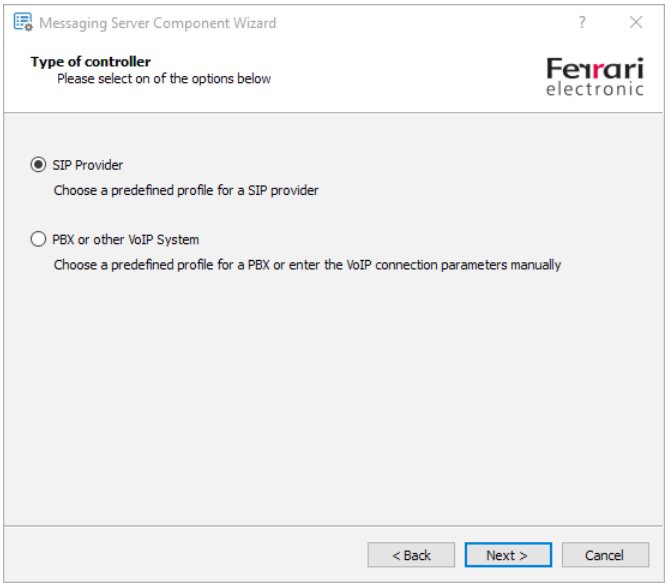

Image 2.9: Choose connection type

Firstly, choose the connection type. Predefined remote stations will help to maintain a good overview in the following dialogue.

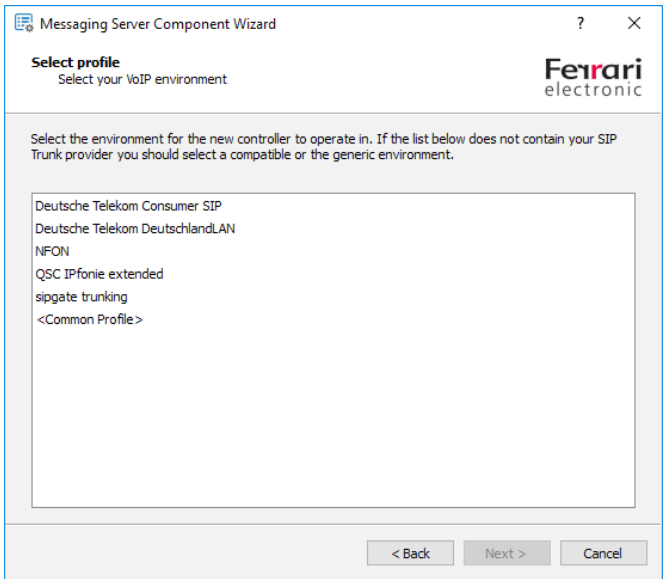

Image 2.10: List of SIP Trunks with preconfigured templates

The templates are constantly enhanced and an update to the latest version of OfficeMaster Suite is recommended to ensure they always remain up to date. If the requested remote station is not listed, please select *common profile* and continue following the wizard.

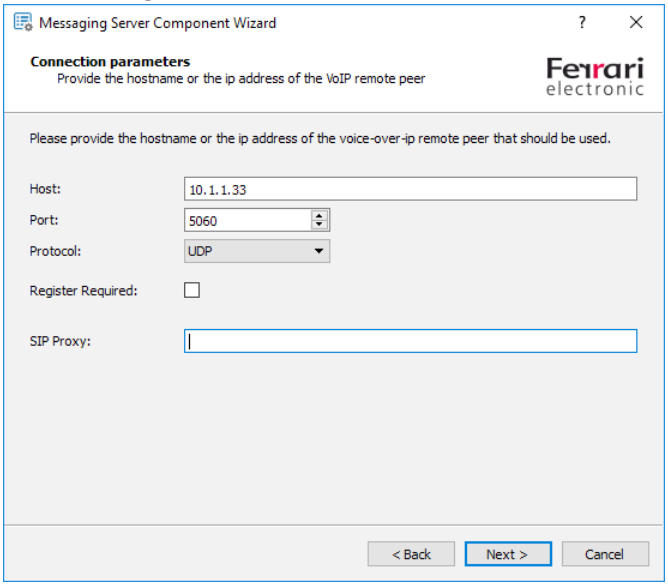

Image 2.11: Connection information

Enter connection information, such as IP address and port of remote station, here.

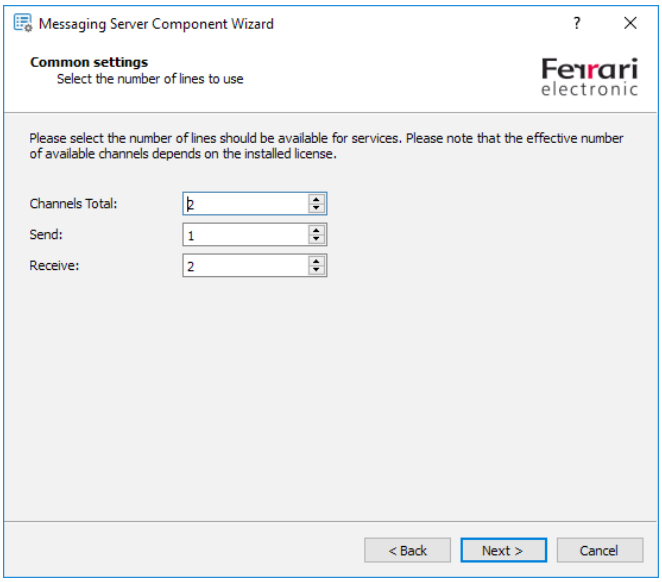

Image 2.12: Line configuration

You may configure available lines in this checkbox, however, the amount of listed lines depend on the settings you selected for desired prioritization and available licenses.

To complete installation, enter the basic settings for fax communications in the respective boxes.

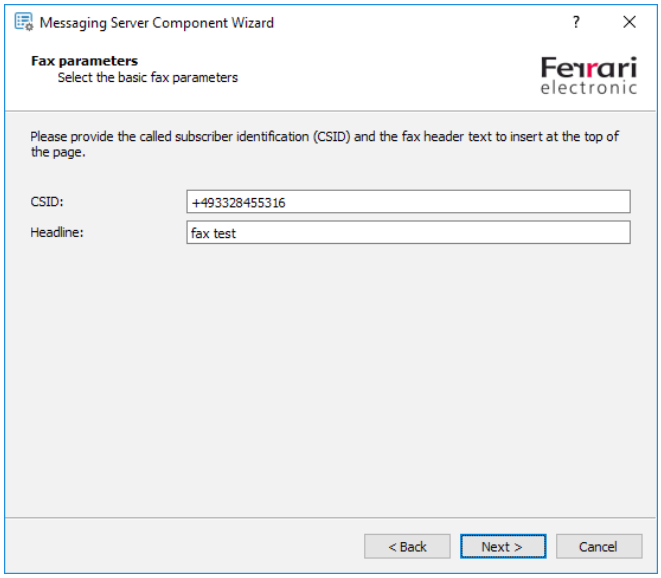

Image 2.13: Fax settings

After successfully running through the wizard, you'll see an overview of possible settings for the chosen connection. You may still edit or enhance the configuration settings if needed.

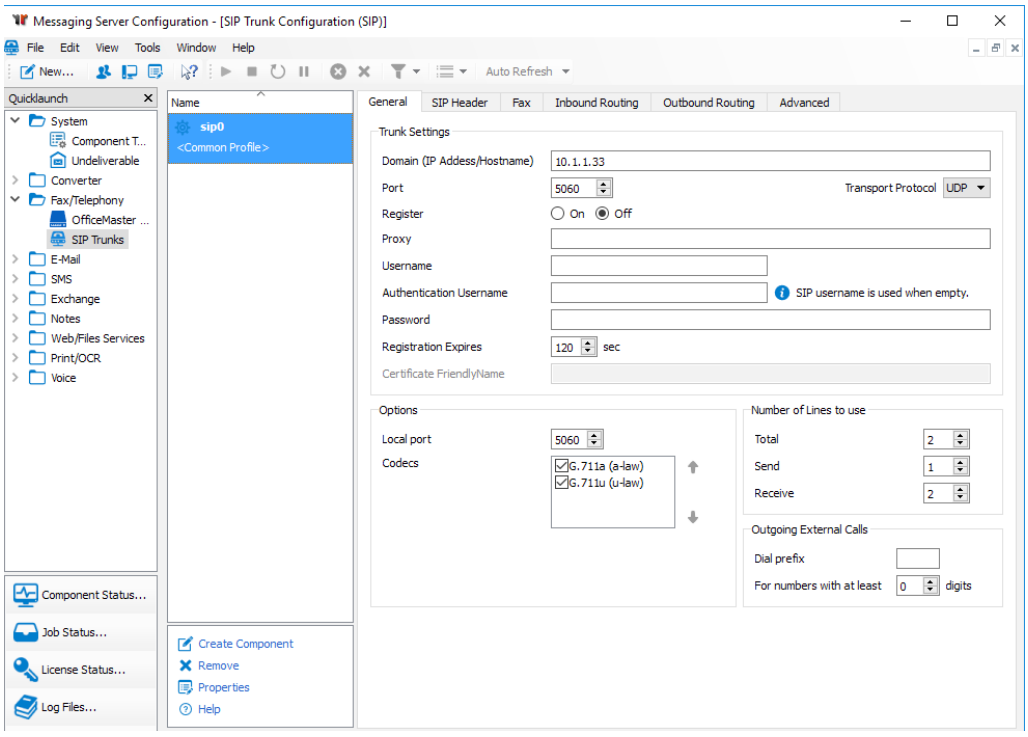

Image 2.14: Overview of general settings

Note! If you had to adjust your existing profile or used a connection type that is not yet listed,we would highly appreciate if you provide us with your feedback. We will try to incorporate it in a future release.

2.3.2. General

▶ Trunk Settings

If the desired SIP Trunk was selectable during installation, all necessary parameters are already prefilled.

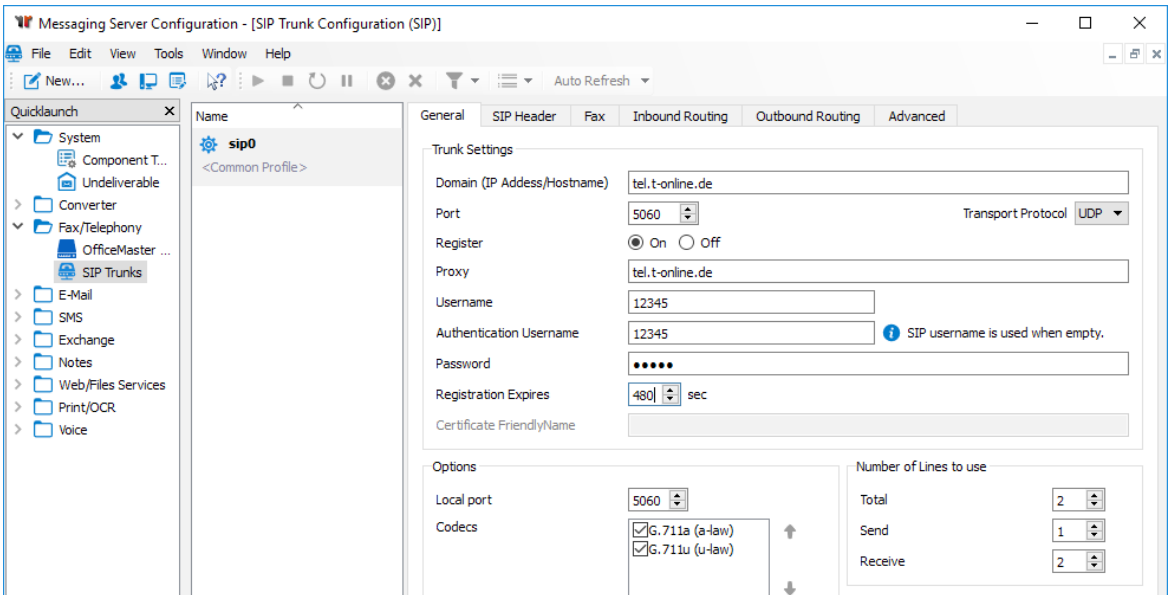

Image 2.15: Overview of settings with information filled in

▶ Domain (IP-Address/Hostname)

Provide the IP address/ Host name of the PBX, Session Border Controller or the IP-Provider.

▶ Port

Define a port to allow communication to the remote station.

▶ Transport Protocol

Choose between *UDP*, *TCP* and *TLS*.

▶ Register

If a registration on the remote station is necessary, choose *On* or, if not, choose *Off*.

▶ Proxy

If a proxy is used, please enter it here.

▶ Username

Enter a username for identification purposes of the remote station.

▶ Authentication Username

Enter the username that is required for authentication. If no username is entered, the SIP- username will be used.

▶ Password

A password request can be triggered here.

▶ Registration Expires

Choose how often the remote station expects a ***register*** input

▶ Certificate (FriendlyName)

If the transport protocol *TLS* has been selected, please provide the respective name for the certificate. OfficeMaster Suite searches for the certificate within the certification administration using the value entered in *Display name*

▶ Options

▶ Local Port

Enter the local port for the SIP communication of the SIP component.

Caution! If multiple SIP components are going to be used, a port has to be defined for each component individually.

▶ Codecs

To allow the transfer of data streams, select a codec that is supported by the counterpart station.

▶ Send SIP Options

Activate this checkbox only if the SIP counterpart station supports *SIP OPTIONS*.

The configured SIP component will not be able to accept outbound jobs if the counterpart station fails to process *SIP OPTIONS* (timeout).

▶ SIP Options Interval

Specify the interval between the individual *SIP OPTIONS*.

▶ Number of Lines to use

Enter the amount of lines that are going to be used into the checkbox *Total*, separated by ***Send*** and ***Receive***. The desired amount of lines need to be supported by the respective line extension license. Particularly in solutions that consist of multiple transmission components, such as SIP/OMCUMS, each configuration settings should be adjusted to ensure support by the line extension licenses.

If spare lines are yet available, they will be requested and distributed dynamically until the maximum amount entered here, is reached.

2.3.3. SIP-Header (Expert Mode Only)

According to SIP RFC, various settings are available on how to transfer forwarded calls. Furthermore, it is not always clear which job parameter is ought to be applied to the SIP- Header and when. You may define these parameters in the ***Expert Mode***. You won't have to adjust these settings if an appropriate profile has been selected upon creating the component as the installation wizard has done that already.

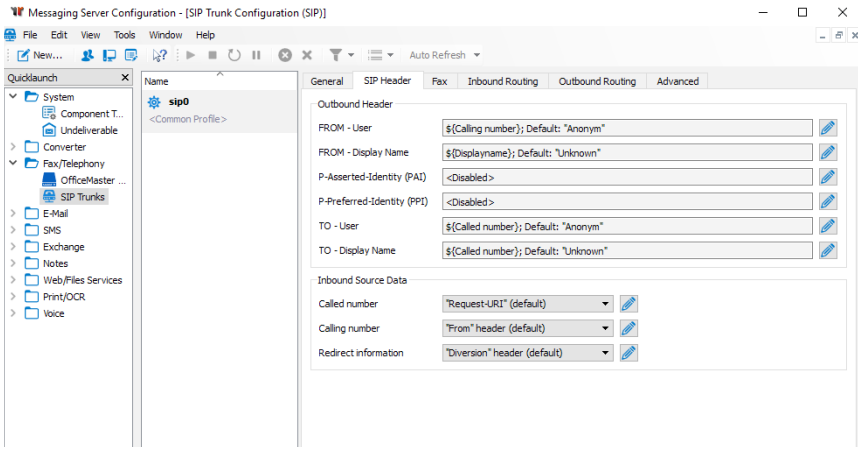

Image 2.16: Extended settings for the SIP- Header

▶ Outbound Header

If outbound calls are performed, the SIP- Header is occupied by a fax/voice job within OfficeMaster Suite. Depending on the remote station, up to six boxes have to be filled in. By clicking the edit icon- ,these values can be set up in the dialogue.

The setup applies to the following SIP- Header attributes

FROM - User

FROM - Display Name

P-Asserted Identity (PAI)

P-Preferred-Identity (PPI)

TO-User

TO- Display Name

Depending on the entry in *Type of value*, the options available may differ.

▶ Type of Value: Fixed Value

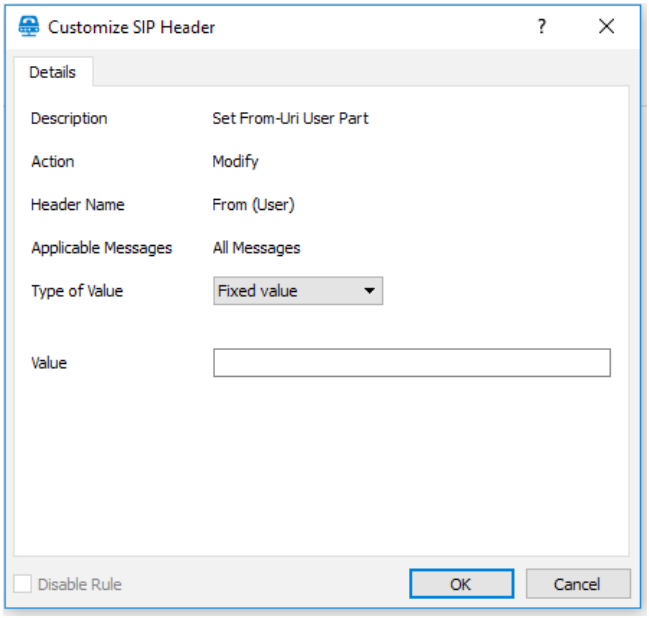

Image 2.17: Fixed value selection

▶ Attribute

You can select a fixed value here, such as a central calling number.

▶ Type of value: Attribute

Attributes for this box can be configured here. You may choose between OfficeMaster's job paramters or a fixed value out of the general settings to apply them to.

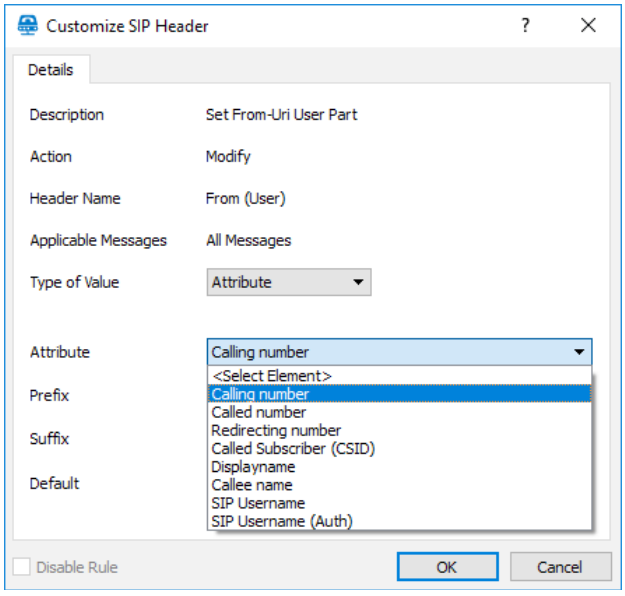

Image 2.18: List of available attributes

▶ Attribute

Choose the attribute that the value in the SIP header should be applied to. Available attributes are listed above.

► Prefix, Suffix

If you wish to assign a fixed prefix or suffix to the attribute, you may do it here.

► Default

In case the job is either not available or empty and thus reading the job is impossible, a default setting can be set here.

Note! If you want to configure an OAD that is based on the sender, use a default value such as the SIP user name and an attribute such as ***Calling Number***.

► Type of Value: Regular Expression

► Regex Match

Define a rule for matching numbers. The following rule matches three consecutive numbers that follow ...***455***

(\+493328455)(...)

By using brackets, the number can be subdivided into individual sections (two sections in the upper example)

► Regex Replace

Define a target value here. Use ***\1***, ***\2*** and so on to address the respective sections.

If the example that is given further up top is to be used, the expression ***\191*** initiates the value ***+49332845591*** to reach all calls that have been defined by the Regex Matching Rule.

► Default

+49332845590

If it is not possible to deposit a value by using the source and regular expression, the default value is used.

Note! As of now, this example is currently not very useful. However, if you want to set the display name based on direct dial numbers, it may be achieved here. At the time this document was created, this functionality couldn't be properly tested.

► Inbound Source Data

You can enter source files for ***Called number***, ***Calling number*** and ***Redirect information*** that are used by incoming calls here. The settings are equal to those for outgoing calls.

2.3.4. Fax Settings

Parameters for fax communication can be entered in the *Fax* tab. Some settings have already been requested by the installation wizard and are therefore prefilled. You may edit these settings if needed.

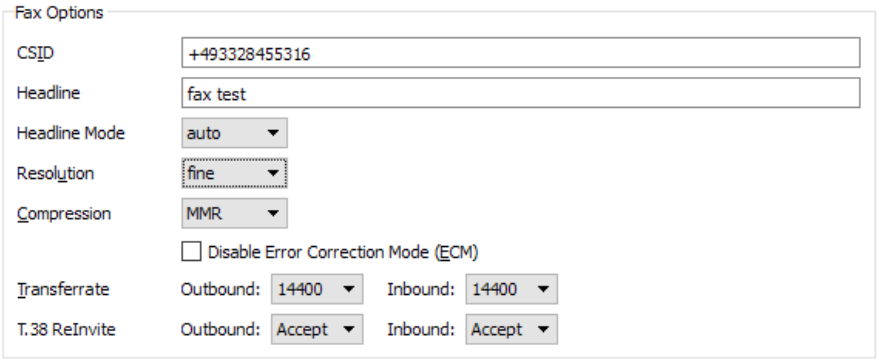

Image 2.19: Global fax settings

► CSID, Headline

A default textbox for the headline (e.g. company name) that is used for outgoing fax messages can be configured in the *Headline* box. This text box also accommodates the ***CSID*** (fax identifier). The CSID is based on the ITU rule T.30 for international calling numbers, thus the area code, national access code and the actual number are included. You may only use numeric numbers, addition key (**+**) and spaces in the CSID section. The country code should not contain leading zeros.

Example 2.2.

Given the Ferrari electronic fax address ***03328/455-316***, the input would be ***+49 3328 455 316***.

»End of example

The ***CSID*** is transmitted to the fax protocol with every fax session (inbound and outbound). It is shown on the display and in the transfer protocol of the remote station.

Parameters that were configured for the ***CSID*** and ***Headline*** of outgoing faxes only apply if no job specific settings (e.g. for Exchange-, Notes/SAP users) exist.

► Headline Mode

- *Off*

  No header information is transmitted

- *Merge*

  Headline information is integrated into the document. This may suppress the documents information.

- *Extend*

Headline information is preceding the document. To ensure the fax document won't exceed the maximum paper format, it is scaled down if necessary.

- *Auto* (default setting)

  OfficeMaster attempts to detect whether the first lines of the document are empty and thus tries to merge or if an extension has to be applied.

► Resolution

- *Standard* - 100 dpi
- *Fine* - 200 dpi

► Compression

- *MH*; Modified Huffman, based on RLE
- *MR*; Modified Read, Fax Group 3
- *MMR*; Modified Modified Read, Fax Group 4

► Disable Error Correction Mode (ECM)

You can deactivate automatic error correction here. We recommend not to use this setting unless the remote station does not support ECM and the training session (TCF) shall be shortened.

► Transfer Rate

We recommend leaving the settings to its default value. In cases where the line quality is poor, you may however want to reduce the speed.

► T.38 ReInvite

Depending on the remote station, the individual T.38 modes are configured by the installation wizard. If necessary, the behavior may be adjusted to match that of the PBX.

2.3.5. SMS Settings

In this tab, specify the calling number of the landline SMS Center that will be addressed. In case your provider supports Flash SMS, activate this feature by adding the syntax into the *Flash-SMS marker* box.

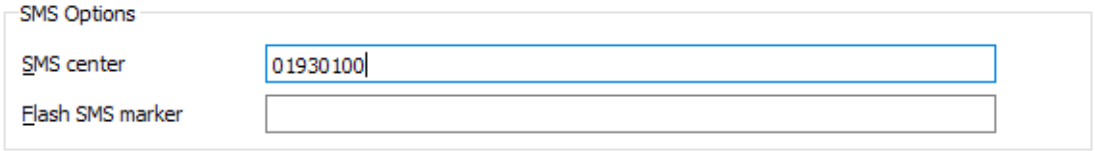

Image 2.20: SMS settings for adjusting the SIP component

2.3.6. Inbound Routing

Incoming calls are either blocked or received as fax or voicemail. Depending on the transferred number, you can determine how the OfficeMaster Suite handles a call. These settings are editable in the register *Inbound Routing*. The following telephony features are available for this setting: *Calling Number*, *Redirecting Number* and *Called Number*.

Note! The SIP header boxes that are used to set these telephony features are determined depending on the provider and type of the SIP trunk. If it becomes necessary to perform changes to the assignment, change the view to ***Expert Mode*** or open the tab *SIP Header*.

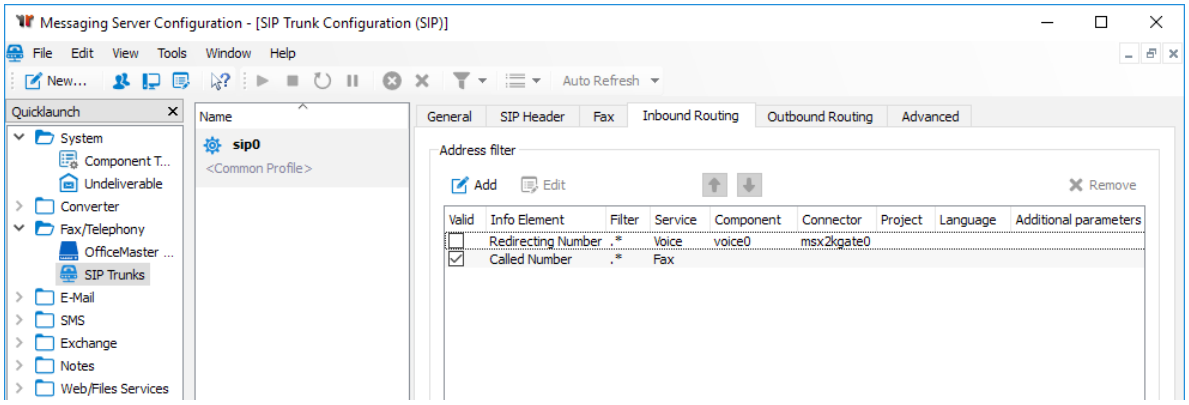

Image 2.21: Create/edit address filters for inbound routing

► Address Filter

The *Address Filter* is created with predefined content.

The number of the diverting extension (***Redirecting Number***) can be used to correctly identify voicemails. All diverted calls are processed as voicemails if this rule has been enabled.

All calls, that could not be identified as voicemails are processed as fax.

Caution! To guarantee a parallel use of fax and voicemail, OfficeMaster Suite requires an additional license. Please ensure the desired ***Second Service*** (fax or voice) has been licensed. Calls are rejected if routing to a not licensed service is attempted.

This allocation may vary between each SIP component or SIP remote station used. Thus, each component can be configured individually.

Note! Right click on an element to open up the context menu. Here you can reset the service choice back to the default settings.

► Add

The service selection is done by using a list of filters that are applied one by one to the calling information. The simplest element that a filter contains is a complete calling number. It is not necessary, however, to enter a complete calling number as the filter designation can as well be applied by using regular expressions.

The set filters are applied one after another to each calling number that has been received, starting with the first filter. Incoming calls are treated according to the first filter (First match). A filter hierarchy can be set using the up or down arrow keys.

Detecting Voicemails

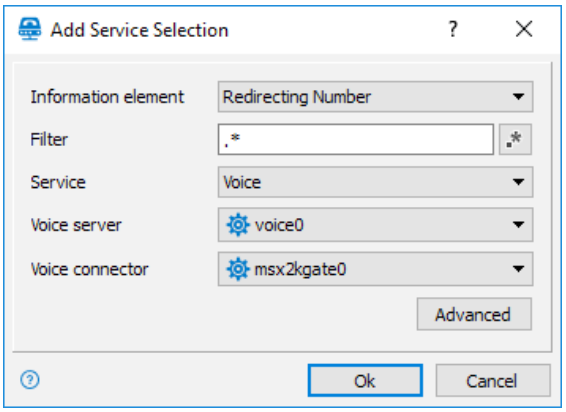

Image 2.22: Configuration of inbound calls for the voice service

► Information Element; Filter; Service; Voice Server; Voice Connector

The ***Redirecting Number***, ***Calling number*** or ***Called Number*** can be used as *Information element* to detect voicemails. If the selected Information element matches the configured filter, the filter will be applied.

For example, if all calls with a three-digit ***Redirecting Number*** (=Internal calling number of the redirected substation) are to be received as voicemail, three dots (**...**) shall be set as filter.

If, however the *Redirecting Number* is not supported by an end to end port, a separate direct-dial number range needs to be provided for the voice service.

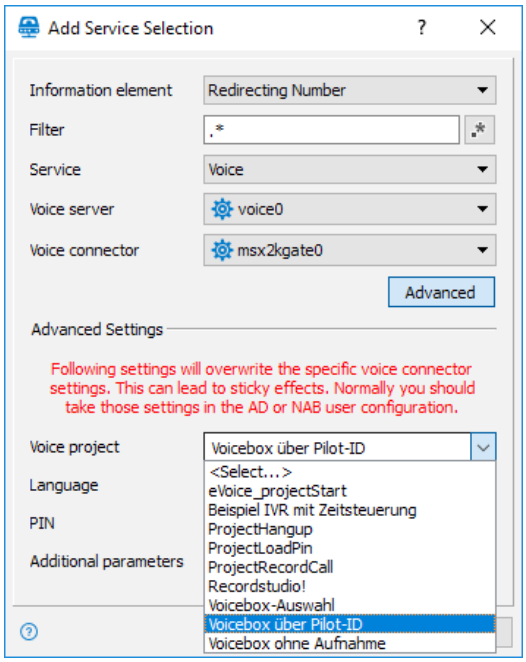

Image 2.23: Selecting the project: Voicebox over Pilot-ID

Click *Advanced* and select the project *Voicebox über Pilot-ID* (German for Voicebox over Pilot-ID). This will enable the transferred *Redirecting Number* to be used as target (*Called Number*). By selecting this project, all calling numbers are adjusted respectively and the voicemail project that was deposited on the user is opened up.

► Language, PIN, Additional Parameters

In some (rather unlikely) events it may become necessary to fill in these boxes. We recommend leaving them in the default settings.

Caution! An automatism previously caused the hardware controller (*OMCUMS*) to use the *Redirecting Number* exclusively for all jobs once this attribute had been chosen for call processing. In addition, this number would have replaced the *Called Party Number* for all succeeding jobs. Due to its complex nature, this automatism has been removed.

Detecting Faxes

You should create a filter for the *Called Number* at the end of the address filter (except for voicemail). This will ensure that all remaining calls are received as fax.

Note! No additional measures need to be undertaken to receive fax messages. An incoming fax can be forwarded to all connectors that registered for this process. A common scenario is a parallel use of a file interface with an exchange connector. The same fax is delivered to both recipients.

2.3.7. Outbound Routing

During installation with multiple telephony interfaces (various ISDN channels, multiple SIP-Trunks, etc.) the transmission jobs are distributed to any available interfaces, depending on the system's occupancy.

Common installations that use a multitude of interfaces require the routing not to randomly distribute calls via the interfaces. By using regular expressions, appropriate routing rules can be created that are based on the target and the sender.

If SIP and *OMCUMS* components are created and configured to not be bound to any limitations, outbound calls are randomly distributed to vacant channels. An effective load distribution paired with an automatic selection of available transmission forms is achieved by using multiple SIP remote stations (e.g. redundantly laid out PBXs).

The service types fax and voice are differentiated during routing. Both need to have a clear distinction between sender and receiver. Ticking the checkbox next to each service (Fax, voice, SMS and MWI) enables the external transmission.

The basics:

- **-.*** prevents a match of all calling numbers
- **.*** matches all calling numbers

Here, a *Least Cost Routing* rule or *Location Based Routing* rule can be defined for outbound routing services such as fax, voice, SMS or MWI.

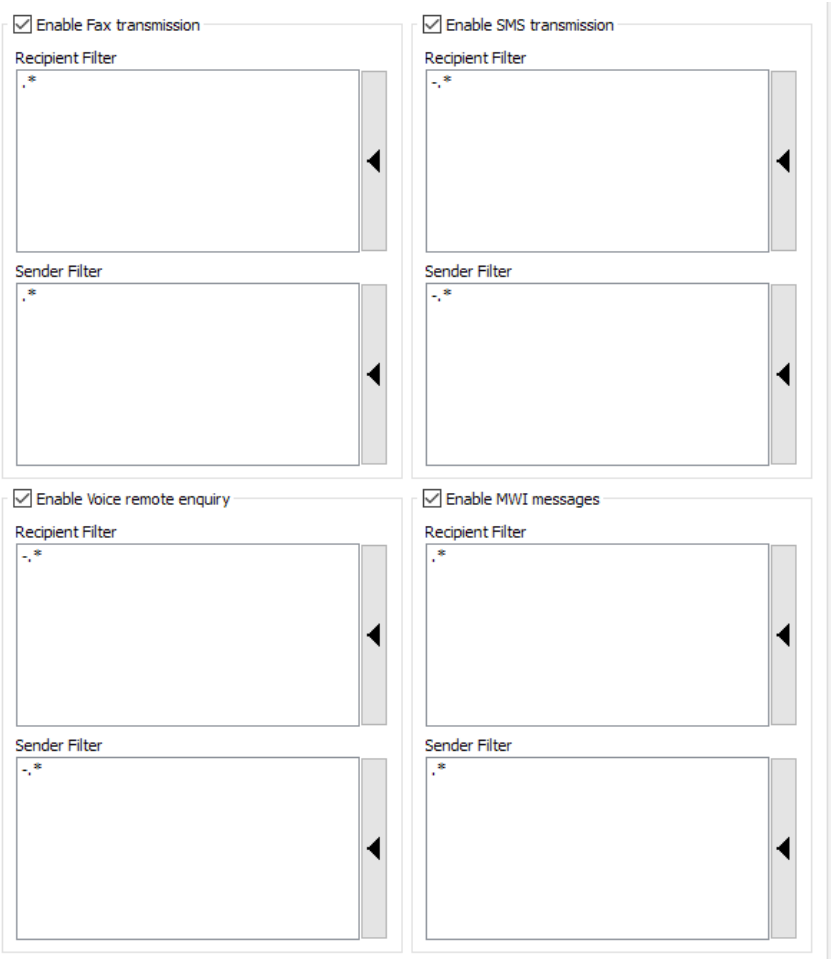

Image 2.24: Default settings for outbound routing

Note! Open the *Fallback* tab to configure a fallback behavior for the SIP component.

Least Cost Routing

Transfer jobs are transferred to a receiver via ISDN. This ensures a cost-effective transportation method.

Location Based Routing

Location Based Routing is handled using the sender information which, in the plainest environment, consists of a fax or voice number only.

Because of the liberalization of the German telephone market, the use of *Least Cost Routing* is only reasonable for international transmissions. *Location based routing* is commonly applied to a variety of IP connections within one country, thus fees only apply where it was made use of. *Location based routing* is continuously used internationally.

Note! Examples for these settings can be found in the section „ISDN- Controller“ on page 45 further down.

2.3.8. Advanced (Expert Mode Only)

The selectable options on the tab *Advanced* generally support two scenarios:

- Automatic number correction for autonomous correction and diversion of a receiver's calling number
- Setting log-levels that are requested by our support team to provide adequate support.

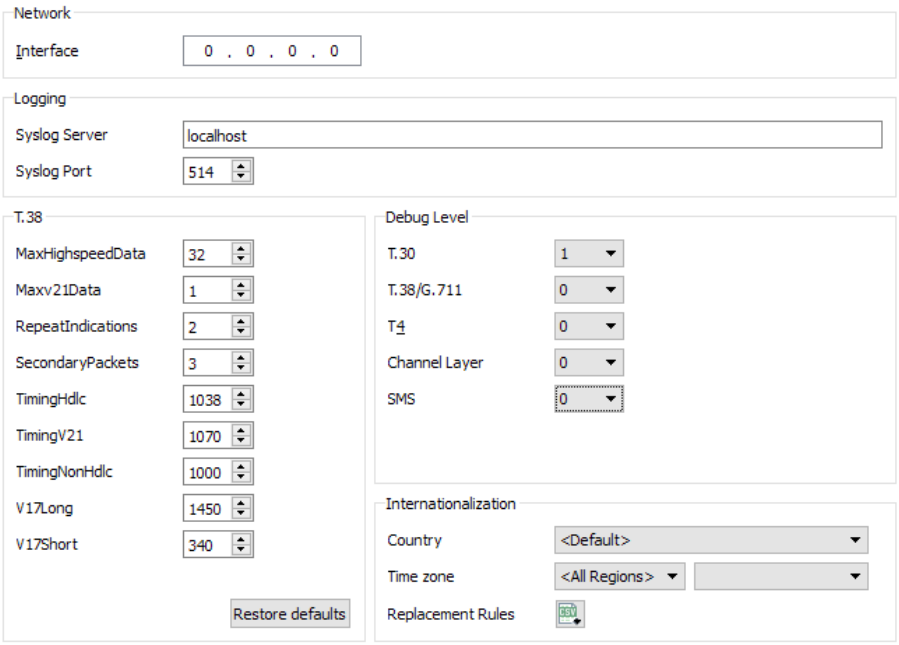

Image 2.25: Advanced settings

▶ Network

Enter the network interface that is intended for use. If all interfaces shall be used, leave the value to its defaults (***0.0.0.0***).

▶ Logging

The SIP component conveys SIP logging information to a syslog server via UDP. The OfficeMaster syslog server is installed as service during the OfficeMaster Suite installation. If currently a different syslog server than those listed is used, enter it here.

Note! If the syslog server is set up by default during the OfficeMaster Suite installation (which generally is done if no syslog server is present upon installation), the following file path is used: c:\ProgramData\ffums\syslogs. If the file path needs to be changed, do so by opening up the OfficeMaster syslog configuration program and edit the path according to your demand.

▶ T.38

Editing settings for the fax transmission protocol T.38 should only be carried out by T.38 professionals or in consultation with our Ferrari electronic support team.

▶ Debug Level

The logging sensitivity can be set to different levels depending on the internal processes.

▶ Internationalization

▶ Country

Automatic correction adds or deletes national and international calling codes depending on the SIP component's location and/or the calling numbers used for transferral. Faulty calling numbers are corrected and calling codes are regulated.

▶ Time Zone

The time zone set is used as time stamp on faxes. Should you intend to use a time zone other than that on your operational system, change it here.

For users on different time zones that have access to one centralized solution, the correct time zone can be set here as well (based on the SIP trunk).

Note! The Exchange connector provides a functionality for setting up the time for users and connectors individually if the need arises.

Configuration of the time zone can be carried out easily, as each region (including the respective cities) is separately displayed.

2.4. ISDN- Controller

The ISDN interface is accessed and controlled by the *OMCUMS* component. This component is configured in the OfficeMaster Suite Configuration. Open the program and select Edit > OfficeMaster Gate... . All ISDN interfaces, virtual interfaces and the OfficeMaster Gate (if already added) that had been found by OMCUMS upon start up, are displayed in the box *Name*.

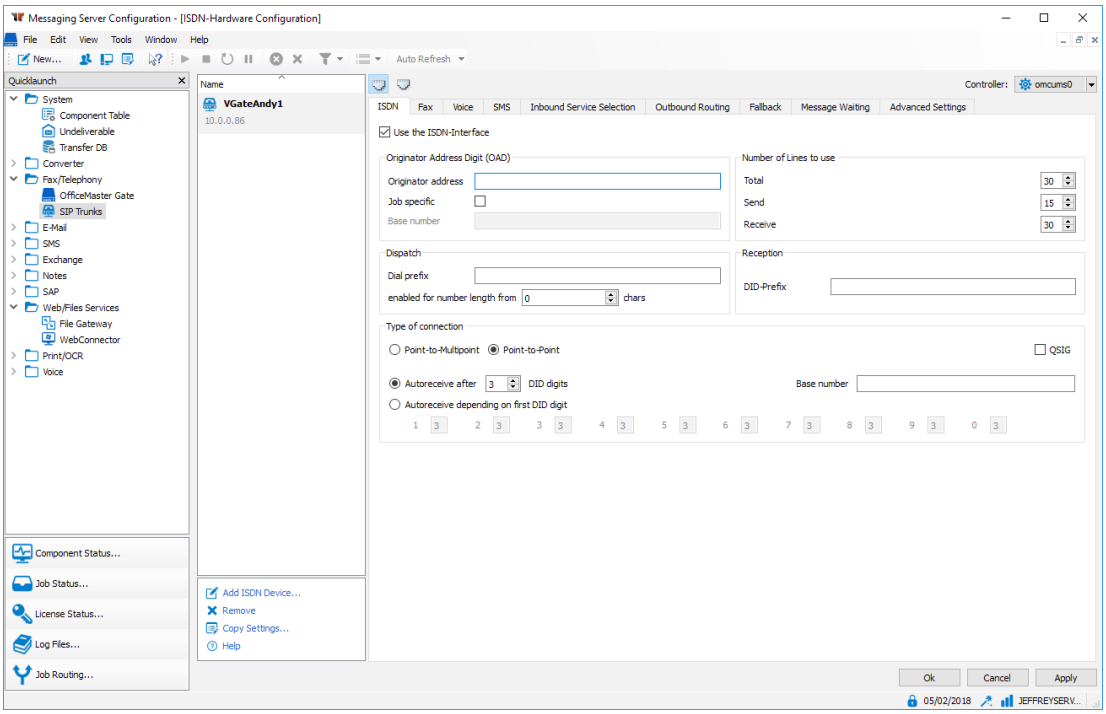

Image 2.26: Hardware settings

If the Messaging Server installation is distributed to several server machines that also run an OMCUMS component, the available ISDN hardware on the computer is listed as well. On top right, select the desired controller that the listed gates and interfaces had been assigned to.

Note! An additional *JCISDN* component is required if the listed interfaces are either *CAPI* or *XCAPI* cards.

These components can be added to the Messaging Server if the OfficeMaster Gate is directly connected to the network. Available ISDN hardware are displayed in the dialogue box on the left and are labeled with the prefix *capi* if they have been identified as CAPI cards. OfficeMaster Gates are labeled with the prefix *omg*, followed by their individual serial number. All labels are editable and may be adjusted as desired. We recommend editing the label for distributed installations. Do so by selecting the hardware and pressing *F2* . A configuration that is visible in the right box always refers to the selected hardware on the left.

The tabs displayed in the screenshot are only available if *Use the ISDN interface* has been checked. After successfully configuring the interface, confirm by clicking *OK*. This will save the settings and apply them to the running OMCUMS component.

Note! We recommend stopping the OMCUMS component and restart it after the configuration has been set up.

2.4.1. ISDN Settings

Settings and value input for fax, voice and landline text messages are editable in the tab *ISDN*.

► Originator Address Digit (OAD)

Some PBX's require an ***OAD*** from ISDN hardware for identification. The OAD is commonly requested for authorization checks and fee evaluation if the latter is available on the PBX. However, no inputs are necessary if the PBX do not require an OAD.

► Originator Address

By default, the OAD corresponds to the number of the respective ISDN connection. This so called ***originator address*** can be configured for all tasks in the Messaging Server program.

► Job Specific; Base Number

Once the configured direct calling number of the Notes, -Exchange or SAP user is contained in the transfer job details, the OAD can also be determined ***job specifically***. Both, the OAD and the ***Base Number*** are transferred to the PBX upon each call setup. Hence, every transfer job can be accounted for, independent on fax or text messages. If, however the transfer job lacks of a job specific OAD, the ***originator address*** is used instead.

Note! In order to configure the job specific OAD the ***Expert Mode*** has to be enabled.

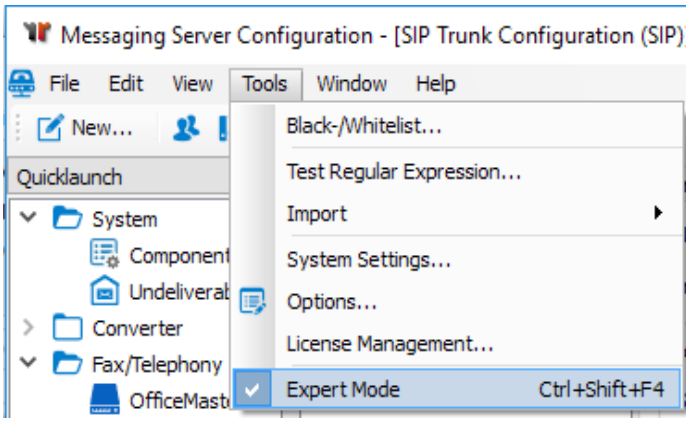

Image 2.27: Expert mode activation

► Number of Lines to use

Note! If the OfficeMaster Gate runs on hybrid mode, it is pivotal to ensure the amount chosen for outgoing channels do not exceed the maximum of available channels supported by the OfficeMaster Gate!

► Total

The desired amount of ISDN channels used by the Messaging Server can be entered in the box *Total*. All available channels (two for each basic rate interface (S_0) and 30 for each primary rate interface (S_{2M})) are used by default, given that the respective line extension licences have been obtained. If, however the

ISDN subscriber line is required to be permanently used by ISDN interfaces other than those available to the system, a different value has to be entered here. A different value may also be entered if various ISDN interfaces are required to share and occupy one line at a time only.

► Dispatch; Reception

An efficient channel occupancy rate can be achieved by configuring the values for *Dispatch* and *Reception*. By doing this, queued reception and dispatch processes may be handled simultaneously.

Example 2.3.

- 2 Lines; license covered by the basic product license
- 1 ISDN basic rate interface
- 2 channels in total, 1 channel for dispatch, 2 channels for reception

The interface chosen in this example requires two channel licenses. One channel may be used for dispatch but both channels for reception. Hence, one channel is constantly blocked for reception, regardless on the amount of outgoing messages.

»**End of example**

Example 2.4.

- 2 Lines; license covered by the basic product license
- 2 ISDN basic rate interfaces
- BRI1: 1 channel in total; 1 for dispatch, 0 channel for reception
- BRI2: 1 channel in total; 0 for dispatch, 1 channel for reception

»**End of example**

We recommend to distribute receive and send jobs to multiple basic rate interfaces. The workload will be just minimal; hence, two channels for fax communication should suffice.

► Dispatch

► Dial Prefix

A ***dial prefix*** is the value that is used to enable communication to the respective telephone exchange (common value: ***0***). Furthermore, the subscriber number used for fax and text messages may be stored as fixed value as well.

► Enabled for Number Length From (...) Chars

An automatic detection of internal fax branches on each PBX can be configured by entering a value in this box. This value should correspond to the longest number of any internal call-through number.

Thus, an unnecessary routing through the telephone exchange is avoided. The implemented automatic number correction affects all numbers of outgoing calls, independent on any configurations made in the ***dial prefix*** box.

A value input in this box is essential if the ISDN interfaces of your Messaging Server system are distributed between multiple locations in two or more countries or if the entire receptionist's number (including area code) has been provided for transfer processes. With ***Expert Mode*** enabled, click on the tab *Advanced Settings* and select the desired country to activate automatic number correction.

▶ Reception

▶ DID Prefix

The ***DID prefix*** (***D***irect ***I***nward ***D***ialing) precedes the number of any incoming fax, text or voice message and essentially becomes a fixed element to the receiving number. Given the configured ***DID prefix*** is set to ***0123*** and the receiving number is ***456***, the Exchange, Notes and SAP users need to have access to the fax address ***0123456***.

▶ Type of Connection

Note! If OfficeMaster Gate operates in hybrid mode (as seen on the user interface), the configurations made here have no effect on the connection type. Use the OfficeMaster Gate configuration program to perform the following configuration.

▶ Point-to-Multipoint; Point-to-Point

The *type of connection* is essentially differentiated between ***Point-to-Multipoint*** and ***Point-to-Point*** connections. ***Point-to-Multipoint*** supports the use of multiple ISDN interfaces (such as Telephone 1, Telephone 2 and Fax) whereas ***Point-to-Point*** supports the use of one ISDN interface only, which is commonly a subsidiary PBX.

A ***Point-to-Multipoint*** connection, however, lacks the support of more than 10 MSN (***M***ultiple ***S***ubscriber ***N***umbers), whereas a ***Point-to-Point*** connection is capable of accessing the entire range of DID numbers. Hence, the ***Point-to-Point*** connection should be favored if more than 10 users are to be given a DID number. OfficeMaster Gate unrestrictedly supports both connection types.

▶ QSIG

OfficeMaster Gate is capable of performing with Euro-ISDN/DSS1 and ***QSIG*** as ISDN protocol, both of which are constantly used by PBX's on ***Point-to-Point*** connections. Detailed information on supported connection types for third-party hardware has to be obtained by their respective documentation file. Please refer to this technical documentation for further instructions on how to install this hardware.

The configuration for both, reception and dispatch of the available connection type can be carried out.

▶ MSN Dependent; MSN Independent

A ***Point-to-Multipoint*** connection allows for a reception of either all recipient numbers (***MSN independent***) or just pre-selected recipient numbers (***MSN dependent***) that are essentially available to the port. The latter option is useful if multiple hardware connections are known to use the same ISDN port as the original ISDN interface. Enter the MSN, separated by comma, semi colon and dashes.

Note! The *Point-to-Point* connection type needs to be selected for the following boxes to appear.

► Base Number

On a Point-to-Point environment, the ***base number*** is delivered and displayed by the PBX just before each call is put through. This base number can be configured here (often left empty, except on a base port). The DID and its expected character length is received after the base number has successfully been transferred. It is not recommended to commence the reception of fax messages without predefining the character length of the DID number.

► Autoreceive After (...) DID Digits; Autoreceive Depending on First DID Digit

The DID character length can be defined as either fixed or dynamical value for DID numbers received. The latter configuration setting is dependent on the first incoming digit and may be applied to individual number ranges.

2.4.2. Fax Settings

Parameters for fax communication can be entered and edited in the tab *Fax*. Here, fax dispatch can be activated or deactivated for the ISDN port specifically. If the fax reception is to be deactivated, use the tab *Inbound Service Selection* instead.

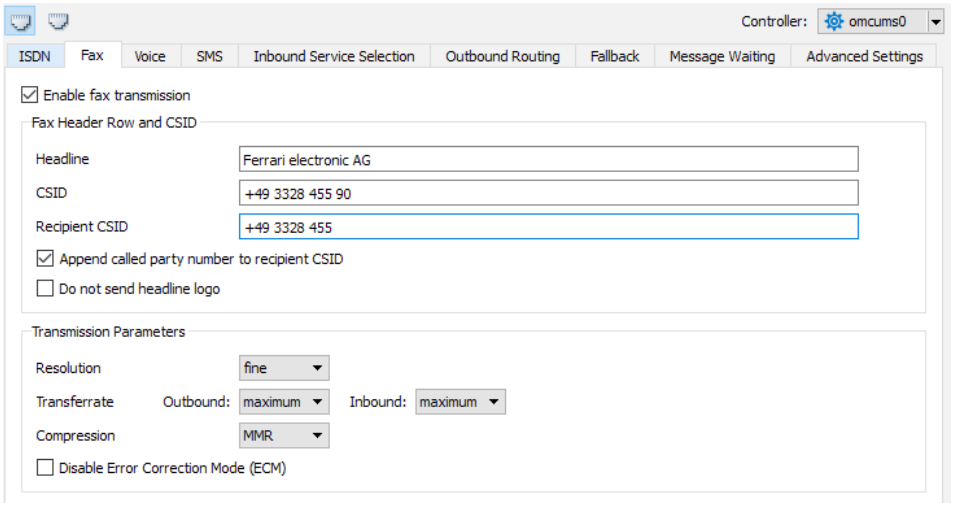

Image 2.28: Settings for fax dispatch

► Headline; CSID

Enter a default headline text (e.g. Name of company) in the box ***Headline*** which additionally contains the ***CSID*** (***C***alled ***S***ubscriber ***Id***entification). This CSID is created from the calling number of the telephone connection using the ITU rule T.30, hence, it contains the country code, area code and the actual telephone number. No characters other than numerals, addition key and spaces are recognized and all leading zeros should be omitted from the CSID entered here.

Example 2.5.

Ferrari electronic's main fax address in Germany is ***03328/455-960***, hence the generated CSID would be ***+49 3328 455 960***.

»End of example

The ***CSID*** is not only displayed in the fax header but is also stored in the fax protocol during inbound and outbound fax transmission and is communicated to the respective remote station.

Please note that configured default parameters for ***Headline*** and ***CSID*** only apply if no job specific settings for the Exchange, Notes or SAP user are existent.

► Recipient CSID; Append Called Party Number to Recipient CSID

Enter a value in the ***Recipient CSID*** box that is displayed on the remote station during fax reception jobs. Note that this value is only displayed for incoming faxes and should essentially deviate from the ***CSID*** used for outgoing faxes. A ***Called Party Number*** can optionally be appended to the ***Recipient CSID***. If added, the remote station that is sending a fax via the DID number ***348*** is receiving the ***CSID +49 3328 455 348***, regardless on whether this number has been assigned to an Exchange, Notes or SAP user.

► Do not Send Headline Logo

Check this box if the Ferrari electronic logo is to be detached from the fax header. The logo is attached to each fax header by default.

2.4.3. SMS Settings

OfficeMaster supports the transmission of both, inbound and outbound ***landline SMS***. As the name implies, these text messages are sent via landline and the configuration is carried out in the tab ***SMS***.

Note! Refer to installation step 2.5.1. OfficeMaster GSM Cellular Engine for SMS on page 66 if an alternative SMS transmission via a GSM-Modem or Internet Service Provider is preferred.

Image 2.29: Outbound SMS

► SMS Center

On the contrary to fax transmission, the ***SMS Center*** of the respective provider is used to deliver landline SMS between sender and receiver. Text messages are received and collected by the SMS Center which then processes them for distribution. Hence, communication is conducted directly between ISDN interface and SMS Center. Configure the SMS Center by entering its number into the box ***SMS Center***. Landline SMS are received by either:

- a call from the SMS Center with a subsequent collection or

- a decoy call (call followed by an immediate hang- up) with a subsequent return call by the OfficeMaster card which ultimately receives the short message

It is essential to perform configurations in the tab *Inbound Service Selection*, otherwise the reception of landline SMS will always be executed using the second variant.

The calling number that is expected to receive landline SMS needs to be registered as a subscriber that is capable of receiving SMS. This registration process is a one-time action and prevents text messages to be received as text-to-speech.

In Germany, ***T-Com*** (by Deutsche Telekom AG) is a provider that supports landline SMS transmission using the first reception variant. At ***T-Com***, registration is concluded by sending ***ANMELD*** to ***8888***, thus enabling the telephone number to receive landline SMS.

A properly working reception of landline SMS require, however, an adjustment to the ISDN interface. If all users are required to receive text messages, all SMS DIDs need to be conveyed as ***job dependent*** OAD (***O***pen ***A***ccess ***D***irectory) to the PBX. Subsequently, these numbers need to be registered for landline SMS reception on the SMS Center.

In Austria, Telekom Austria offers the reception of landline SMS as HomeSMS. However, the use of HomeSMS is not supported for use on:

- Non-clip NT a/b ISDN basic rate interfaces
- ISDN multiplex interfaces
- Serial interfaces, interfaces supporting DID
- Pre-Installations
- fee accumulation blockages
- Interfaces with configured number suppression

2.4.4. Voice Settings

Hardware-related settings for Voicemail are configured in the tab *Voice*.

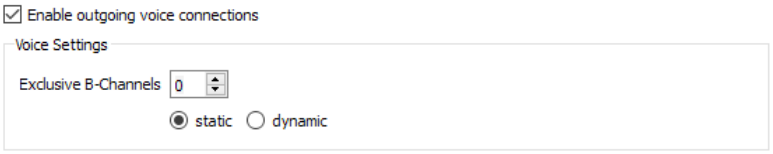

Image 2.30: Voice settings

► Enable Outgoing Voice Connections

By ticking the box *Enable outgoing voice connections*, the ISDN interface is authorized to establish a phone connection to allow the rendering of voice messages on internal or external phones.

► Exclusive B-Channels

Additionally, the amount of reserved B-Channels/lines for inbound and outbound voice connections can be defined here.

Although voice connections for basic rate interfaces, that support a maximum of two lines, may be equally reserved, we recommend to exclude this setting for these interfaces. A separation of fax and voice should be endeavored at this scale of transmission traffic.

The option of reserving lines has been implemented for the use on 30-line ISDN primary rate interfaces that send and receive fax and voicemail messages. If the transmission of fax messages exceeds to a certain level, voice messages are ultimately not received and incoming calls are refused. A lack of channel capacity is therefore not only inconvenient for the user itself, but also for the caller who receives a busy tone instead of a request to leave a message.

► Static; Dynamic

As voicemail connections need to be prioritized, some of the 30 lines may be reserved for inbound voice messages. This reservation may be carried out either statically or dynamically. Choosing statically will reserve the preconfigured amount of lines for voicemail.

Example 2.6.

Given, at total amount of 30 channels, 20 are ***statically*** reserved for voice, then a maximum of 10 channels are used for Fax and landline SMS, regardless on whether the 20 voice channels are fully occupied or not. Once the 20 voice channels are fully occupied, further voice connections won't be received (inbound voicemails) and the caller is given a busy tone. Here again, no further voice connections will be established once all 20 channels are busy, regardless of whether just 6 out of 10 fax/SMS connections are being used.

»End of example

Example 2.7.

Given, at a total amount of 30 channels, 4 are ***dynamically*** reserved for voice, then a maximum of 26 channels are occupied for fax and SMS, independent on voice connections used. However, 4 auxiliary channels for voice are always kept in spare no matter how many voice connections have already been established. Hence, if 20 voice connections have been established, a mere six channels may be occupied by fax and landline SMS. A maximum of 30 channels may be used for voice but note that fax and landline SMS are not received if this capacity has been reached.

»End of example

2.4.5. Inbound Service Selection

As inbound calls are received as fax-, voice- or landline text messages, OfficeMaster needs to evaluate the proper type of unified messaging service and apply the respective configuration. For each of these services, the ISDN parameters *Calling Party Number*, *Redirecting Number* and *Called Party Number* may be applied.

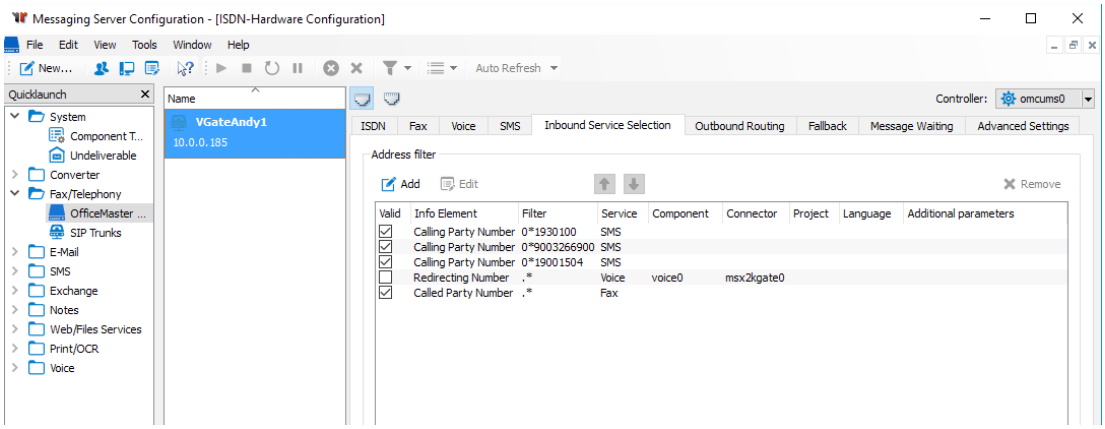

Image 2.31: Service selection

Example 2.8. (preconfigured)

- Landline SMS are determined by checking the calling number (*Calling Party Number*), stored in the ISDN protocol. If it matches the number of a known SMS Center, the connection is treated as landline SMS. If there's no match, it is being forwarded as either fax or voicemail.
- Voicemail recognition is managed by inspecting the *Redirecting Number* of the remote station. If this number is merely two to four characters long, it is likely to be that of an internal remote station that transfers calls to voice boxes.
- If the number has neither been matched as landline SMS nor as voicemail, it is treated as fax.

»End of example

Use the tab *Inbound Service Selection* to assign each number to an ISDN interface. This tab may also be used to configure filters that are applied to inbound numbers. Inbound calls where no filter matches will be rejected, however if no filter is configured, all inbound calls are received as fax.

Note! Default settings for each service can be restored by right clicking and selecting *Restore Default Settings*. Voicemail default settings need to be enhanced individually.

Filters

As mentioned above, filters may be configured that are successively applied to each call. If a filter is set for a whole number, such as the filter *Calling Party Number = 01930100*, matching calls are identified as landline SMS. However, it is not necessary to create filters for a whole number, as filters may also be created using regular expressions.

Example 2.9.

Putting in an asterisk (*) denotes the preceding character to be repeated arbitrarily. Hence, the expression *0*1930100* defines that the leading zero may be occur more than once, resulting that the calling numbers *01930100*, *001930100* and *1930100* are all treated as landline SMS. As PBXs tend to autonomously put two leading zeros in front of a calling number (e.g. *001930100*), the default configuration of the Messaging Server already contains that said asterisk.

»End of example

Starting off with the first, the configured filters are successively applied to each calling number received (First Match). The filter hierarchy may be altered by using the *UP* and *DOWN* arrows.

Detecting Landline SMS

By default, incoming calls (*Calling Party Number*) are checked whether or not they originate from a landline SMS center. If it matches, it is treated as landline SMS.

Detecting Voicemails

Note! As the service selection is customer specific, no default settings are available for detecting voicemails. The service selections need to be locally added.

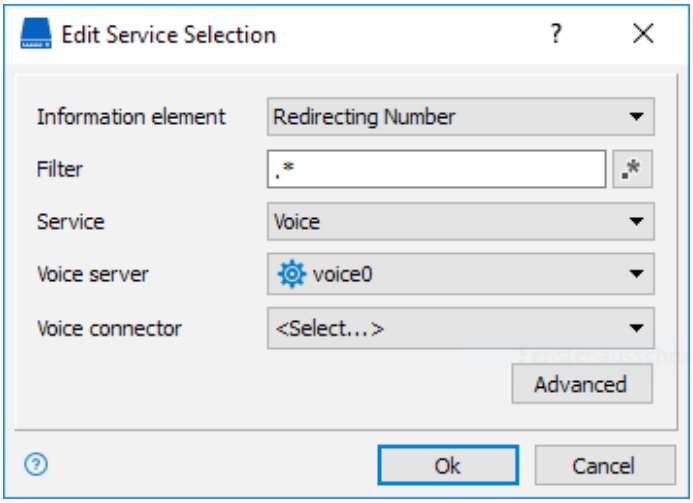

Image 2.32: Voice service

► Information Element; Filter; Service; Voice Server; Voice Connector

For a proper detection of voicemails, either the *Redirecting Number* or the *Called Party Number* may be entered into the *Information element* box. If the selected Information element matches the preconfigured filter, it will be applied.

Three dots (**...**) may be set as filter if all calls that contain a three digit *Redirecting Number* (internal calling number of the redirecting remote station) shall be received as voicemail.

Reception processes that had been assigned to a Unified Messaging service by using the *Redirecting Number* are handled using this *Redirecting Number* only. Hence, this number essentially becomes the *Called Party Number* of the reception process.

If, however, the *Redirecting Number* is not available on a point-to-point terminal, a separate DID range needs to be provided.

Example 2.10.

The filter ***3[0-5]0*** for the *Called Party Number* triggers all DID numbers within the range of 300 – 350 to be received and treated as voicemail.

This scenario requires an additional configuration for both, a voice server (*voice0*) and voice connector (*msx-2kgate0* or *notesvoice0*). After adding the address filters for voice, they should preferably be placed between those for landline SMS and fax (use the *arrow up/ arrow down* buttons).

»**End of example**

Note! The settings accessible by clicking *Advanced* should only be edited on IVR systems lacking a PIN entry prompt.

Detecting fax Messages

A *Called Party Number* filter should be placed at the end of the address filter which handles all remaining calls if neither a landline SMS nor a fax message could be detected.

2.4.6. Outbound Routing

During the installation of multiple ISDN interfaces, the transmission jobs are distributed to them depending on the system's current workload. The same applies to ISDN interfaces installed on numerous ISDN cards. If the ISDN cards are regionally distributed within the Messaging Server system (as common on large scale installations), the question of how to influence transmission between individual ISDN interfaces quickly arises.

- -.* avoids the match of all calling numbers

- .* matches all calling numbers

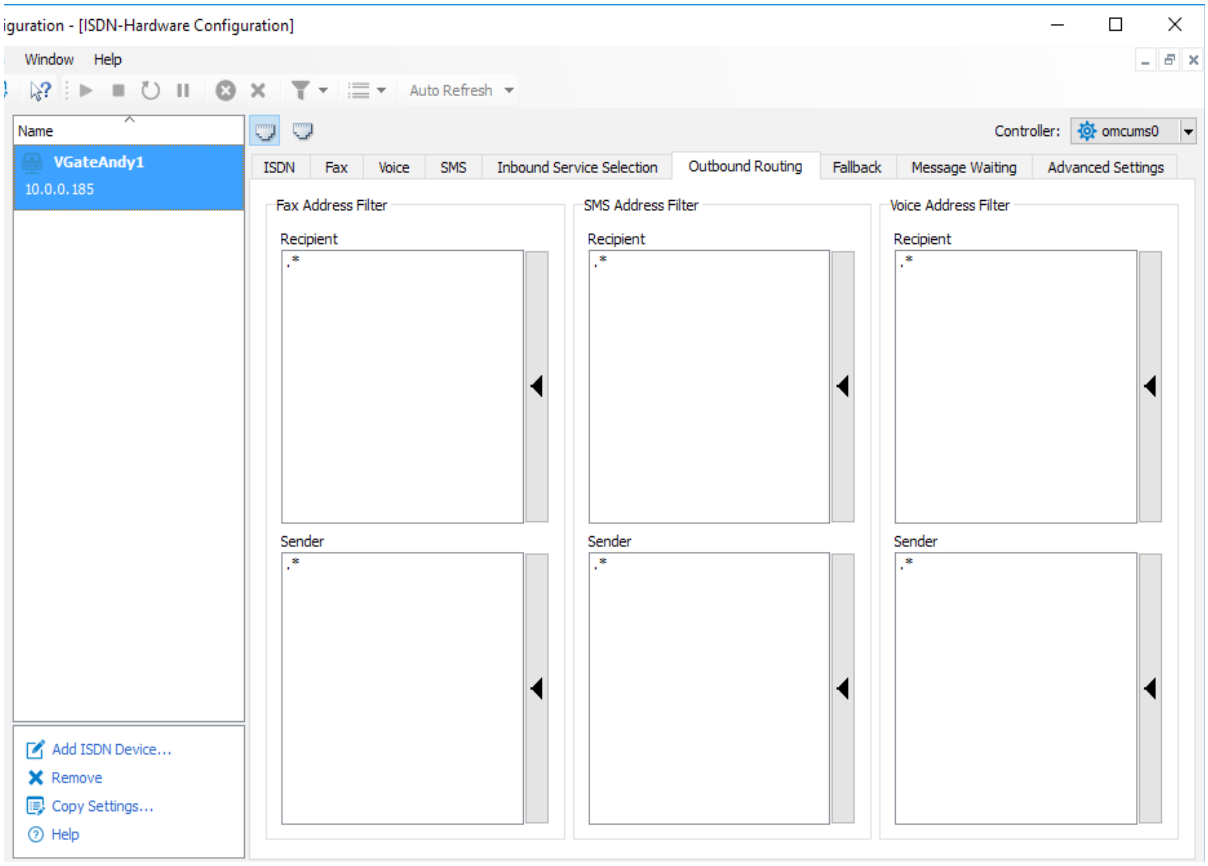

Image 2.33: Routing

Here, the ***Least Cost Routing*** or ***Location Based Routing*** is going to be implemented to the ***Outbound Routing*** rules for fax, SMS and voice.

- Least Cost Routing

  Only those ISDN interfaces that will cause the least amount of costs are selected for the conveyance of transmission jobs.

- Location Based Routing

  In Germany, the ***Least Cost Routing*** is only effective on an international level since the German telephone market was liberalized in 1998. If the routing is going to be limited to your country only, you may want to consider favoring the ***Location Based Routing*** over the ***Least Cost Routing*** as transmission costs will only arise where they are caused. However, there is currently a trend towards applying this form of routing for international transmissions as well

Example 2.11.

A company with locations in Berlin and Vienna possesses one ISDN interface per location which is connected to a Messaging Server system. Whenever faxes are addressed to recipients within Germany, the ISDN interface in Berlin is used to transfer the messages. This conveyance occurs independent on whether the sender is located in Berlin or Vienna. Alternatively, faxes are sent from Vienna if the receiver is located within Austria. Hence, the routing is carried out depending on the receiver's address.

This example implies the essence of ***Location Based Routing***, namely the conveyance of faxes from the sender's location.

»End of example

Outbound Routing is configured for each ISDN interface in the tab of the same name. Regular expressions used for address filters are defined for each communication service (Fax, SMS and voice) individually. These filters are applied to both, the normalized number of the receiver and the sender's information and is embedded in a routing string by the transferring connector (*SAPCONN*, *MSX2KGATE*, *NOTESCONN*, etc.).

Least Cost Routing

A ***Least Cost Routing*** is configured by referring to the normalized number of the recipient. The term normalized indicates that spaces have been removed from the number.

Example 2.12.

If a fax is sent to ***0049 (3328) 455 916***, it is normalized to ***0049(3328)455960***. This number may now be used for the address filter.

Given the fact that it is rather complicated to add every possible recipient number to the address filter, this number may be augmented with regular expressions.

»End of example

Example 2.13.

All faxes sent to locations within the federal republic of Germany are required to be processed by predefined ISDN interfaces. For this purpose, the ***Fax Address Filter*** is enhanced with the input ***0049.**** at the recipient's location. Thus, if the example 1.12 is taken into consideration, the ISDN interface in Berlin would only be capable of sending faxes to Germany, whereas the interface in Vienna would be capable of sending faxes to locations in Austria, Germany and more. To restrict these actions, the address filter for the interface in Vienna needs to be reconfigured from ***.**** to ***0043.**** .

This configuration, however would cause the Messaging Server to only process faxes addressed to locations in Austria or Germany. We therefore recommend the implementation of exception rules that would essentially avoid a transferral of faxes from Berlin to Austria and Vienna to Germany. Faxes to recipients in other countries

(France, Switzerland, USA, etc.) are freely distributed by the Messaging Server. The country codes of these countries may also be added to the exception rules of the respective ISDN interface if they are required to be excepted from addressing. Put a dash in front of an address filter to configure an excluding address filter.

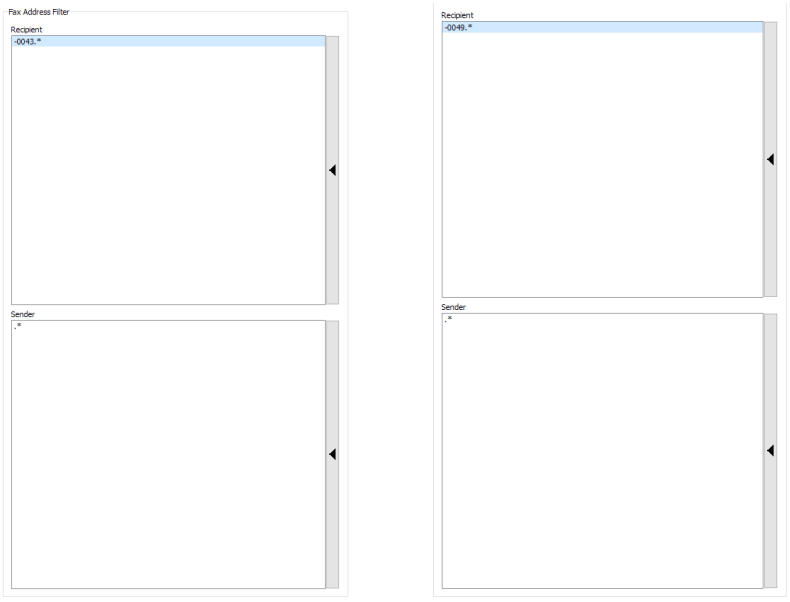

Image 2.34: Address filter for Berlin (left) and Vienna (right)

The following table contains a list of configuration examples.

Table 2.4: Configuration examples

Fax recipient's address filter for the ISDN interface		**ISDN interface responsible for fax transmission**			
in Germany (D)	**in Austria (A)**	**towards Germany**	**towards Austria**	**towards Switzerland**	**towards remaining countries**
.*	.*	D and A	D and A	D and A	D and A
0049.*	.*	D and A	A	A	A
0049.*	0043.*	D	A	none	none
0049.*	0043.* .*	D and A	A	A	A
0049.* 0041.*	0043.*	D	A	D	none
-0043.*	-0049.*	D	A	both	both
-0043.*	-0049.* -0041.*	D	A	D	both

»End of example

Location Based Routing

Location Based Routing is managed using the addresser's information, which ideally consists of the fax, SMS or voice number. The effort needed for configuration is therefore rather limited compared to a *Least Cost Routing*. This is due to the narrower address range of the addresser's number. The connector is additionally attached to the addresser's information as a *Routing String* which consists of three tokens, separated by commas.

Table 2.5: Routing String composition

Connector	Routing String compostion		
	Part 1: Name of component	**Part 2: User information**	**Part 3: Addresser's number**
FILEGW Applicom (R/3)	e.g. filegw0	<LA-ID> SAP system and Client	<USERINFO> SAP User-name
FILEGW Applicom (Open-Xchange)	e.g. filegw0	<empty>	USERINFO
FILEGW HP Scanner	e.g. filegw0	<empty>	Username
FILEGW XEROX Scanner	e.g. filegw0	<empty>	Username
CLIENTGW	e.g. clientgw0	User	User's fax number User's CSID
SAPCONN	e.g. sapconnPRD_100	<empty>	Originator address retrieved R/3 user root
VOICE	e.g. voice0	<empty>	Addresser's number
MSX2KGATE	e.g. msx2gate0		

By default, regular expressions entered for the originator's address filter are applied to the third part of the routing string only, as the originator's number commonly suffices for further processing.

Example 2.14.

If the address filter ***030456789*** is configured for the addresser in Berlin, all users with this number are effected. In order to limit effected users, regular expressions may also be used in this case. The address filter ***0043.**** configured for the ISDN interface in Vienna will only accept addressers with an Austrian number and, in turn, the address filter ***0049.**** configured for the ISDN interface in Berlin will only accept addressers with a German number. Although the address filter could even be defined in more detail by including additional numbers (***004930456.**** or ***00431456.****) it is not a necessity as only user's at the Berlin or Vienna location are capable of using the system.

»End of example

Example 2.15.

An Active Directory user group or individual users may be blocked from using an ISDN channel for transmission by entering one of these strings:

▶ Block User1

-msx2kgate0,lab.ofma.de/CN=schulze/OU=ofma User/DC=hq/DC=ofma/DC=de

▶ Block Whole OU

-msx2kgate0,lab.ofma.de/CN=.*/OU=ofma User/DC=hq/DC=ofma/DC=de

▶ Block DID Number 388

-388

▶ Block DID Number Range 380-389

-38.

If you are unsure as to what format to apply, the Messaging Server can be used to intercept jobs and by opening up the job details, the appropriate format can be found.

»End of example

Note! Recipient numbers are processed using the two leading zeros (00) that proceed country codes. This may, however not necessarily apply to addresser numbers as, if taken communication via R/3 as example, the addresser numbers are transmitted as ***+41…*** instead of ***0041…*** and non-numerical characters are omitted by the Messaging Server.

Check the entries made to both, the sender's and recipient's configuration to ensure they contain these two leading zeros. Find these entries at View > Job Status....

The first two sections of the routing string can also be used to collect information for outbound routing. In this case, enter the routing string without comma separation. Hence, the addressee number ***004930456.****** is equal to ***.*,.*,004930456.****

A distribution of various *SAPCONN* transmission jobs to various ISDN interfaces is just as achievable as a distribution using the addressee number only. A benefit of the first method is an accurate assignment of fees for each interface individually, however an address filter with the rule ***sapconnAustria;.*,.**** needs to be created.

2.4.7. Fallback and Error Processing

The fallback functionality is a much-requested addition to outbound routing for more than one ISDN channel or SIP trunk and was first introduced with the release of OfficeMaster Suite 5.

Configuration of a fallback is generally carried out in two steps: First, a default scenario has to be set that defines when a fallback is required. Not always is a fallback to another channel straightforward. Furthermore, a configuration set for one customer may not be sufficient for the next.

Note! It is necessary to activate the Fallback functionality at Tools > System settings and tick the box *Enable fallback processing*.

The OfficeMaster Suite 6 is augmented with various error codes that you can find in the tab *Error Processing*. A default behavior for each of these error scenarios is already pre-defined but may be altered at will.

Step 0- When do the Fallback Settings Come Into Effect?

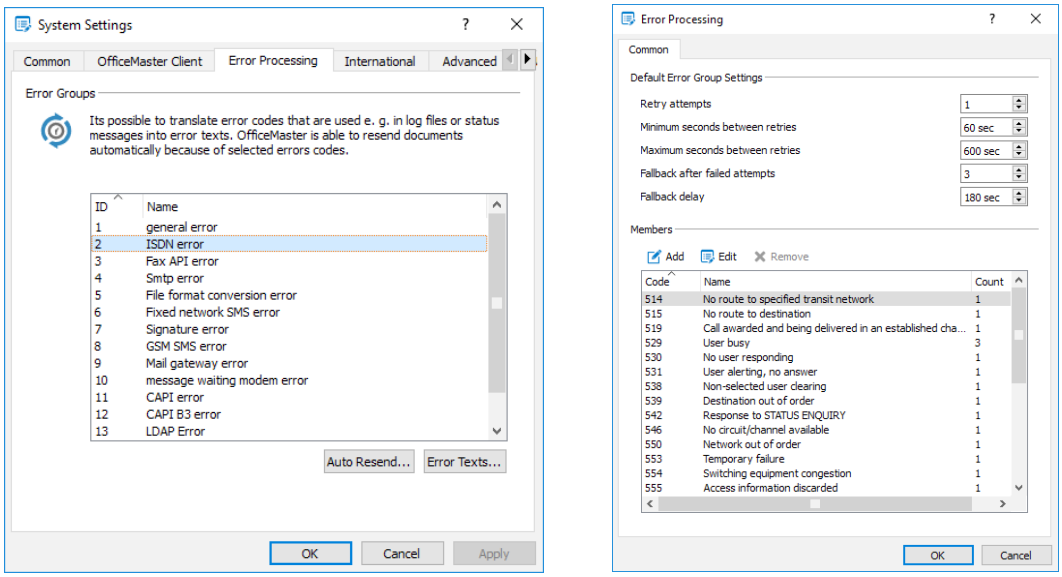

Image 2.35: Fallback configuration

Choose the tab *Error Processing* to pick an error type and select the box *Auto Resend…* to jump into the next dialogue.

► Default Error Group Settings

A behavior for all errors of the same error type (ISDN error in this case) may be defined in this section.

► Retry Attempts

Enter the amount of retry attempts if an error occurs.

► Minimum Seconds Between Retries

Define the minimum gap (in seconds) between a failed retry attempt and a new one by entering a value here. In many cases, if a remote station is busy it may be advisable to wait for a prolonged period before attempting a new transmission.

► Maximum Seconds Between Retries

Define the maximum gap (in seconds) between a failed retry attempt and a new one by entering a value here.

► Fallback After Failed Attempts

Enter the amount of retry attempts BEFORE a fallback initiates. Please note that if this value is smaller than the one entered in *Retry attempts*, a fallback will not occur for this error type. The job will be labeled as faulty and consequently rejected.

► Fallback Delay

Enter the delay (in seconds) before the fallback initiates

Step 1- Routing Settings

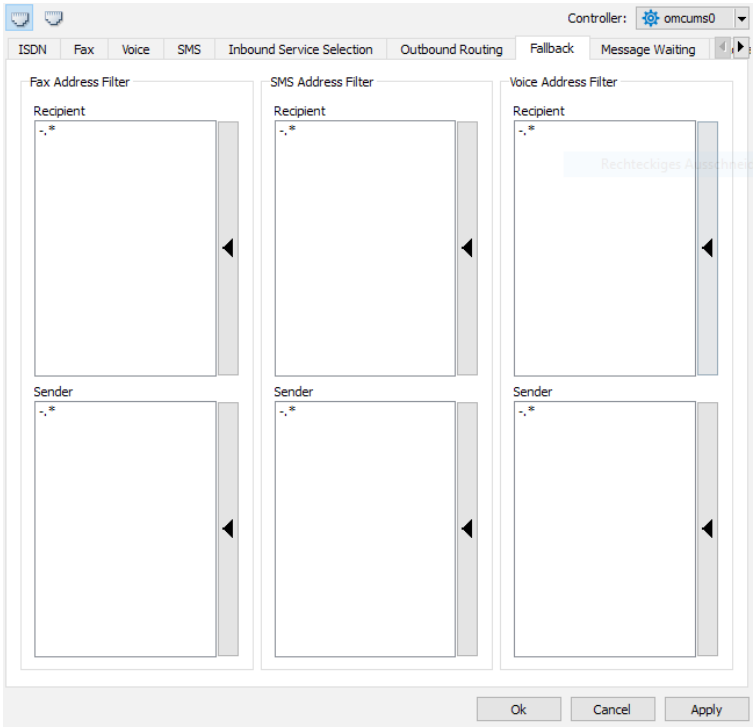

Image 2.36: Fallback settings for D-channels

If all filters are pre-set to .* the channel will perform the routing during a fallback, regardless on the *Outbound Routing* configuration. We recommend not to change these settings except if

1. More than two D channels are available.
2. If no retry attempt is required for selected addressee or target numbers.

Jobs are usually distributed to a different channel if the initial channel is either occupied or errors occur. Use the tab *Fallback* to adjust the behavior of the respective D-channel once an error occurs.

Example 2.16. A fallback scenario during a transmission of messages from one location to another via a local OfficeMaster Gate.

Table 2.6: Settings for fallback routing

Location	Outbound Routing (Sender)	Fallback (Sender)
Berlin	+4930.* -.*	.*
Hamburg	+4940 -.*	+4930.*
Vienna	+43.* -.*	-.*

- The OfficeMaster Gate (OMG) in Berlin assumes the transmission of messages for Hamburg and Vienna if these Gates reject transmission.
- The OMG in Hamburg assumes transmission for Berlin if a fallback has been configured.
- The OMG in Vienna executes no fallback tasks.

»End of example

2.4.8. Advanced Settings

The options displayed on the tab *Advanced Settings* are essentially applicable for the following scenarios:

- Automatic number correction to correct and divert incoming numbers
- Set log levels which are requested by our hotline.

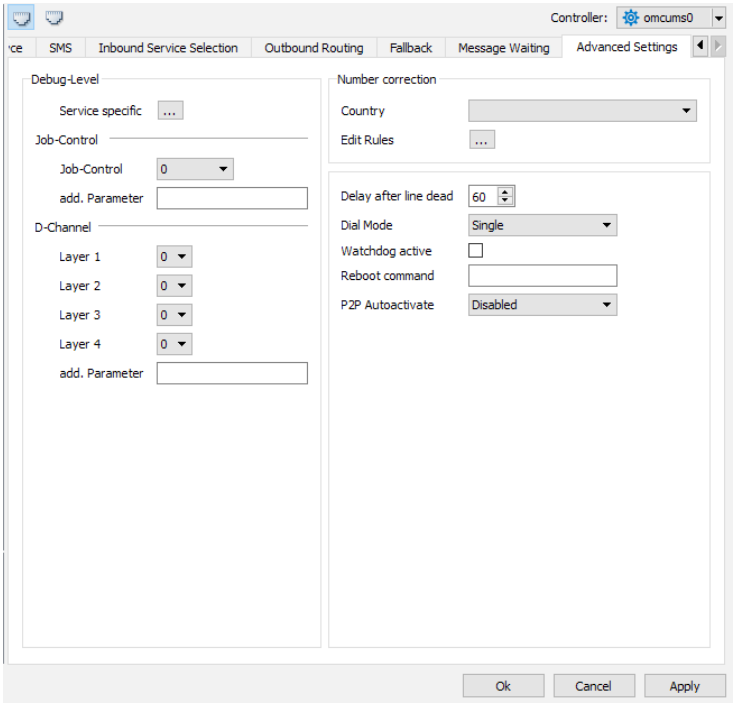

Image 2.37: Advanced Settings

▶ Number Correction

The OfficeMaster Messaging Server is capable of analyzing the syntax of outbound calling numbers and, if necessary, corrects them.

Example 2.17.

If internal calls are transmitted using the whole number (area/country code + base number) instead of just the DID number, the number correction will eradicate the surplus digits. This is an economically beneficial solution, as costs for routing will only arise within the PBX itself.

Two basic functionalities are covered by the number correction. Each of which is applicable to D channels individually.

- Automatic number correction by referring to a configuration table with country-specific telephone parameters
- Editable replacement table for the first characters of the telephone number

»End of example

▶ Country

The automatic number correction mode adds or deletes characters by determining the configured location of the D channel in dependence to the calling number of the transmission job. If a faulty or number has been provided, it is corrected as well.

Activate automatic number correction for an ISDN interface by selecting the desired country in the tab *Advanced Settings* (***Expert Mode*** only).

Example 2.18.

If an ISDN interface located in the federal republic of Germany is used to send a fax to ***+49 (3328) 455 960***, automatic number correction would replace the country code (***+49***) with the area code. Thus ***+49 (3328) 455 960*** would become ***03328455960***.

If, however, the ISDN interface were to be located in Austria, (***00***) would replace the (**+**), hence the output would be ***00493328455960***.

Added zeros to the area code (***+49 (03328) 455 960***) are considered as well and essentially lead to the same output as described above.

»End of example

▶ Edit Rules

An added feature to the automatic number correction is a replacement table, which covers a number of characters that replace the first characters of a calling number.

This may be necessary for:

- Routing calls internally even if the entire number length was provided (***03328455><none>***)

- A provider selection for calls to selected countries (0081> 010780081)
- Call by Call scenarios (3U> 01078; if supported by the gateway)
- Closing gaps and possible failures of the automatic number correction

Use the box *Edit Rules* to open up the respective configuration panel. There is a number of ways to add or edit rules for both inbound and outbound calls. Please note that these settings apply to the selected ISDN channel only.

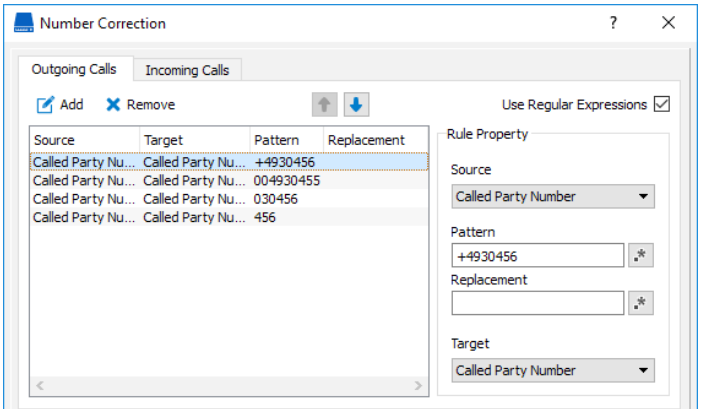

Image 2.38: Number correction; Replacement table

Example 2.19.

Ferrari electronic AG's PBX in Teltow (*03328*) is assigned to the base number *455* and processes three-digit DID numbers. An inbound fax addressed to *03328 455 200* is routed through the telephone exchange even if number correction has been activated and an internal routing is intended. The following prefixes, which are deposited in the replacement table, will be used to handle these calls and essentially enable inbound routing:

- +493328455
- 00493328455
- 03328455
- 455

If a calling number begins with these values, the character string entered in *Pattern* is replaced with the value entered in *Replacement*. In this case, the replacement box has been left empty, causing all processes to be routed internally ([*+493328455*] **960**).

Note! The replacement table can only be used if the *Use Regular Expressions* checkbox is ticked. Once finished configuring, close the *Number Correction* window by clicking *OK*.

»End of example

▶ Debug-Level

The logging sensitivity can be incremented if requested. We do not recommend applying changes without contacting the support team of Ferrari electronic AG first.

2.5. SMS Components

OfficeMaster can send and receive short messages in three ways:

- As landline SMS via an available ISDN interface
- As regular SMS via mobile broadband module connected by USB or serial interface
- As SMS via an Internet Service Provider

2.5.1. OfficeMaster GSM Cellular Engine for SMS

The component ***GSMSMS*** is incorporated into the Messaging Server and handles transmission and reception of short messages (SMS) via a connected GSM mobile broadband unit. These GSM mobile broadband units are connected to the GSMSMS component via serial interfaces (***COM-Ports***).

GSMSMS can be installed to and used on distributed server locations if no serial or USB interface was available on the main server, as a Messaging Server system supports operation of multiple GSM components.

Create a GSMSMS Component

The GSMSMS component (commonly ***gsmsms0***) installs automatically during a default installation. If the system lacks a preinstalled GSMSMS component or if an additional GSMSMS component is required, either create it in the component table section or in the ***SMS via GSM Cellular Engine*** configuration dialogue. Use the *Create Component* button to create a GSMSMS component individually.

Note! If you need the created component to work on a sub server (e.g. if the mobile broadband module is physically integrated into the sub server), use the IP address or resolved sub server host name.

Note! Network modems can be tethered using COM/IP converters. Please contact our support team or use our forum for compatible solutions.

Configure a GSMSMS Component

Access the configuration interface at Edit > Further Sender/Receivers > SMS via GSMSMS components.

A GSMSMS component is capable of addressing numerous GSM cellular modem, yet it itself is connected to a server via a serial interface. Each interface/GSM cellular modem needs to be configured individually. Components available for configuration are displayed in the dropdown list. Here, choose the component you wish to configure.

Please note that the dropdown list only appears if more than one GSM cellular modem have been assigned to one GSMSMS component. Use the respective button above the dropdown list to execute the desired option.

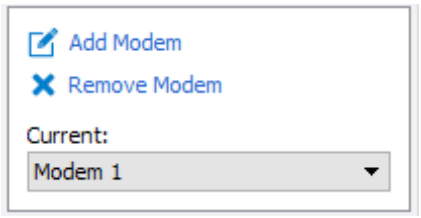

Image 2.39: Dropdown list

Enter the general information, as well as connection information for the GSM cellular modem into the tab *Modem*.

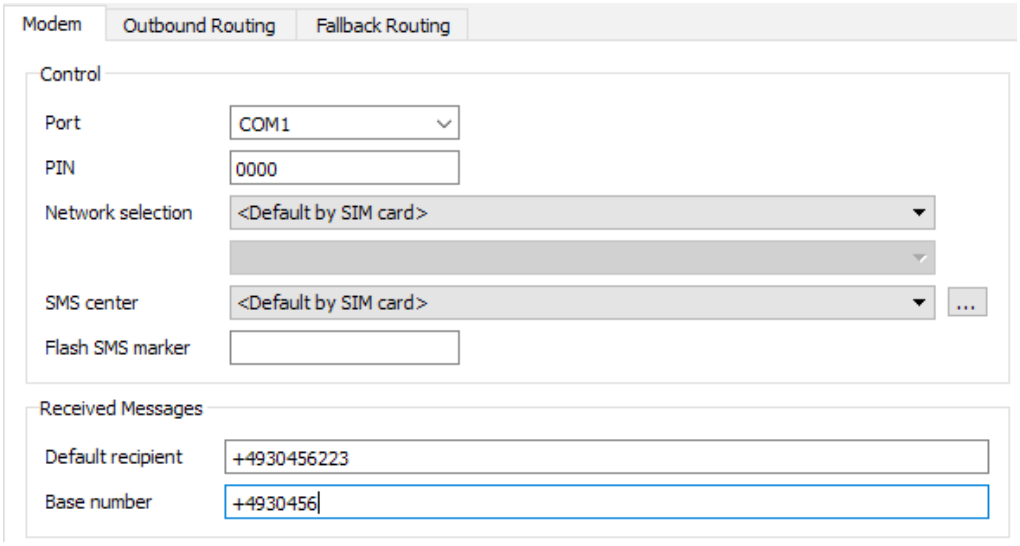

Image 2.40: Tab *Modem*

Control

► Port

Enter the serial ***Port*** for the GSMSMS component. This port is the connection interface of a cellular engine. Do this for each cellular modem individually.

Windows uses ***COM1***, ***COM2*** etc. to address serial interfaces.

► PIN

Apart from the ***Port*** specification, the ***PIN*** for the SIM card used for data transmission is needed as well. If the SIM card PIN is incorrectly entered three times in a row, it will be blocked. Use a mobile phone to reset the PIN by entering the respective six-digit ***PUK-Code*** or ten-digit ***Super PIN***.

► Network Selection

Each SIM card is fixed to a specific mobile network. This may prove inconvenient if the GSM cellular modem is located near a country border as the SIM card might use the foreign network and accumulate unwanted costs. Use the *Network selection* feature to determine how the SIM card should behave if the native mobile network is not available. If neither networks are accessible, the fax transmission will be displayed as faulty on the sender's notification screen.

► SMS Center

By default, the number of the respective ***SMS center*** is stored on the SIM card. Certain carriers use multiple SMS centers that differ in transmission costs, such as an SMS center for business- and private customers. Hence, use this box to enter the desired SMS center.

► Flash SMS Marker

The ***Flash SMS marker*** is used to tag text messages that are required to be sent as ***Flash-SMS***. These SMS will display a notification on the recipient's mobile phone screen once they have been received successfully. If the first few characters of the SMS match the value entered into *Flash SMS marker*, the respective SMS will be sent as Flash-SMS.

Received Messages

GSMSMS accesses received messages from the cellular modem and transfers them to the ***Messaging Server*** where they are further processed. The receiver's number is the decisive factor on how the ***Messaging Server*** handles each SMS. Messages received via ***landline-SMS*** are bound to the fixed number plan of ISDN whereas text messages received via ***GSMSMS*** do not contain usable numbers for procession at all.

► Default Recipient

If messages received via GSM lack a recipient specification, a default recipient number can be entered into this box. The Messaging Server will then distribute these messages.

► Base Number

Use this box to enter the recipient's base number. If the base number is specified correctly, it can be used right within the SMS body to address the respective recipient.

Example 2.20.

Given a text message with the content *.960. This is a SMS.*

In this case, the leading *.960.* is omitted from the message content and construed as recipient specification.

»End of example

The configured base number is used as prefix for the recipient specification. Hence, the ***base number*** and recipient specification yield the calling number, which then is used for further procession.

Note! It is not mandatory to deposit the recipient specification numerically into the SMS body. As each letter is assigned to one or more numerals on a keypad, the Messaging Server detects letters and autonomously converts these into numerals. Thus, the recipient specification ***FERRARI*** yields the calling number ***3377274***.

SMS Address Filter

If these messages are required to be delivered on multiple transmission routes (e.g. via GSM cellular modem, via ISDN and via the provider), we recommend implementing a routing for SMS transmission jobs. The routing can be configured in the *Outbound Routing* tab.

▶ Recipient / Sender

The address filter ideally consists of the entire calling number of both the ***recipient*** and the ***sender***. Use regular expressions to simplify the address filter configuration.

Whichever preconfigured address filter for either a GSM cellular engine or ISDN interface/ SMS provider first matches to a sender's/ recipient's calling number it will be used for transmission.

Note! We recommend deactivating the SMS transmission for selected ISDN interfaces if these are required to communicate via GSMSMS instead of ISDN (OMCUMS).

2.6. OfficeMaster SMS via Service Provider

The OfficeMaster send-and reception component SMPP handles the transmission of short messages via an Internet Service Provider (ISP). It essentially uses the Internet to communicate with an SMS provider.

Since the initial release of the *OfficeMaster Suite version 6.2*, the *PROVIDERSMS* component can no longer be selected. The OfficeMaster *SMPP* component utilizes the SMPP communication protocol instead of http, allowing for a more flexible connection of providers. Select *SMS via HTPP provider (SMPP)* on the left toolbar to configure the component. Please note that depending on the IP provider, diverse settings need to be adjusted. Find connection parameter for selected IP providers below.

Note! You may still use existent *PROVIDERSMS* components and adjust their configuration. However, as outlined above, new setups will offer SMPP components only.

2.6.1. Connecting to LinkMobility (formerly WhateverMobile)

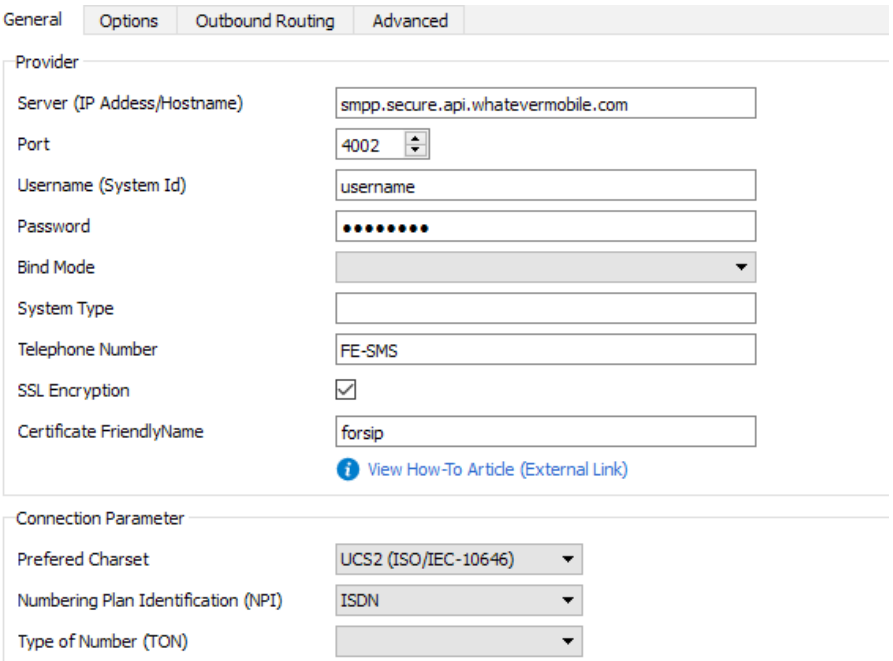

Image 2.41: Necessary parameters for connecting to the IP provider *Link Mobility*

2.6.2. Connecting to Lleida

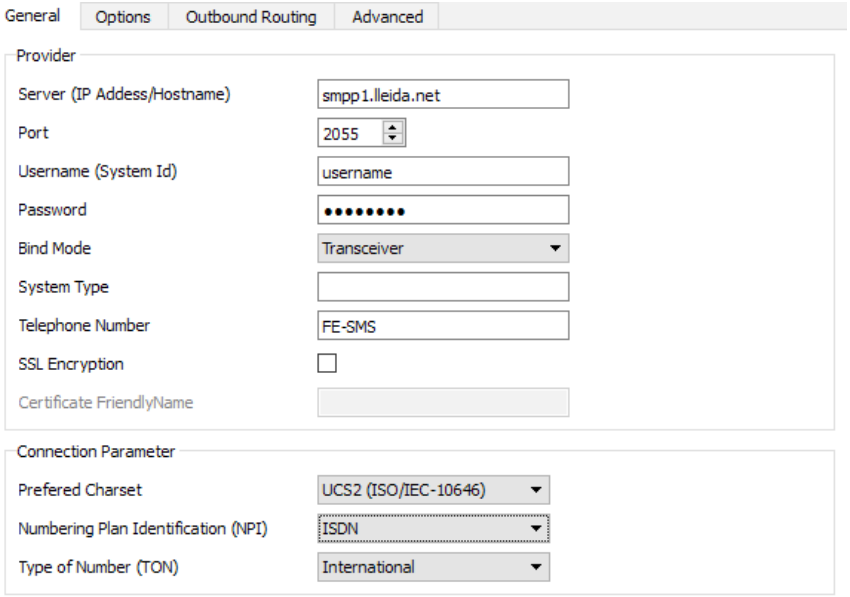

Image 2.42: Necessary parameters for connecting to the IP provider Lleida

2.6.3. Connecting to Message Mobile

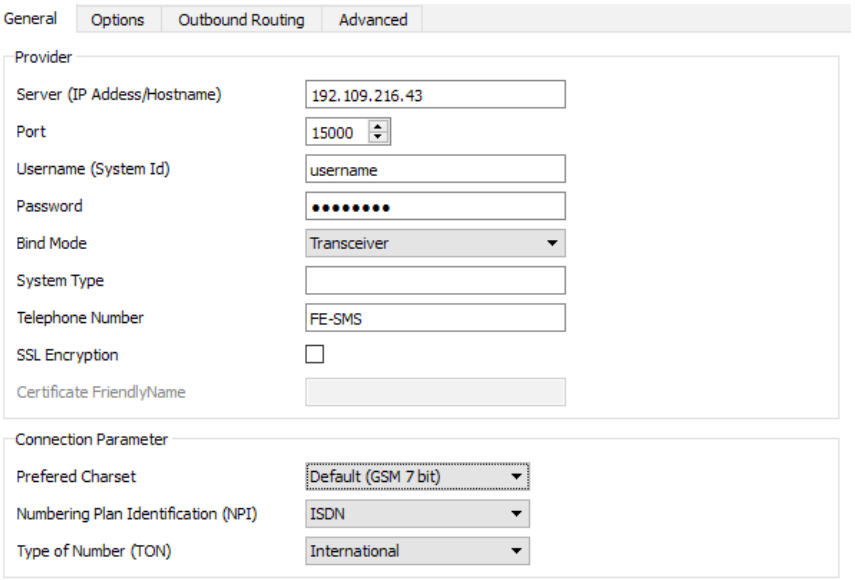

Image 2.43: Necessary parameters for connecting to the IP provider Message Mobile

2.6.4. Connecting to Mitto

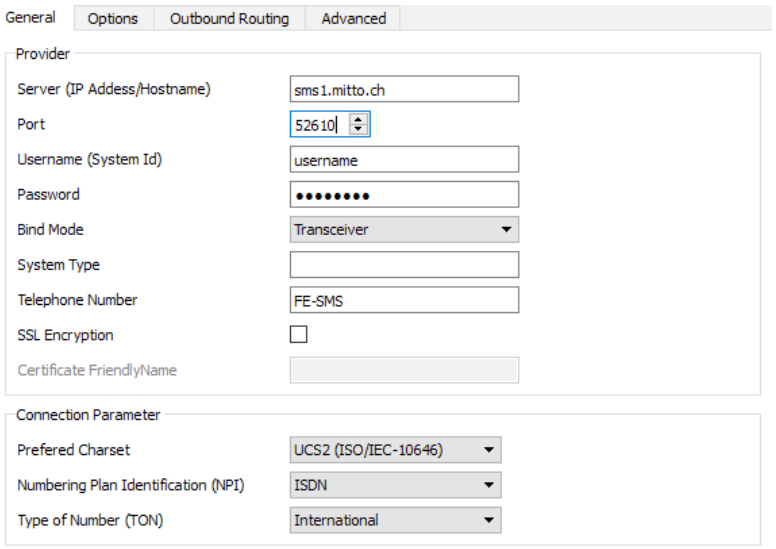

Image 2.44: Necessary parameters for connecting to the IP provider Mitto

2.6.5. Connecting to WebSMS

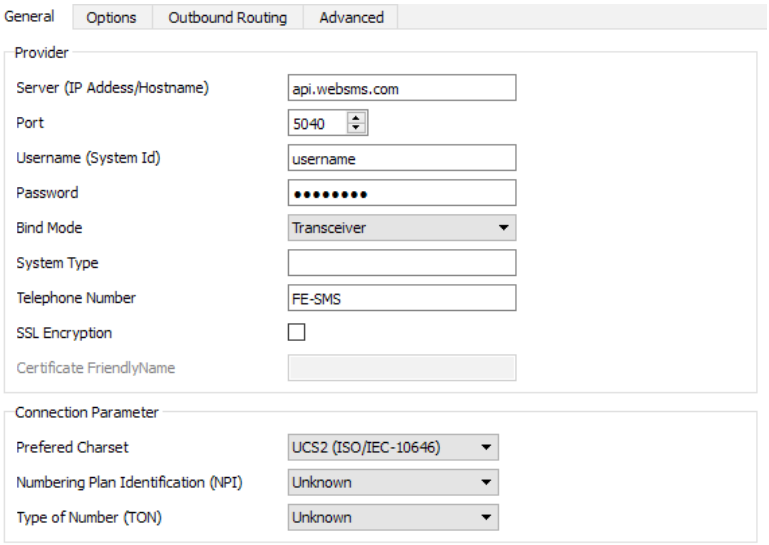

Image 2.45: Necessary parameters for connecting to the IP provider WebSMS

2.6.6. Options (Expert Mode Only)

Most settings depend on the IP provider and should only be edited after informing the latter.

▶ Communication Management

▶ Concatenation Mode

- Payload

  Triggers the sending of a long SMS.

- ShortMessage
- ShortMessageWithSAR

▶ Message Limit

Use this input field to specify the minimum amount of inbound and outbound SMS. This is a fixed value set by the provider.

▶ Response Timeout

Specify the waiting time after which the Messaging Server expects no more inbound/outbound messages. This is a fixed value set by the provider.

▶ Keep-Alive Interval

This is a fixed value set by the provider.

▶ Request Delivery Reports

If this checkbox is deselected, the feedback will only include the confirmation of a successful handoff to the provider.

If this checkbox is selected, the feedback will only be forwarded to the connector/user once the provider has received a confirmation of successful delivery. Please ensure to have the component type *Transceiver*, *Receiver* or *Transceiver and Receiver* deposited. If you have not done it yet, please do so in the tab *General*.

Note! For bulk faxes, it might not be very beneficial to wait until a delivery report has been generated, as the maximum job counter will not count down until it has received a feedback from the connector.

▶ AutoReconnect

This is a predefined setting set by the provider.

▶ Local Port

Specify the port that the component uses to communicate (TCP). If no port has been specified, the following defaults will be used:

- 3550 for SSL
- 2775 for others

▶ Parallel Job Limit

Regardless on the provider chosen, you may specify a maximum amount of concurrent jobs for the OfficeMaster Suite. A job is active as long as the connector has not received a feedback.

2.6.7. Configure Outbound Routing

This chapter is separated into three sections. The first section outlines the phone number adjustment whereas the other deal with the routing rules. These settings are essential as they will determine the job assignment for the component in a default scenario as well as in a fallback scenario.

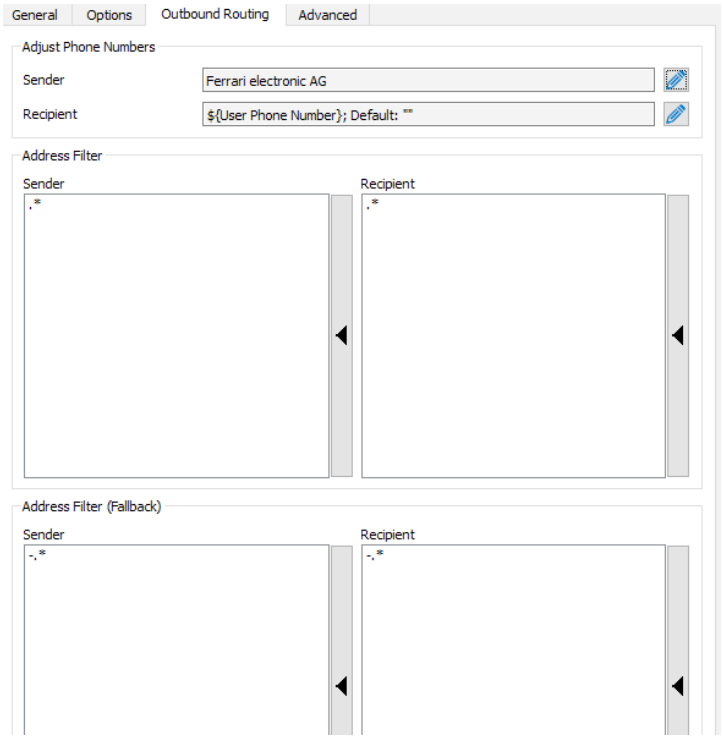

Image 2.46: Editing the outbound routing

▶ Adjust Phone Numbers

Select the *Edit* icon ( ) next to the *Sender* and *Recipient* input fields to adjust all settings for the transmission of messages via SMPP. You may use a fixed value or one regular expression for each input field.

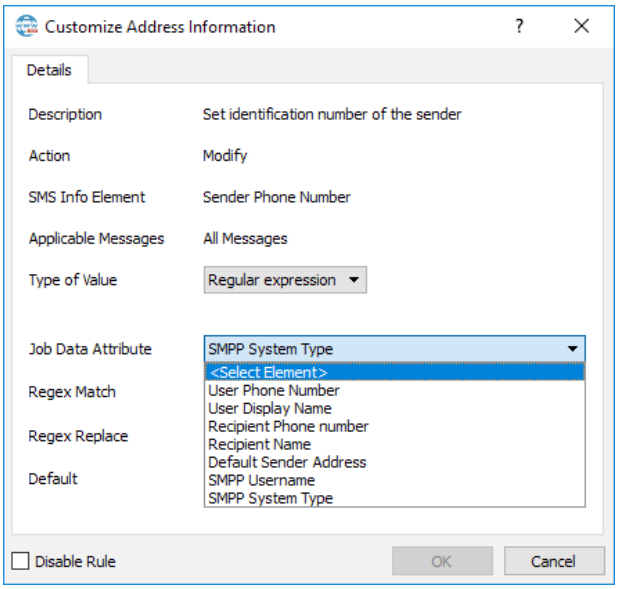

Image 2.47: Modifying outbound calling numbers

2.6.8. Advanced Settings

You may configure the component with a multitude of advanced settings, such as adjusting internal calling numbers or choose an alternative network interface. Click on the *Advanced* tab to access these.

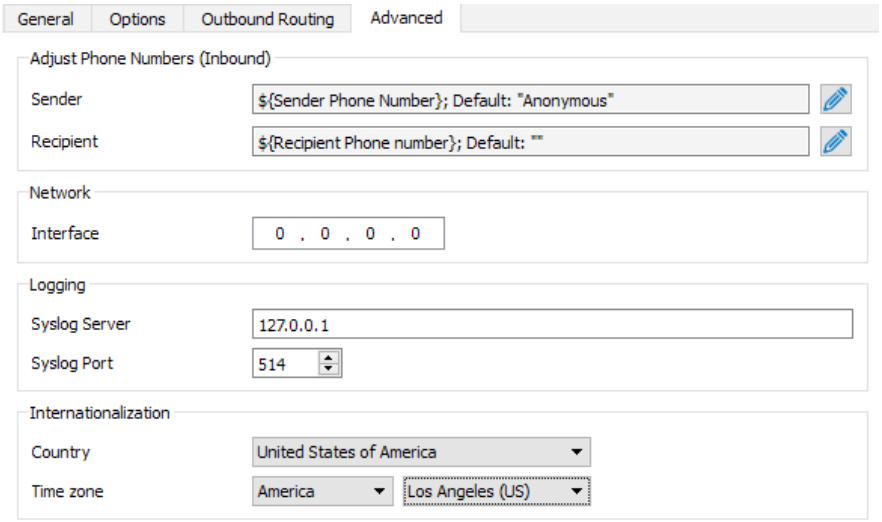

Image 2.48: Advanced settings for the SMPP component

▶ Adjust Phone Numbers (Inbound)

The calling number scheme of short messages tend to be divergent from users maintained in the internal directory. To adjust the scheme accordingly, manipulate the calling numbers by selecting the Edit icon ( ). This process is identical to the one described for the SIP component (see page 64 and following).

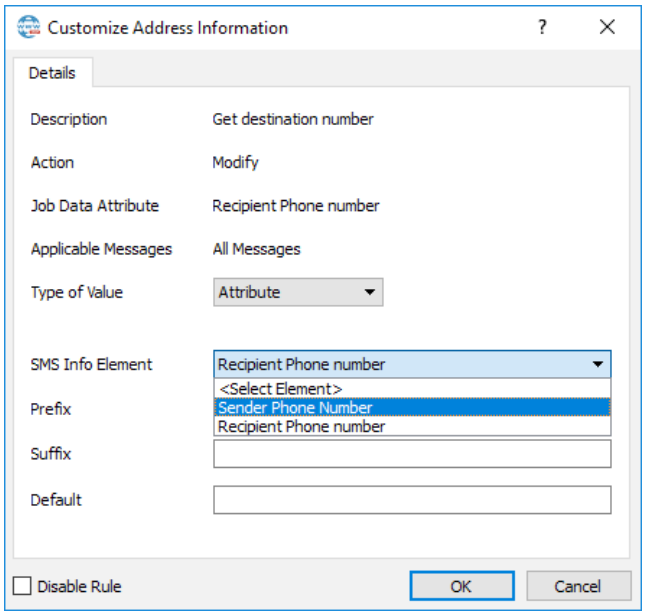

Image 2.49: Adjusting calling numbers

2.6.9. PROVIDERSMS Component (outdated)

The transmission/reception component *PROVIDERSMS* handles SMS processing via an *Internet Service Provider* (ISP). It communicates with an SMS provider via *Hyper Text Transfer Protocol* (HTTP) as long as the provider is accessible. A preconfigured connection to *Link Mobility (*formerly *Whatever Mobile)* is available as well.

Note! The use of *Whatever Mobile* requires a pre-existent account! Call *+49 40 88 88 08 0* or mail to sales@whatevermobile.com to apply for such an account. Upon calling or mailing, please indicate that *Whatever Mobile* is intended to be used for OfficeMaster's *SMS over IP* provided by Ferrari electronic AG.

If no preinstalled *PROVIDERSMS* component is available, use the component table to create a new one. Access the component table by double-clicking the respective label in the Quick launch section.

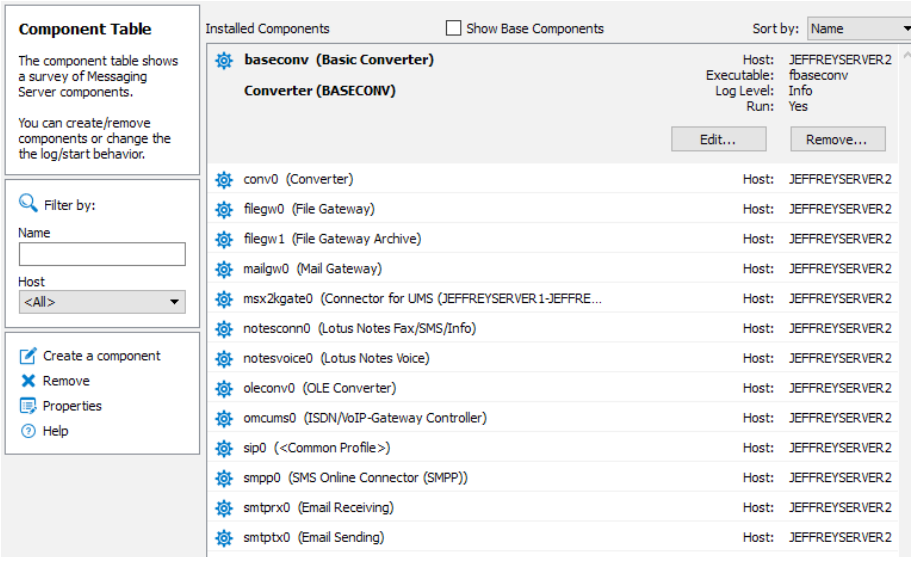

Image 2.50: Component Table

► Create a Component

Use the *Create a component* button and choose *SMS via HTTP-provider (PROVIDERSMS)*.

► Name (Setup Type: Custom)

This value is preconfigured; the number that succeeds the component type name (in this case '*0*') indicates the amount of existent components of the same kind.

► Host (Setup Type: Custom)

If the *PROVIDERSMS* component is required to establish a connection to an ISP via a sub server, use the IP address or resolved name of the respective ***host*** here.

Configure a PROVIDERSMS Component

Use Edit > Further Sender/Receivers > SMS via HTTP-Provider... to open up the configuration window. Available *PROVIDERSMS* components are displayed in the left dialogue window (commonly ***providersms0***, refer to Image 2.44).

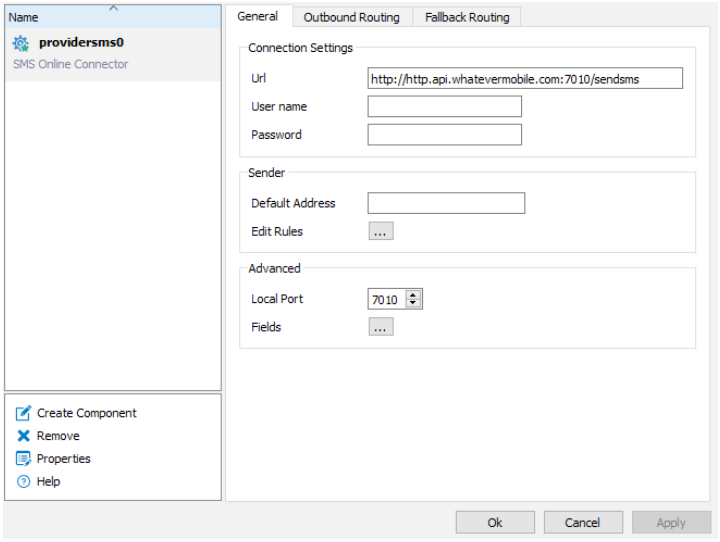

Image 2.51: Configuring a *PROVIDERSMS* component

Connection Settings

User data for the selected Internet Service Provider (ISP) can be entered in the connection settings.

► Url / User Name/ Password

A Url path is already pre-entered for SMS transmission and reception via ***Whatever Mobile***. Please fill out the *User name* and *Password* boxes manually.

Sender

Outbound text messages are fitted with a ***Calling Party Number***.

► Default Address

Enter a default address here. This address will be used for all non-configured calling parties.

► Edit Rules

Use this button to manipulate the calling party address. This may become necessary if round messages are delivered and, due to reasons of processing, the response address is required to be other than the calling party address.

Advanced

These advanced settings are commonly left unaltered but can be edited, if required.

► Local Port

The pre-entered ***port 7010*** is used for text message reception. If, however, conflicts arise with the local installation, use this box to assign a different port.

▶ Fields

This layout is a mirrored version of that ***Link Mobility***. If you wish to use another provider, it may become necessary to edit the field layout. Please contact the respective provider for further instructions.

Outbound Routing

The first match method for SMS address filter will be applied to the three main SMS transmission methods (ISDN, GSM and Provider) if multiple transmission procedures are used. Please refer to section 2.5.1 on page 66 for further information on the first match method.

2.7. Voicemail Server

Even with the base license, OfficeMaster supports multiple voicemail functions, which are outlined in the following section. However, the common voicemail functionality needs to be distinguished from ***Extended Voice*** and vice versa. As for now, we look on the context of the term "***Voicemail***" and highlight its coherence.

2.7.1. Configurations on the Voicemail Server

In the ***Expert Mode***, open the settings for the voicemail server at Edit > Voice Server... . The configuration settings are displayed in the right pane. Use the middle pane to toggle between different voice servers.

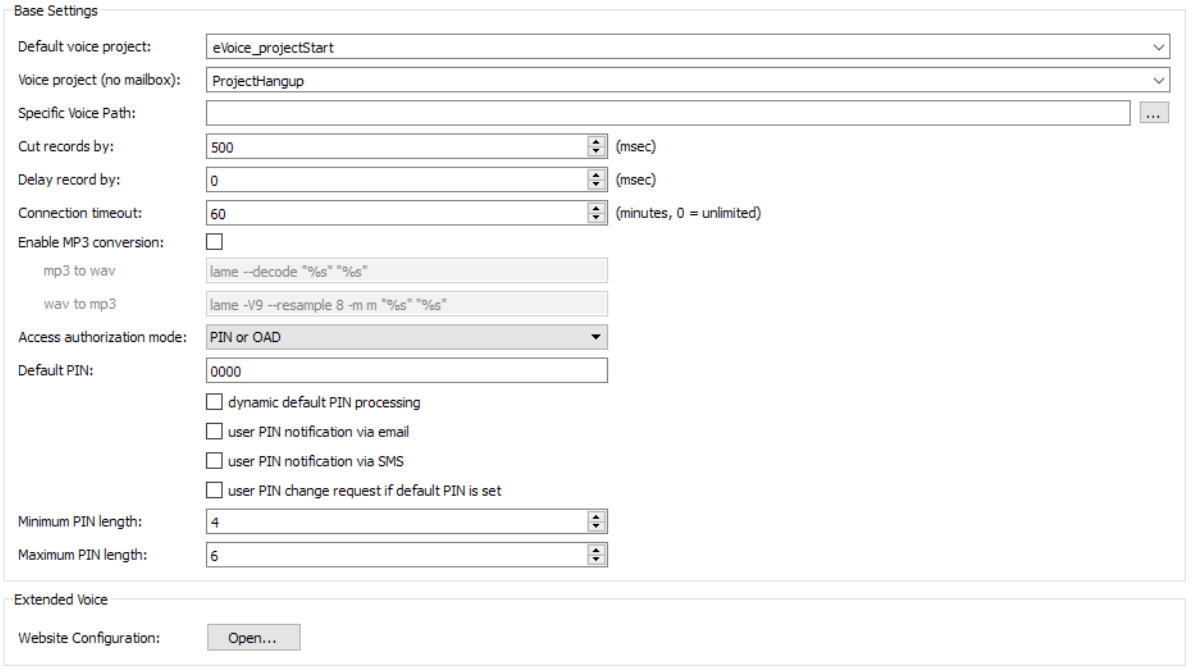

Image 2.52: Configuring the voice server

► Base Settings

► Default Voice Project

In cases where no dedicated voice project has been assigned to a called and identified mail box, the ***Default Voice Project*** is used instead.

► Voice Project (No Mailbox)

Specify a voice project for calls that could not be assigned to a mail box.

► Specific Voice Path

If you intend to have the projects and personal recordings saved to an alternative path, specify the new path here. In doing this, personalized menu layouts are not overwritten if updates are installed.

► Cut Records by / Delay Records by

A caller commonly hangs up after leaving a message on a voice box. As this action of hanging up often includes a handset being physically put back into the station, unwanted sounds may be recorded. In order to cut out these sounds, the voice server can either ***cut records*** or ***delay records*** by a given amount of time (in milliseconds)

► Connection Timeout

Specify the time in minutes after which the voice server automatically terminates the call.

► Enable MP3 Conversion

By default, the voice server stores all voice recordings in a WAV format. However, WAV takes up a considerably large amount of space. Thus, you can choose to have the WAV files converted to MP3, which is much more efficiently. As per default, one WAV file takes up the same space as 10 MP3 files.

Note! OfficeMaster Suite provides the freeware program Lame for MP3 conversions.

► Access Authorization Mode

If a user runs a remote request to the voice box, both the PIN code and Calling Party Number can be used to check for adequate authorization. Hence, the user either calls from an authorized calling number or, if the calling number is not recognized, enters the PIN. OfficeMaster Suite uses this settings by default (*PIN or OAD*).

Alternatively, access to the voice server can be reduced by allowing only one of these forms for authorization (either *PIN* or *OAD)*. In addition, you can specify whether the voice server accepts empty PIN boxes or not.

► Default PIN

Unless the user or connector has a dedicated PIN, you may specify a default PIN here.

► Dynamic Default PIN Processing

Activate this checkbox if you intend to have a dynamic PIN generated initially for each user unless they possess a dedicated PIN.

► User PIN Notification via E-Mail

This checkbox is dependent on the *Dynamic Default PIN Processing* feature. Once a dynamic PIN is generated and used, the respective user will receive an E-Mail containing his/her PIN.

► User PIN Notification via SMS (***Preview***)

In addition to the options above, the user may also receive a SMS containing his/her PIN.

► User PIN Change Request if Default PIN is set

If a default PIN has been set, the server will prompt the user to change the password once he initially logs into the account.

► Minimum PIN Length /Maximum PIN Length

Specify the minimum and maximum amount of characters that a password can consist of. Please set the *Maximum PIN Length* first, as the value in *Minimum PIN Length* will not change otherwise.

2.7.2. Voice Communication Procedure

As opposed to fax, incoming voice calls have to be distributed to users they are actually meant for before being taken by others. Furthermore, they have to be handled depending on the user's configuration setup, such as language, automatic voice response, etc.

► Handling Process of a Voice call

- Either the OfficeMaster Gate or the component ***JCISDN*** (CAPI selection) establish calls and rout them towards a hardware controller on the Messaging Server.
- The hardware controller identifies the respective voice connector (e.g. ***msx2kgate***) as well as the voice server (commonly ***voice0***). All available calling party identifiers (such as 'called, calling, redirected' etc.) can be used to determine its origin.
- The voice server subsequently establishes a UDP connection to the OfficeMaster Gate or JCISDN and assumes direct communication.

Note! It may become necessary to configure firewall rules for outbound calls (Voice server towards OfficeMaster Gate). A common indication that points to a firewall issue is if a fax number is called and you hear a fax sound instead of the default recording of a voice box.

2.7.3. Included Projects in the Voice System

After installation, OfficeMaster provides several projects that can be handled without excessive effort in administration. These projects are created in the ...\data\voice folder of the Messaging Server and consist of subfolders with description files and LUA scripts.

The Voice system contains several projects, which are lain out consecutively. To maintain a decent overview, not every project is selectable as starting point. Loadable projects are flagged with the respective label (loadable) in the *.ini* file.

► Voicebox Over Pilot-ID

► projectvoxdidcpn

The Calling Party Number will be reset to the Called Party Number and the initiating project will be applied (*eVoice_projectStart*).

▶ Extended Voicemail

In case the OfficeMaster Suite has not been sufficiently licensed, the ***Extended Voicemail*** may not be available to you. In this case, the ***default voicebox*** will be used. Individual projects take on following tasks:

▶ eVoice_projectStart

Entry point with individual value configuration for variables.

▶ eVoice_projectrecord

Default recording for voice messages.

▶ eVoice_projectPlayAudio

The desired recorded message will be played if a recording has been deactivated for voicebox or period. The call will then terminated after playing the record.

▶ eVoice_projectAnnouncementFromPhone

Self-made recordings will be managed via web interface.

▶ eVoice_projectAnnouncementToPhone

Self-made recordings will be played back via web interface.

▶ Default Voicebox (not Actively Selectable Since Version 5.0.2; Only for Fallback)

In this mode, the caller will be greeted with a pre-recorded recording and asked to leave a message. Once he presses the asterisk (*****), he will be asked to enter the PIN for the voice box using telephone keys. After successfully entering the PIN, the caller will have full access to the configuration menu where he can change the PIN, listen to voice messages and delete them.

▶ projectvox

Entry point for the default voice box.

▶ projectrecord

The project where the message plays back and recording initiates.

▶ projectpin, projectloadpin

Both, the calling number and entered PIN can be used to determine whether the caller was authorized to access this voice box.

▶ projectabfrage

Request new voice messages.

- projectabfrageold

  Request voice messages that have been listened to.

- projectreplay

  Plays pre-recorded messages back.

- projectconfig

  Records welcoming messages and changes PIN.

- projecthangup

  End of call; terminates connection to the Messaging Server.

- Default Voicebox Without Recording (not Actively Selectable Since Version 5.0.2, Only for Fallback)

  - projectvoxprompt

    Entry point.

  - projectnorecord

    Plays pre-recorded messages back with a subsequent jump to ***projecthangup.***

- Call Recording Functionality

  - projectrecordcall

    Selecting and running this project will inform the party that this call is going to be recorded after the announcement has ended. Once the call has ended, the user will get a message with the recorded call included.

    Due to capacity reasons, we highly recommend to activate the audio conversion to ***.mp3***!

- Selecting the Calling Mailbox

  - projectvoxdid, projectdid

    The caller will be requested to select the voice box he wishes to be connected to by pressing the respective telephone key.

- „Recording Studio“

  - projectrecstudio

    Select this project to record voice messages or generate IVR's (***I***nteractive ***V***oice ***R***esponse). Recordings will be saved as valid file format to ensure their further use within the system.

- IVR Templates

  An example for scripting own IVR's with most important features.

► ivrExample_start

Entry point that includes timetables, holidays etc.

► ivrExample_normal

The company is open and the caller has the choice to either connect to another party or leave a message.

► ivrExample_closed

The company is closed and the caller gets played a message.

2.7.4. WebVoice

Users have the choice to administrate their voice mailbox on a web interface.

► Basic Configuration

The interaction between the voice server and web-services components is established during the OfficeMaster server setup. Here, an ***Internet Information Service*** (IIS) will be created as Windows Server feature.

Respective web pages will be provided and stored to the file path %Program Files (x86)%\FFUMS\fmsrv\bin\WebserviceData for the IIS disposal.

For the configuration of web services, various configuration files that apply to the IIS and OfficeMaster would have had to be accessed individually. However, the tool ***FClientGwCfgPrg*** (accessible via ***VOICE*** component) eases this process dramatically.

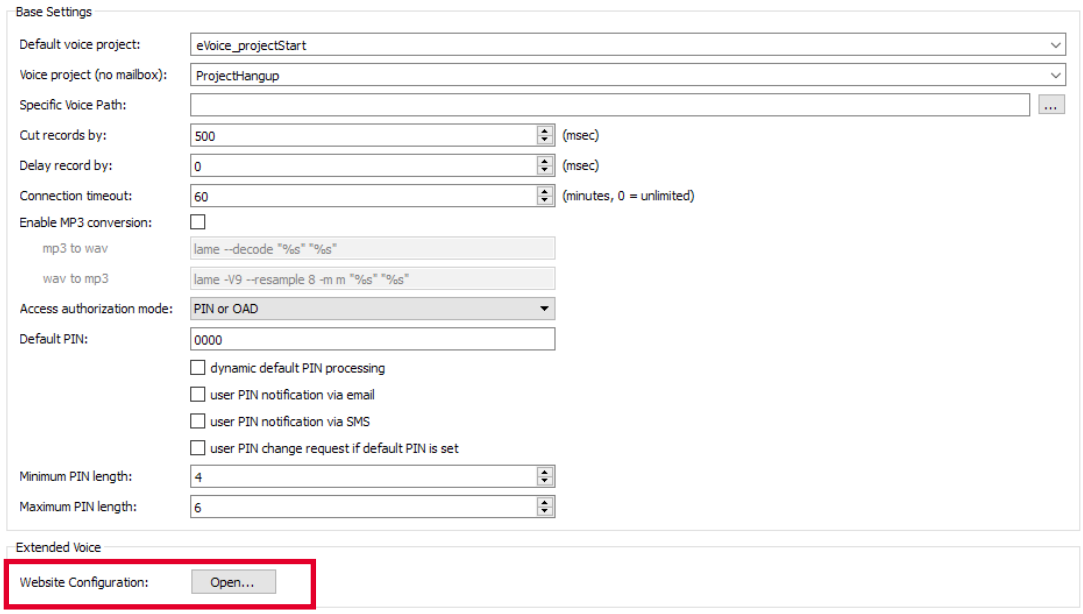

Image 2.53: Opening the configuration program

► Website Address

Enter the address of the website you wish to configure, here. As long as the default address has not been edited in the IIS after installation, this is either ***http://SERVERNAME/ums*** or ***http://SERVERNAME/fax***.

► Configuration Password

The default password for configuration access is ***OfficeMaster!***.

After successfully logging in, configure the operation mode, the voice server and the respective connector for the user information.

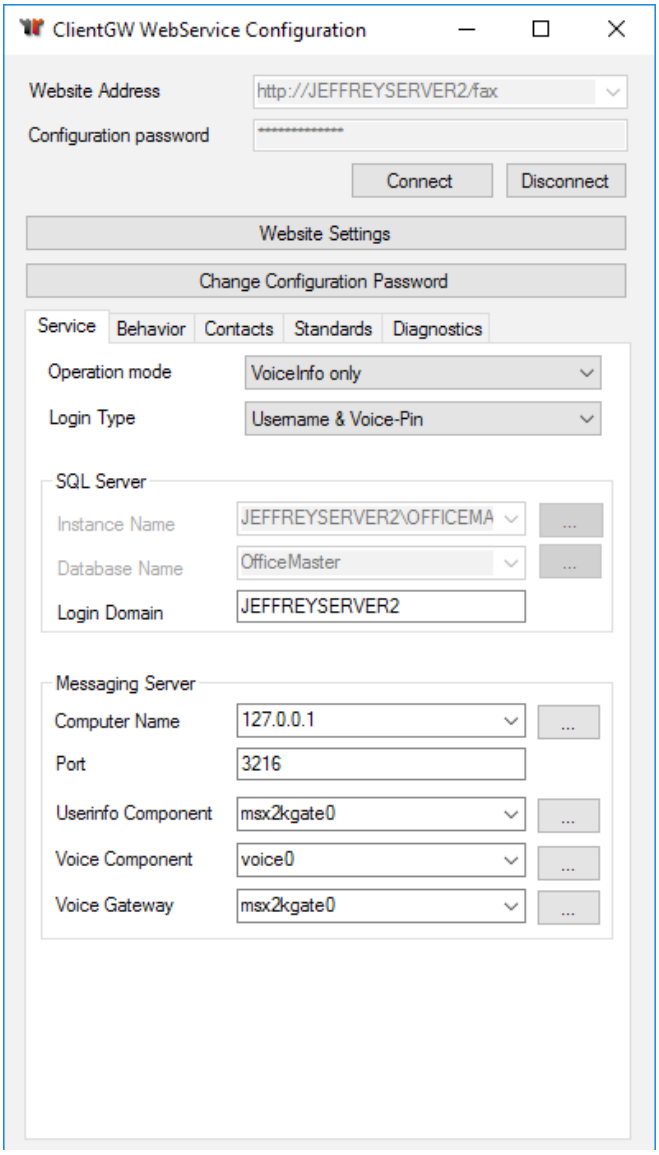

Image 2.54: Settings for OfficeMaster's client website

► Change Configuration Password

We recommend changing the default password to avoid unauthorized access to the configuration settings.

Note! Since version 5.0.2, the OfficeMaster interface offers much greater configuration settings than commonly required. Some settings should only be edited if a full web client is used.

▶ Operation Mode

Choose *Voice only* if the base connector is either an Exchange-, Notes- or SMTP connector.

▶ Login Type (from OfficeMaster Suite 6.2)

In this box, set the authentication details that are requested upon login. You can choose between

- *Username & Voice PIN*
- *Voicebox- Number & PIN*
- *E-Mail Address & Voice- PIN*

▶ Messaging Server

▶ Voice Component

Deposit the used voice server component for OfficeMaster here. This is commonly ***voice0*** and does not have to be changed.

▶ Voice Gateway

The voice server requires an addressable gateway, which should support and deliver user information requests. The component ***msx2kgate*** is commonly used in Exchange environments whereas ***notesvoice0***, ***univoice0*** and ***clientgw0*** are used in other environments respectively.

▶ Authorization Levels

During voice server setup, you can assign various authorization levels to individual users or user groups. The following authorization levels are currently available:

▶ No Voicemail

If the user had no VOX number deposited, voicemail will not be available to him.

▶ No Authorization for use of Extended Voice

As soon as a VOX number is detected on a user, the voicemail functionality activates and the default project is being used.

- Up to OfficeMaster version 5.0.1 this default project is ***projectVox***, however since OfficeMaster version 5.0.2 it has changed to ***eVoice_projectStart***.
- ***eVoice_projectStart*** will be set back to ***projectVOX*** if it is not licensed sufficiently.
- The same applies if no personal settings have been applied yet.

► Extended Voice User

As soon as an administrator or the user himself wants to edit the user profile, a default profile will be created. This also triggers the creation of a subfolder within the Messaging Server for that user whose profile contains a profile description file.

The user can edit these attributes:

- Load/edit/save own profile
- Edit language for both, recorded message and menu navigation via Dual-tone multi frequency signaling (DTMF)
- PIN for remote request
- Calling number that is authorized to run requests
- “To my phone” calling number
- Record/upload/rename/delete voice messages
- Assignment of initiation points to individual days or timeframes
- Add personal recordings to initiation points
- Determine whether the caller can leave a message or gets played the recording

► Administrator for Extended Voice Profile

These actions can be accessed on top of the common voice user settings:

- Load/edit foreign profile
- Edit the voice project
- Choose between project (with subsequent selection of target) or voicemail as initiation point type

2.7.5. Audio Files

The voice server processes audio files on a file level, thus these files are searched for on a project basis. Therefore, if the Messaging Server accesses the audio file ***greeting.raw***, which is located within the project *ivrExample_normal*, it firstly browses through the subfolder *ivrExample_normal*. If this file is not located within this subfolder, the system broadens its search to a global level and browses through the ***Audio*** folder.

This browsing process supports an administration of various files on a single level as well as using two files of the same name that contain different content.

2.8. Converter (CONV/OLECONV)

Note! In order to access the quick start tab and apply settings, the ***Expert Mode*** must be enabled.

The conversion of fax documents is one of the most important aspects on servers with an OfficeMaster installation. Our converter transforms documents running on third-party software such as ***Microsoft Word*** or ***Adobe Acrobat Reader*** into a faxable and graphic format.

During installation for Microsoft Word, it is important not to simultaneously install ***Microsoft Outlook***, as the MAPI component would prevent the Exchange connectors (incl. Online Connector) to work properly. The Exchange connectors employs the local MAPI even if an alternative routing for reception and dispatch has been selected.

We recommend using a service account with administration rights to run the converter on the system.

Note! Programmes used for conversion must be run by the respective account at least once before using it in full extent. Make sure all pop-up windows, such as initials request, and automatic updates are disabled. On Adobe Acrobat Reader version 10 or higher, the protected mode must be disabled as well.

The converter (CONV) addresses external converter software while distinguishing between two conversion types:

- Via ***OLE*** (***Object Linking and Embedding***): The converter utilises OLE to issue the document on a FerrariFAX64 windows printer and convert it into a graphic image.
- Via ***CLP*** (***Command Line Parameter***): Name and location of the file required for conversion will be transferred as CLP without the use of a FerrariFAX64 windows printer. The following list includes converters that are currently supported (as of January 2018):

Table 2.7: Type of conversion

Converter	File format	Type of conversion
Adobe Acrobat Reader	PDF	OLE
GPL Ghostscript	PDF, PS	Command Line
Lotus Notes	NTF, NSF	OLE
Notes Client	Lotus 1-2-3, WordPro, Freelance	OLE
Microsoft Excel	XLS, XLSX	OLE
Microsoft PowerPoint	PPT, PPTX	OLE
Microsoft Word	DOC, DOCX, RTF, HTM, HTML	OLE
IrfanView	GIF, TIF	OLE

The configuration settings for CONV can be accessed at Edit > Central Conversion > Converter... .

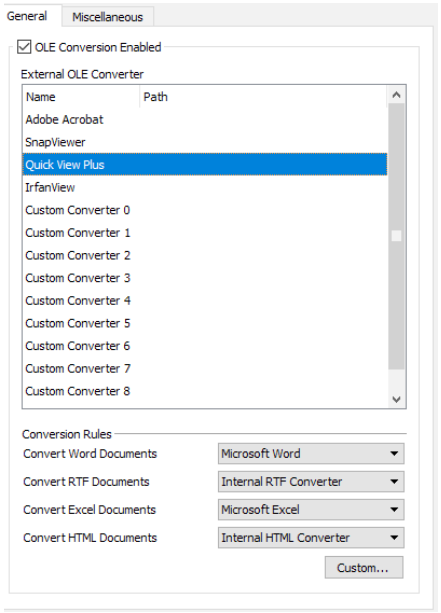

Image 2.55: OLE conversion

Note! If you enter IrfanView as file for ***QuickViewPlus***, the DLL recognizes the file name and adjusts its addressing (cmdline) accordingly.

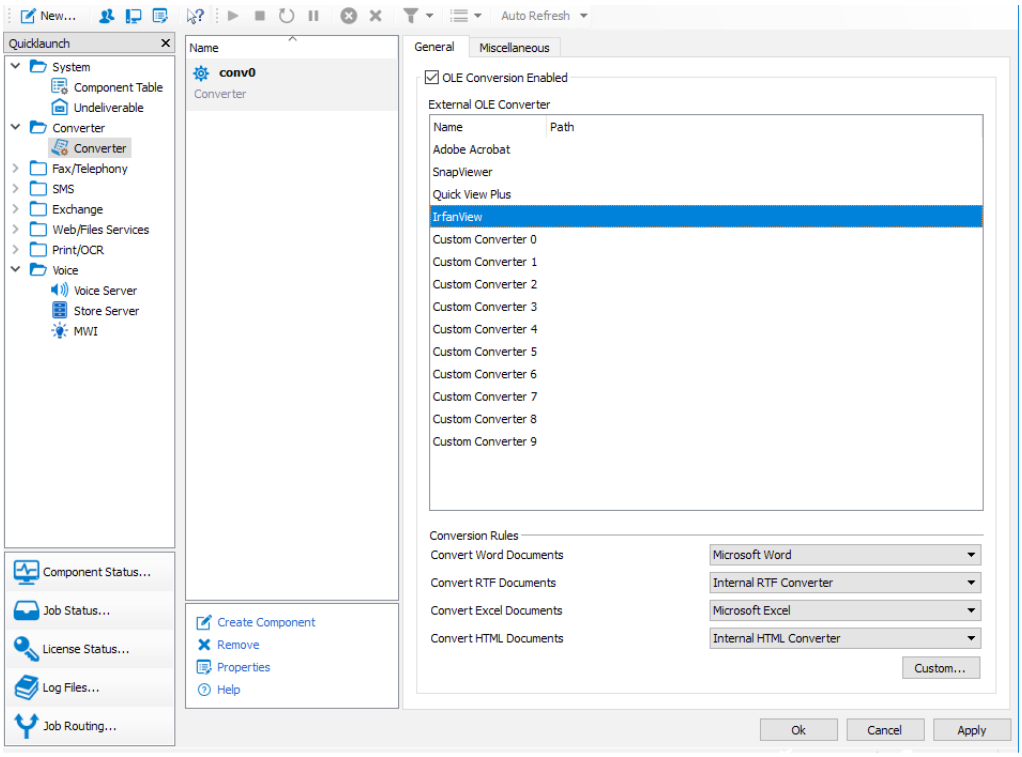

Image 2.56: IrfanView converter

Rules can be populated to the default OLE converter.

Example 2.21. GIF converts to DCX and TIF converts to DCX

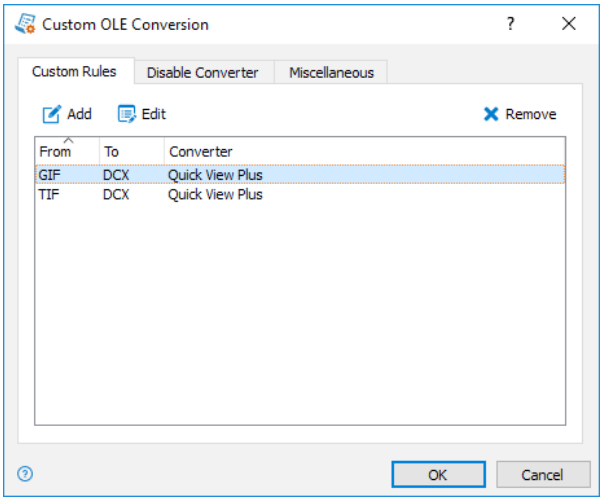

Image 2.57: Custom OLE conversion

»**End of example**

2.8.1. Converter as Service

After installation of the OfficeMaster Suite, the ***OfficeMaster Converter*** is created along with the OfficeMaster Messaging Server.

The Messaging Server component ***CTRL*** controls the service ***OfficeMaster Converter*** and must not be edited in the ***Service*** section of a task manager.

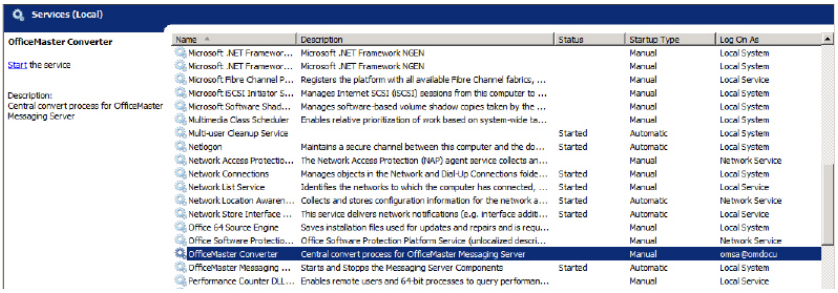

Image 2.58: The service OfficeMaster converter and OfficeMaster Messaging Server

If the installation has been carried out on a Windows Server version above 2008 R2, the OLE conversion requires a restart of the component. Do so by opening up the component's properties window within the Messaging Server and select *Run as service* (See image 2.52).

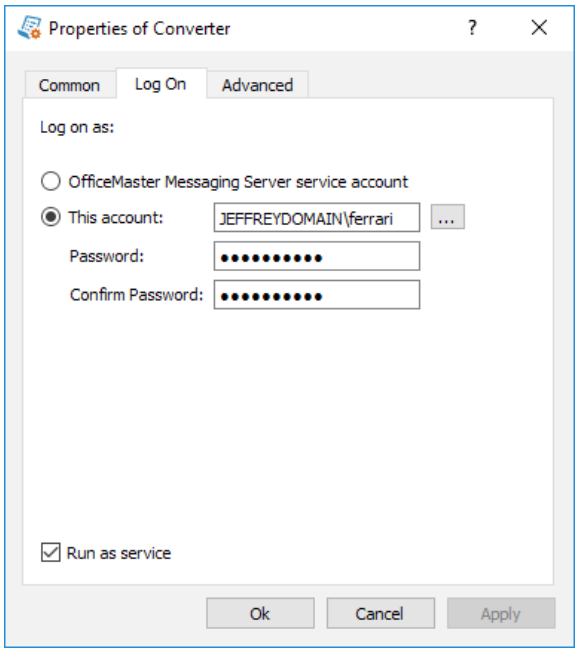

Image 2.59: Properties of *CONV* component

2.8.2. Setting up Ghostscript as Converter

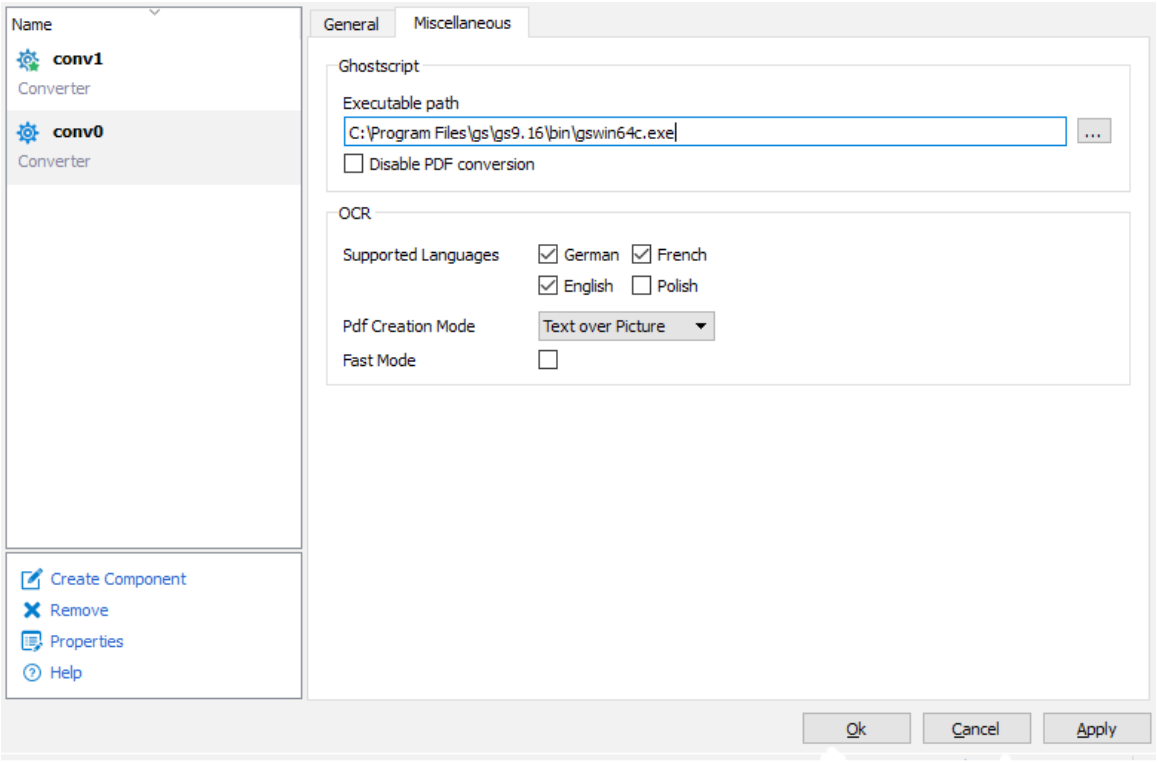

Image 2.60: Adding Ghostscript as converter

Ghostscript is a neat alternative to the Adobe Acrobat Reader. As it allows for a much higher conversion output, we recommend using it as a conversion tool for both PDF and PS in environments where a large volume of fax output is persistent.

▶ Executable Path

Here, enter the location path including binary name of the Ghostscript. Make sure to use the command line *gswin32c.exe / gswin64c.exe*.

▶ Disable PDF Conversion

Tick this box if Ghostscript shall process PS documents only.

▶ OCR

If OfficeMaster detects a licensed interface for the character recognition software ***B&L***, you can configure command line parameters here.

▶ Supported Languages

Select the language for character recognition here. You can essentially improve rate of correctly recognized characters by narrowing down the languages.

▶ PDF Creation Mode

Detected PDF's contain both picture and text. The arrangement can be edited depending on the respective needs.

Assuming that PDF documents are required to be not copyable while being collected and assorted in a database according to tags (such as "Invoice", "Merida Inc." etc.), ***Text over Picture*** has to be selected. If you need these documents to be copyable, select ***Picture over Text***.

▶ Fast mode (outdated)

As the OCR technology takes up a considerable amount of processor speed, this option was often activated when the system performance was not sufficient enough for a coexistent use of OCR and other processor- consuming programs. However, while the use of processor power for OCR is kept at a minimum, note that the recognition quality decreases.

Table 2.8: Converter for print formats

Print format	Converter	Benefits in using this format/converter
Postscript (PS)	AFPL Ghostscript	Creates searchable pdf files (dispense with stationery)
		Interprets embedded control commands in practically every font
		Free freeware download
Printer Common Language (PCL)	Internal JetPCL converter*	Omits control commands from the document during conversion

Print format	Converter	Benefits in using this format/converter
Text (Preferably while connected to host systems)	Internal text converter	Omits control commands from the document during conversion

* not available for OfficeMaster with a 10/25 user limitation

Business documents containing images or various formatting styles (e.g., cursive or bold fonts) commonly use PS or PCL as printing format.

Note! The OfficeMaster versions with a 10 and 25-user limitation do not possess a ***PCL converter***. Hence, the ***AFPL Ghostscript*** takes over that task and must be selected.

GPL is a freeware and can be downloaded from the Internet. After downloading, deposit the Ghostscript as converter into the Messaging Server Configuration.

2.8.3. Alternative Converter for Microsoft Office and PDF

Due to the continuously rising number of restrictions for automatically installed drivers, Ferrari electronic endeavors to constantly find new solutions for a central conversion. However, the default conversion is still available with just a minimal amount of administrative effort hence why the alternative converter (OLE converter hereafter) has not yet been added as default converter.

A higher processing volume and use at UAC (***U***ser ***A***ccess ***C***ontrol) are key improvements of the OLE converter.

Creating the OLE Converter Component

Use the quick launch bar to open up Converter > OLE Converter and click on Create Component. If the OLE converter is not listed in the Converter section, click on System > Component Table, select *Create a component* and choose *OLE Converter for Office 2016/2013 (OLECONV)* from within the dropdown list.

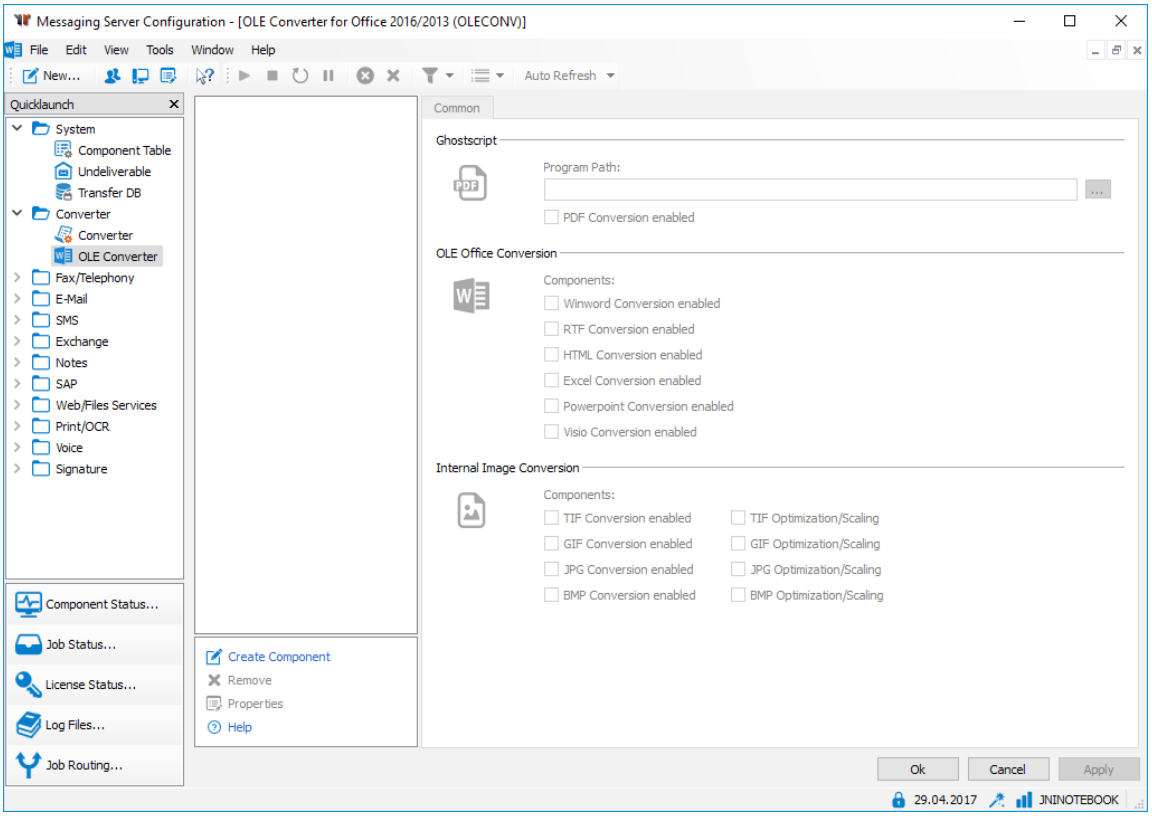

Image 2.61: Creating a new OLE converter component via the *Converter* section

Follow the installation wizard. You will be asked to provide a service account.

Note! This service account needs to possess local administration rights.

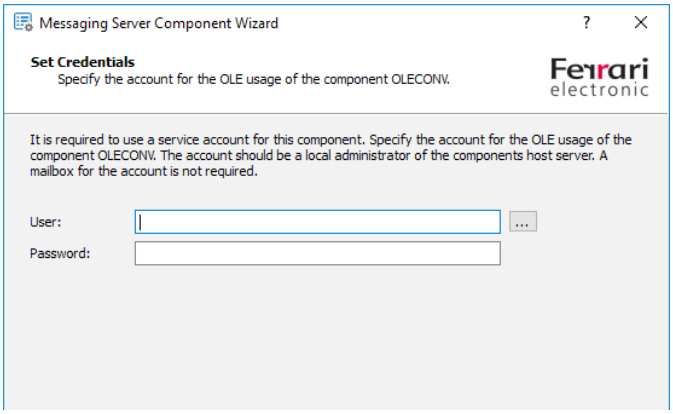

Image 2.62: Entering service account details for the OLE converter

The following dialogs for labeling the converter are identical to those displayed for other installation types. After successfully creating the OLE converter, you should be able to see it in the ***Converter*** section of the Quick Launch Bar.

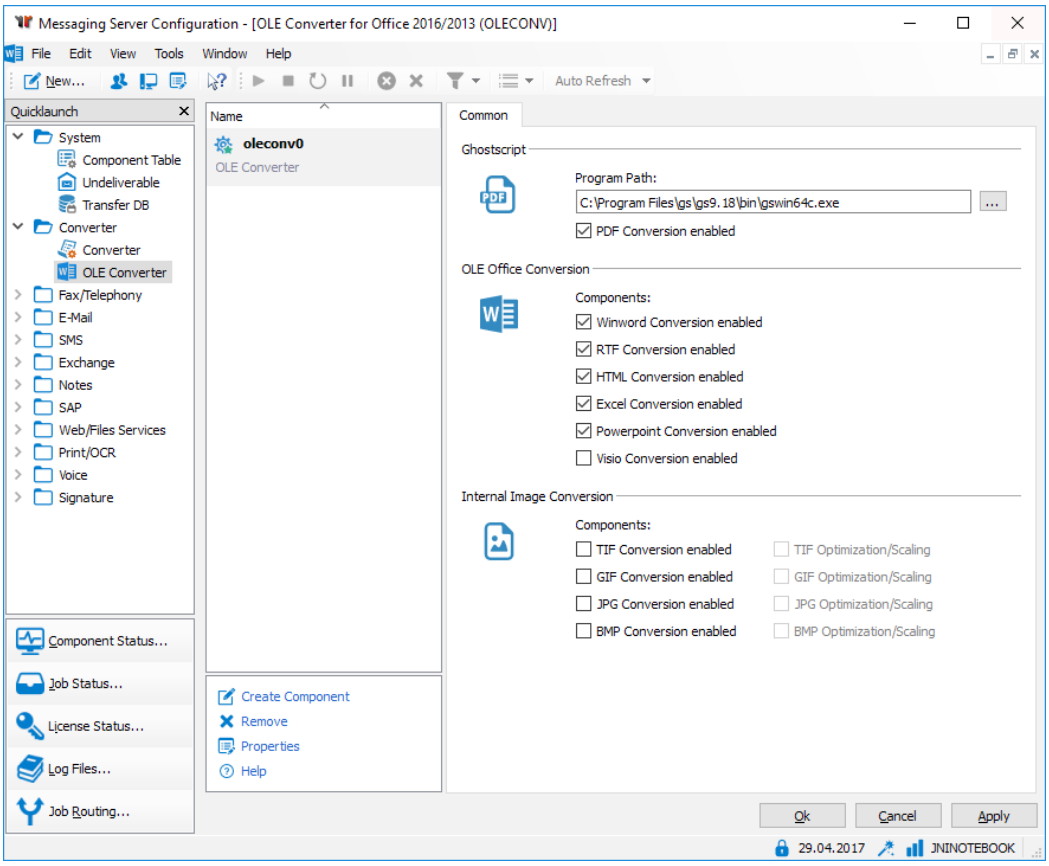

Image 2.63: Configuration overview for Microsoft Office and PDF

► Ghostscript

► Program Path

Enter an executable path to the Ghostscript file here. Please use the ***Commandline*** version ***gswin32c.exe*** or ***gswin64c.exe***.

► PDF Conversion Enabled

Tick this box if you need the OLE converter to register for PDF file conversion.

► OLE Office Conversion

Tick these boxes if you need the OLE converter to register for the respective document type. This is important as the converter will be capable of converting only those documents into a graphic image that had been selected here.

► Internal Image Conversion

Activate the desired box/es if you need the converter to convert an image type into another.

Disabling the Central Converter CONV for Certain Conversion Tasks

Once successfully setting up the OLE converter, the central converter has to disabled for document conversion. It would essentially hinder the proper functionality of the OLE converter if left unaltered. Open up the configuration panel for the central converter (*CONV*) and click on the *Custom...* box. Select the tab *Disable Converter* and tick the document types that you want to convert with the OLE converter instead. Next, restart both the central converter and OLE converter.

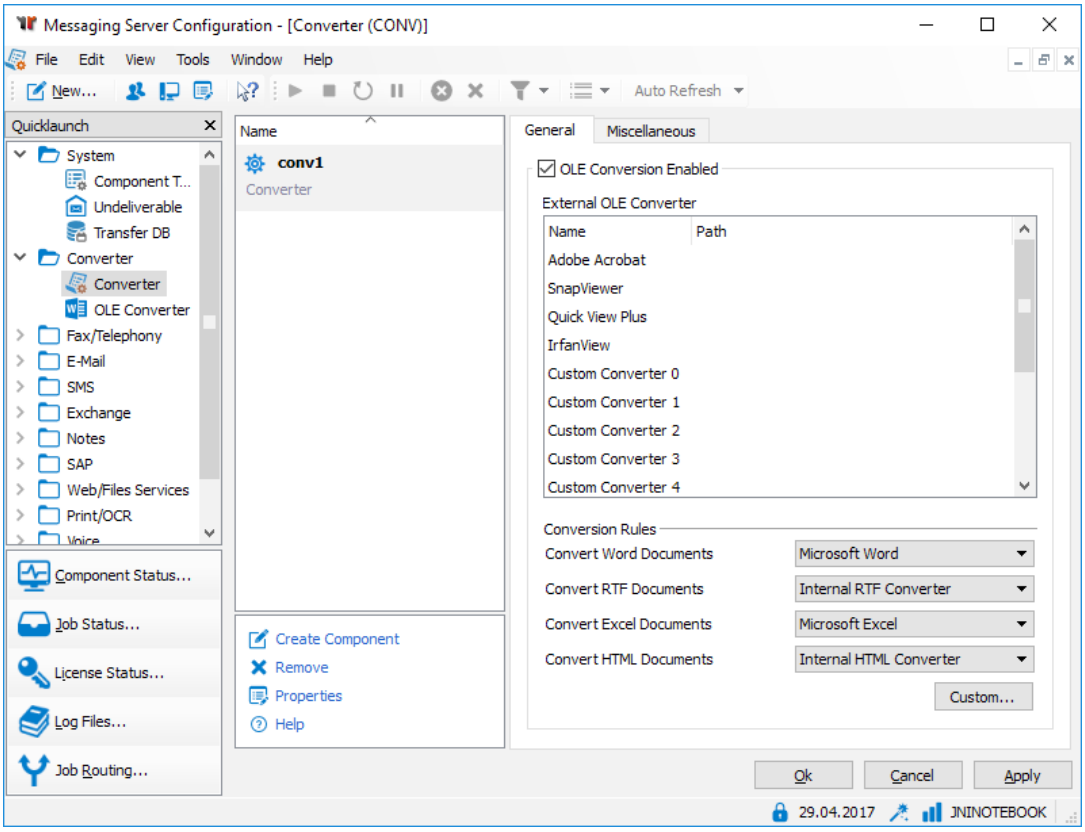

Image 2.64: Overview of settings for the central converter

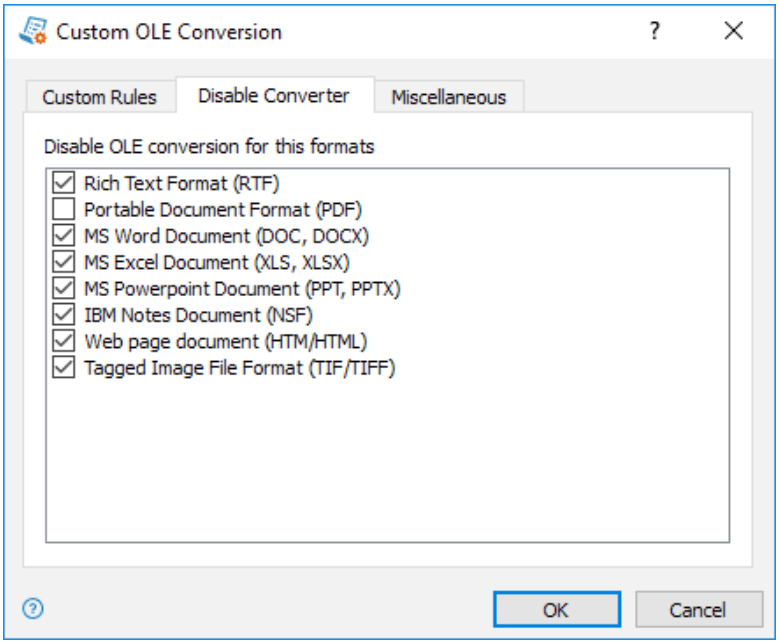

Image 2.65: Deactivating selected components

2.9. Automatic Printing of Received fax Messages

The gateway component *PRINTGW* allows the Messaging Server to distribute received fax messages autonomously to a network printer. Recipient calling numbers can be assigned to the *PRINTGW* and, unlike other Messaging Server components such as *SAPCONN* and Undeliverable (*UNDLVRBL*), it can process printing jobs and essentially print out fax documents. Configuration settings for *PRINTGW* can be accessed in the quick launch bar at Print/OCR > Print Gateway.

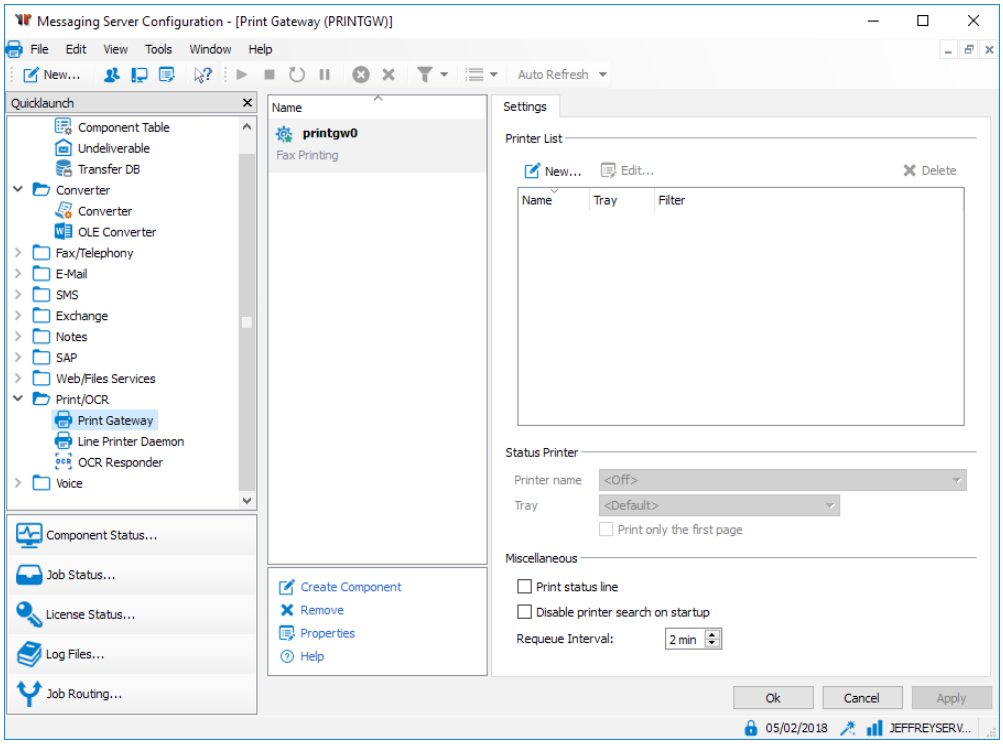

Image 2.66: Print gateway configuration

If the component has been deleted or is non-existent, you can create a new component by clicking on *Create Component*. You may freely edit the name of the component, but note that the prefix *printgw* is not editable. The Messaging Server automatically numbers newly created components according to their time of creation, e.g. *printgw0*, *printgw1* etc.).

Assuming you possess multiple printers distributed throughout the office building, you may want to name them according to their location, e.g. *printgwMarketing* or *printgwAccounting*.

The *Host* generally refers to a new IP address or resolved name of the main server.

► New... / Edit... /Delete

Use these buttons to either add a new printer or edit/ delete an existing printer.

► Printer

Once the *PRINTGW* has been started in the component status section, it automatically searches the network (such as windows domain) for available printers. If a printer has been found, it can be assigned to a *PRINTGW* component. Edit the name of the printer manually if needed using the format *\\Servername\printername*.

▶ Tray

Available input trays are listed here if the *PRINTGW* component has successfully found a printer.

▶ Fax-Adressfilter

The *fax address filter* is applied to the fax number (*Calling Party Number*) of inbound faxes and regular expressions design how the filter treats those fax documents. The simplest form of a regular expression is providing the entire *Calling Party Number*.

Example 2.22.

Given the scenario that faxes sent to the calling party numbers *349*, *342* and *348* are required to be printed out, these numbers have to be entered successively into the list:

349
342
348

Use the regular expression ***34[928]*** to address all three numbers in one row.

»**End of example**

▶ Status Printer

▶ Printer Name

If the address filter denies access to a configured printer, enter another printer that will carry out print jobs for fax status messages instead.

▶ Tray

Select available input trays that contain a sufficient amount of paper.

▶ Print Only the First Page

As the essential status information is often printed on the first page of a status message, you may activate this box and thus avoid surplus paper usage.

▶ Miscellaneous

▶ Print Status Line

Tick this box if you require the *PRINTGW* component to compress the most important information into a single line and attach it to the document.

▶ Disable Printer Search on Startup

Disabling the printer search on start-up will considerably improve the overall booting time of the *PRINTGW* component.

2.10. Integration of Printing Functionality Into a Third Party Software (LPD)

2.10.1. Sending Documents as Fax or E-Mail Attachments

OfficeMaster proved the be indispensable for transferring business documents such as quotations, orders and reminders. The printing functionality easily integrates into ERP software, e.g. *Axapta*, *cd2000*, *Infor*, *Navision*, *proALPHA*, *sage KHK*, *SAP Business One* or *Varial*.

Business documents are issued to OfficeMaster, augmented with a digital signature (if configured) and transferred as Fax or PDF attachments. The user subsequently receives the status message as E-mail into his mailbox (Microsoft Outlook , Notes).

The OfficeMaster Messaging Server utilises a LPD gateway (***L***ine ***P***rinter ***D***aemon) that receives printing data. With help of the printing data, the LPD gateway creates a transmission job, thus preparing the print job for further procession. Printing data generally incorporates the actual document and information such as name of document as well as network location name of the user who is printing. This network location name is used to identify and assign multiple jobs to one user.

OfficeMaster accesses information such as calling number of the fax interface, E-Mail address of the receiving user and time of dispatch right out of the document. However, this information must consist of multiple commands that are embedded into the ERP system. We henceforth call these commands *Control Commands*.

Listed below are all processing steps that are followed once a document routs through OfficeMaster.

Table 2.9: Steps for configuring the file transmission

OfficeMaster Messaging Server	Component Detail	Task
-	ERP client on user workstation or ERP server	Issues the document including embedded control commands to the configured printer
-	Printer with spooler and configured IP address & printing queue (optimised for OfficeMaster)	Converts the document into a usableprint format (PCL, PDF, PS or text) and routs it to OfficeMaster using the LPR
LPD	Line Printer Daemon	Receives the document along with additional printing information (Dispatcher and file name) and handles the document according to printer the queue
CONV	Converter fitted with internal PCL converter and/or AFPL GhostScript	Converts the document from the received printing format into a graphic image (for fax) or PDF (for E-Mail) while simultaneously extracting the control commands
NOTESCONN, MAILGW, FILEGW, MSX2KGATE, CLIENTGW, ...	Connector for Notes; Mail gateway; File interface	Assigns the document to a connector user using the LPD sender while creating a send job with user specific parameter (such as own fax CSID)
SIGNDS (optional)	Signature server connection including digiSeal server	Applies a digital signature to the document (if configured)
OMCUMS (for Fax)	Integration of ISDN components	Uses the configured ISDN hardware to transfer the document as fax
SMTPTX (for E-Mail)	E-Mail dispatcher	Transfers the document as pdf /e-mail attachment using SMTP
NOTESCONN, MAILGW, FILEGW or CLIENTGW	Gateway for Notes; Mail Gateway; file interface or WebClient	Provides the transmission status to a gateway user (via Notes-mail for NOTESCONN, via E-Mail for MAILGW and as file for FILEGW)

Hence, connecting an ERP system to an existent IT infrastructure is rather complex and demands configuration processes for individual components within the OfficeMaster Messaging Server as well as within the used ERP system and mailing system. These individual configuration steps are listed below and can be used for reference.

Table 2.10: Configuration steps

Configuration Step	Chapter and Page	OfficeMaster Connector		
		SMTP	Notes	Exchange
Setting up Ghostcript as converter for Postscript	2.8.2 on page 91	X	X	X
Adding or configuring LPD Gateway	2.10.2 on page 100	X	X	X
MS Exchange (MSX2KGATE)	2.10.3 on page 104	-	-	X
IBM Lotus Notes/Domino (NOTESCONN)	2.10.4 on page 105	-	X	-
Mail-Connector (MAILGW)	2.10.5 on page 106	X	-	-
Transmitting files via LPR command	2.10.6 on page 107	X	X	X
Configuring windows printer for use with LPD	2.10.7 on page 108	X	X	X
ERP-System	2.10.8 on page 114	X	X	X
File interface(FILEGW)	2.10.9 on page 115	Optional	Optional	Optional

2.10.2. Adding or Configuring LPD Gateway

With ***Expert Mode*** enabled, select Edit > Further Connectors > Line Printer Daemon... . All LPD gateways that are available within the OfficeMaster server system are listed in the left dialogue bar. The gateway ***lpd0*** is the only gateway that is initially available by default.

Supposing the installed OfficeMaster Suite configuration program is an updated version, the LPD has already been installed but yet needs to be manually registered to the existent configuration .

If there is no component available, click on *Create Component* to add it to the Messaging Server.

Caution! The absence of an installed print server is a prerequisite for the LPD functionality!

We recommend naming the component ***lpd0*** if such component is not already present. As *Host*, either select the IP address or resolved server name of that server you want the LPD- component to run on (commonly the main server). The screen updates automatically once the settings have been confirmed.

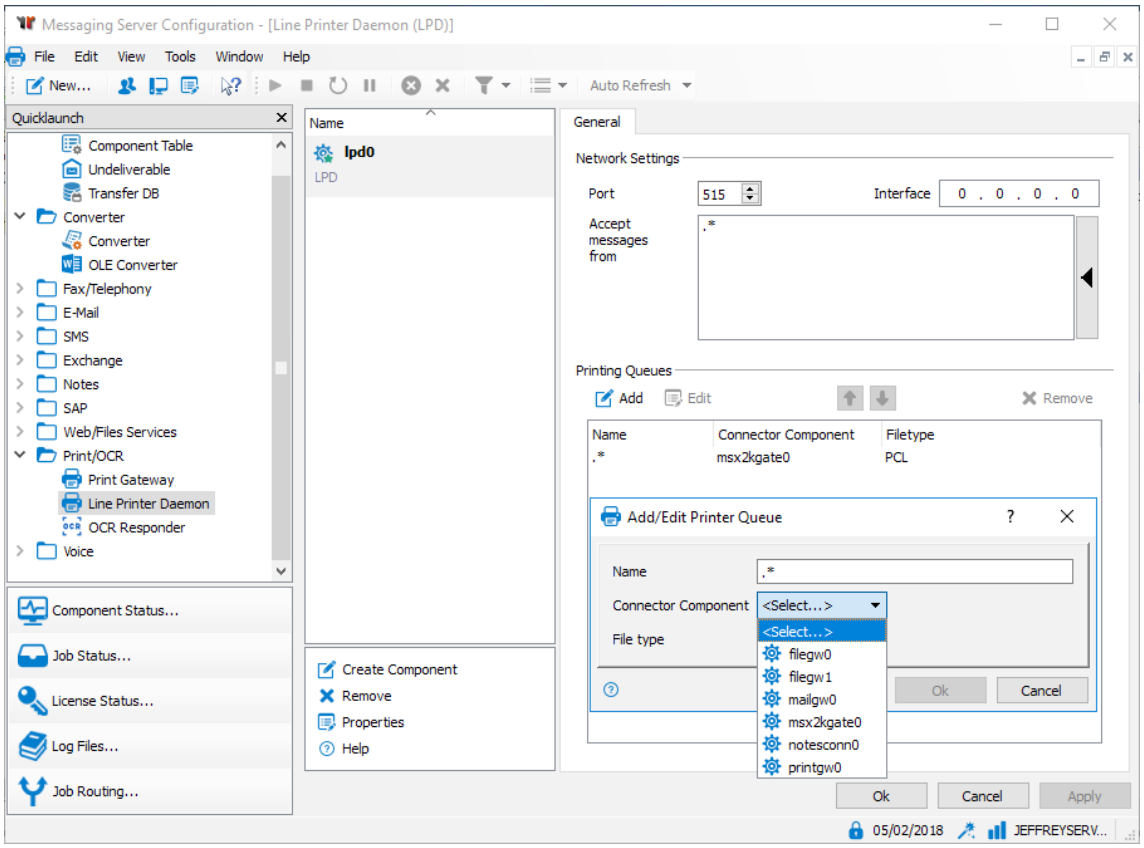

Image 2.67: Settings for lpd0

The default settings apply the majority of installation scenarios. There are only a few exceptions where you need to edit these settings. These include:

1. Using the OfficeMaster Suite 10 user and 25 user versions as they are not equipped with any PCL converter (edit ***File type***).

2. Requiring a gateway such as the fax connector for Exchange (***MSX2KGATE***), the fax gateway for Notes (***NOTESCONN***), the mail gateway (***MAILGW***) or the file interface (***FILEGW***) to process LPD transmission jobs. This setting is recommended for sending business documents as E-Mail.

3. Requiring the LPD Gateway to receive transmission jobs on another port and with diverse IP addresses (adjust the parameters *Port*, *Interface*, *Accept messages from*).

For the latter scenario, change the parameter in the ***Network settings*** box, for the others, edit/add parameters in the *Printing Queue* tab.

Network Settings

You can edit network settings on the same tab.

► Port

By default, the LPD gateway receives data on the preconfigured ***port 515*** (also known as ***well-known port***). If applications use either the ***LPD*** or ***LPR*** for printing jobs, they need to send data through this port as well. Please note that this port cannot be altered on Windows during a printer configuration.

► Interface

Analogous to applying port settings, the IP address for incoming data streams can be deposited in the *Interface* box. Hence, the LPD favors data streams originating from this IP address. This setup is particularly helpful where servers accommodate multiple networking cards and routers, as now they won't be overloaded with redundant data streams. With a default setting of ***0.0.0.0,*** the LPD links to every interface and all IP addresses, while accepting all transmission jobs from all network segments.

► Accept Messages From

Use regular expressions to create a list of IP addresses that can directly communicate with the LPD. Leaving the default to (**.***) causes the LPD to accept data streams from any IP address.

Printing Queues

The printing queue defines how received data streams to the Messaging Server are processed. It applies to the sender who prints these transmission jobs. By default, all transmission jobs are identically treated no matter on what printing queue is used to print these.

Note! The sender who prints the transmission jobs also manages the printing queues. Leave the entry at its default (**.***), except you require certain Messaging Server connectors to process transmission jobs individually, e.g. faxes via *MSX2KGATE* and E-Mails via *FILEGW*. As the LPD gateway needs to distinguish the printing queues from one another, one rule per printing queue has to be deposited.

► Name

Both, regular expressions and common letters can be used to allocate a name to a printing queue. Here again, the default value **.*** means that every printing queue receives and processes transmission jobs equally. If, however, multiple rules have been created to ensure a divergent procession of transmission jobs, the name can be altered at will.

► Connector Component

After having received a transmission job, the LPD gateway routs it directly to a connector component that has been configured for the respective printing queue.

The connector component analyzes it and checks whether the sender is authorized to transfer documents, applies user specific transmission parameter (such as attaching a signature the document) and assures the receiver is given a status message. Depending on the installed OfficeMaster license, the following gateway components should be used according to their specified environment.

Messaging Server Component	By LPD Supported Dispatch Type	OfficeMaster Gateway			
		SMTP	Notes	Exchange	Clientgw
Connector for Exchange (MSX2KGATE)	Fax	-	-	X	
Gateway for Notes (NOTESCONN)	Fax and E-Mail	-	X	-	
Mail-Gateway (MAILGW)	Fax and E-Mail	X	-	-	
File interface (FILEGW)	Fax and E-Mail	Optional	Optional	Optional	Optional
CLIENTGW	Fax	-	-	-	X

▶ Filetype

The file type that is received by the LPD Gateway and converted by the Messaging Server cannot be selected and altered automatically. Thus, it needs to be both, configured and assigned, for every single printing queue.

OfficeMaster Messaging Server converts file formats such as PCL (***P***rinter ***C***ommon ***L***anguage), PDF (***P***ortable ***D***ocument ***F***ormat), PS (***P***ost***s***cript) and TXT (ASCII texts). For a conversion of PS and TXT into an image (for Fax) and PDF (E-Mail), the Messaging Server accommodates converters within Windows.

Note! The PCL converter is only available for the unlimited OfficeMaster version. Customers using OfficeMaster 10 or OfficeMaster 25 need to resort to the PS conversion. Considering that, download *AFPL Ghostscript* and install it on the server if you use an OfficeMaster Version other than the unlimited version.

Note! At the first instance, the use of an *AFPL Ghostscript* including its extensive configuration effort may appear somewhat debilitating, however, due to the PS conversion, searchable PDF documents (for E-Mail!) are created. The PCL converter on the other hand includes the printed document as Bitmap into the PDF file.

2.10.3. Connector for Microsoft Exchange (MSX2KGATE)

The fax connector for Microsoft Exchange (*MSX2KGATE*) receives LPD transmission jobs. It automatically recognizes the received process as LPD transmission job and checks the Active Directory for user specific parameters. MSX2KGATE subsequently initiates the document's dispatch. In order to reliably identify the Active Directory user, either the login name received by the LPD Gateway or the fax address (U-parameter) incorporated into the control command is used. The system matches the latter with any user fax addresses from within the Active Directory. For this instance, multiple fax addresses can be assigned to one Active Directory user, e.g. one fax address each for receiving and sending plus one fax address for LPD transmission jobs assignment.

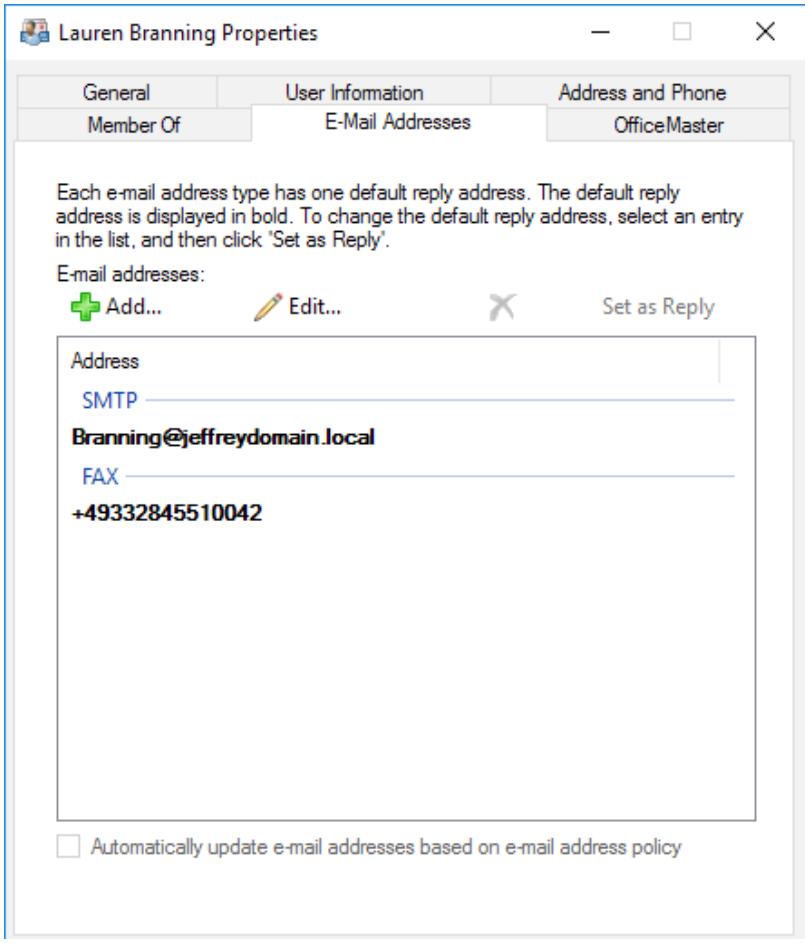

Image 2.68: Mail addresses of a fax-enabled inbox

Example 2.23.

If a document's control command reads

@@+FAX:<Fax number>@@

then the user whose Exchange fax address corresponds to the received login name (LPD user) gets assigned the document.

If, however, the Messaging Server is not capable of using the login name of the LPD user for an automatic user assignment, (e.g. due to the printing process being automatically triggered by a server task with the same login name), the relevant Active Directory user may enter the following U-parameter into the control command:

@@+FAX:<Fax number>;U<AD-User-Fax address>@@.

»**End of example**

2.10.4. Connector for Notes

Each printing and transmission job that has been forwarded to *NOTESCONN* is automatically assigned to a Notes user within the *Name and Address Registry*. For a reliable execution, NOTESCONN uses either the name of the LPD that had been labeled as sender or the name that was incorporated into the embedded control command as U-parameter.

Example 2.24. Without U-parameter

A user has used his user account *EXAMPLE* to log in into a computer network. From within the native ERP software, he prints an offer using the following control command:

@@+FAX:0123/456789@@

With the user information *EXAMPLE* populated into the offer, the *LPD gateway* forwards it as transmission job to *NOTESCONN*.

Having received the information, *NOTESCONN* now browses through the name and address registry for a user document matching *EXAMPLE*. Furthermore, it also checks the user specific settings on whether *EXAMPLE* is authorized to send files, which fax CSID is ought to be displayed to the receiver, etc. *NOTESCONN* finally forwards the document as transmission job to the Messaging Server using *0123/456789* while providing the sender with a transmission status.

»**End of example**

Example 2.25. With U-parameter

A user has used his user account *EXAMPLE* to log in into a computer network. From within the native ERP software, he prints an offer using the following control command:

@@+FAX:0123/456789;UDISTRIBUTION@@

Here again, the LPD gateway receives the offer along with the user information *EXAMPLE* and forwards it as transmission job to *NOTESCONN*. As the user specific data are stored in *DISTRIBUTION*, *NOTESCONN* browses for a user document within *DISTRIBUTION* and subsequently forwards it to the *Messaging Server* using *0123/456789*.

Regardless whether the LPD username receives the control commands from its network login name or the U-parameter, this username has to be found within the name and address registry that has been configured for *NOTESCONN*. The *ALIAS* field is used as reference for the username, given that the *NOTESCONN* configuration possesses no divergent settings.

»**End of example**

2.10.5. SMTP-Connector/Mail-Gateway

Just like the gateway for Notes (NOTESCONN), the Mail gateway equivalently processes LPD transmission jobs.

Firstly, the LPD sender is used as reference to browse for the corresponding *MAILGW* user. The dispatcher is set to either the dispatch name that has been forwarded to the LPD gateway upon reception of the printing job or the dispatch name that has been embedded into the printed document as U-parameter.

Example 2.26. Without U-parameter

A user has used its user account *EXAMPLE* to log in into a computer network. From within the native ERP software, he prints an offer using the following control command:

@@+FAX:0123/456789@@

The LPD gateway receives the offer along with the user information *EXAMPLE* and forwards it as transmission job to *MAILGW*. *MAILGW* subsequently browses through the system for a user with the username *EXAMPLE* and checks user specific files for whether *EXAMPLE* is authorized to access the signature server stated in the control command. Finally, *MAILGW* forwards the document as transmission job to the Messaging Server using *0123/456789* and provides a transmission confirmation to the respective user via E-Mail.

»End of example

Example 2.27. With U-parameter

A user has used its user account *EXAMPLE* to log in into a computer network. From within the native ERP software, he prints an offer using the following control command:

@@+FAX:0123/456789;UDistribution@@

The LPD gateway receives the offer along with the user information *EXAMPLE* and forwards it as transmission job to *MAILGW*. In order to find user specific information, *MAILGW* subsequently browses through the system for a user called *DISTRIBUTION* and, if found, instructs the Messaging Server to commence fax transmission to *0123/456789*.

In order to assign the process to a user reliably, the Mail gateway either compares the resolved name to that deposited to the *MAILGW* (if user administration is handled on the *MAILGW*) or utilizes the directory service to browse for the respective user name (if user administration is handled via *LDAP*).

»End of example

2.10.6. Sending Files via LPR Command

After successfully installing and configuring the LPD gateway, we recommend testing the functionality without the interaction of third party software such as *Winword*. However, as this is only achievable for files convertible by the Messaging Server, create a text file with a few sample sentences and include a simple control command:

Example 2.28.

@@+FAX:03328/455-960;EFerrari electronic AG@@

This is my first fax via LPD and OfficeMaster Messaging Server.

In order to send this file to the LPD gateway manually, use the command ***lpr*** in a Windows environment.

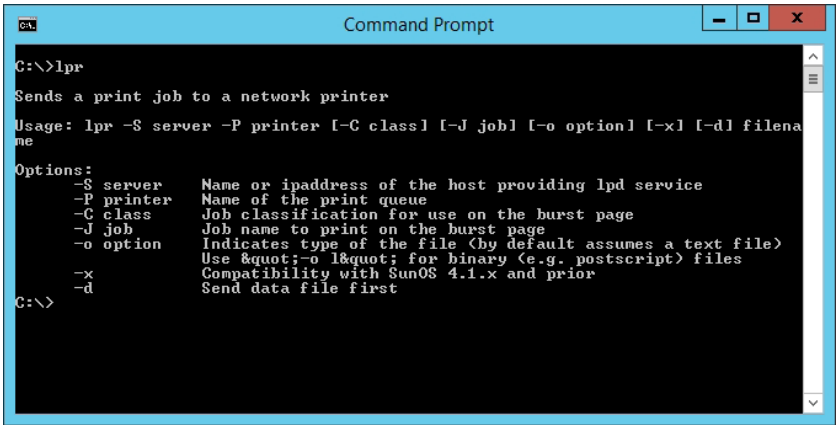

Image 2.69: lpr command

The fax address needs to be converted into an E-mail address if it is supposed to be delivered to the LPD gateway successfully.

@@+FAX:info@ferrari-electronic.de;EFerrari electronic AG@@

@@+PAR:from=sender@ferrari-electronic.de@@

This is my first E-Mail via LPD and OfficeMaster Messaging Server.

»End of example

Note! The Messaging Server component *SMTPTX* has to be fully configured and started up before initially starting a transmission via E-Mail (see chapter 2.2.2 on page 25 for reference). Furthermore, *FILEGW* or *MAILGW* has had to be selected as gateway component on the LPD gateway.

2.10.7. Configuring a Windows Printer for the LPD Gateway

As there are just a few applications that manage to convert files into *PCL*, *PS* or *TXT*, it is recommended to configure a windows printer for these tasks. This printer can either be configured individually for the desired workstations or centrally on the server. On windows, select *Add printer* in the devices and printers window and chose *Add a local printer or network printer with manual settings* and confirm by clicking *Next*.

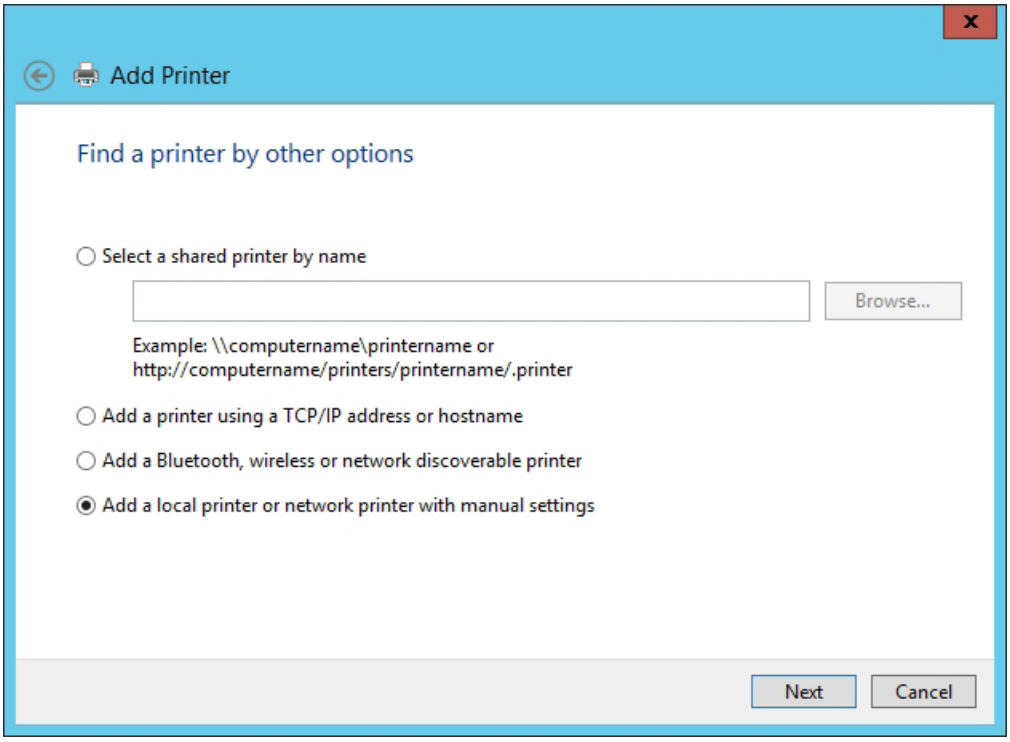

Image 2.70: Adding a printer as administrator

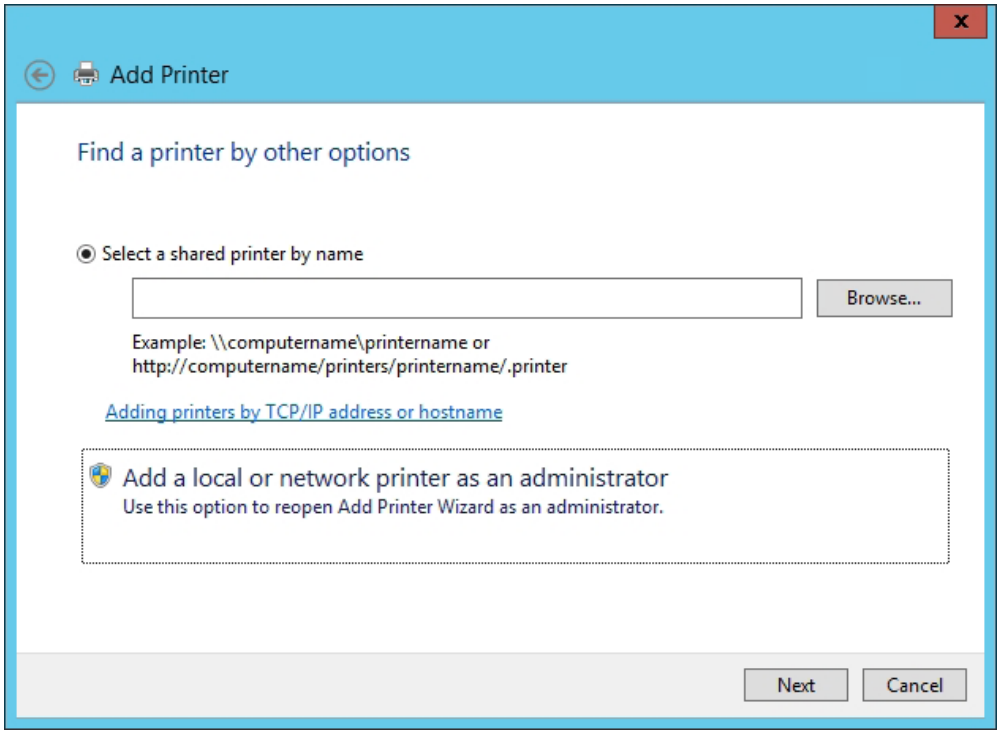

Image 2.71: Finding a printer

If run as administrator, you may add a new connection to the selected printer. Note that this connection uses the default TCP/IP port, which in turn has to reference the LPD component.

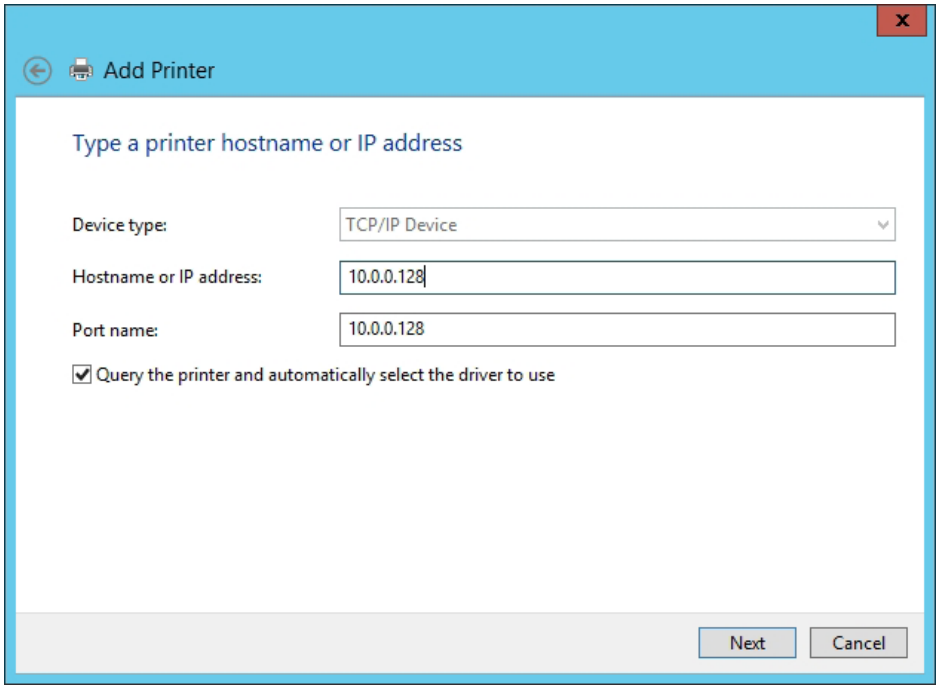

Image 2.72: Adding a new connection that is based on TCP/IP

► Hostname or IP-Address

Enter the OfficeMaster server with the correspondent LPD component. We recommend using an IP address.

► Port Name

The wizard automatically fills this field with the value of the host name. Usually, there is no alteration needed.

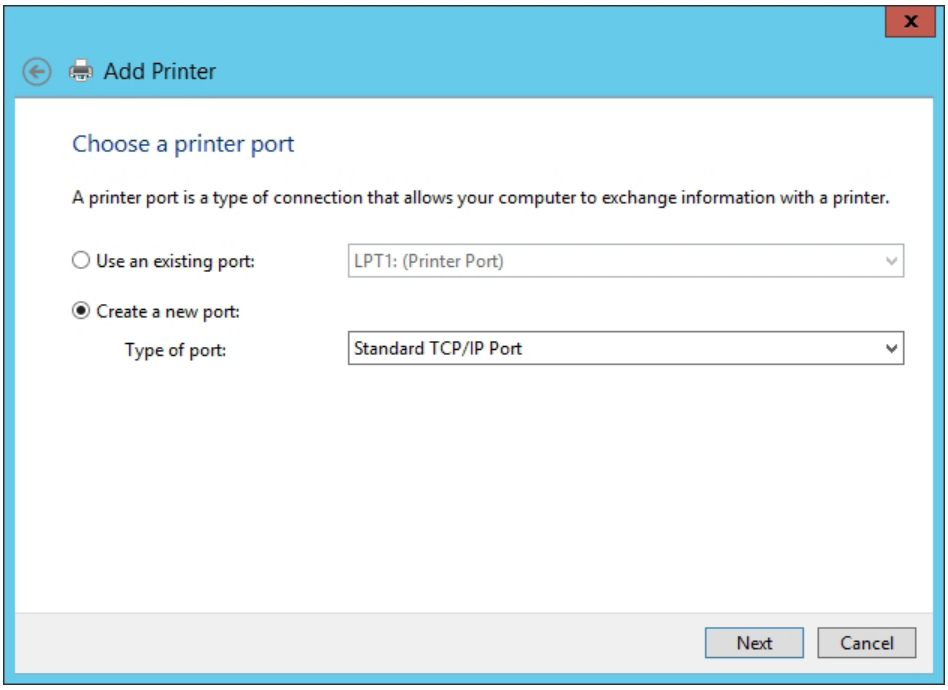

Image 2.73: Indicating the desired port

It is important to configure the TCP/IP port recognition, which will be done next.

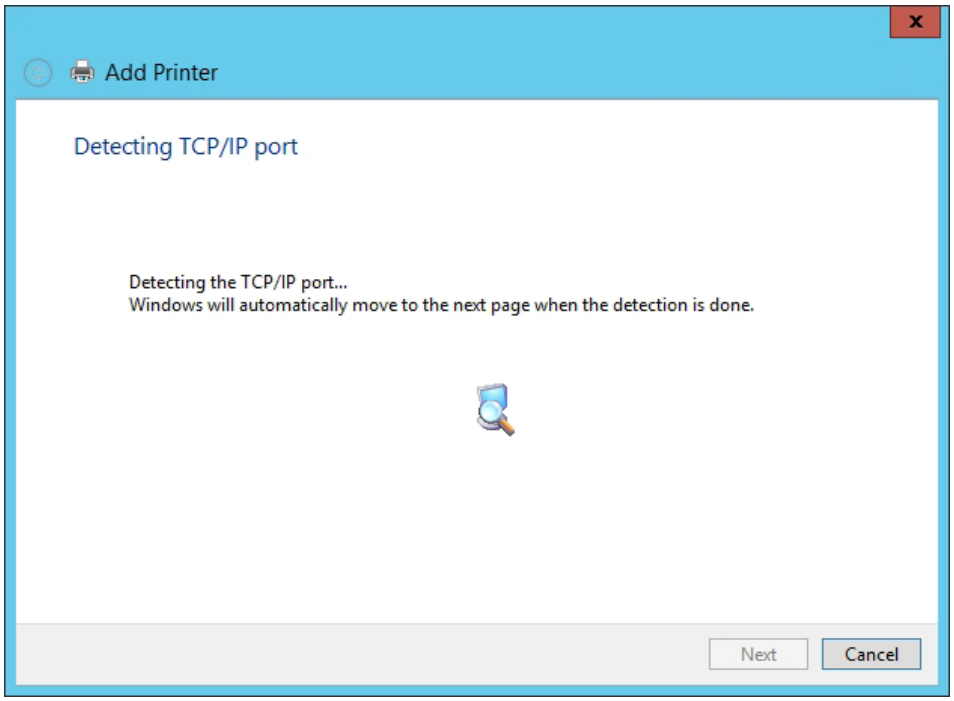

Image 2.74: Automatically detecting the TCP/IP port

The installation wizard won't be able to recognize the printer. Hence the *Device Type* has to be set to *Custom* and some of the following entries need to be entered manually.

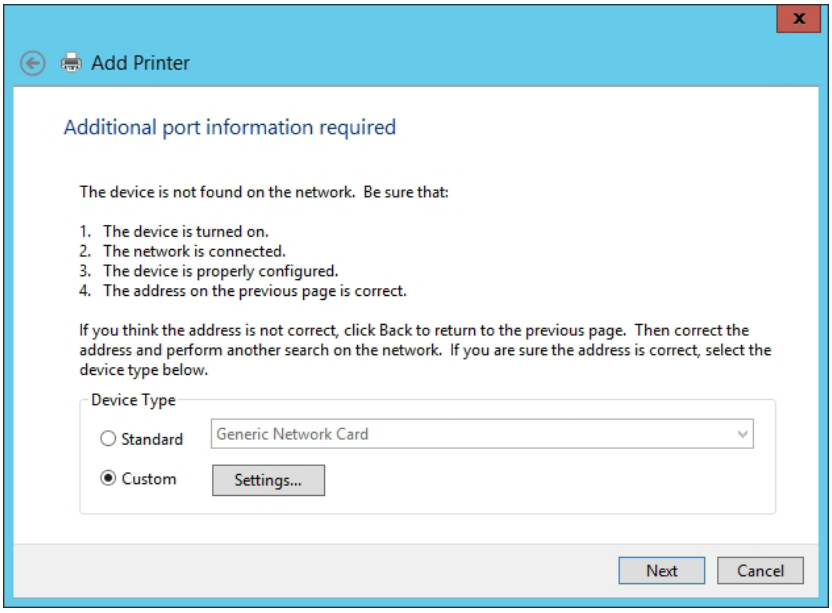

Image 2.75: Adding connection information

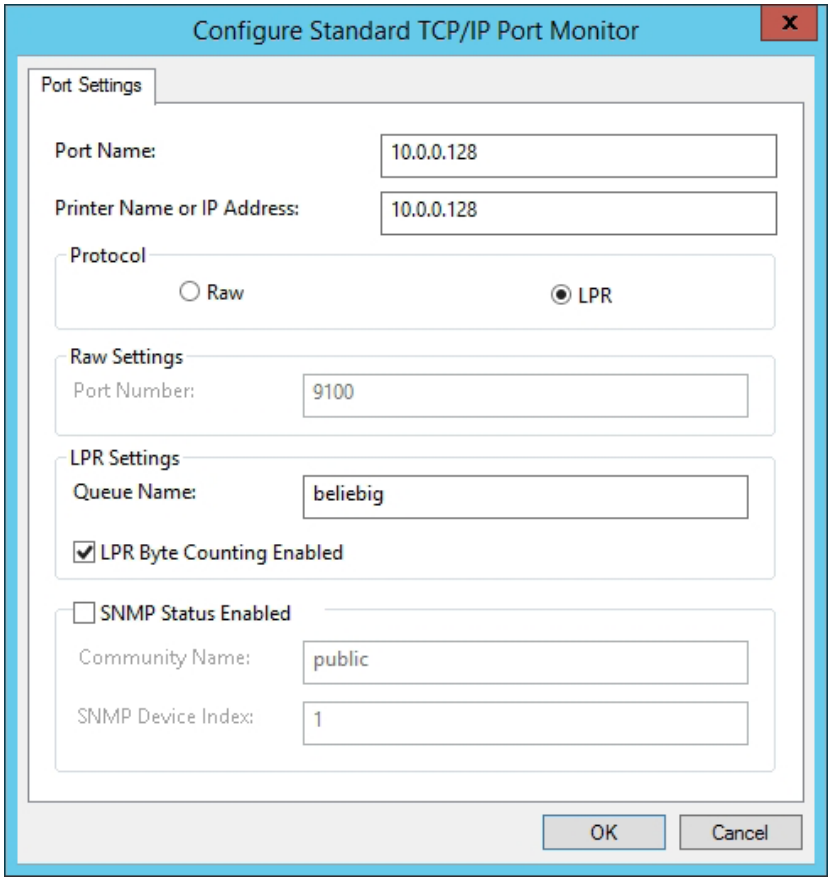

Image 2.76: Assigning a name to a printing queue

The *Port Name* and *Printer Name or IP address* boxes have already been prefilled, yet the protocol needs to be set to *LPR*, *LPR Byte Counting Enabled* needs to be checked and a name has to be assigned to a printing queue.

Note! You may choose the name for the printing queue arbitrarily. This can also be used as filter for the LPD component. By doing so, settings should correspond to those found on Image 2.67: Settings for lpd0 on page 101. Replacing **.*** with a name would potentially equal the desired filter.

Once the installation wizard has concluded, the respective printing driver needs to be installed. You will not find the driver in the list of available printing drivers. Hence, click on *Windows Update* to download it from the Internet.

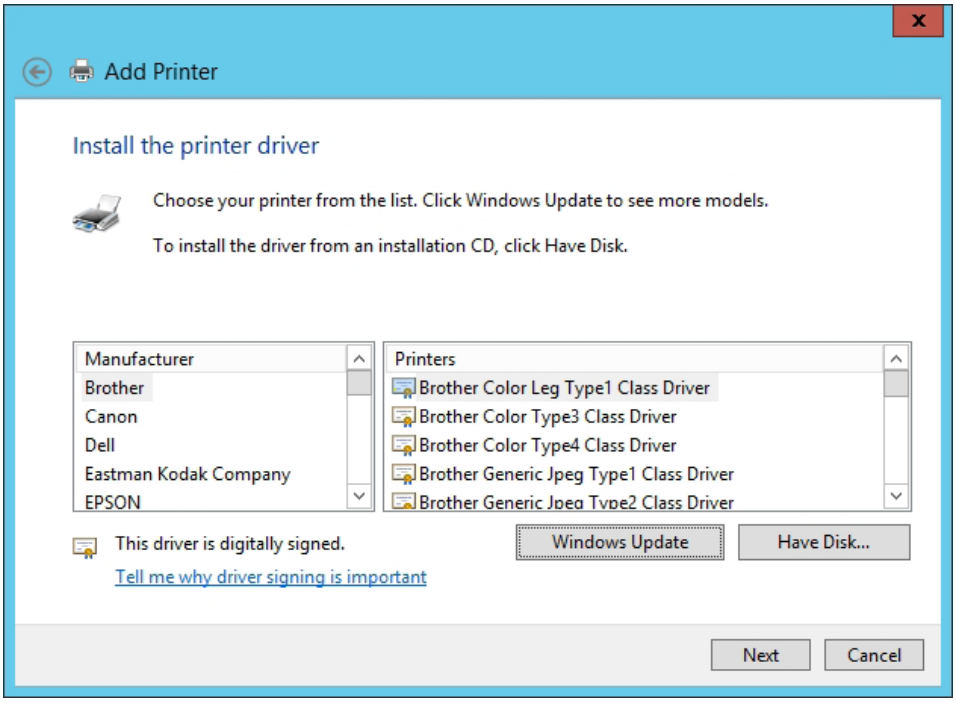

Image 2.77: Finding a driver via Windows Update

In the following dialogue, select the manufacturer *HP* and choose *HP LaserJet 5* if you require the LPD to send the PCL code. If you require the printing to be executed as PS code, we recommend selecting *HP LaserJet 2300LPS*.

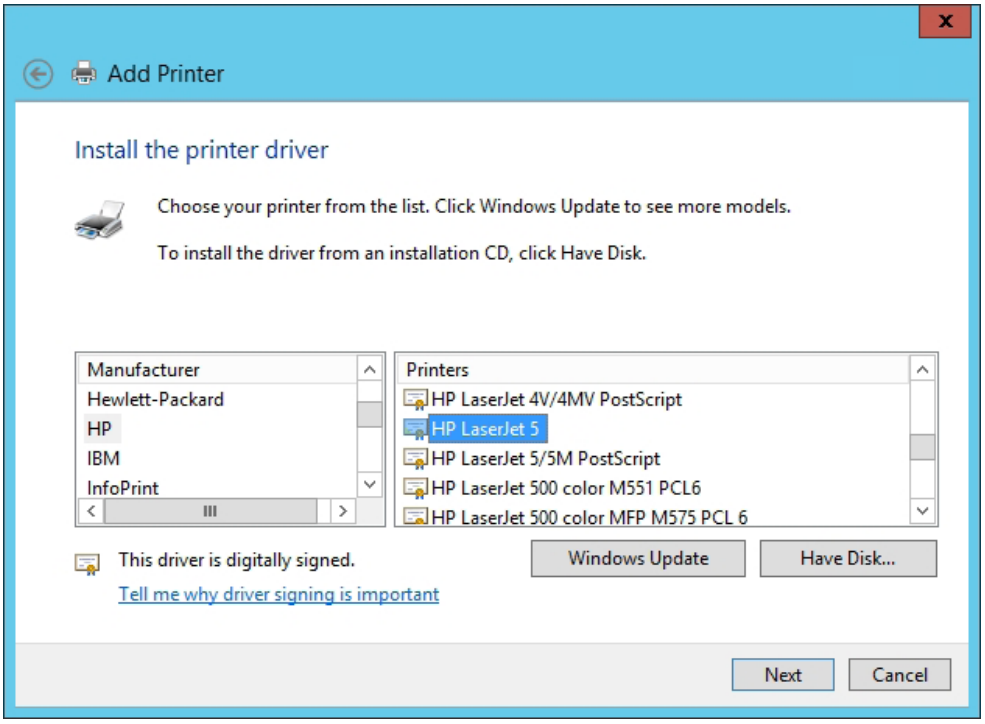

Image 2.78: Selecting HP LaserJet 5 for PCL printing

The subsequent dialogs requests the name of the printer, its location and the intended use.

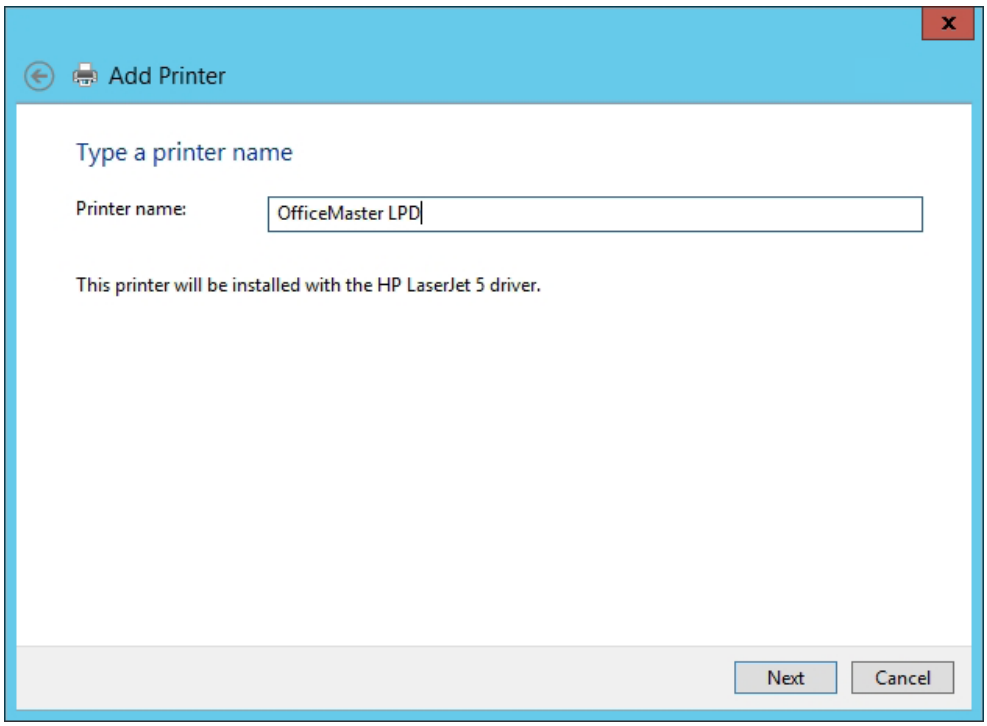

Image 2.79: Assigning an expressive printer name

2.10.8. ERP System

In order to send documents from the ERP system automatically, a LPD/IP printer needs to be configured. It may become necessary to synchronize the newly configured LPD printer with the ERP system (Fax and E-Mail).

Some ERP systems already possess fax interfaces for connecting printer drivers; these enrich the printing data stream with the required transmission information without having to adjust any forms. ***Classic Line*** by ***Sage KHK*** allows a configuration directly on the fax interface for syntaxes for embedded commands and its appropriate font (Courier 10).

If ,however, the ERP system does not offer any implemented fax interfaces, these control commands need to be populated to the document via form adjustments. The same applies to the automatic document transmission via E-Mail attachment, although most ERP systems utilise alternative ways other than the print interface:

The following two examples demonstrate the most commonly used control commands:

Example 2.29. Sending documents via fax

@@+FAX:030/456789;UExample;Z2017-05-11-22:00@@

@@+PCX:letter.pcx@@

@@+PAR:sign=signdsFax@@

Dear Sir or Madam,

On 11th May 2017 at 22:00 hrs, this document will be sent automatically to the fax number 030/456789 and the respective connector will assign it to the user Example. Prior dispatch, the stationery letter.pcx saved on the Messaging Server will be added to the document and signed with the signature component signdsFax. …

»End of example

Example 2.30. Sending documents via E-Mail

@@+FAX:info@officemaster.de;UExample@@

@@+PCX:letter.pcx@@

@@+PAR:sign=signdsEmail@@

@@+PAR:from=Example@ferrari-electronic.de;subject=Your document@@

@@+PAR:cover=mail.htm;salutation=Dear Sir or Madam@@

Dear Sir or Madam,

This document will be sent to the address info@officemaster.de as PDF E-Mail attachment where it will be subsequently assigned to the user Example. Prior dispatch, the stationery letter.pcx saved on the Messaging Server will be added to the document and signed with the signature component signdsEmail. The subject and address

of sender will be prefilled with “Your document” and Example@ferrari-electronic respectively. After switching the placeholder @@salutation@@ with “Dear Sir or Madam”, the body of the mail will be extracted from the mail.html file. …

»End of example

2.10.9. File Interface (FILEGW)

The file interface (***FILEGW***) instantly creates a transmission job for any documents received via the LPD and conveys it without a further check. As with any other transmission jobs, the FILEGW saves the conveyed document to the IN registry while creating an expressive file within the ***ACK*** registry. Any third party software linked via FILEGW can therefore instruct the OfficeMaster Messaging Server to handle transmission jobs. Regardless on the kind of instruction used, the conveyance of the status messages remains unaltered.

2.11. Basic/ Extended System Settings

2.11.1. General Settings

Select Tools > System Settings... to access and edit general settings for the OfficeMaster Suite. These settings apply to all components equally.

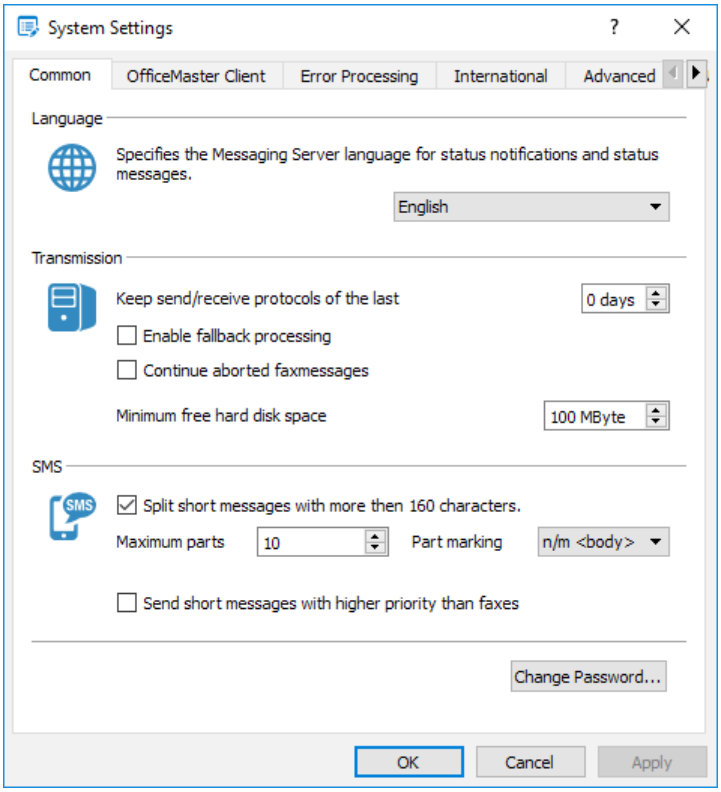

Image 2.80: General system settings

► Language

Set the system language here. You may choose between *German*, *English*, *Italian*, *French* and *Spanish*.

► Transmission

► Keep Send/Receive Protocols for the Last

Leave the value at its default (***0***) if you intend to have new protocols generated daily. These will not be deleted at any point. However, if you want to have them deleted after a given time, enter the respective value here (in days).

► Enable Fallback Processing

The Messaging Server processes jobs by applying predefined routing rules. Every send and reception component registers for a certain type of job. If you activate this checkbox, a fallback process will be initiated for repeated transmission errors. The fallback dictates that the transmission job has to be reassigned to another component that essentially registered for a fallback. Having a fully-functioning fallback process adds a great deal of redundancy to the system.

► Continue Aborted fax Messages

OfficeMaster Suite version 6.2. provides a functionality that continues to transmit aborted outbound fax messages if DirectSIP (fsip) is used. Repeating fax transmission that has been configured are left unaltered.

► Minimum Free Hard Disk Space

The OfficeMaster Suite will not accept any messages once the minimum hard disk capacity has been reached. Hence, a failed saving of the message due to a lack of hard disk space can be prevented. Enter the value in Megabytes.

► SMS

Control how short messages (SMS) are treated by the Messaging Server. If they exceed 160 characters, they may be split into individual messages.

Furthermore, short messages can be given a higher priority than fax messages.

► Change Password

Create and/or change a password for the OfficeMaster Suite. Once closed, access to the ***OfficeMaster Suite Configuration Program*** can only be granted if you provide the correct password.

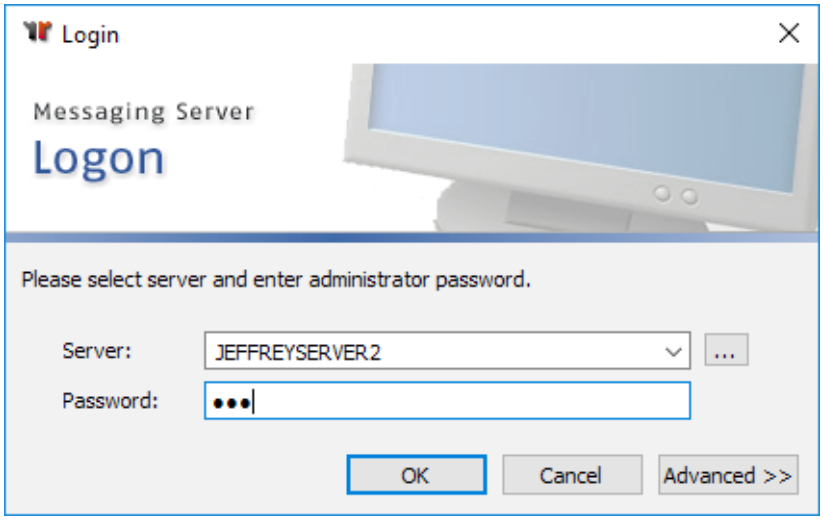

Image 2.81: Entering the password for the configuration program

2.11.2. Undeliverable Status Messages (UNDLVRBL)

The component ***Undeliverable*** receives incoming messages (Fax, SMS and E-Mail) that cannot be assigned to a particular gateway within the Messaging Server. It holds four different modes on how to treat undeliverable messages (inbound):

- ***Deposit*** mode: The incoming message is saved to a registry located on the server
- ***Print*** mode (Fax only): The incoming message is deposited before being printed via a PRINTGW component
- ***Forwarding*** mode: The incoming message is forwarded to an alternative address of the same type (within the Messaging Server)
- ***Notification*** mode: The incoming message is routed to an arbitrary E-Mail recipient via SMTP who can be

either internal or external

Access the configuration menu for ***Undeliverable*** by selecting Edit > Further Base Components > Undeliverable Messages... .

▶ General

Parameter for the modes outlined above can be configured in this tab.

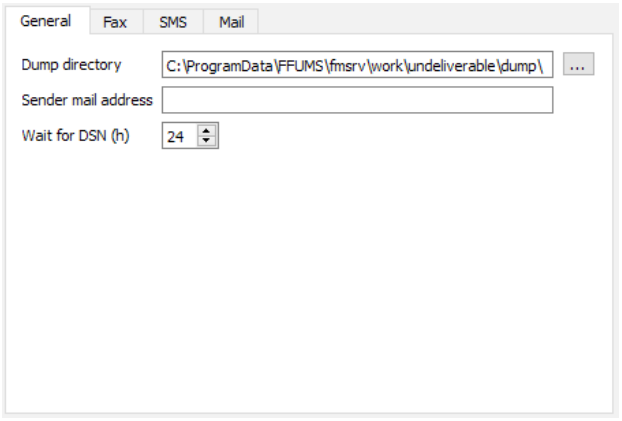

Image 2.82: Configuration for undeliverable messages

▶ Dump Directory

Undeliverable messages (Fax, SMS, E-Mail) are collected in the ***Dump directory***. The default path on a Windows machine is %ProgrammeData%\FFUMS\FMSRV\work\undeliverable\dump.

▶ Sender Mail Address

The E-Mail address entered here receives forwarded status messages.

▶ Wait for DSN (h)

The value that is entered here defines how long the *UNDLVRBL* component waits for *DSN* (***D***elivery ***S***tatus ***N***otification) before deleting the undeliverable message. Note that the amount is set to hours.

For the sake of an unobstructed reception of DSN, the Messaging Server has to be accessible externally from the previously configured E-Mail address. Each mode can be assigned to messaging types (Fax, SMS, E-Mail) individually.

▶ Fax

▶ Dump

This is the default mode for *UNDLVRBL* immediately after installation. All undeliverable messages received by the Messaging Server are stored to the dump directory that had been configured in the *General* tab. Messages where the forwarding or notification processes failed are also stored to that directory. For every undeliverable message, the Messaging Server generates two files:

- a ***job file*** that accommodates job information, e.g. file name and document name (recognizable by the *.FMJ* ending)

- a *document file* that accommodates the actual message.

As the Messaging Server does not process the files within the dump directory, they remain unaltered until being deleted by a network administrator.

▶ Print

This mode is available for faxes only. Here, a configured *PRINTGW* has to be selected which ultimately receives the forwarded document.

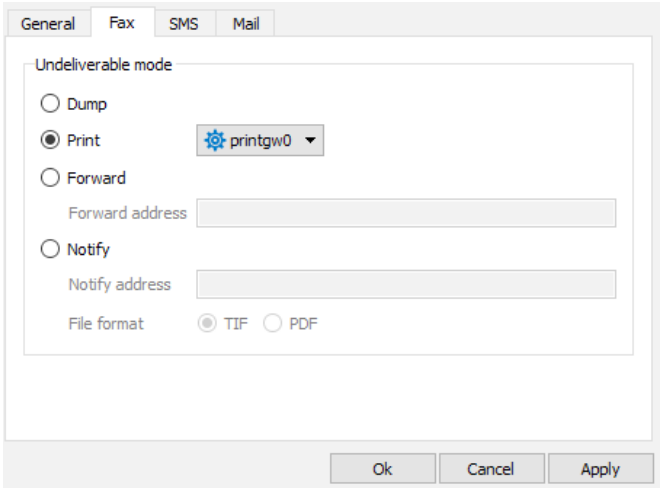

Image 2.83: PRINTGW component for fax prints

▶ Forward

Selecting the *Forward* mode causes the Messaging Server to forward the undeliverable message to a new address of the same type (within the Messaging Server environment). The sender information remains unaltered.

An internal forwarding address of the same type (Fax for Fax, E-Mail for E-Mail) has to be deposited and, again, messages that are still undeliverable are stored to the dump directory.

Example 2.31.

A fax from *+49123456* is received on the number *999*. As no connector has been assigned to this number, the Messaging Server forwards it to *UNDLVRBL* where a forwarding process to the internal fax address *960* has been configured, affecting all undeliverable fax messages. Consequently, *UNDLVRBL* generates a new fax notification message to the forwarding number *960*. However, the sender information remains unaltered at *+491234546*. The process can now be assigned to a connector that is configured for the number *960*, e.g. *NOTESCONN*, *SAPCONN* or *MSX2KGATE*.

»End of example

▶ Notify

If undeliverable inbound messages are intended for E-Mail dispatch, we recommend selecting *Notify*. However, this also requires the operation of the Messaging Server components *SMTPTX* (for notification mails) and *SMTPRX* (for incoming status mails).

Furthermore, an origin mail address needs to be entered into the *General* tab. ***UNDLVRBL*** uses this mail address and essentially displays it for every E-Mail notification (use e.g. ***undeliverable@officemaster.company.com***). An external access to this mail address is a prerequisite as the UNDLVRBL component needs to be notified on any failed delivery attempts.

Both, an internal and external mail address that are used to receive undeliverable-notifications have to be entered to *Notify Address*. You may opt for ***.TIF*** or ***.PDF*** as file formats for the fax attachment.

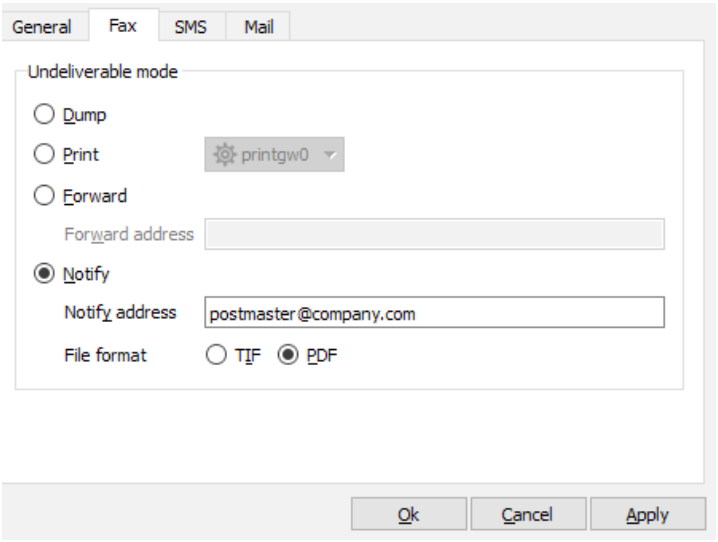

Image 2.84: Notification address receiving undeliverable messages

If, due to a missing ***SMTPTX*** configuration the notification message fails to send, or the Messaging Server receives an undeliverable message (DSN), the original message is saved to the dump directory. Otherwise, this message will be deleted once the latency time that has been configured in the *General* tab has run up.

Example 2.32.

The counterpart station ***+49 123 456*** receives a fax on ***999***. As this number has not been assigned to a gateway, the job is forwarded to UNDLVRBL. Because a forwarding process to the notify address ***postmaster@company.de*** has been configured for UNDLVRBL, the component sends it to that address. Upon transmission, the configured origin address ***undeliverable@officemaster.company.de*** is communicated, yielding in an accurate evaluation of notification mails (DNS) and a faultless reception.

»End of example

2.11.3. Redialling and Transmission Control (SPLIT)

To adjust the configuration on how faulty transmission processes are handled, select Tools > System Settings... and select the *Error Processing* tab. This tab contains the central transmission control for error occurrences in ISDN- and fax protocols. Redial attempts and the idle time in-between can be configured for the error codes individually.

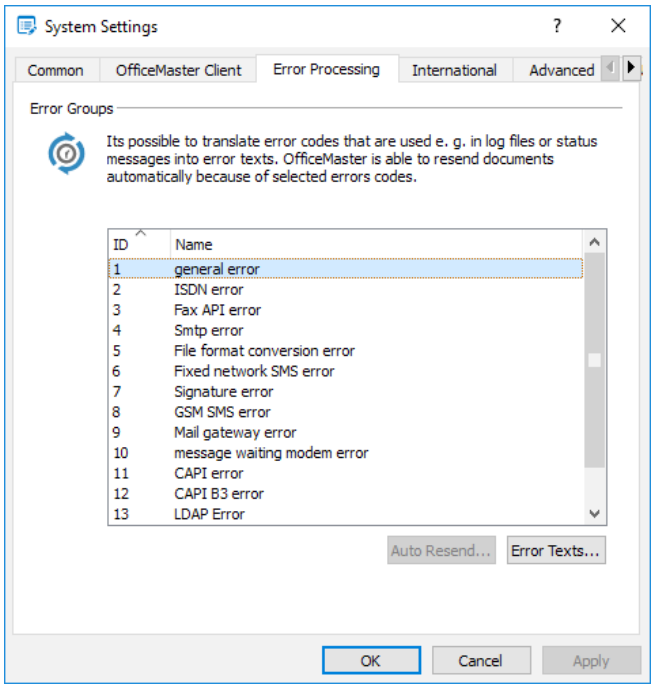

Image 2.85: Configuration for faulty transmission jobs

2.11.4. Fax Request (POLL)

The *POLL* component of the Messaging Server provides the fax polling service. Please note that only one POLL component per Messaging Server system can be configured.

Configuration

In *Expert Mode*, select Edit > Further Base Components > Fax Polling... for configuration.

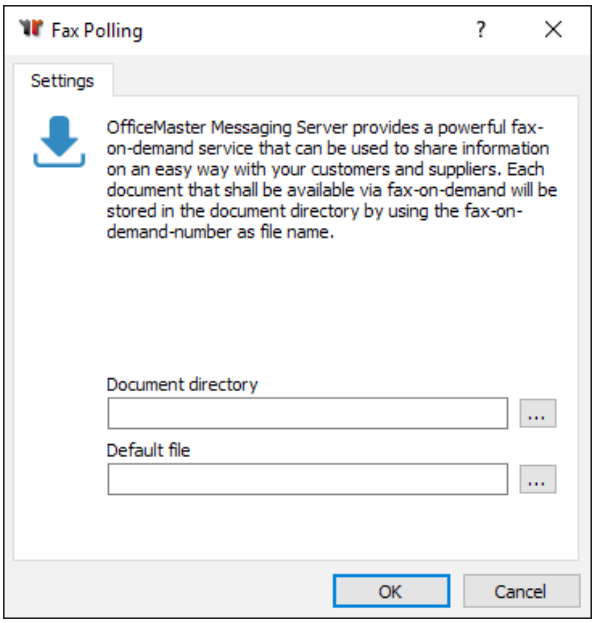

Image 2.86: POLL component for fax requests

► Document Directory

In this box, configure the fax-polling directory that contains documents ready for fetching. Distinguishing between a fax polling number and file is determined using the file name. If the remote station signals its intent for an imminent file request, the file that corresponds to the received extension number is transmitted.

► Default File

The file that is deposited here is transmitted to the counterpart station whenever no (transmissible) document for the received calling number (*Called Party Number*) is available in the fax-polling directory.

Supported Graphic Formats

The following file formats can be supplied as originals: *BFF*, *DCX*, *PCX*, *SFF*, *TXT*.

For a swift assistance in generating these file formats, refer to the *ferrariFAX32 operation software* that comes along with *OfficeMaster*.

Example 2.33.

Supposing the original document is a Microsoft Word file named *request.doc*, which is about to be fetched as *4711.dcx* from the polling server. The processing order would be as followed: Microsoft Word starts up, opens the file *request.doc* and sets the printer to *ferrariFAX32 operation software*. Once the printing job has been triggered, the *ferrariFAX: Recipient* dialogue pops up. In the *Options* tab, click on *Preview*. The document will then be converted to fax for preview purposes. Select File > Save as... to open the savings menu where the path for the fax-polling directory can be chosen. For file type, select *DCX* and type ***4711.dcx*** into the file name

box. Confirm the changes by clicking *OK*. The document is then saved to the fax-polling directory under the file name ***4711.dcx***. Conclude the setup by closing the pop-up window and selecting *Cancel* in the ***ferrariFAX: Recipient*** window.

»End of example

Alternative Formats and Compiled Documents

DOC, *PDF*, *PPT* and *XLS* documents may also be used for fax-polling as long as the converter component (CONV) has access to a converter software on the server (e.g. Microsoft Word). Furthermore, the use of compiled documents eases the polling process immensely as multiple documents can be fetched with one connection build-up only. For that, an ASCII file is generated that includes a consecutive list of document names:

- Document1.doc
- Document2.xls
- Document3.dcx
- Pricelist.pdf

This ASCII file is named ***4711.par*** and saved to the fax-polling directory. Therefore, if the caller dials the calling number ***4711***, all four documents are transmitted.

Note! If these documents cannot be found in the fax-polling directory but in any other directories on the computer, make sure to deposit the respective file name and file path to the PAR file.

Using the fax Server and fax-Polling Server on Separate Computers

If you wish to allocate the ***fax-polling directory*** to any other computer but the main server, run the ***POLL*** component as offset installation on the intended machine.

For that purpose, run the OfficeMaster Suite setup and select *Sub Server* as installation type.

The setup will request the IP address or the resolved name of the main server (CTRL). Once the setup process has concluded, run the ***Messaging Server Configuration*** and, under Edit > Component table, change the IP address for the ***POLL*** component. With the *Expert Mode* enabled, select the Host entry and replace the main server IP address with the sub server IP address (offset system).

2.12. SNMP

The *Simple Network Management Protocol* (*SNMP*) has been supported since the release of OfficeMaster Suite version 4.1. This network protocol serves as prime surveillance of network elements.

To enable SNMP on the OfficeMaster Suite server, the Messaging Server had to be linked to the runtime environment of the Windows SNMP service.

Launch the OfficeMaster service before the Windows SNMP service, otherwise a faulty incorporation of the OfficeMaster SNMP library may result. Thus, we recommend setting the Windows SNMP service to a delayed start.

Note! Once the OfficeMaster software has been set up successfully, restart the Windows SNMP service. This will potentially yield in a faultless integration of the Messaging Server's *SNMP Extension Agent*.

If you purposely constrain using OfficeMaster for receiving SNMP messages, use regular expressions that essentially filter out these kind of messages. Please refer to the filter section page 126 for further reference.

You may voluntarily use a network management program to observe the OfficeMaster software via SNMP.

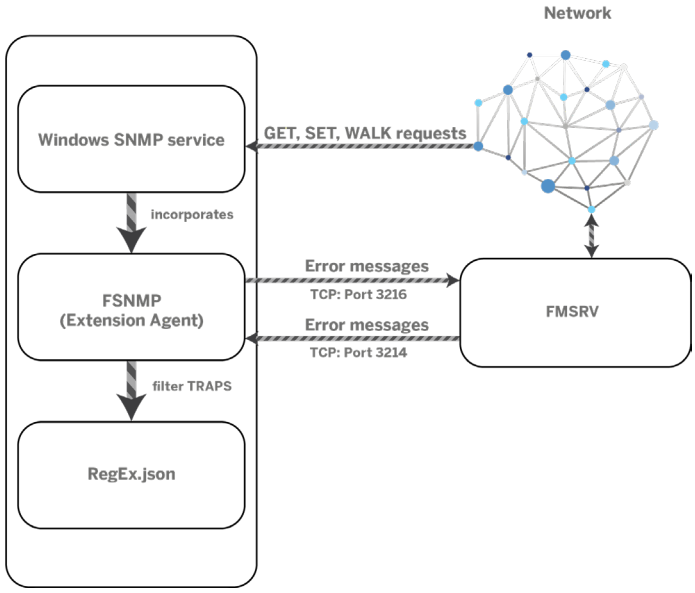

Image 2.87: FSNMP in relation to the OfficeMaster Suite (FMSRV)

Port Release

The SNMP agent addresses the following ports:

- 3216 outbound- for communicating with the Messaging Server controller
- 3214 inbound and outbound- for receiving error notifications from the Messaging Server
- 161 inbound and outbound and 162- used by the SNMP service itself for transmitting Traps.

2.12.1. Installing the SNMP service

Windows Features is used to add the *Windows SNMP* service to the OfficeMaster Suite server. Firstly, the respective *SNMP* service has to be selected from the *SNMP Services* submenu. The feature *SNMP WMI* is not a prerequisite for this process. Clicking on *Next* will commence the installation.

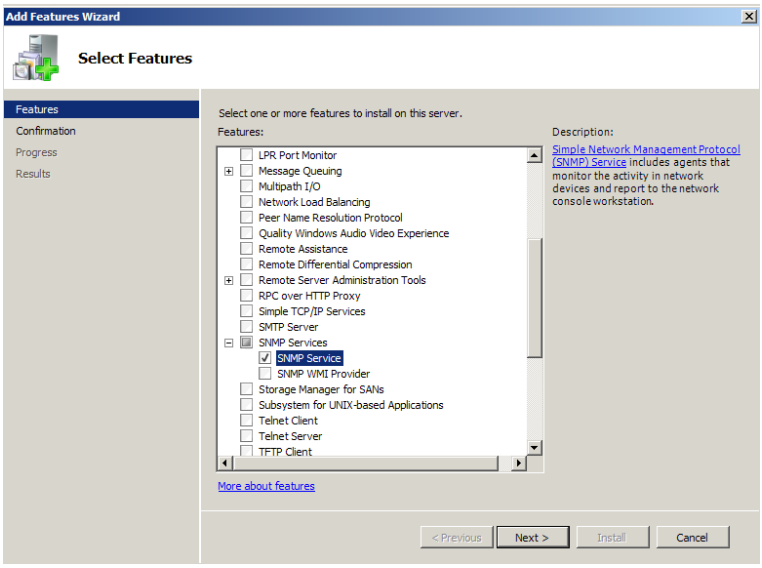

Image 2.88: Adding SNMP as feature

2.12.2. Configuring the SNMP Service

For the configuration of an SNMP service, the service management that is native to Windows will be used. Two tabs, namely *Traps* and *Security* can be found in the settings window of the selected SNMP service.

► Traps

Here, at least one community name and one target needs to be specified for the *Traps*.

Example 2.34. Possible entry: *Community name*: ***public***; *Trap destination*: ***127.0.0.1***

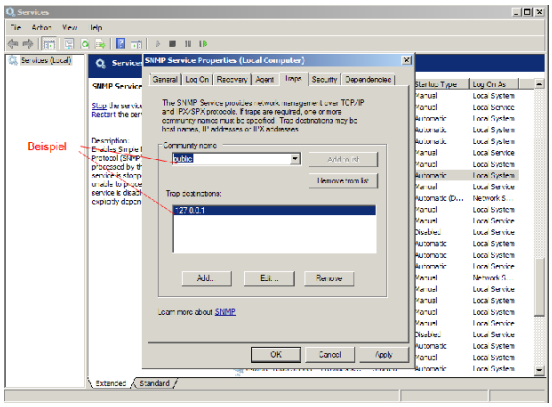

Image 2.89: Configuring Traps

»End of example

Ferrari electronic

▶ Security

Here, the management of user rights for a community name can be undertaken. This segment also regulates the reception of SNMP packages for various computers.

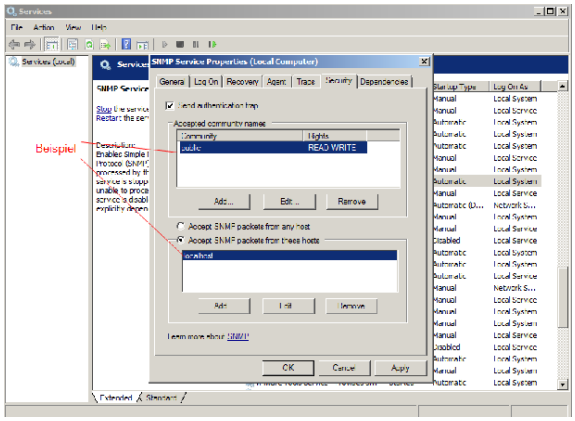

Image 2.90: Configuring security settings for the SNMP service

Example 2.35.

Possible Entry: *Community*: ***public*** ; *Rights*: ***READ WRITE*** ;
Accept SNMP packets from these hosts: ***localhost***

Reassure yourself that the IP address of the computer where the network management program is located at is listed, if such program is made use of. If not, the network management program will not possess sufficient rights to transmit a SNMP command (such as *GET*, *SET* or *WALK*).

»End of example

Note! For an unhampered communication between the Windows SNMP service and OfficeMaster Suite Server, Port No. *3214* has to be enabled!

2.12.3. Filtering Transmitted Messages (Traps)

Currently, no separate error class for transmittable Traps has been implemented into OfficeMaster. Thus, all errors are forwarded by default.

Typically, it is not necessary that every single Messaging Server error is routed as Trap to the SNMP management system. Hence, we recommend using regular expressions to establish a filter for unwanted error messages. Use the set of rules (***regex.txt***) for this purpose, which is located in the ***ProgramData*** folder (C:\ProgramData\FFUMS\fmsrv\data\snmp). The file contains a default configuration along with instructive examples.

2.12.4. Management Information Base

Use the Ferrari electronic *Management Information Base* (MIB) for assessing within a network management programme. You will find the MIB at C:\ProgramData\FFUMS\fmsrv\data\snmp\ferrari-electronic-mib.mib

Ferrari electronic's MIB accommodates all the necessary information to monitor both the OfficeMaster Suite and OfficeMaster Gate via a network management programme.

Note! You may also obtain the MIB from an OfficeMaster Gate.

Table 2.11: Ferrari electronic Management Information Base (MIB)

Name	OID	Type	Description
Common	.1.3.6.1.4.1.17524.1	folder	
Productname	.1.3.6.1.4.1.17524.1.1	String	Product name
Location	.1.3.6.1.4.1.17524.1.2	String	Computer name
SoftwareVersion	.1.3.6.1.4.1.17524.3	String	OfficerMaster Messaging Server version No.
UtilityVersion	.1.3.6.1.4.1.17524.1.4	String	Applies to hardware (OfficeMaster Gate)
ModulVersion	.1.3.6.1.4.1.17524.1.5	String	Applies to hardware
TrapMessage	.1.3.6.1.4.1.17524.1.6	String	Message for Trap
Software	.1.3.6.1.4.1.17524.4	Folder	
fmsrv	.1.3.6.1.4.1.17524.4.1	Folder	
fmsrvJobCount	.1.3.6.1.4.1.17524.4.1.1	Integer	Volume of jobs since start-up
fmsrvComponents	.1.3.6.1.4.1.17524.4.1.2	Folder	
fmsrvComponentsUndev	.1.3.6.1.4.1.17524.4.1.2.1	String	To be defined
fmsrvJobCountCurrent	.1.3.6.1.4.1.17524.4.1.3	Integer	Volume of current jobs

Editorial note: This document is has been created for administrators. If you have any enquiries concerning this manual, please don't hesitate contacting the Ferrari electronic Product Management team at *pmc@ferrari-electronic.de*. For enquiries on products offered by Ferrari electronic, mail to *info@ferrari-electronic.de* or call *+49 3328 455 90*.

CONNECTOR FOR MICROSOFT EXCHANGE®

OfficeMaster Suite 6

Manual Chapter

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3. Connector for Microsoft Exchange®

OfficeMaster supports the integration of Microsoft Exchange Server 2007, 2010, 2013 and 2016. It comes in form of a connector for all communication services (Fax, SMS and voicemail). The connector itself can be run on all server that are a member of the Exchange organization; the only prerequisite is that these servers possess an Exchange administration tool. OfficeMaster can be installed onto an Exchange server directly; however, we do not recommend doing it due to the increase of maintenance work.

The Exchange connector utilizes the *Active Directory Service Interface* (*ADSI*) to access user data stored to the Active Directory. User-relevant parameter such as Fax CSID, SMS number extension and Voice-PIN are maintained by the OfficeMaster Exchange administration. For that reason, respectively labelled input fields are provided to avoid the surplus effort of extending the Active Directory scheme for running OfficeMaster.

For server communication, the Exchange connector employs the *Simple Mail Transfer Protocol* (*SMTP*) and *Exchange Web Services* (*EWS*) protocol.

Table 3.1: Communication protocols

Communcation Protocols	E-Mail	Voice
SMTP	Deliver and dispatch	Deliver
EWS	Encode and decode	Remote request (Accessing the respective user inbox)

Note! As both the Active Directory as well as the Exchange server grant access via *LDAP/EWS* only if certain authorization requirements are met, we recommend putting great care and attention when setting up the service account for the connector.

3.1. Connectors for Microsoft Exchange 2007-2016

Note! The following chapter addresses the technical implementation to Microsoft Exchange 2007- 2016 and to the existent Active Directory. The content of this chapter has been created for advanced IT administrators that want to enhance their knowledge about the functionality of OfficeMaster connectors. Because of that, this chapter contains details about the basic technique of the OfficeMaster connectors. However, this knowledge might not necessarily be needed for setup and initial start-up of this solution.

Although the OfficeMaster Exchange Connector is a Messaging Server component itself, it integrates deeply into the structure of the Exchange server and the Microsoft Active Directory. A scheme extension of the latter is not needed.

A full Unified Messaging linking consists of the components depicted in Image 3.1:

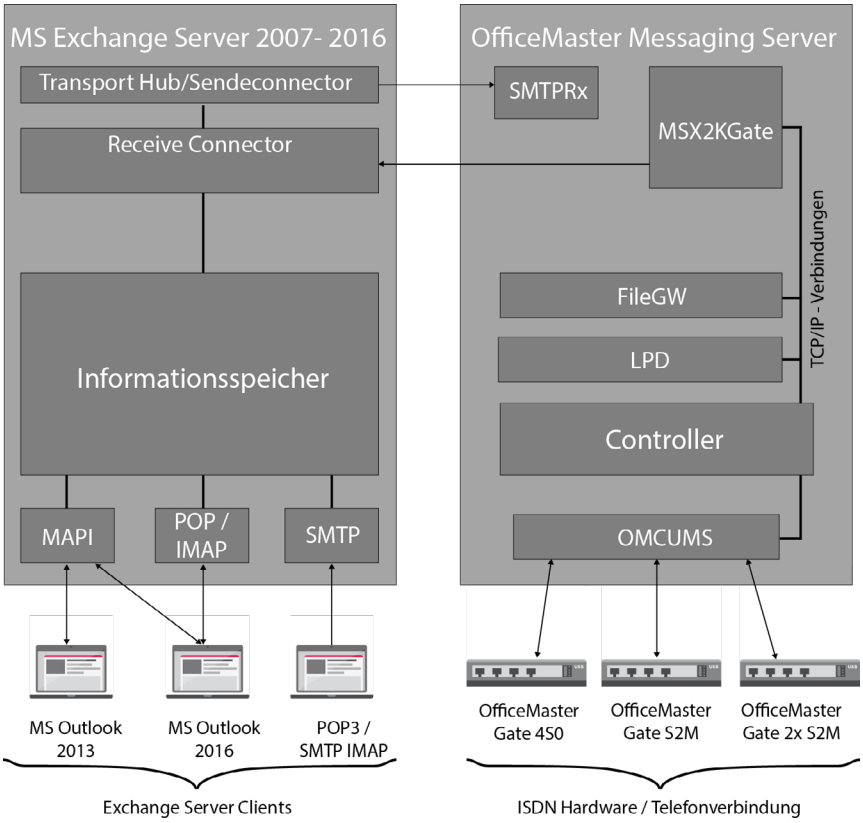

Image 3.1: Base technology utilized by the OfficeMaster Exchange connectors

The image includes a combined Exchange server for the sake of easy understanding. It essentially equals an Exchange Server 2016 with installed hub server, inbox storage and a client-access role.

Transfer Flow of Messages

1. **Sending Messages From Outlook**

   Once a message has been sent, the Exchange server transfers it to the Messaging Server via SMTP.

2. **Receiving the Message From the Microsoft Exchange Server**

   The Messaging Server forwards the message to the connector component.

3. **Processing Message Data**

   The respective connector component processes data provided by the Exchange server.

The processing encompasses:

- Resolving the sender in the Active Directory with ADSI requests
- Editing data by using the access permissions of the relevant user / global
- Generating a fax transmission job and forwarding it to the Messaging Server

4. Faxing the Document

The Messaging Server receives the transmission job and sends the message as fax.

5. Receiving Feedback Whether or not the fax Document has been Transmitted Successfully

The Messaging Server discloses the transmission status of the current transmission job to the connector.

6. Generating a Feedback

As mentioned above, the connector component receives the transmission status, which is then configured in the user specific way.

7. Forwarding the Feedback to the User

The Exchange server receives feedbacks via SMTP. As the Exchange connector processes messages using the Microsoft Active Directory as well as the global user directory, it must have access to the user permission structure.

Versatile Setup

Because of the advanced connection technology and SMTP, the complete connector organization may also be installed on an external computer that is connected to the Exchange server and the network. Hence, it provides a good deal of flexibility as no physical installation on the Exchange server is required and can be used in a cluster scheme (the OfficeMaster Exchange connector is not based on Transport Agents or Foreign Connectors).

Configuration Without Scheme Extension

All configuration settings for the individual connectors are stored to the Microsoft Active Directory. This setup requires no scheme extension and uses existent attributes. The configuration attributes of the connector are saved in a compressed format. To obtain a domain wide distribution, global settings need to be installed to one central node. This creates a full autonomy for domains within.

Note! Accessing data from an Active Directory stored within this setup requires reading rights to the Exchange organization.

3.2. Setup

OfficeMaster supports the following operation systems:

- *Microsoft Windows 7/ 8/ 10*
- *Microsoft Windows Server 2016*
- *Microsoft Windows Server 2012 R2*
- *Microsoft Windows Server 2008 R2*

Note! *Microsoft Windows/NT*, *Microsoft Windows 2000/2003 Professional Server* or *Advanced Server* are not supported.

The following Exchange server versions are supported (need to be part of the network)

- *Microsoft Exchange Server 2007* (all versions)
- *Microsoft Exchange Server 2010* (all versions)
- *Microsoft Exchange Server 2013*
- *Microsoft Exchange Server 2016*

Note! Exchange server versions below Exchange Server 2007 are no longer supported.

3.2.1. Components for Administration

We recommend installing the Exchange system administration tools on the server. By doing so, you will be able to administrate the connectors after installation. The installation integrates itself into the user administration *Active Directory User and computer* as well as into the *Exchange administration console for Exchange Server 2013/2016*.

Should you require the use of the recipient update service for fax and SMS addresses (not recommended!), ensure the directory approval bearing the name ***Address*** of Exchange servers within the organization are accessible.

Note! Should this not be possible due to insufficient access rights, please execute a proxy extension installation on the respective exchange servers instead.

The central conversion software (Microsoft Office, ghostscript etc.) should be linked to the same service account that has been set for the *CONV* component. The connector administration is carried out in the *OfficeMaster Exchange Administration* program.

Please note that the *OfficeMaster Exchange Administration* tools will only become visible once the administration components of the respective connectors has been installed successfully. The setup installs these components to the server by default. Should you feel the need to administrate from a different computer, you will need to install these components manually.

The following two installation components are stored to the Messaging Server directory \\<server component>\FFACCESS\REDIST\Install:

- *Setup-OfficeMaster-Exchange-Administration64.exe* used to install the administration tool on Windows operation systems that are based on a x64 processor.
- *Setup-OfficeMaster-Exchange-Administration.exe* used to install the administration tool on Windows operation systems that are based on a i386 processor.

OfficeMaster provides so-called proxy description objects during setup that fit the relevant address types. Hence, organization-wide recipient updates (previously known as Recipient Update Services-RUS) can be supported. These proxy description objects have to be existent on any Exchange server that is part of the organization. However, we do not recommend using the proxy description objects anymore.

3.2.2. Creating the Service Account

The service account for the OfficeMaster Connector is identical to the login account of the *msx2kgate* component. This service account needs to be run with a dedicated service account.

In order to install the Exchange connector successfully, you need to be logged in into a service account that should possess the following properties:

- Domain administrator or authenticated user with relevant domain rights
- Exchange organization administrator (for the entire organization)

Note! You may use the setup account to create the service account. However, please bear in mind that both accounts need to possess different authorization levels, thus ***the setup account and the service account must be two individual accounts (!)***.

Creating the Service Account that is Used for Running the Exchange Connector

- Create a user via the user administration or *Exchange 2013/2016 system administration console*. This user needs to be a member of the domain user group and possess a dedicated inbox.
- The inbox needs to be visible and accessible within the global address list.

Note! As the component flushes all objects within this inbox, it cannot be used as default recipient.

- The account receives full reading permission for the entire Exchange organization (see Table 3.2)
- The account is added to the group of local administrators on the computer the setup is running on.

Note! The use of voicemail presupposes that the service account deposited for the Exchange connector possesses writing permissions for the user object and thus may execute a PIN change via remote request.

Table 3.2: Setting reading permissions for the Exchange organization

Exchange 2007	Exchange 2010	Exchange 2013	Exchange 2016
Must be a member of the *Exchange View-Only administrators* group	Must be a member of the *Public Folder Management* group	Must be a member of the *Public Folder Management* group	Must be a member of the *Public Folder Management* group

Note! A domain controller possesses no local administrators. Add the service account to the group of administrators if the OfficeMaster Exchange connector is to be installed on a domain controller.

Note! Domain administrators cannot be edited via remote request even if the service account carries sufficient rights to edit user-specific values (writing permission of the respective Active Directory attribute). This behavior is a common one and is a result of the fact that the administration attributes are secured by the *ADminSDHolder* services. However, the service account is an authenticated user that lacks the rights to edit these attributes.

Creating access rights to access the inbox storage of the user:

- No specific permissions are required for the use of fax and SMS.
- It is crucial that the service account possesses sufficient access rights to execute a remote request to the relevant voice boxes using the Exchange connector. Please enter the respective command listed in Table 3.3 into the Exchange administration shell.

Table 3.3: Setting permissions to access the inboxes

Exchange 2007/2010	Exchange 2013/2016
add-adpermission „Datenbank“ -user „Domain\Account“ -access-rights GenericAll	*new managementRoleAssignment „OfficeMasterVoiceAccess“-user „Domain\Account“-Role ApplicationImpersonation*

The connector can be added using the Messaging Server configuration.

Note! If the account shall be used for the conversion component *CONV*, execute a local login on the setup computer and run the conversion software (*Microsoft Office*, *Adobe Acrobat Reader*) manually. This process is needed to confirm/close configuration dialogs and complete online updates. We recommend oppressing automatic updates on the *Adobe Acrobat Reader* as pop up windows would disrupt the workflow.

Note! Please refrain from installing Microsoft Outlook on the setup computer. The outlook client is not needed for running the connector and its existence has often resulted in incompatibility issues with the MAPI client component used by the connector. This greatly hinders the productive operation of the msx2kgate component and also affects the *CONV* connector itself, even if *MAPI* is not used for communication.

3.2.3. Installing the OfficeMaster Exchange Connector

The OfficeMaster Connector for Microsoft Exchange is part of the full OfficeMaster Suite setup. Once the OfficeMaster Suite setup has been successfully concluded, the connector itself is ready for installation and configuration.

Note! The Connector for Microsoft Exchange utilizes the service account outlined in the previous chapter 3.2.2 on page 134. Thus, it ought to exist by now.

Once the full installation of OfficeMaster Suite has been fully completed, you will see a folder called *Exchange* in the quick launch bar. Extend it and double-click on *On-Premises* to open the configuration window. Here, all connectors that have already been installed are shown. If no connectors have yet been installed,all boxes are greyed out, identical to Image 3.22.

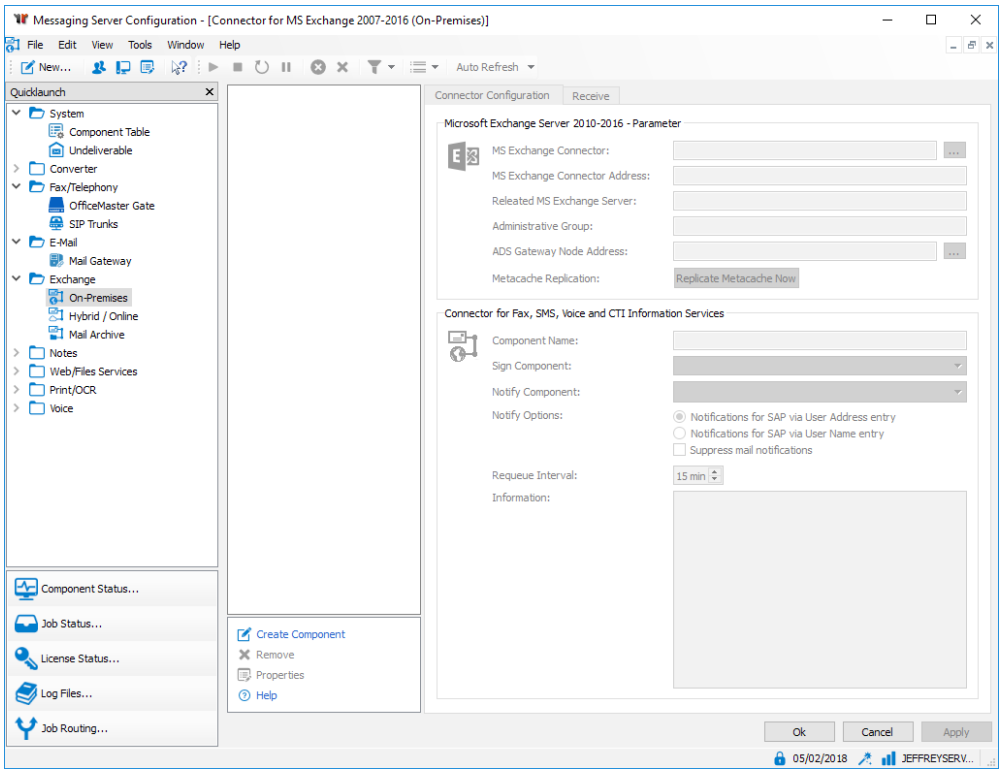

Image 3.2: Creating an *msx2kgate* component

To add a connector entity for all communication services, click on *Create Component*. This will initiate the installation wizard (Image 3.3). We highly recommend using this wizard for both adding and deleting a component.

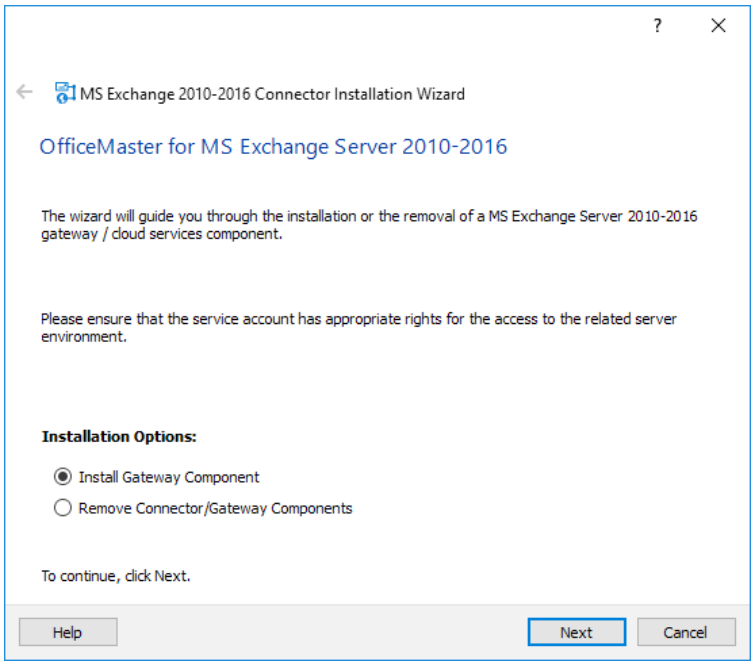

Image 3.3: Welcome dialog

Note! You may also utilize this wizard to delete connector versions 3.1. and 3.0. .In case you wish to delete a connector version 2.0, use the common uninstall routine in the control panel.

After clicking *Next*, the installation wizard requests the Exchange Server (local bridgehead), which is used for bidirectional communication to the Exchange connector. The server essentially sends E-Mails to the Exchange connector and receives inbound documents and feedbacks. In case you are using ***Exchange Server 2013/2016***, versions, ensure you are selecting a hub server (see Image 3.4).

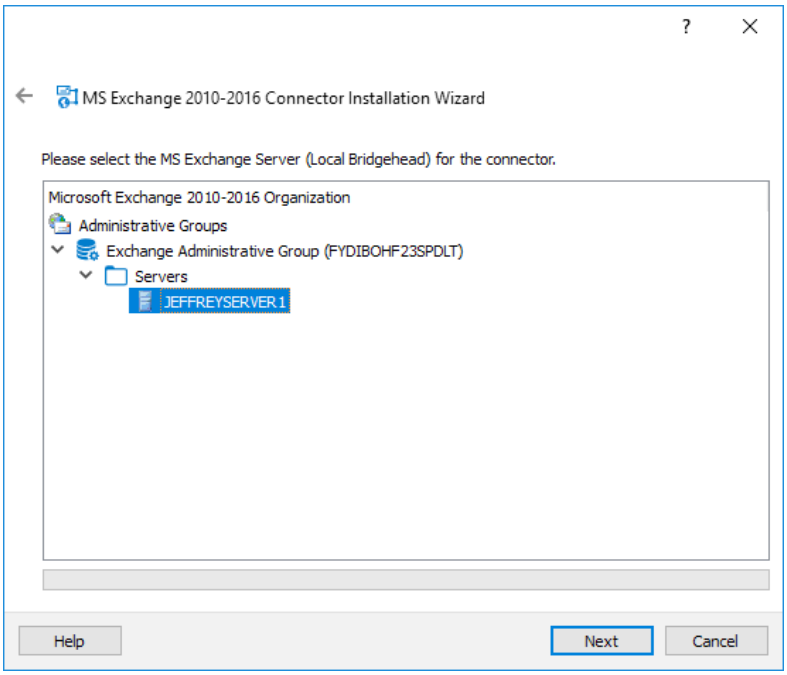

Image 3.4: Selecting the Exchange server

After confirming the Exchange server, determine setup parameter in the next window (see Image 3.5).

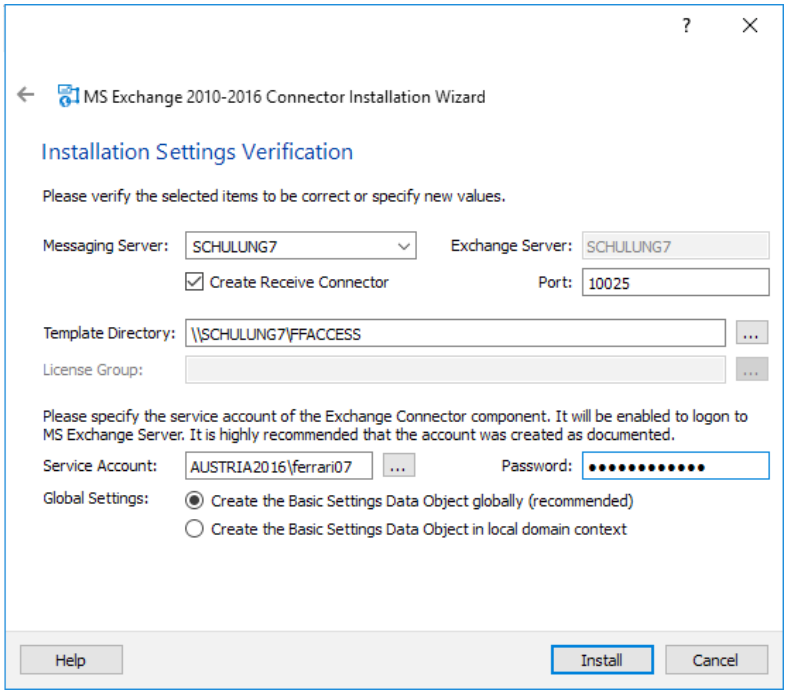

Image 3.5: Setup parameter

▶ Messaging Server

Use the dropdown list in the Messaging Server input field to select a server that will essentially run the ***msx2kgate*** connector component. The main Messaging Server is usually pre-set by default. If your server is not featured due to a fragmentary access of certain sub servers, you may freely enter a different server manually.

▶ Exchange Server

This is the server that had been selected in the previous step. The entry in this input field cannot be edited here. Should you require to edit it, use the *One Step Back* (←)arrow on the upper left hand side.

▶ Create Receive Connector

A special receive connector can be created if an Exchange 2007 - 2016 hub server has been chosen. As there must be no overlay of data on an Exchange server, it will get a different port assignment than the default receive connector of the hub server. The suggested port may be edited individually. We recommend utilizing this option.

Receive Connector (Exchange 2007-2016 hub server)

Microsoft Exchange 2007-2016 hub servers possess respective connectors by default. However, they have mainly been designed for client /inter site transportations and cannot accept anonymous authentications. Either the security settings need to be edited (by deselecting the *Create Receive Connector* box) or the anonymous authentication need to be enabled to allow communication to a connector. Both options are sensitive interferences. To avoid resorting to them, create the receive connector that solely enables communication to the Messaging Server. The installation wizard configures this connector with the following configuration:

- Name: ***Connector for UMS*** (ExchangeServer- MessagingServer)
- Using just the stated port for reception

- Using no anonymous authentication
- Activating NTLM authentication
- Activating the service account exclusively for the connector
- Granting communication only via the IP address of the Messaging Server

Send Connector

A SMTP transmission connector (= ***Send Connector***) is created automatically in addition to the receive connector. It bears the following configuration:

- Name: ***Connector for UMS*** (Exchange Server - Messaging Server)
- SMTP ***port 25***
- Activating no outbound authentication
- Setting the selected Exchange server as the transmission server (Local bridgehead)
- Setting the selected Messaging Server that employs the connector component as reception server (Smart host)

The connectors that had just been created should be ready for use immediately. Administrators may adjust these connectors according to their demand.

Note! Please avoid renaming the connectors as the installation wizard utilizes their name as criteria for both installation and removal.

▶ Template Directory

The global directory refers to a directory approval of the Messaging server installation. Every Messaging Server from version 3.0, where the OfficeMaster for Exchange server Option has been chosen, consists of a directory approval called ***FFACCESS***. The template directory forms the basis of all administration SnapIns and connectors. You may alternatively create a template directory on a file server. If you do, please ensure this directory has the same directory layout. Furthermore, be aware that this entry may be altered by another installation. The template directory consists of the following content:

Table 3.4: Template Directory on the MessagingServer

Directory	Content
Cover	Cover pages in ***Rich- Text- Format*** (***RTF***) and ***HTL*** template files; may be deposited by both administrators and users.
Sign	Signature files in Rich- Text- Format (RTF); may be deposited by both administrators and users.
Letter	DCX image files (multi-page PCX) that are blended into fax documents; may be deposited by both administrators and users.
Picture	Image files in ***Portable Network Graphics*** (***PNG***) format. These images may be distributed to various users and appear in voice messages. They should not exceed 160 pixel (width) x 180 pixel (height); may be deposited by both administrators and users

► License Group

This input field contains the license group where all licensed users need to be deposited. It is commonly used for small business versions (*OfficeMaster Suite for 10 users* or *OfficeMaster Suite for 25 users*) and is created within the container *Users* by default. The license group itself is labelled *OfficeMaster License Group*. This input field is not editable.

Note! Please do not shift the location of the license group after installation as its respective reference cannot shift. Should you require a shift of the location nonetheless, please reinstall the connector and edit the license group manually.

► Service Account

Please use this input field to enter the service account for *msx2kgate* (see previous chapter Chapter 3.2.2 on page 134). This account will essentially receive the necessary authorization to access the connector.

Note! Beware that upon entering the wrong service account, there is no solution to correcting the error other than reinstalling the connector.

► Global Settings

► Create the Basic Settings Data Object Globally (recommended)

If this option is selected, global user settings will become templates for all users who are not being administrated directly. These settings are saved to a central object, which is replicated centrally and provided to the whole organization. It is the default setting for organizations with just one administrative group or routing group.

► Create the Basic Settings Data Object in Local Domain Context

In larger organizations, the respective service account or installation account may not possess the required rights to save the global settings for the whole organization, even if the reading and access rights have been maxed out. In this case, you may choose this option, which essentially causes all settings to be stored to the current domain object. All remaining office locations should choose this option as well during installation.

Note! Once set, avoid switching between the two options. Furthermore, we recommend employing the same *Basic Data Object* storage procedure for all future installations. Otherwise the object would be installed twice, which could only be fixed by deleting and reinstalling the component. In case a *Basic Data Object* has been installed globally as well as in a domain context, the settings of the latter will be favored and applied.

Next, the connector will be installed and initialized (see Image 3.6). Here, all configured options and the connector itself are being incorporated into the Active Directory. This window will inform you of any issues during installation. Thus, should the log in account lack of any privileges needed for installation, you are being informed.

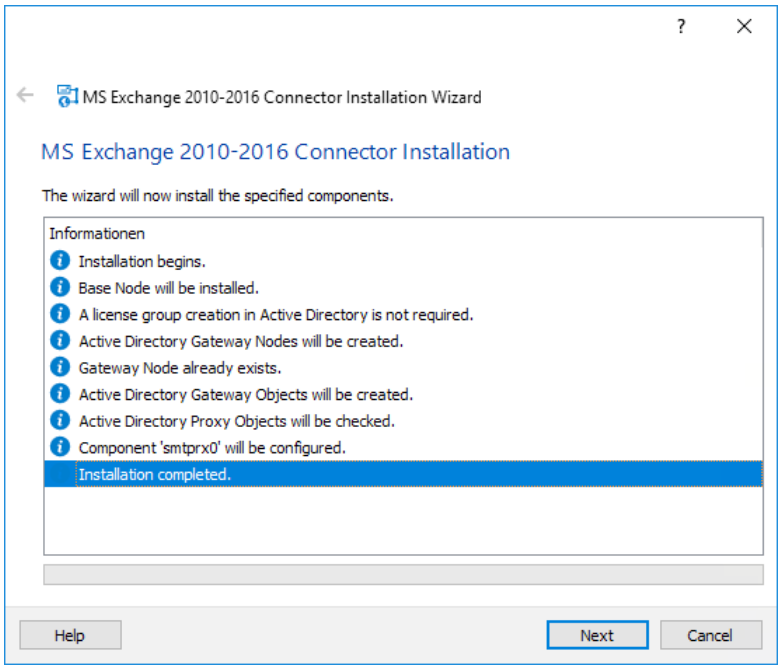

Image 3.6: Connector initialization

Note! During installation, a new folder called *FerrariLogFiles* will be created for the purpose of simplifying support, if requested. It will contain the log file *finstallhelp.log* which is constantly enriched with information about installation and removal processes.

As various Messaging Server components (such as *mailgw* and *sapcon*) utilize the same interface as the SMTP reception component (*smtprx*), we suggest creating just this SMTP component which then forwards the messages.

Note! In case the setup is run on the Exchange server itself, avoid using *port 25* for transmission, as the transmission connector (*Connector for UMS*) would then deliver messages to its own reception connector. To avoid changing IP addresses, use a different port (such as *port 10026*) instead. The installation wizard generally detects these sort of issues automatically and applies the relevant counteractions. However, you may adjust the configuration with administration SnapIns.

Distributing Proxy Address Generators (not Recommended!)

In the further setup process, a dialog for distributing proxy address generators will show up. Proxy address generators are used for supporting the organization-wide reception update service. Install this component manually to all servers with limited setup authorization. Use the *Deselect All* button if this process has been carried out in a previous setup. Clicking *Proxy Install* will initiate the setup. Clicking *Next* will guide you to the next setup step. Use the server list to reassure the distribution of all proxy address generators has been carried out successfully.

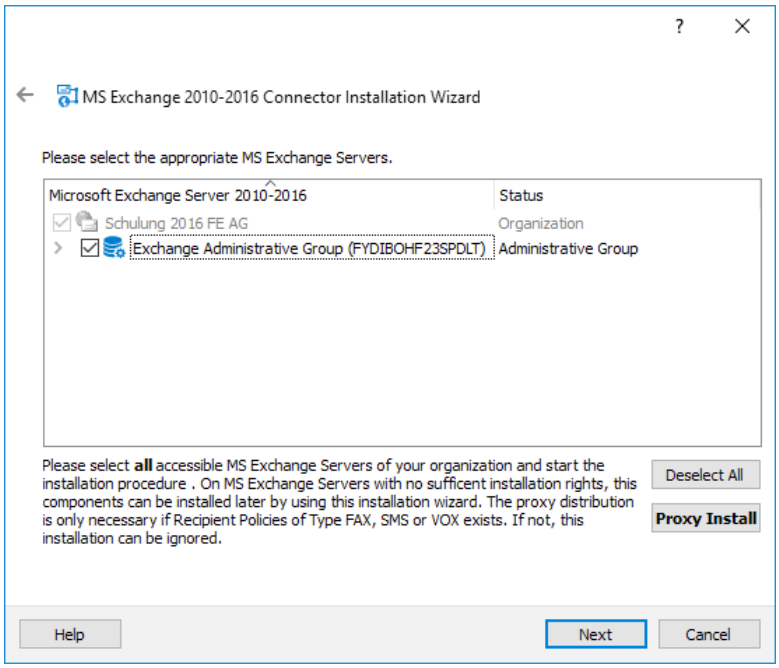

Image 3.7: Distributing proxy address generators

Connectors use fax and SMS addresses as originator authentication and therefore process outbound jobs effectively. You may create both addresses here, if needed.

Note! The setup will not create any recipient guidelines, as they do not support a useful generation of fax, SMS or voice addresses. Furthermore, the implementation and usage of these recipient guidelines is not recommended. Fax, SMS and voice addresses should always be generated manually or via script.

Find the *Connector for UMS* component in the component status window (see Image 3.8). Notice that the component itself is not running yet. Use the respective *Exchange system administration tools* to start it.

Note! Please check whether the connector component msx2kgate and the *SMTP* reception component *smtprx* are both running. Should they not be running, please start them up manually. Errors are often caused by the *SMTP* windows service, which needs to be either deactivated or reassigned to a different port or IP address.

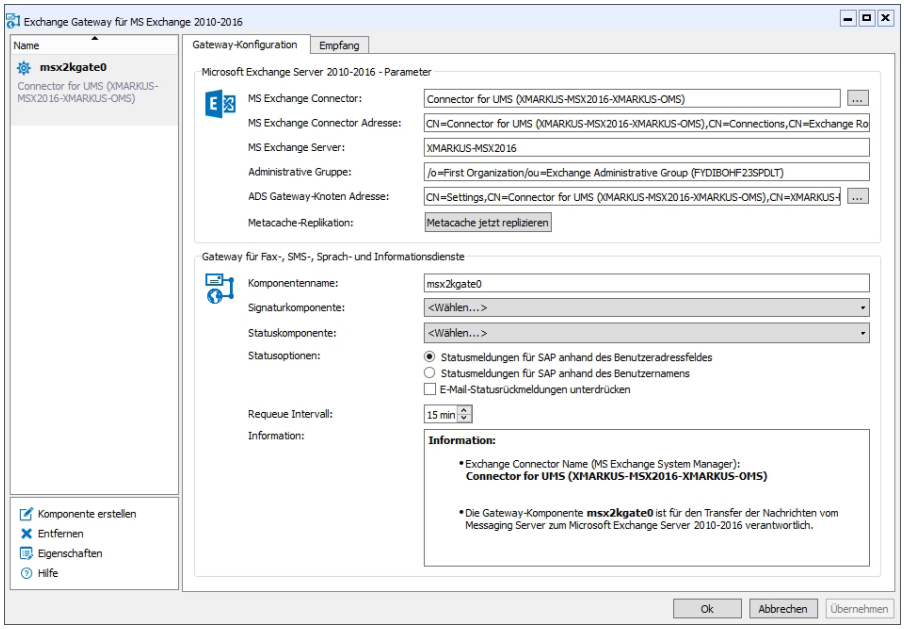

Image 3.8: The new *msx2kgate* component

3.2.4. Installing Multiple Connectors Within the Same Organization

Repeat the setup process that has been described in the previous chapter (Chapter 3.2.3 on page 136) if you endeavor to run multiple connectors and Exchange servers within a single organization.

Only a single connector can be installed to one Exchange server on a component server. However, multiple connectors can be installed to different Exchange servers on one component server.

Example 3.1.

Two connectors are installed on one component server without issue because they address different Exchange servers.

»End of example

3.2.5. Updating Connectors (Reinstallation)

Existent OfficeMaster Exchange connectors are being updated and repaired if the exact same connector type is installed again. Please note that this only applies if the same Exchange server is addressed. The setup also updates missing parameters but leaves all settings unaltered. Should you carry out this step for the sole purpose of repairing, you may freely edit the ***OfficeMaster License Group*** or the service account.

As outlined above, configuration settings are mainly left unaltered. It may merely correct server specific data such as the template directory. However, before doing so, it will ask for your confirmation.

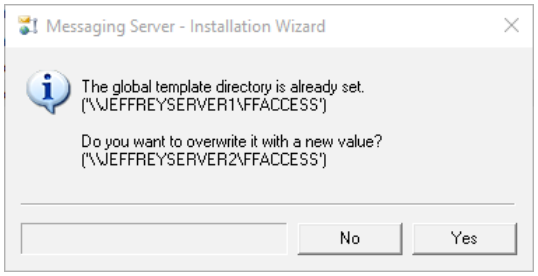

Image 3.9: Changing the mutual reference directory

Once the directory has been correctly deposited during an earlier setup, there is no need to overwrite the entries. Hence, continue by selecting *No*.

3.3. Global OfficeMaster Settings

All settings regarding and affecting the connectors are carried out in the OfficeMaster Exchange administration program.

The connector components and other elements are visible on the setup computer. Thus we recommend installing the Exchange administration programs on the same server that also holds the OfficeMaster setup.

Table 3.5: SnapIns of the Microsoft Exchange Administration / OfficeMaster setup

Microsoft Exchange Administration	SnapIn	OfficeMaster Administration
Exchange 2007	Exchange System Management console	Run > Programs > OfficeMaster > OfficeMaster Exchange Administration
Exchange 2010	Exchange System Management console	Incorporated; alternatively: Run > Programs > OfficeMaster > OfficeMaster Exchange Administration
Exchange 2013/2016	Not available as these servers are being administrated via a browser	Run > Programs > OfficeMaster > OfficeMaster Exchange Administration

The display language (German or English) for the administration tools are based on the system language.

For *Exchange Server* versions 2007 and 2010, access the global settings in the *OfficeMaster* subfolder within the *Organization Configuration* (see Image 3.10).

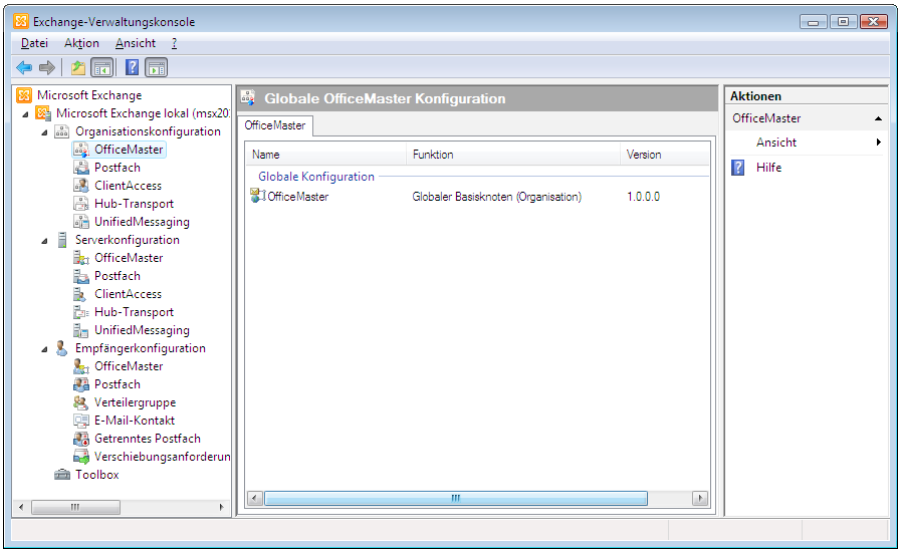

Image 3.10: Global configuration settings in the *Exchange 2007/2010* Exchange administration console

Select Server Configuration > OfficeMaster to display OfficeMaster connectors that are ready for use. In this view, you also find previous connector versions.

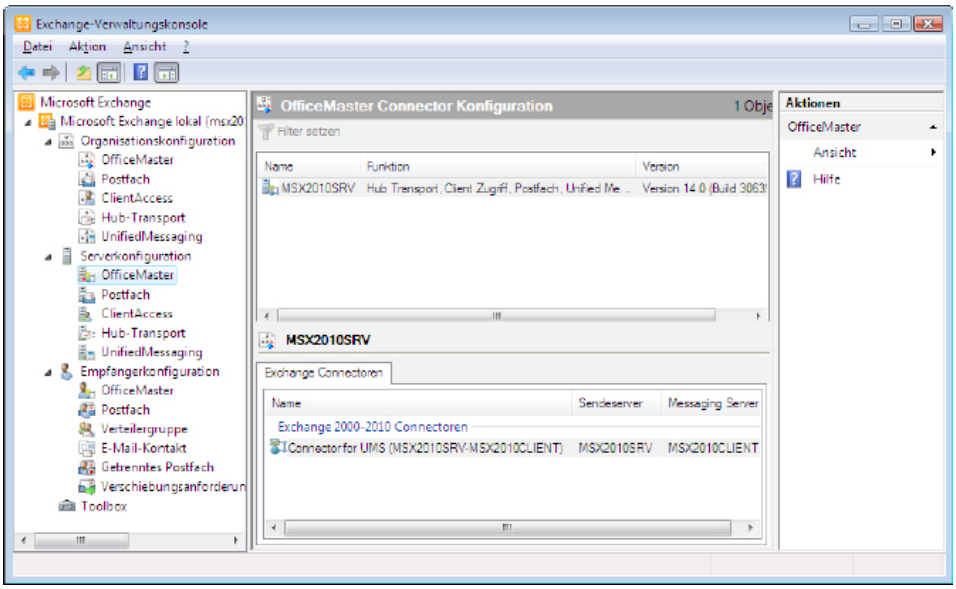

Image 3.11: Connector Configuration in the Exchange 2007/2010 administration console

The dialogs for both the *Exchange Administration Console* and the *OfficeMaster Exchange Management* program are identical, thus the following images are taken from the *OfficeMaster Exchange Management* program.

3.3.1. General (Connector) Properties

The tab *Global Connector Settings* (see Image 3.12) contains global settings for fax, SMS and voice services that form the basis for all OfficeMaster Exchange connectors within the organization.

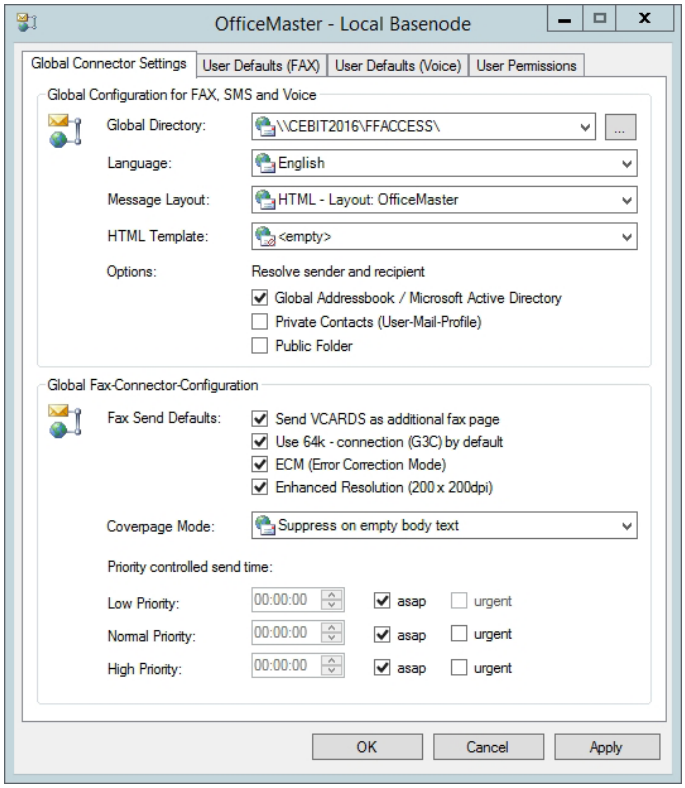

Image 3.12: Options within the *General Properties* tab

▶ Global Configuration for Fax, SMS and Voice

▶ Global Directory (for Cover Pages etc.)

To store front pages, signature files, stationery and caller images, set a global directory as UNC path that matches the structure of the ***FFACCESS*** share. This means, that the connectors expect sub-directories named ***COVER*** (front pages), ***LETTER*** (stationary files), ***SIGN*** (signature files) and ***PICTURE*** (caller images). Administrating these folders is only useful, if there are several OfficeMaster Connectors in one organization. During setup, that folder might change.

In mutual agreement with the actual users of the other connectors, the administrator may create a base directory. Selecting *Save Global Settings in a Local Domain* during installation creates a global directory at every site.

▶ Language

Connectors are capable of displaying notifications to users in German, English, French, Italian and Spanish. Each user may change the language in the reception- specific settings.

▶ Message Layout

The OfficeMaster connectors can display feedbacks and inbound documents in various graphical formats. Choose between the following options:

- Text only

  Documents will be created as emails with an entire text content. This setting creates the highest compatibility to all user applications the Exchange server can be connected with.

- HTML-Layout: Neutral, OfficeMaster and Outlook

  HTML layouts are graphic layouts that alter the general look of a message. The message is generated as HTML message with the first page of its attachment taken as preview.

  As feedbacks include the converted attachment files individually, only the cover pages of each attachment file is displayed in the message. The format of the incorporated preview file (.png) is independent from the actual attachment file format. The three internal layouts you can choose from contain different color designs. Only an administrator can only select and edit the layout, which, by default, is set to *OfficeMaster*.

▶ HTML Template

In addition to the HTML templates included, you can load external templates for more specific designs. They are created using a special ***HTML/XML*** variant and can be saved with the normal ***RTF*** cover pages in the global cover directory. These special template files (****.HTL***) save entire language sets to HTML templates and can positively transform the appearance of incoming documents and , if applicable, adjust them to your corporate design. The ***HTL*** editor and a documentation of the HTL script language can be found in the directory <SERVER>\FFACCESS\Redist\Tools.

▶ Resolve Sender and Recipient

The connectors can resolve incoming and outgoing telephone numbers. You can set in which directories contact information can be searched for by default.

- Global Address Book/ Microsoft Active Directory

  When choosing this option, incoming caller identification and outgoing cover page information are taken from Active Directory user data or Active Directory contact data. This option ensures that only internal calls are resolved, because contact data is usually not stored in the Active Directory.

- Private Contacs (User-Mail- Profile)

  Private Contacts are contact information stored to the E-Mail profile of the sender or for incoming documents of the recipient. They do not refer to private folder files (***PST*** file) embedded in the email profile, but rather to the contacts folder of the email profile. Note that you can only use this function if the service account of the connector component has sufficient reading rights to the mailbox storage of the corresponding user.

- Public Folder

  The connectors usually resolve cover page fields and information from senders of incoming and outgoing documents and messages from the address book. As most of this sender information is not saved as an Active Directory contact, but as an element in global folders, this setting allows the connectors to use this as data source. It essentially uses the first contact element. Although duplicates are narrowed down by their display name, they are not recognized as errors because no other information is used to find the data.

Note! The search within private contacts and global folders are processed in real time for each of the settings. Such processes can take a considerable amount of time. As an alternative, the connectors can use the meta-cache database which works independently of this setting.

▶ Global Fax- Connector- Configuration

▶ Fax Send Defaults

- Send Electronic Business Cards (***VCARDS***) as Additional fax Page

  In Microsoft Outlook you can choose to attach the electronic business card of Outlook to the message. This option, common to emails, can also be activated for sending faxes. The business card is then converted into an additional page of the fax.

- Use 64k - Connection (G3C) by Default

  The OfficeMaster card supports the standard fax protocol G3C that, within fax group 3, allows transmission with a speed of 64 kBit/s on ISDN lines. In this case, with using the OfficeMaster Gate, it attempts to both establish and transmit the fax or the file with this speed. If the connection is successful, the time and money saved is of considerable importance. Should the connection fail, because the recipient is incapable of accepting the data stream, a new connection has to be attempted. The second attempt uses the default speed. Please bear in mind that trying to establish a connection twice takes up more time. Should this option be active, the individual user can deactivate it for their task in the transmission options.

- ECM (Error Correction Mode)

  This option activates the error correction mode when sending faxes or files. Should the recipient support this function, faulty data packages will be identified and resent. This allows files to be transmitted faultlessly even through poor lines. We recommended leaving this option at its default. Should the need arise, the individual user can deactivate it later for each task.

- Enhanced Resolution (200x 200 dpi)

  By deactivating this option, all faxes will be sent using the standard resolution of ***200*** dpi horizontally, ***100*** dpi vertically. This saves considerable time and financial resources compared to the enhanced resolution (***200x200*** dpi). Here again, the individual user may set a custom resolution for each task.

▶ Coverpage Mode

A cover page can be incorporated into a fax message that is sent with Microsoft® Exchange. This box lets you customize the cover page.

- Never Suppress Cover Page

  If a cover page exists, it will always be sent.

- Suppress on Empty Body Text

  Should the message contain no text but attachments only, this option will suppress the cover page. Any data entered into the ***Subject*** input field will be ignored. You may use this option if the attached files contain this information, e.g. a cover page created with a word processor.

- Suppress on Empty Body Text and Subject Line

  This option suppresses the cover page only if there is no text in both the message itself as well as in the ***Subject*** input field. You should select this option if you want a cover page to be created for each message that contains a value in the ***Subject*** input field, since the subject is usually part of the cover page.

▶ Priority Controlled Send Time

Use this option to set the transmission periods of fax and SMS documents according the E-Mail priority. The check box ***urgent*** assigns a higher prioritization to the queued messages within the Messaging Server. Use this option for high priority E-Mails only as it interferes with the placing of documents within the server queue.

3.3.2. User Defaults (FAX)

The settings apply to every user of the organization, unless they had been administrated individually.

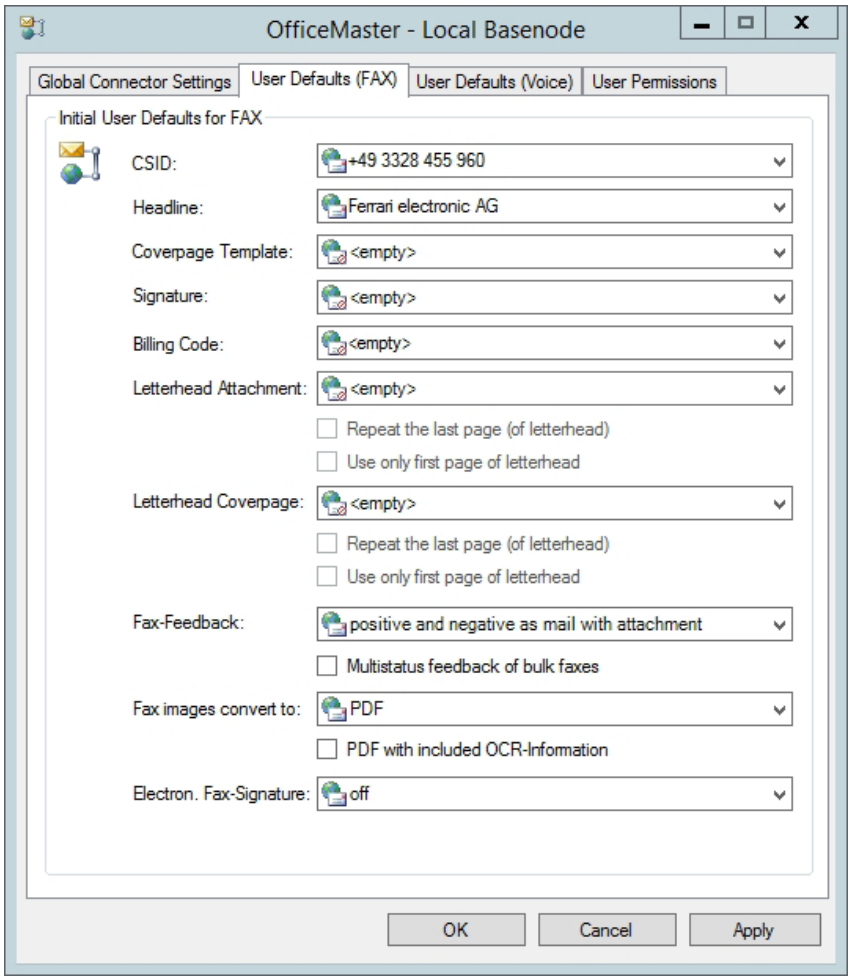

Image 3.13: *User settings (Fax)* tab

► Initial User Defaults for FAX

► CSID

You can set the global fax identifier for all users of the organization. It will appear in the header of each outgoing fax. Please use the international norm: (**+**) (**country area code**) (no leading 0) (**calling number**) (**forwarding number**).

The individual *CSID* ensures the fax number of the sender, including the forwarding number, is transmitted correctly. Answering faxes can therefore address the recipient directly. If you leave this field empty, data entered during setup of the messaging server will be used.

Example 3.2. ***+49 3328 455 960***

»End of example

▶ Headline

You can globally set a headline for the users of the organization. This may be your company name and the department.

▶ Coverpage template

Here, you can activate a cover page. Enter the name of the RTF file in the corresponding field. Cover pages are saved to the sub folder *COVER* that is created automatically upon setup (refer to chapter 3.2.3 on page 136). The default is set to *Inactive*. Should you activate cover pages, all faxes sent through connectors of this organization receive a cover page unless the respective user was given authorization to turn off or replace the preset cover pages.

Note! If you created the cover page using *Microsoft Word*, we strongly recommend using it again for the central conversion of a message. Microsoft Word creates RTF files that are not interpreted by the internal RTF converter of Microsoft Exchange or *Quick View Plus*, particularly if you used more complex formats like tables or position frames.

▶ Signature

You can choose the name of a signature file here. It is turned off by default. All signature files from the sub-folder *SIGN* are shown. You may also enter an alternative name; In this case save a cover page file to the sub-folder *SIGN* before using the system.

Note! It is the responsibility of the administrator to assign the correct signature files to each user. The signature file has to be an RTF file so it can be correctly integrated into the Microsoft Exchange message.

Creating Signature Files

- Scan the signature
- save it as graphic file e.g. *PCX*
- import this file into an RTF file object

Note! The internal converter cannot convert objects into RTF files. Hence, utilize Microsoft Word or an alternative program.

▶ Billing Code

The billing code refers to an entry in the log file, created by the messaging server. This is only useful if users do not possess a billing code entry, thus the value that is set here is supposed to be applied. A billing code is a code with a maximum of 12 digits that identifies the user in the log file.

► Letterhead Attachment

Standard is the default setting for this input field. This means that the letter paper set for the fax connector is used for attachments. However, the respective user may freely set an alternative letter paper that is used instead. This input field shows the name of all letter paper files that are stored to the subfolder ***LETTER***. Before editing the display name, ensure the appropriate file is saved to the ***LETTER*** subfolder. The following checkboxes control in what manner documents with multiple pages utilize the letter paper file:

- 1.) Repeat the last page (of letterhead)
- 2.) Use only first page of letterhead

There are four possible ways to combine these options:

- Option 1: Both settings turned off (default)

  Every page of the letter paper is associated to the appropriate cover page and message. Should the cover page or message have more pages than the letter paper, the other pages receive no letter paper.

- Option 2: Setting 1 = activated, Setting b = deactivated

  Here again, every page of the letter paper is associated to the appropriate cover page and message. As opposed to the previous scenario, remaining pages of the cover page or message receive the last page of the letter paper.

- Option 3: Setting 1 deactivated, Setting 2 deactivated

  Only the first page of the letter paper associated to the appropriate cover page and message. Remaining pages of the letter paper are discarded just as well as remaining cover pages or message pages.

- Option 4: Setting 1 activated, Setting 2 activated

  Only the first page of the letterhead is used. This page is repeated on all pages of cover page and message.

► Fax Feedback

Every user sending a fax is eligible to receive a transmission report. This report (called feedback hereafter) can be configured depending on the Exchange server. Feedbacks indicate whether the fax transmission was successful or not. If a ***Non-Delivery Report*** (***NDR***) is requested, the sender will receive a report that includes information about why the fax could not be delivered and allows the user to change the fax number and repeat the process. As a ***NDR*** is fairly versatile, you may choose your preferred output.

- *Positive and Negative as Mail Without Attachment*

  Positive and negative feedbacks are conveyed via mail to the inbox of the sender, excluding the converted fax.

- *Positive as Mail, Negative as NDR*

  Positive feedbacks are conveyed to the sender's inbox via mail, whereas negative feedbacks generate a *NDR*. *NDR*'s occupy an option that allows the user to resend the message.

- *Only Negative as Mail*

  Only negative feedbacks are conveyed to the sender's inbox.

- *Only Negative as NDR*

  Choosing this option triggers one *NDR* per transmission error.

- *Positive and Negative as Mail with Attachment*

  Here, positive as well as negative feedbacks are conveyed via mail to the inbox of the sender, along with the converted fax as attachment.

- *Positive as Mail with Attachment, Negative as NDR*

  Positive feedbacks will be sent as mail with the converted fax included, while negative feedbacks are sent as *NDR* to the mailbox of the respective sender.

- *Only Negative as Mail with Attachment, Negative as NDR*

  The sender usually receives a message from the fax connector, informing him of whether each fax transmission was a success or failure. Particularly for serial faxes this form of feedback is rather cumbersome and contra productive. Hence, this option only informs the user if failures did occur.

► Multistatus Feedback of Bulk Faxes

An additional option is to choose to receive a summary of the feedbacks for bulk faxes (outgoing faxes with the same content but different addresses). Instead of receiving one mail for each successful or unsuccessful fax transmission, you rather receive one message that confirms the successful delivery of ALL faxes or you receive a message indicating which fax transmission job was faulty. Please note that this option is not possible for bulk E-Mails, as each job needs to be processed manually.

► File Format

The default format for incoming fax documents is TIFF/G4. However, you may choose an alternative format from the dropdown list. The format essentially depends on the picture program that is going to be used for the fax depiction. One of the most dominantly used being *PDF* or *TIFF*.

► PDF with Included OCR-Information

Additionally, if the text recognition is turned on, you may choose to have a inspectable document created that is then attached to the incoming document.

► Electron. Fax-Signature

Use this input filed to include a qualified electronic signature with outgoing fax documents. This option requires the respective OfficeMaster Exchange Connectors to possess a corresponding signature component (*SIGN*). Because signatures are usually used by individuals rather than by groups, you should activate this option in the user settings and not here.

3.3.3. User Defaults (Voice)

Use this tab (see Image 3.14) to set user defaults for the voice connectors. They will be applied to every user who is not administered individually.

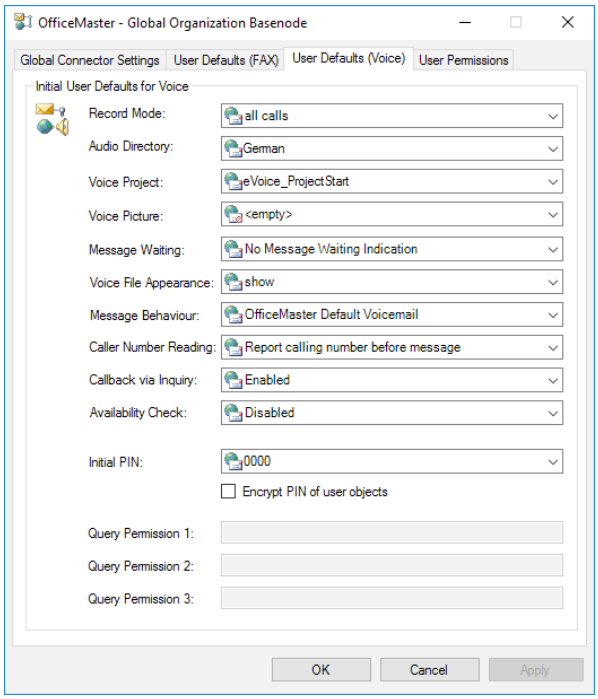

Image 3.14: Tab for setting up *Voice User Defaults*

► Initial User Defaults for Voice

► Record Mode

The record mode differentiates between conveying pure audio messages including file attachment (*Voice message only*) and conveying an additional call notification without attachment (*All calls*) if the caller didn't leave a message.

► Audio Directory

The audio directory is the audio tree of the messaging server. Each messaging server with an installed voice-tree includes audio directories, which in turn include language-related voice prompts. As of now, you can choose between *English* and *German*.

► Voice Project

Please choose the voice project that you intend to use. The voice project determines the behavior of the voice server for inbound messages.

▶ Voice Picture

The voice picture is a default image, which is shown if the user has no allocated picture or the caller could not be identified. It is an image file (*PNG* or *JPG*) saved to the global directory *PICTURE*. The image should not exceed 160 x 180 pixel (width x height).

▶ Message Waiting

In this section, you may configure how the *Message Waiting Indicator* (*MWI*) resets. The MWI is a visual feature that notifies users on any new voice messages. It is triggered autonomously and its behavior primarily depends on the Messaging Server configuration and the respective MWI configuration on the PBX.

Choose between three reset modes:

- *Indication off by remote inquiry*
- *Indication off by inquiry of one message at least*
- *Indication off by inquiry of all messages*

▶ Voice File Appearance

Use this input field to choose whether the voice files (*WAV* or *MP3*) are shown within the message or not. Suppressing them will let you to listen to them by remote request only and not through your computer's speakers.

▶ Message Behavior

Specify whether you prefer receiving voicemails in the classic E-Mail format used by the OfficeMaster Suite or the Exchange UM voicemail format.

Note! The format will only appear once the respective user has been authorized for the Unifed Messaging role of the Exchange Server.

▶ Caller Number Reading

Use this input field to determine whether the telephone number of the caller is read out during listening to the respective audio message. It may be read out before or after.

▶ Callback via Inquiry

Activating this option allows the user to call the caller directly.

▶ Availability Check

If needed, the voice connector employs a functionality that evaluates the private schedule of the user and thus determines whether he is available or not.

► Initial PIN

Every user who has not been administrated individually uses this PIN entry. This PIN is also used to adjust the functional sequence in accordance to the actual behavior. In conjunction with other connectors, the voice server is given the option of utilizing an initial PIN as well. To generate a dynamic PIN, utilize the voice server. Should the voice server configuration apply to the Exchange Server as well, leave the input field blank. (Hence, delete the default value '***0000***').

Note! If you require the voice server mechanisms to apply to the *Inital PIN* (automatic calculation or preset) as well, please set the value to <*empty*>.

► Encrypt PIN of User Objects

To amplify the safety, the Messaging Server is giving you the possibility to encrypt the PIN by a ***PBKDF2-Hash*** standard.

► Query Permission 1/2/3

If the voice box receives calls from the telephone numbers entered into this box, it immediately enters the configuration mode. We recommend leaving these input fields blank, as they cannot be integrated into a useful global operation.

3.3.4. User Permissions

Each user of the OfficeMaster Exchange Connectors can receive a multitude of permissions from the administrator.

The permissions shown are set for all users by default, unless users possess an individual administration. The tab *User Permissions* (see Image 3.15 below) incorporates all permissions a user can obtain. Activate them by ticking the respective box.

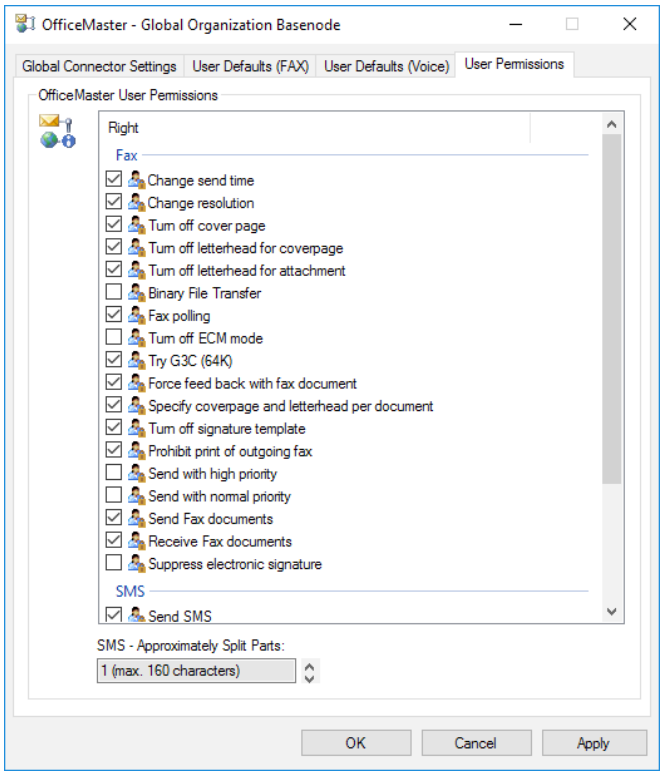

Image 3.15: User permissions

The individual permissions determine the following behavior:

- Fax

  - Change Send Time

    This permission enables the user to set a date and time for messages to be broadcast. These entries have priority to the urgency settings *low*, *normal* and *high*. If a time is given without a specific date, the current date is taken. Has the time already passed, the next day will be taken.

  - Change Resolution

    The resolution can be set to high or standard. We recommend having these settings set to standard resolution. This will essentially keep the costs as well as the transmission time at a minimum. For special cases, the resolution can be changed for the individual task.

  - Turn off Cover Page

    Within the global administration, a cover page for all users or a cover page for an individual user can be set. This option enables the user to suppress the selected cover page. This is useful whenever an outgoing document already contains a cover page. Please note that the use of cover pages add additional transmission time and costs.

  - Turn off Letterhead for Cover Page

    A default letterhead for cover pages can be set within the global administration. With this option, the user can suppress the use of letterheads/ letter paper for cover pages.

▶ Turn off Letterhead for Attachment

The same can be done for attachments. It also lets users suppress the use of letterheads for attachments.

▶ Binary File Transfer

The actual message as well as possible attachments are conveyed to the counterpart station via file transfer through the fax connection. We recommend choosing this option only if the counterpart station inherits the respective option for the fax protocol using the ***ITU guideline T.434***. This will give the recipient the possibility to further process the files or execute the programs within the files. Please note that the binary file transfer might not be supported by the utilized fax hardware.

▶ Fax Polling

Incorporating this option allows the user to benefit from the fax polling services offered by OfficeMaster. The fax number/fax address is being called and the fax protocol signals that a document is about to be transmitted. There is ultimately no difference between this option and receiving a regular fax.

▶ Turn off ECM Mode

Here, the user is given the possibility to suppress the default setting ***Sending with error correction***. OfficeMaster Gate supports transmission with ***ECM*** (***Error Correction Mode***) and we highly recommend utilizing it.

Should the addressee use devices that do not support ECM, the ECM suppression is applied automatically. ECM repeats the transmission of all faulty data blocks and thus regulates the faultless conveyance of faxes. If the line quality is poor, it may cause a minor transmission delay. Suppressing ECM is only recommended if the line is very poor and essentially causes the transmission time to soar up immensely. Furthermore, errors need to be tolerated.

▶ Force Feedback With fax Document

When sending faxes users may opt to receive feedbacks stating whether the fax has been transmitted successfully. In addition to the status information, they also receive the actual fax as image file attachment. Utilizing this option is of particular significance for users who triggered multiple jobs but cannot allocate the transmission feedbacks to the respective faxes.

▶ Specify Cover Page and Letterhead per Document

The user will be authorized to choose their own cover pages and letterheads. They can set a name of a cover page file or letterhead, as long as the corresponding file exists in the installation directory <Messaging Server>\FFACCESS\Cover.

▶ Turn off Signature Template

A signature of the user can complement a fax document if needed. These so called signature templates need to be activated by the global administrator and are found within the setup directory <Messaging Server>\FFACCESS\Sign. Turning on this option suppresses the signature template. Hence, no signature will complement the fax.

▶ Prohibit Print of Outgoing fax

The administrator can select a default printer, which automatically prints all outbound faxes. Turning on this option suppresses this functionality.

All these user permissions also appear in the OfficeMaster transmission settings for Outlook whenever a message is sent.

Note! The internal mechanisms for Microsoft Exchange prevents the display of any rights that had been enabled for the user. Thus, they see all settings and essentially rely on the administrator to tell them which settings they may take influence on. This functionality is applied regardless on the configuration of any printing interfaces (*printgw*).

Note! Although the following settings affect the user permissions, they do not appear in the OfficeMaster transmission settings for Outlook.

▶ Send With High Priority

An important feature of transmitting faxes is to set the priority for a message. As a message with high priority is sent immediately, significant transmission costs may arise for long faxes. To avoid this, we recommend assigning only priority levels that are low in costs. Enabling this option will allow the user to make use of the highest priority level.

▶ Send with Normal Priority

Checking this box allows the user to send messages with normal priority.

▶ Send Fax Documents

Here you give per mission to Microsoft Exchange users to send faxes.

▶ Receive Fax Documents

Activate this checkbox to block the reception of faxes for the respective user. If activated, inbound faxes are forwarded to the inbox of the default user who then decides whether he himself forwards the fax document to the blocked user.

▶ Suppress Electronic Signature

Utilizing the transmission settings, the user is given the possibility to disable the electronic signature for faxes. This permission can be toggled on and off here.

▶ SMS

▶ Send SMS

If an SMS connector is installed, this option allows the sending of SMS's. Users who send messages without permission receive an error message.

▶ Receive SMS

The SMS connector can also receive messages. This feature can be toggled on and off with this checkbox. All inbound messages addressed to the blocked user are forwarded to the default recipient, who will then decide whether to forward the SMS message to the intended user or not.

▶ Sending Split SMS

If the user has been authorized to transmit SMS's, any text message that exceeds the maximal character count of 160 will be split up and transmitted individually. As this option might be quite costly, it is turned off by default.

▶ Maximum of Partially Split SMS

Select the maximum amount of individual SMS whenever SMSs need to be split into individual messages. The maximum value possible is 99. Hence, 99 individual messages can be sent per document.

▶ Voice / CTI

▶ CTI Enabled

CTI (*Computer Telephony Integration*) is an outdated feature and therefore not supported since OfficeMaster Suite version 5 and higher.

▶ Voice Administration

This checkbox controls the display of administrative options on the Web-UI for voicemail.

3.4. Administration of the Messaging Server Configuration

3.4.1. Connector Configuration

Despite the fact that the connectors incorporate all relevant settings to a configuration file, the individual components possess basic settings that ensure a smooth operation as well.

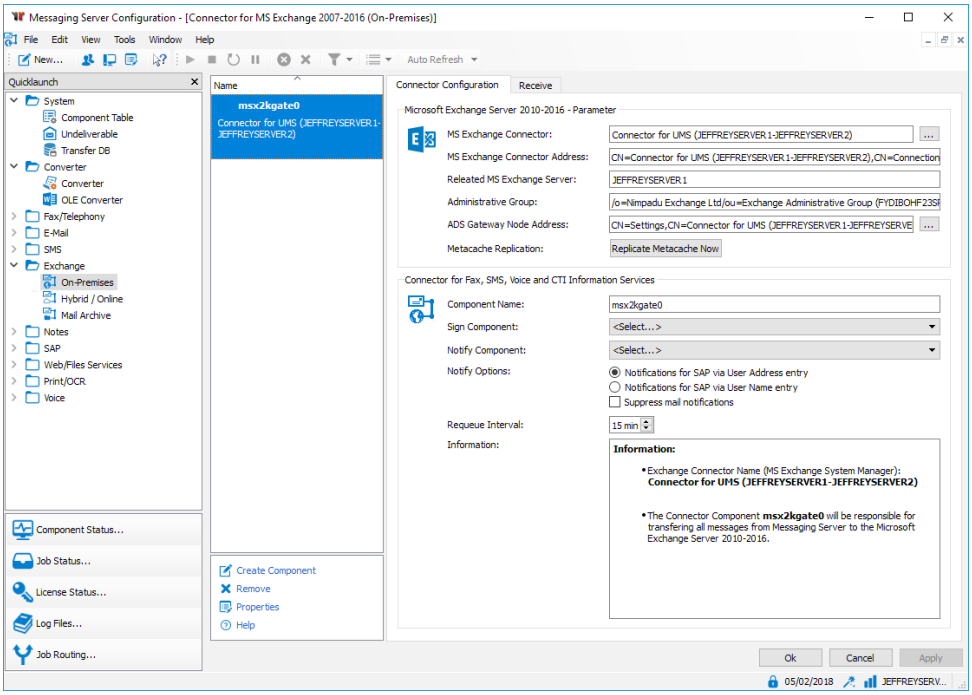

Image 3.16: Basic configuraton for the *msx2kgate* component

Find these basic settings in the *Connector Configuration* tab (see Image 3.16).

► Microsoft Exchange Server 2010 -2016 Parameter

The installation wizard sets these settings automatically. It encompasses the name of the Exchange connector, the file path of the connector within the Active Directory, the name of the Exchange Server for login, the *X.400* address of the administrative group and the file path of the complementary configuration node.

Note! Although the basic settings can be edited with the Expert Mode enabled, we endorse to refrain from using this method. Only the installation program should set basic parameter as editing them manually may cause errors.

► Connector for Fax, SMS, Voice and CTI Information Services

These settings determine the interaction of the Exchange connector component with fellow Messaging Server components.

► Component Name

This box contains the name of the connector component and cannot be edited.

▶ Sign Component

In order to support digital signatures, choose a sign component here. It will work in unison with the connector component.

▶ Notify Component

A notify component updates the user on the transmission status of a fax document or SMS. Archive gateways can be added here.

▶ Notify Option

The following status options endeavor to optimize the communication between ***msx2kgate*** and other gateways.

- Notifications for SAP via *User Address* entry

  Utilizing the SAP connector ***sapconn***, address destinations can be resolved in the Active Directory using the entry in the *User Address* input field.

- Notifications for SAP via *User Name* entry

  The address resolution is carried out similar to the process described above, however, instead of using the *User Address* entry, the *User Name* is used instead.

▶ Suppress Mail Notifications

If the connector operates together with an ***LPD*** (for printing) component, it can transmit documents autonomously via ***SMTP*** as long as an E-Mail address is provided. In this case, transmission is carried out using the connected Exchange Server. A report indicates whether the server has accepted the E-Mail. This report, however, provides no evidence that the destined recipient has actually received that E-Mail, which is why many users decide to ignore this report altogether. This can be achieved by ticking the box.

▶ Requeue Interval

If the connector fails to deliver messages to its intended target (due to conversion errors, printing errors etc.) the messages can be requeued and the connector will attempt to deliver them again. Use this box to define the delay (in minutes) until it executes a new attempt. The default entry is set to 15 minutes.

3.4.2. Recipient Configuration

This tab (see Image 3.17) exerts direct influence to inbound documents. Phone numbers (Called Party Number) designated for reception processes may be used as address filter for fax or SMS. To forward all inbound messages to the Exchange connector, use the default setting (***.****).

Changing this value only becomes necessary if inbound messages need to be forwarded to multiple gateways, such as *SAPCONN* or *FILEGW* or if OfficeMaster shall receive messages on designated calling numbers.

The latter is called ***Whitelist Procedure*** and can be turned on by following Tools > Black-/Whitelist... > Block undeliverable messages .

Note! We recommend configuring the *UNDELIVERABLE* component on the Messaging Server if you need the address filter to be limited to designated calling numbers without employing the ***Whitelist Procedure***. By doing so, you avoid that inbound messages are saved to the server without noticing and thus remain untouched.

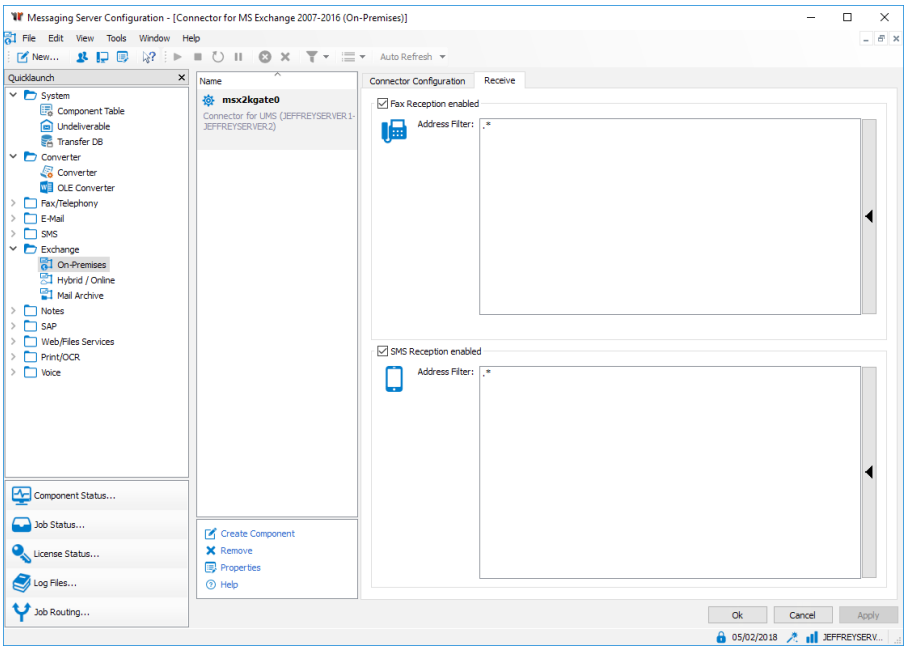

Image 3.17: Recipient configuration of the *msx2kgate* component

Example 3.3.

The plainest address filter is composed of a list of numbers that are assigned to the Exchange connector. Hence, if all faxes addressed to the calling number extensions 150 to 154 are destined to be processed by the Exchange connector, the address filter would contain the following entry:

150 151 152 153 154

Regular expressions can be used to summarize multiple entries (***15 [0-4]***).

»End of example

The default value (**.***) is also a regular expression. An arbitrary character is defined by the dot (**.**) whereas the star (***) defines that the previous character may occur any number of times. Please note, that for each row only one address entry can be provided. Adding multiple regular expressions, such as ***OR*** (**|**) and ***AND*** (**&**) within one row is not possible.

3.5. Using the OfficeMaster Exchange Administration Shell

3.5.1. General Settings

Every Exchange server requires its own specific settings. These are being administrated in the properties section of the respective object. To follow up with the configuration described below, open the tab *General* (see Image 3.18).

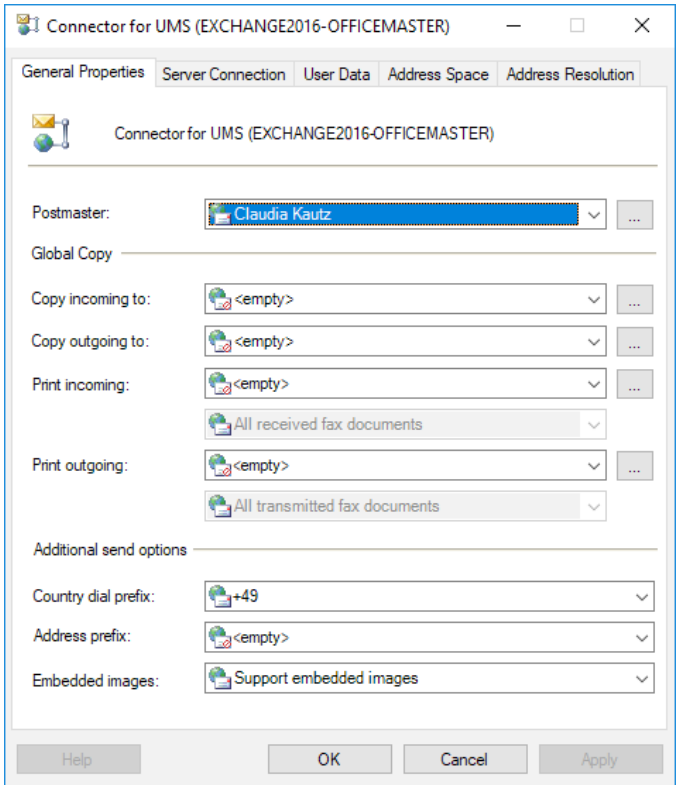

Image 3.18: General settings

► Postmaster

The postmaster (default recipient) is a recipient who receives all documents (Fax or SMS) that could not be distributed automatically.

The automatic distribution of faxes requires an appropriate hardware that allows every Exchange user to have an individual forwarding number, such as *123*, *124*, *125* etc.

Should you use analog hardware without call forwarding functionality all faxes will be sent to the default recipient. The default recipient should then determine the designated addressee and forward the message.

Caution! We highly recommend setting up a default recipient. Should this entry be missing, undeliverable documents may be left unnoticed in the overflow registry of the connector component.

▶ Global Copy

▶ Copy Incoming to / Copy Outgoing to

This section can be used to forward a copy of all inbound and outbound documents to a preset public folder or inbox. Resorting to this option will allow the archiving of all fax communication straight to these folders. Furthermore, archived messages can be browsed through using various processes and copies can be resent. The folder ***Microsoft Exchange System Objects*** folder contains these public folders.

▶ Print Incoming to / Print Outgoing (UNC Path for fax Documents Only)

Here you can select a network printer that prints all inbound documents for the respective user. Instead of searching for a printer, you may directly enter a printer name using the *UNC* (*Universal Naming Convention*) standard. By default, this option is inactive.

For the connector to be able to print incoming and outgoing faxes with the selected printer, the computer running the connector component has to have the appropriate driver installed.

An additional option can be applied inbound and outbound printers, which defines what sort of documents are printed out (*All documents*; *successfully received*/*sent documents* or *faulty inbound*/*outbound documents*).

Note! Print gateways that essentially employ the same functionality can be configured in the Messaging Server Configuration program. However, this process does not support the configuration of user specific settings. To test the printing functionality, use the tool MsxPrinterTest.exe. It is located on the server that also contains the OfficeMaster software, more specifically in the <SERVER>\FFACCESS\Redist\Tools.

▶ Additional Send Options

▶ Country Dial prefix

Most ISDN ports fail to establish a connection if the country code is used as prefix. To avoid this issue, enter the country code prefix here. The Exchange connector will then convert this code into a zero (*0*). As the Messaging Server allows the setup of central system with OfficeMaster Gates distributed throughout multiple countries, the connector could also be used for processing documents in foreign countries. Having such an environment requires an adjustment of the Messaging Server, thus, this input field must bear the value ***<empty>***.

▶ Address Prefix

If call extension numbers are distributed in an Exchange environment with a dedicated Exchange connector for each location, these numbers need to be unambiguous. If one location utilizes multiple connectors, the entire fax number needs to be entered. The prefix, which is the dial-up number, must not include direct dial information as the fax server analyzes merely the call extension number and not the entire fax number. Both, the prefix and the call extension number provided by the fax server form the complete calling number of the recipient, who can be identified using the global directory.

Example 3.4.

One organization is divided into the following locations

- Munich (Trunk number of the fax server without call extension: *089 4647*) and
- Stuttgart (Trunk number of the fax server without call extension: *0711 4746*).

Both locations possess a fax connector and fax server.

- Recipient *Huber* uses the call extension number *105* in Munich;
- Recipient *Bachmann* uses the same call extension number (*105*) in Stuttgart.

If the call extension had been set as address type FAX for both recipients, an address replication would not be possible due to the identical call extension numbers. Hence, the complete fax CSID need to be entered for both recipients.

Huber: *+49 89 4647 105* *Bachmann*: *+49 711 4746 105*

Add the following values to the fax connector:

- Munich *+49 89 4647*
- Stuttgart *+49 711 4746*

»**End of example**

Note! Entering an address prefix to the connector is only beneficial for an organization that possesses multiple connectors. As the tendency shifts towards systems that employ only a single connector and use gateways at their locations, the prefix has to be added to the ISDN configuration of the gateway (direct dial prefix).

► Embedded Images

Image files included in E-Mail bodies are deleted from cover pages by default. The function *Support embedded images* allows images to remain in the E-Mail body. Thus, signatures added in an image format are supported.

3.5.2. Server Connection

To configure the SMTP client of the OfficeMaster Exchange connector, use the *Server Connection* tab (see Image 3.19). Here, properties of the Messaging Server for transmitting SMTP mails to the Exchange server can be set.

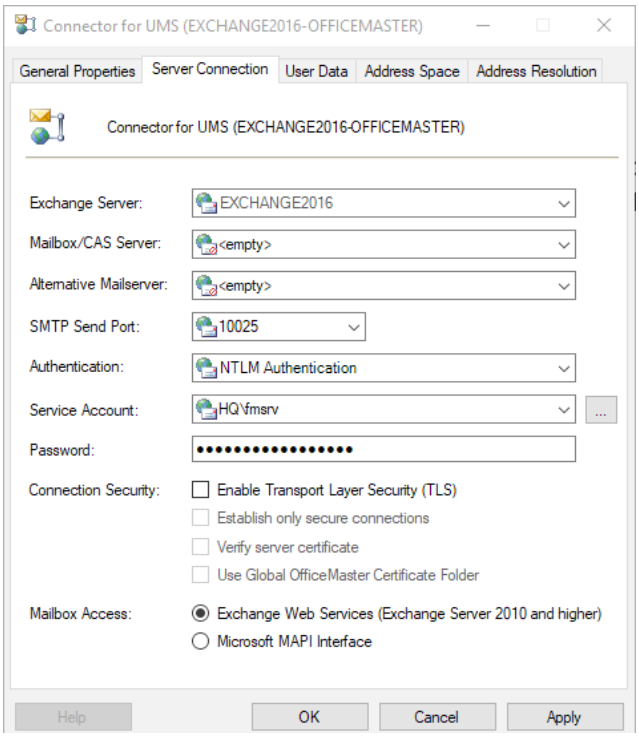

Image 3.19: Setting up the *Server Connection*

▶ Exchange Server

The Exchange Server shown here receives E-Mails from the component. This input field is not editable.

▶ Mailbox/CAS-Server

This input field is blank by default. Some environments incorporate servers with multiple IP addresses that address various networks. The Exchange connector usually determines the IP address of the Exchange server automatically. Should the connector fail to determine the correct IP address, use this input field to deposit an alternative IP address.

▶ Alternative Mailserver

Occasionally, the feedbacks and inbound documents are required to be received on a server other than the one stated as communication partner. Additionally, due to the lack of an authoritative server domain, the communication partner occasionally rejects the primary E-Mail address of its own users. In this case, E-Mails need to be redirected to an alternative entry server (***Smarthost***), to a ***cluster IP address*** or a ***DNS A-Record***, which can be achieved by entering a ***Full Qualified Domain Name*** (***FQDN***) or an IP address he.

▶ SMTP Send Port

In this input field, nominate the SMTP port that is used for receiving E-Mails via the Exchange server deposited above. This functionality essentially defines the transmission direction between Messaging Server and Exchange server.

▶ Authentication

The authentication determines the level of security that is applied for E-Mail transmission from Messaging Server to Exchange server. Please note that you cannot set this arbitrarily. A service account entered here would have had to be set at least once during data verification in the setup wizard. There are two options to choose from:

► No Authentication

By choosing this option, no SMTP authentication is carried out. However, the Exchange server must allow an anonymous access to the SMTP service.

► NTLM Authentication (Recommended Setting for Microsoft Exchange Server 2007 and 2016)

This kind of authentication (*NTLM*, *WindowsNT Challenge/Response*, *WindowsNT Lan Manager Authentication*, Internal Windows authentication) utilizes a *WindowsNT* domain account for login and transmission of SMTP mails. It is deposited in the format Domain\Account. As hub servers in an Exchange 2007-2016 surrounding block the use of an anonymous SMTP service access, the authentication via NTLM is preferred. Furthermore, the service account is activated on the hub server by default. Hence, editing the entry at a later point is not possible.

► Plain Authentication

This kind of authentication (plain text password SMTP) uses a special login account for the related server.

► Service Account, Password

This section is used to deposit a service account and password. Once a service account is deposited, please do not change it here but rather take the installation wizard of the Messaging Server for these kinds of edits.

► Connection Security

This parameter determines how the communication to the server is encrypted. It essentially increases the communication security. This option is turned off for Office 365 installation, but may be turned on for encrypted connections.

Four security levels are provided:

► Enable Transport Layer Security (TLS)

This activates the general encryption via *TLS*. The encryption protocols are mediated between systems automatically and no certificate is used for authentication.

► Establish Only Secure Connections

Communication to servers that do not use TLS can be blocked here. Connections will be terminated immediately, should the recipient request a TLS-free communication.

► Verify Server Certificate

If this checkbox is activated, the certificate provided by the server and the certificate stored within the local Windows certificate storage are compared. The connection will be dropped immediately should both certificates not match up.

► Use Global OfficeMaster Certificate Folder

As outlined above, the system checks whether the certificates provided by the server match up to any certificates stored to the Windows certificate storage. In addition to this general validation, the global OfficeMaster certificate directory (\\Server\FFACCESS\CERT) may also be browsed through to check for explicit certificates. Activate this box to enable this functionality.

► Mailbox Access

The connector employs two access modes to mailboxes. The installation wizard sets the adequate mode automatically.

► Exchange Web Services (Exchange Server 2010 and higher)

This mode must be selected for Exchange Server 2013 and higher.

► Microsoft MAPI Interface

Select this mode for Exchange Server 2007 and Exchange Server 2010.

3.5.3. User Data

The tab *User Data* (see Image 3.20) incorporates options that help increase the processing speed of inbound and outbound documents for fax and SMS, as well as increase the user resolution for voice calls.

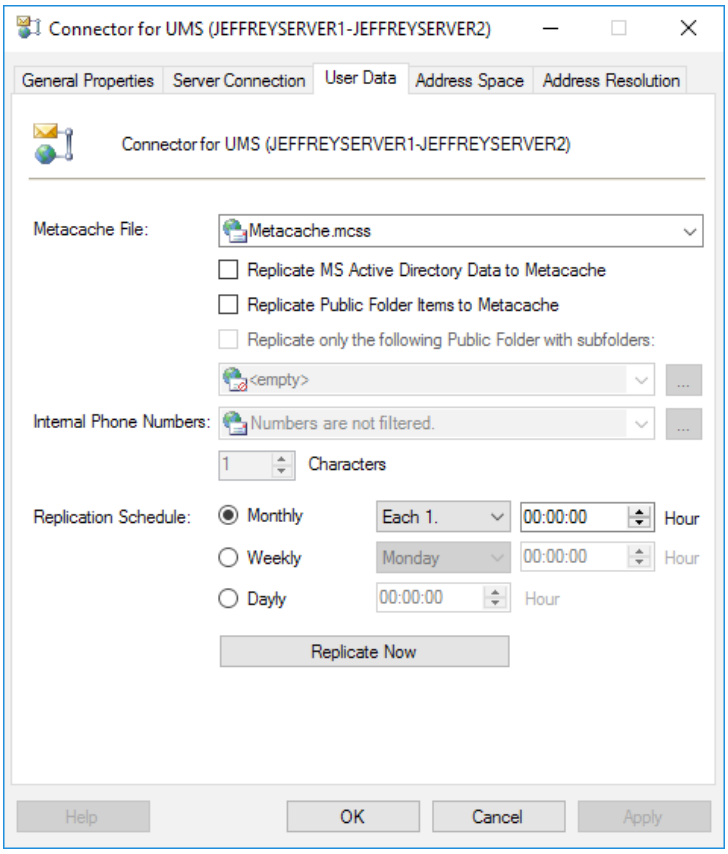

Image 3.20: Setting options that determine user data

▶ Metacache File

The metacache database is a proprietary database that can be created while the connector component is running. Unlike the ***global catalog***, this database contains all relevant address data of the domain. It is created by choosing a file with the file extension ***.mcss***. The files, which are ready for access almost immediately, are used for the resolution of users if cover pages are being generated. Thus, the database is speed-optimized and can be run without additional database systems. Moreover, it can be extended with interfaces that allow the connection of databases to CRM systems via third party plugins.

▶ Replicate MS Active Directory Data to Metacache

Activating this option copies the ***Active Directory Forest*** of the user data to the database. This may take some time.

▶ Replicate Public Folder Items to Metacache

Additional public contact folders can be copied to the metacache with this option. This requires the existence of global folders and may take some time to process.

▶ Replicate only the following Public Folder with subfolders

To optimize access time to the global folder database, you can enter or create a public contact folder here that limits the search for folders.

▶ Internal Phone Numbers

As the metacache saves all calling number data, internal calling numbers that contain ambiguous data may cause doublets. To avoid doublets, use this input field and specify how internal calling numbers are treated according to their length and whether they ought to be assigned to certain domains.

▶ Replication Schedule

The replication schedule determines the point of time, at which data are being copied. To trigger replication immediately, select *Replicate Now*.

3.5.4. Address Space

In this tab (see Image 3.21), address spaces or address types can be selected that utilize all functionalities provided by the connector (for outbound communication).

Apart from connecting E-Mail programs such as ***Outlook*** to the Exchange Server, other programs can access the Exchange Server via ***SMTP/POP3*** as well. Hence, the definition of fax or SMS addresses is essential.

Define them by configuring an additional ***SMTP*** address space that contains an expressive domain suffix. The domain suffix can be chosen arbitrarily and servers the sole purpose of providing an addressing function. Once entered, there is no need for further administration efforts, neither in the ***Exchange System Manager*** nor in the ***DNS***.

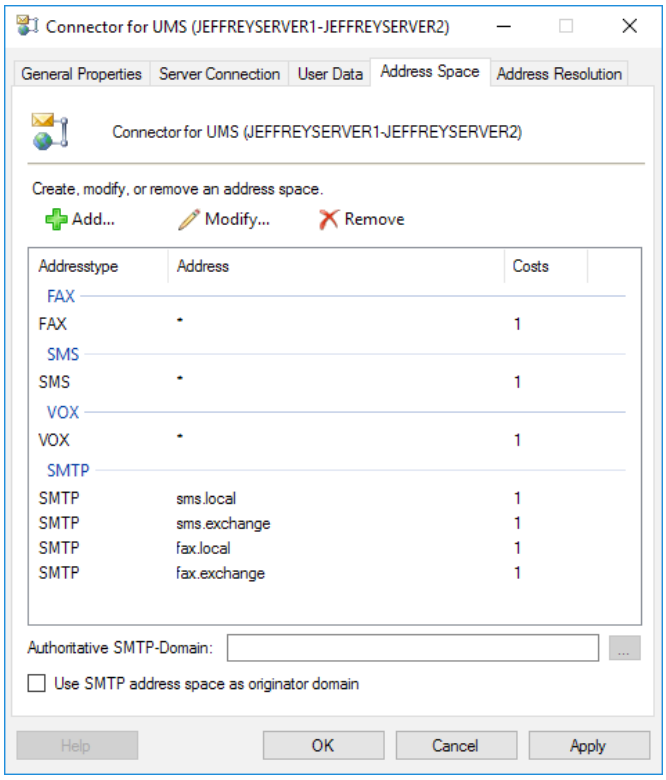

Image 3.21: Setting details for the *Address Space*

▶ Authoritative SMTP-Domain

Here, the domain suffix used for transmitting E-Mails and faxes from the Exchange Server to the OfficeMaster Messaging Server can be selected. Entries are only needed if the Messaging Server utilizes multiple Exchange connectors for various Exchange organizations. These connectors all employ the same ***SMTP*** recipient agent. Hence, organizations need to be distinguished by their domain suffixes. Otherwise, connectors would be addressed that request a different user administration. You can enter more than one domain suffixes (without leading **@** character). Keep them apart by using a semicolon (**;**) in between.

Note! Any changes here may greatly obstruct the working order of the component and thus should only be done intentionally, e.g. if an OfficeMaster possesses multiple Exchange connectors that address various organizations.

▶ Use SMTP Address Space as Originator Domain

The connector assigns an originator address to inbound documents. This originator address corresponds to the originator CSID and consists of the address types ***Fax***, ***SMS*** or ***Voice***, which are encoded as fax address, SMS address or VOX address. Previous environments (such as ***Exchange Server 2003 SP2*** with intelligent message filter) were not capable of decoding these addresses and forwarded them untouched. Originating addresses looked similar to this:

IMCEAFAX-03328+20455+20960@fax.firma.de

To help the Exchange connector resolve the address, use the option *Use SMTP address space as originator domain*. It essentially links the SMTP address space to the correspondent calling numbers. However, the preexistence of SMTP type address spaces is a prerequisite. They can be created in the following form:

fax.company.de ***sms.company.de*** ***voice.company.de***

The prefixes ***fax***, ***SMS*** and ***Voice*** (or ***VOX***) help the connector distinguish the SMTP document types. Thus, the documents receive these originator addresses:

03328455960@fax.company.de 01520123456@sms.company.de 0332845590@voice.company.de

Providing originating addresses in this form is easier to understand for recipients.

3.5.5. Address Resolution

The tab *Address Resolution* (see Image 3.22) incorporates settings that help optimize the connector's performance. Whenever inbound/outbound documents are received, the appropriate sender/recipient is being resolved in the Active Directory to gather and transmit information about permissions. All Active Directory domains are being browsed through on a worldwide organization. As this generally takes some time to process, you may set a domain selection and domain order explicitly or add a domain position of trust.

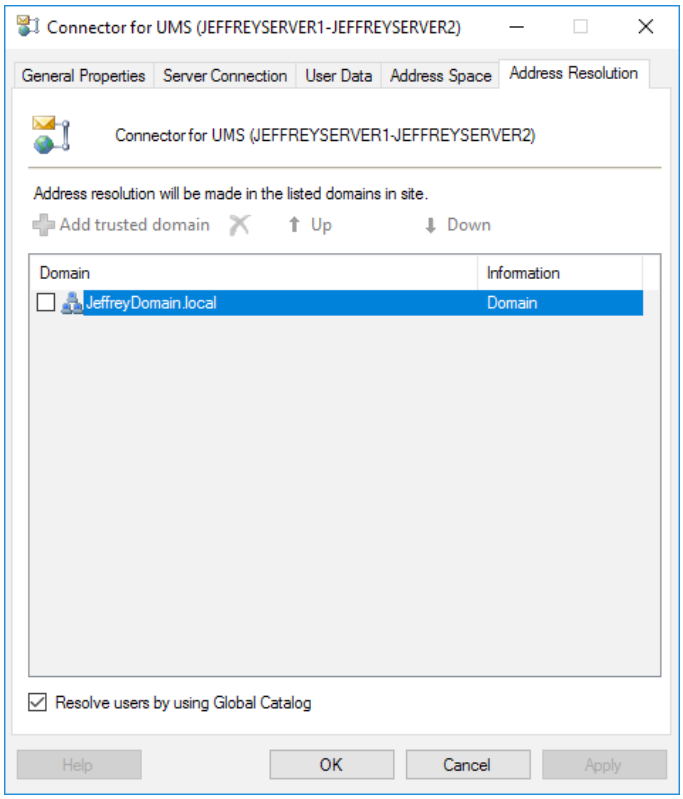

Image 3.22: Tab to configure the *Address Resolution*

▶ Add Trusted Domain

For comprehensive domain networks, you can add a trusted domain. In this case, the service account of the component is additionally used to contact this domain.

▶ Resolve Users by Using Global Catalog

This option potentially increases the processing speed in networks that incorporate multiple domains. Whenever possible, the global catalog is requested.

3.6. User Administration

As the native administration programs offered for Microsoft Exchange 2007 forestall any administration extensions, Ferrari electronic provides an administration program (***OfficeMaster Exchange Management***) for Microsoft Exchange to manage users and connectors on the Exchange Server. This program is installed by default if you install the OfficeMaster Suite configuration program.

Open up the ***OfficeMaster Exchange Management*** (search for ***OfficeMaster Exchange*** in the search tool of Windows) or download it from the official website of ***Ferrari electronic AG*** if it is not yet on your system.

The OfficeMaster Exchange Administration is fully integrated into the native Exchange Administration console for Microsoft Exchange Server 2010.

For Exchange Server 2013 and higher, the OfficeMaster Exchange Administration can be used as well.

Access the user properties by selecting *Recipient Configuration*, then right-clicking on the respective user. Choose *Properties* in the dropdown menu.

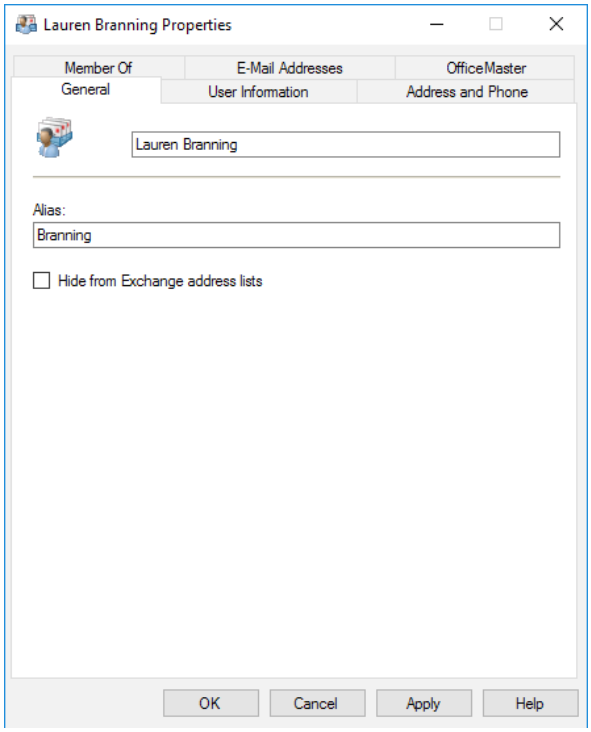

Image 3.23: User properties

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3.6.1. Fax, SMS, Voice Addresses

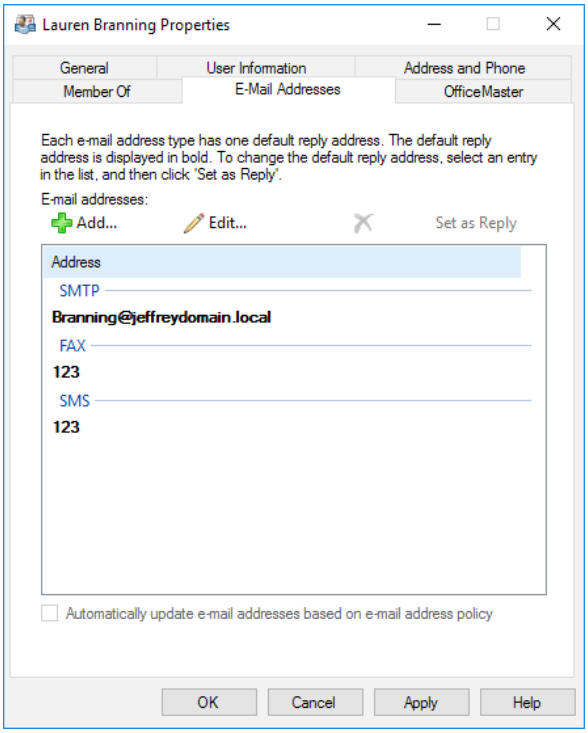

Image 3.24: Tab *E-Mail Addresses*

Common Microsoft dialogs do not support adding additional Unified Messaging address types. Hence, navigate to the tab called *E-Mail Addresses*.

If no fax, SMS or VOX (Voice) address types are yet existent, create them by clicking *Add...* . You may now add and administrate a user-defined address.

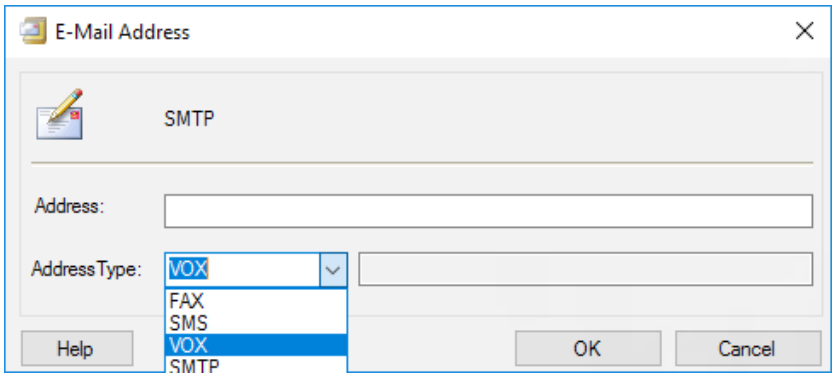

Image 3.25: Creating new address types

In case an entry of the same address type already exists, double-click it to edit the respective values.

Note! We do not recommend creating fax, voice or SMS addresses via the recipient guidelines, despite there being a way to do so. Please ensure all Exchange servers connected to the network are available after entering these values manually!

Enter the fax extension number or SMS extension number of the respective user. The number should be unambiguous if one organization possesses multiple Exchange Server and connectors as the same number might exist more than once. Render it unique by adding a forwarding number prefix (see chapter 3.5.1 on page 165). Hence, the number should show the format ***<Forwarding number prefix> <Forwarding number>***.

3.6.2. The tab „OfficeMaster“

The tab *OfficeMaster* can be used to set user specific parameter.

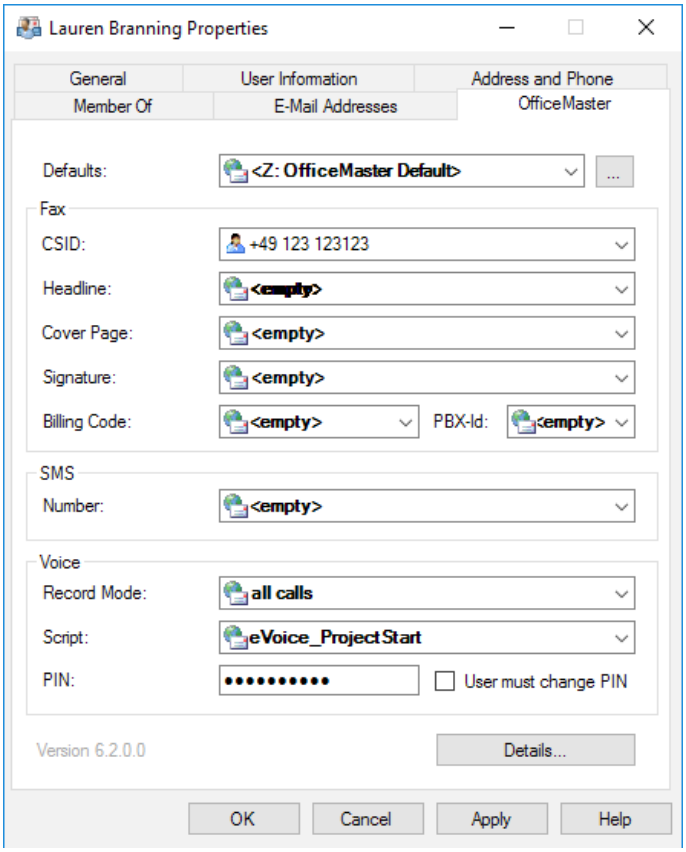

Image 3.26: *OfficeMaster* tab

▶ Defaults

Select a default profile for the users here. This may either be the central OfficeMaster default (see chapter 3.3 on page 145) or the user group default. To apply a user default, create a group of the type *Security* or *Distributor*. This group has its own OfficeMaster settings that can be used as defaults for the user settings. If a user is not administrated individually, the central user defaults will be applied automatically once the setup has concluded. If a user group has not been administrated individually but is set as default, the central OfficeMaster defaults will be applied.

▶ Fax

▶ CSID

Use the CSID input field to set a fax identifier that appears in the headline of an outbound fax. Please use the international norm:

<+> <Country area code (no leading 0)> < calling number> < extension number>

Example 3.5. +49 3328 455 960

»**End of example**

Setting an identifier ensures that both, the fax number of the sender and the call extension number are transmitted correctly. Hence, return faxes can be directly addressed to the sender. If this input field is left blank, data that have been globally set for the connector will be utilized. However, if no entry had been made there as well, data set for setting up the ISDN hardware will be used. It is generally recommend setting an individual identifier for each user. Only by doing this, valid addresses for return faxes can be transmitted even if users send data from various locations.

▶ Headline

Enter an individual header text for each user (or user group) into this input field. This could be their company name and the department the user is working in.

▶ Cover Page

Here you can choose a user-specific cover page file. The file names of all cover pages are listed here, which are saved to the subfolder *COVER*. The folder itself is created automatically on the computer that was used to carry out the setup of the fax connector. By default, this option is inactive.

Additionally, you may enter a new file name. However, ensure the file is located in the subfolder *COVER* before running the system and the file extension ***.rtf*** has been stated.

▶ Signature

If your fax document is required to show a signature, choose the appropriate signature file here. All ***.rtf*** files that have been saved to the subfolder *SIGN* will be shown in this dropdown list. Again, this option is deactivated by default.

Similar to the *Cover Page* dropdown menu, you may also enter a new file name. Before running the system, ensure the appropriate ***.rtf*** file has been saved to the subfolder *SIGN*.

Note! The administrator is responsible for assigning the signature files to the respective user. As outlined above, the files need to have an .rtf extension or else they cannot be integrated correctly into the Microsoft Exchange message.

Example 3.6. Creating a Signature File

1. Scan the signature
2. Save the file as graphic file (such as *PCX*)
3. Import the graphic file as *RTF* file object into the *Messaging Server Configuration* program

»**End of example**

▶ Billing Code

For the billing code, choose any alphanumerical identifier with up to 12 digits. This identifier will appear in the log file of the Messaging Server for all outbound jobs. Having a billing code allows the assignment of jobs and the corresponding costs to an individual user.

▶ PBX-ID

Some organizations use their PBX to keep record of accumulating costs for telecommunication processes. On a trunk that is used by multiple users (e.g. fax line), each user has to type in a set of numbers (code) before providing the actual calling number. Thus, each cost can be traced back to an individual user. As the PBX interprets the code, the Messaging Server cannot establish a connection itself because the code would appear in front of the ***PBX ID***. One possibility to counteract this issue is to integrate the dial prefix into the ***PBX ID***.

▶ SMS

▶ Number

This number specifies the main send and receive address for SMS messages. It only applies to ***SMS Large Accounts***. In all other instances, users are identified by their SMS address.

▶ Voice

▶ Record Mode

When selecting the messages that need to be recorded, you may opt between:

- All Calls

  If you opt for *All calls*, the recipient will additionally receive a message on the Exchange Client should no recording be made on the voice inbox. Hence, the recipient is notified that an inbound call has been received along with the details of the caller.

- Only Voice Messages

  Similar to *All calls*, with the exception that the recipient will only get a call notification, if the caller has left a voice message.

▶ Script

This is the initial script that manages the behavior of the mailbox. The default project is *eVoice_ProjectStart*.

▶ PIN

Enter a PIN for the voice box here. It will be requested when switching to the configuration mode or if you attempt to listen to voice recordings.

▶ User must change PIN

If a user accesses the configuration mode (remote request), he will be prompted to change his PIN. The checkbox will be reset once the PIN has been changed successfully.

3.6.3. OfficeMaster Details

Select *Details* in the lower right hand corner to access further configuration settings for the respective user (see Image 3.27 below).

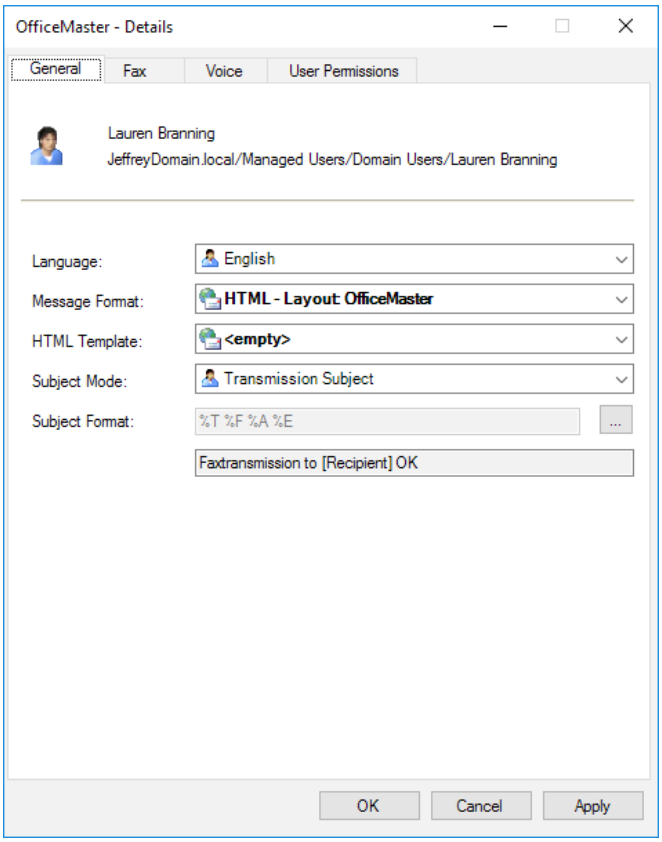

Image 3.27: OfficeMaster user details

General

▶ Language

Set the language for text outputs and prompts here. Four languages are being offered for selection (*German*, *English*, *French* and *Spanish*). The default setting is based on the language that has been set for the global connector settings (see chapter 3.3 on page 145 for reference.

▶ Message Format

In order to display the documents more flexibly, four display modes can be set here. Choose between:

- *Plain Text*
- *HTML Layout: Neutral*
- *HTML Layout: OfficeMaster*
- *HTML Layout: Outlook*

▶ HTML Template

Apart from the ***HTML*** templates provided, you can load external templates for more specific design choices. Commonly, a special version of ***HTML/XML*** is used to generate them. In order for them to appear in this dropdown list, deposit them to the global ***COVER*** subfolder, which also contains the ***.rtf Cover Page*** files. As these template files (****.HTL***) save entire language sets to HTML templates, they can essentially alter the appearance of an inbound document to match the corporate design. Find the HTL editor and a manual for the HTL script language in the directory <SERVER>\FFACCESS\Redist\Tools .

▶ Subject Mode

To meet individual demands for the subject line of a fax document or a SMS, the subject mode can be changed here. These modes do not affect voice messages. Choose between four modes:

▶ Transmission Subject

This is the classic form of a subject feedback.

Example 3.7. Fax transmission to <Fax number> 1 Page ok

»End of example

▶ Original Subject

The output is similar to the one given for *Transmission Subject*. However, the subject line is also added to the feedback. Business programs are capable of processing such feedbacks, which brings in a great advantage. Furthermore, stating the subject line provides an additional way to keep fax documents apart from each other.

▶ User Defined

Here, the subject line of the feedback can be arranged manually.

▶ Subject Format

If you select the subject mode *User defined*, you may generate a text output manually. Hence, click on the [...] button and choose your preferred placeholders. See Table 3.6. for a list of placeholders that can be used according to the language setting. Check the output row beneath *Subject Format* and ensure your feedback is as intended.

Table 3.6: Placeholders for Feedbacks

Character	Feedback
%S	Original subject line
%T	Transmission type (Fax or SMS)
%F	To/from (depending on transmission type and language set)
%E	Status (“OK” or “Error”)
%P	Number of pages (e.g. “1 page”, “2 pages”)

Character	Feedback
%A	Recipient (if it can be resolved in plaintext, or else recipient number or fax CSID if it cannot)
%N	Called number that has been transmitted via ISDN
%R	Exchange recipient number (fax address of the recipient)
%M	Short message (the word “short message” will be displayed in the respective language)
%%	Percentage sign

Example 3.8. ***%S - %T %F %A %E***

Supposedly, a fax with the subject line ***Offer No. 0000145*** is sent to the fax number ***+49 3328 455 960***, the feedback line would display as follows:

Offer No. 0000145 – Fax transmission to +49 3328 455 960 OK

»End of example

Fax

This tab contains options that are specific to the fax service.

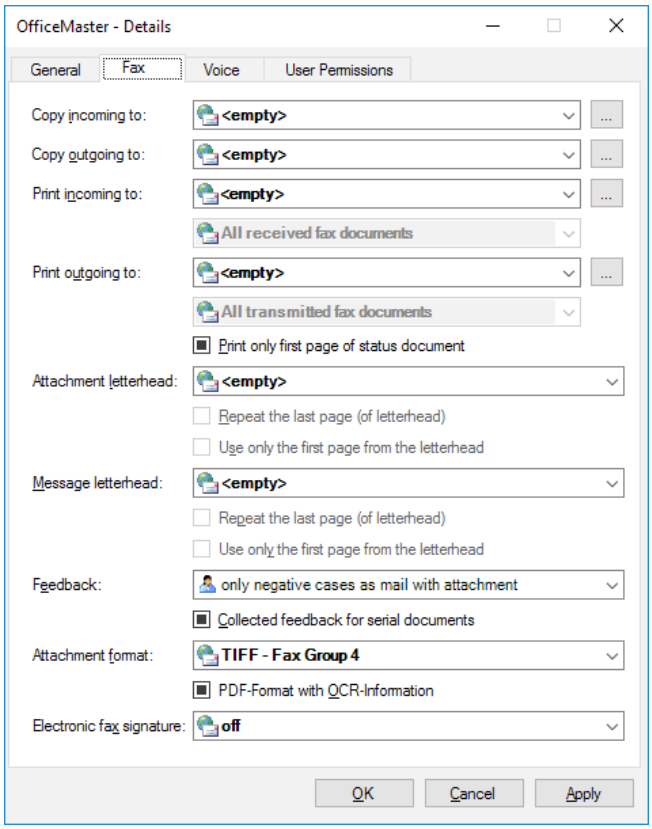

Image 3.28: Options for the fax service

▶ Copy Incoming to / Copy Outgoing to

Use this option to specify preconfigured folders or inboxes that are used for storing copies of all inbound and outbound documents (fax and SMS). Keeping copies of these documents have many benefits: It allows for a gapless archiving of fax/SMS communication, browsing for certain processes and resending faxes. Find public folders in the dropdown list of the folder ***Microsoft Exchange System Objects***. Groups cannot be selected.

▶ Print Incoming to / Print Outgoing to (UNC)

Here you can separately specify the network printer that is supposed to print all inbound or outbound documents for the respective user. Instead of searching for a printer, you may directly enter a printer name using the *UNC* (*Universal Naming Convention*) standard. By default, this option is inactive (***<empty>***).

For the connector to be able to communicate with the printer for inbound or outbound faxes, the computer running the connector component has to have the appropriate driver installed.

Note! Print gateways that essentially employ the same functionality can be configured in the Messaging Server Configuration program. However, this process does not support the configuration of user specific settings. To test the printing functionality, use the tool ***MsxPrinterTest.exe***. It is located on the server that also contains the OfficeMaster software, more specifically in the <SERVER>\FFACCESS\Redist\Tools.

An additional option can be applied to inbound and outbound printers, which defines what sort of documents are printed out (*All documents*; *successfully received/sent documents* or *faulty inbound/outbound documents*).

▶ Attachment Letterhead

The default setting for this input field is ***<empty>***. This means that a pre-set letter paper is used for the user. To set an alternative letter paper, use the dropdown list to select the respective letter paper. The name of all letter paper files saved to the sub-folder *LETTER* are shown here.

The following checkboxes control in what manner documents with multiple pages utilize the letter paper file:

- Repeat the last page (of letterhead)
- Use only the first page from the letterhead

Refer to „Letterhead Attachment“ on page 152 for help on how to combine these functions effectively.

▶ Message Letterhead

The options and their functions are equivalent to *Attachment Letterhead*.

▶ Feedback

Again, this option is equivalent to the section „Fax Feedback“ on page 152). Refer to it for a more detailed description of the individual settings. Feedbacks indicate whether the fax transmission was successful or not. If a *Non-delivery Report* (*NDR*) is requested, the sender will receive a report that includes information about why the fax could not be delivered and allows the user to change the fax number and repeat the process. You may choose between

- Positive and negative as Mail
- Positive as Mail, negative as NDR

- Only negative cases as mail
- Only negative cases as NDR
- Positive and negative as mail with attachment
- Positive as mail with attachment, negative as NDR
- Only negative cases as mail with attachment (recommended)

▶ Collected Feedback for Serial Documents

An additional option is to choose to receive a summary of the feedbacks for bulk faxes (outgoing faxes with the same content but different addresses). For documents that have only one recipient, the settings set in ***Feedback*** will be applied.

▶ File Format

Should the user favor a particular file format, use this box to specify it. Find further information in the section „File Format“ on page 153).

▶ PDF Format with OCR-Information

If the text recognition is turned on, you can also opt to have a searchable document created that is then attached to the incoming document.

▶ Electronic Fax Signature

Use this input field to add a qualified electronic signature to outgoing fax documents. If this option is enabled, the user may turn it on or off in the properties section of his outlook account. Please be advised that this feature will not work if the Messaging Server does not support fax signatures.

Voice

Use this tab to configure the personalized voicemail feature.

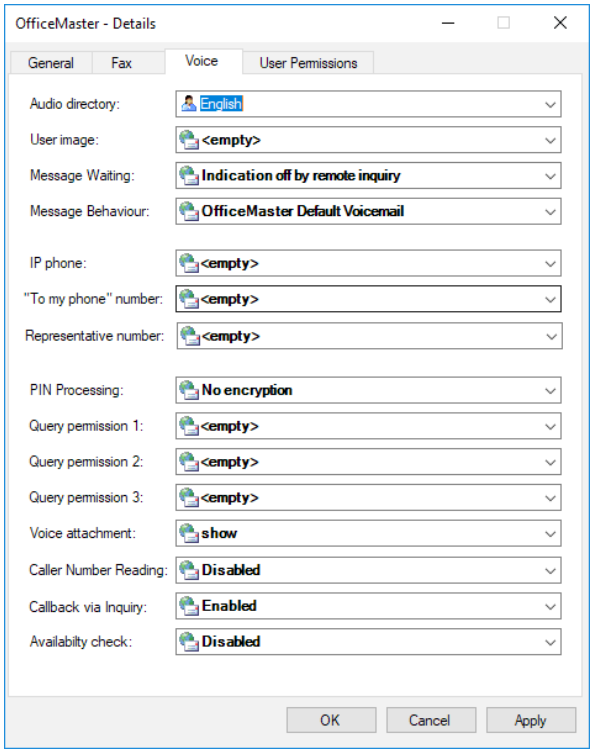

Image 3.29: Voice settings

▶ Audio Directory

The audio directory, which is essentially the voice tree of the Messaging Server, defines the language that the voicemail feature utilizes to play back commands and requests (output language). Every Messaging Server contains an audio directory where all voice feedbacks are stored. You may choose between *English* (EN) and *German* (DE).

▶ User Image

Use this box to select a user image. The user image is a default image that is used as placeholder if the user has not set one specifically or a caller could not be identified. Please choose a PNG or JPG file and ensure it is located in the global directory PICTURE. Furthermore, ensure the image does not exceed 160 Pixels X 180 Pixels (width X height).

▶ Message Waiting

In this section, you may configure how the *Message Waiting Indicator* (*MWI*) resets. The MWI is a visual feature that notifies users on any new voice messages. It is triggered autonomously and its behavior primarily depends on the Messaging Server configuration and the respective MWI configuration on the PBX.

Choose between four modes:

- *No Message Waiting Indication*
- *Indication off by remote inquiry*
- *Indication off by inquiry of one message at least*

- *Indication off by inquiry of all messages*

▶ Message Behavior

Specify whether you prefer receiving voicemails in the classic E-Mail format used by the OfficeMaster Suite or the Exchange UM voicemail format.

Note! The format will only appear once the respective user has been authorized for the Unifed Messaging role of the Exchange Server.

▶ IP Phone

In many cases, the number of the voice box is not identical to the telephone that has been assigned to the voice box. To reset the MWI nonetheless, specify the calling number that shall have the MWI deactivated once its voice box had been accessed. This number essentially represents the telephone on the respective work desk.

▶ "To my Phone" Number

The integration to Outlook facilitates the forwarding of messages to a dedicated telephone, commonly the telephone on the work desk. In cases where the work desk regularly shifts its position or the mail client is run from various computers, you may specify an alternative telephone that is in close proximity. Enter its number into this input field.

▶ Representative Number

Specify a number that receives the redirected call in case the caller has no intention of speaking to the voicemail

▶ PIN Processing

To amplify safety, the Messaging Server is giving you the possibility to encrypt the PIN by a ***PBKDF2-Hash*** standard.

▶ Query Permission 1- 3

If the voice box receives calls from these telephone numbers, it immediately enters the configuration mode. You may provide up to three numbers.

▶ Voice Attachment

Here you can determine whether the voice files (WAV or MP3) are incorporated into the message or not. If the files are suppressed, you may no longer play them via the computer speaker. Play them via remote request instead.

▶ Caller Number Reading

Use this input field to determine whether the telephone number of the caller will be read out while listening to the respective audio message. It may be read out prior or after the message.

▶ Callback via Inquiry

This section allows or prevents the user to initiate a callback. If the user is eligible, the option will be given in the remote request menu.

► Availability Check

If needed, the voice connector employs a functionality that evaluates the private schedule of the user and determines whether he is available or not.

User Permissions

The tab *User Permissions* incorporates all permissions a user can obtain. Activate them by ticking the respective box. Find a thorough description of each check box in chapter 3.3.4 on page 156.

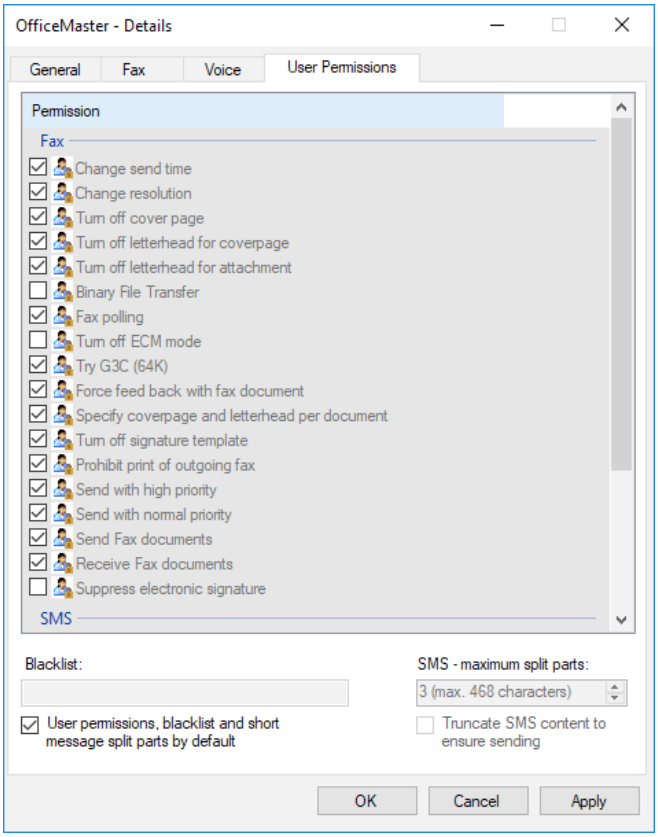

Image 3.30: User Permissions

► User Permissions, Blacklist and Short Message Split Parts by Default

If this checkbox is activated, user permissions will be set according to the global permission guidelines. The profile configuration that has been specified in the *Default* (3.6.2 on page 176) input field would then be used. Please note that by activating this option, you will no longer be capable of toggling the other options on or off.

► SMS- Maximum Amount Split Parts

Select the maximum amount of individual SMS whenever SMSs need to be split into individual messages. The maximum value possible is 99. Hence, 99 individual messages can be sent per document.

► Truncate SMS Content to Ensure Sending

The OfficeMaster server defines the maximum amount of short messages for global users. To ensure that multiple SMS can be sent without restriction, the amount should always be lower than the one set in the OfficeMaster server. Thus, in cases where automatic systems trigger notification messages that exceed the maximum amount of split messages, users no longer receive a transmission error. However, such systems usually deliver their most important information in the upper part of a message. Thus, shortening the text might be a favorable alternative.

3.6.4. OfficeMaster Group and Folder Wizard

Large companies that utilize multiple OfficeMaster connectors may have difficulties in applying global connector settings (see Chapter 3.3 on page 145) for individual user groups or recipients of routing groups. Furthermore, these global connector settings may not always be in accordance with the corporate guidelines.

In order to be able to edit the user settings without having to open and administrate every object individually, you may use the ***OfficeMaster Groups And Folder Wizard*** for this purpose instead. This wizard is capable of ignoring specific settings to retain their original value.

Access the wizard by switching from the tab *Recipient List* to the tab *Recipient Tree*, then open the properties of a selected organization element or group. Switch to the *OfficeMaster* tab and select *Administration Wizard*.

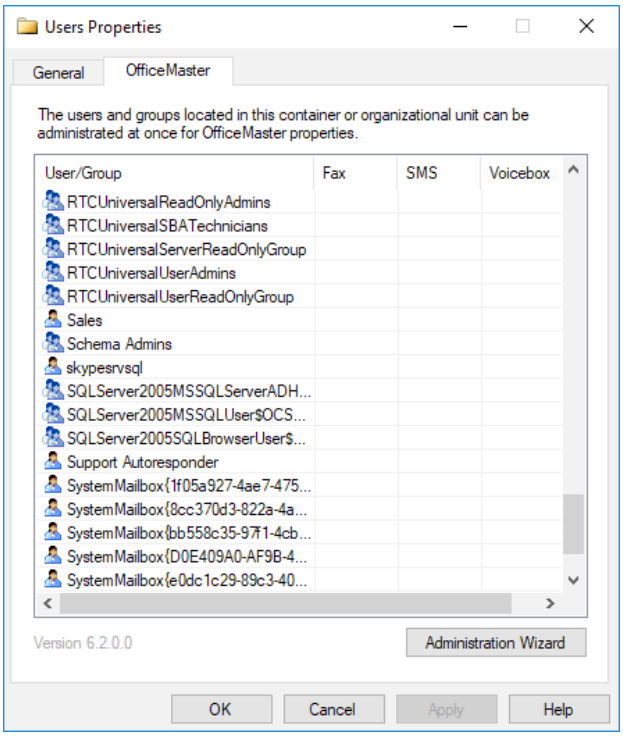

Image 3.31: Running the OfficeMaster group and folder wizard

Note! Depending on the type of folder, it may be either an ***Administration Wizard*** for organization elements or a ***Member Administration*** for groups.

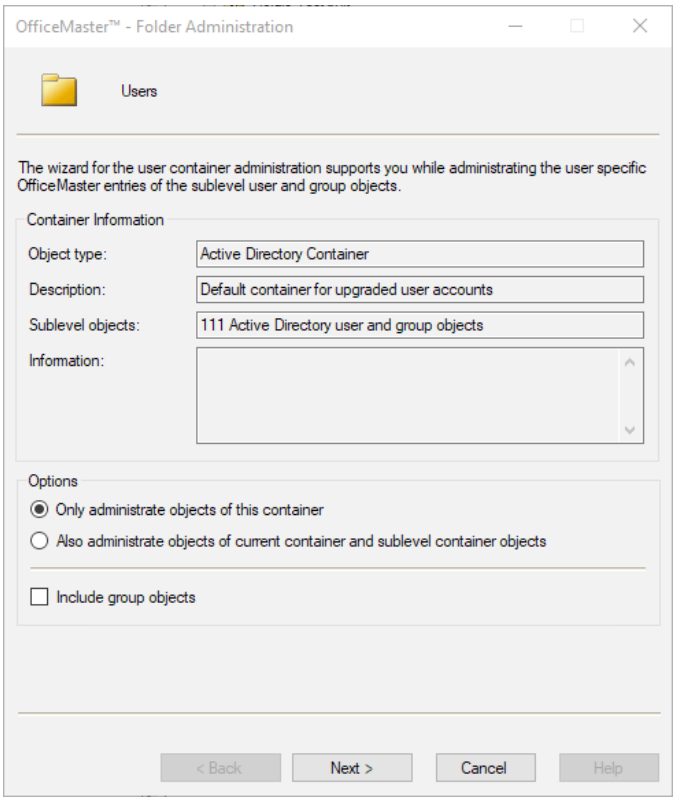

Image 3.32: Folder Administration

► Options

► Only Administrate Objects of This Container

Choose this option to restrict the wizard to edit users other than those contained in this folder. Users who are located in other folder objects within the main folder (sub-level folders) will not be administrated. This option is only available in the OfficeMaster folder administration.

► Also Administrate Objects of Current Container and Sublevel Container Objects

As oppose to the option outlined above, this option will allow the wizard to administrate users located in sub- folders. Again, this option is only available in the OfficeMaster folder administration.

► Include Group Objects

Group objects such as distribution lists and security groups can also be given the desired settings.

Note! Group objects for OfficeMaster connectors are no transmission defaults but property defaults.

General Settings

The next window is essentially a mirrored version of the general properties found in the *OfficeMaster* tab for each user. See chapter 3.6.2 on page 176 for reference.

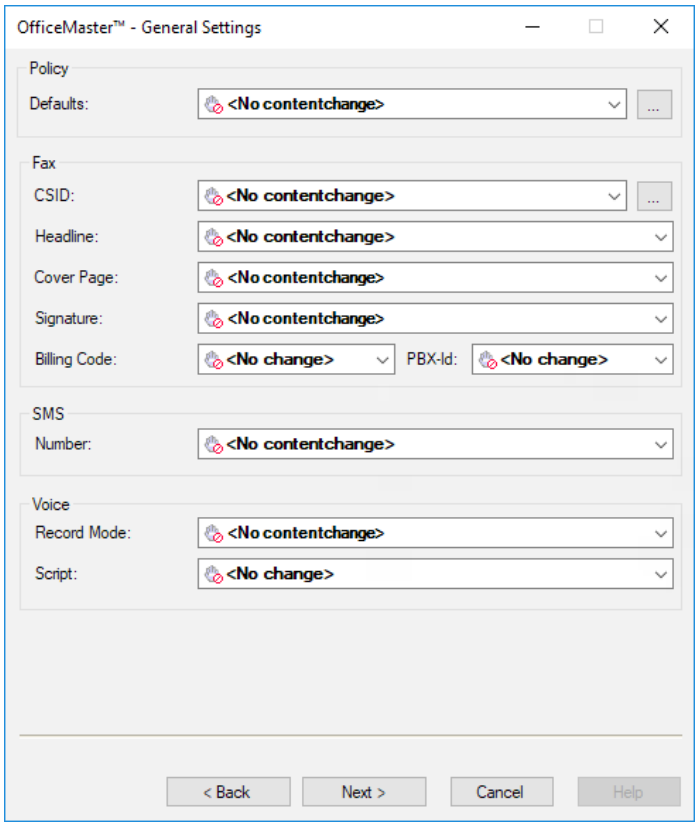

Image 3.33: General Settings

▶ Fax

▶ CSID

To optimize the fax CSID, the manual entry can be enhanced in this input field. Click [...] to access a window that aids you in this process (see Image 3.34).

The fax CSID can be composed using ***Extensions***, such as:

- Private Number (Taken from the first number of the Active Directory ***Calling Number*** section – *Private Phone*)
- Radio Number (Taken from the first number of the Active Directory ***Calling Number*** section - *Pager*)
- Mobile Number (Taken from the first number of the Active Directory ***Calling Number*** section - *Mobile*)
- Fax number (Taken from the first number of the Active Directory ***Calling Number*** section - *Facsimile*)
- IP Phone (Taken from the first number of the Active Directory ***Calling Number*** section - *IP - Phone*)
- FAX Address (Default reply address of the type ***FAX***; only if it is numeric - *FAX - Address*)

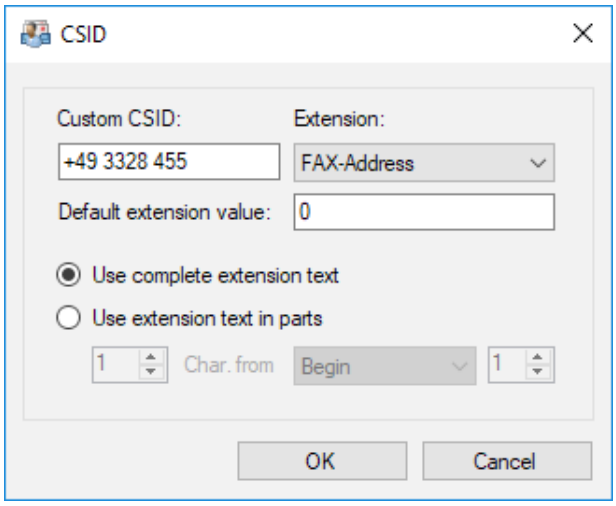

Image 3.34: Configuring a dedicated CSID

As not all of the calling numbers provided can be used effectively, choose *Use Extension Text in Parts* to process only the desired characters of the calling number.

Details

The windows ***Details (Fax)*** and ***Details (Voice)*** incorporate the same properties as by selecting the *Details* button in the *OfficeMaster* tab and navigating to the respective tab (*Fax* and *Voice*). See chapter 3.6.3 on page 179 for reference.

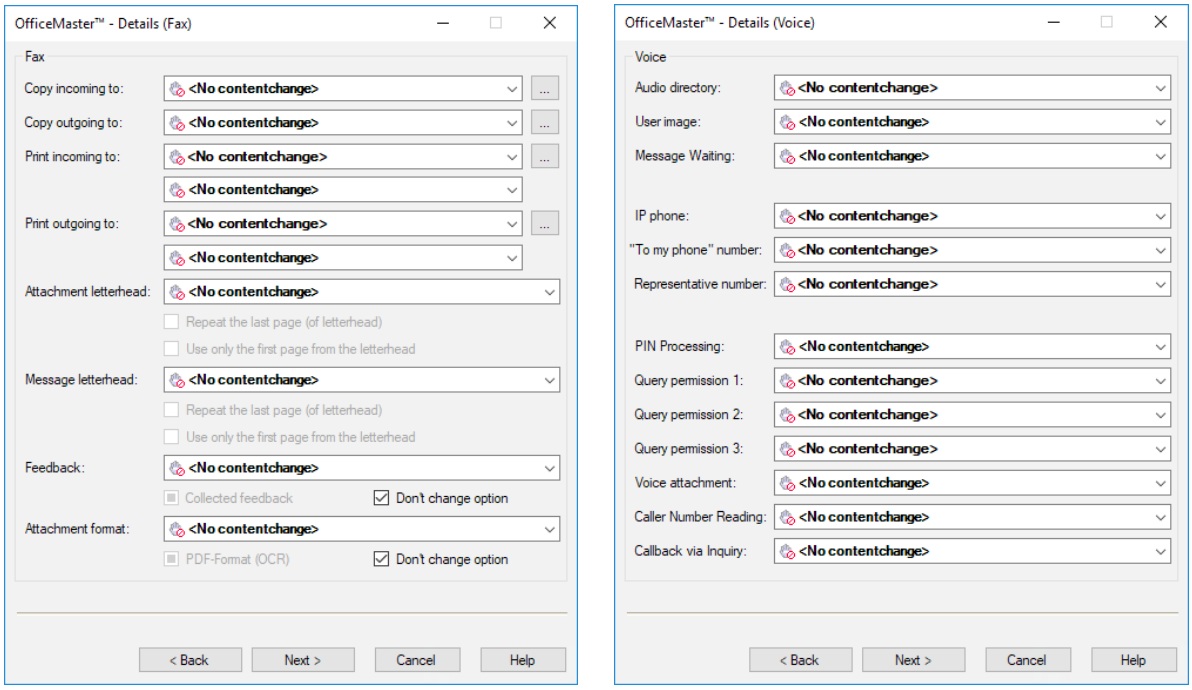

Image 3.35: Details for *Fax* and *Voice*

3.7. Installing the Voice Form

In order to use the native outlook client to mark inbound messages with a speaker symbol, we recommend utilizing the voice form. Please publish it within a library for organizational forms and distribute it throughout your Exchange organization.

- Find the Outlook template file ***FFVoice.oft*** in the ***REDIST*** directory, which in turn is located in the ***FFACCESS*** folder (<MessagingServer>\FFACCESS\Redist). Double click to open it using your Outlook client. If your system fails to find the appropriate program to open this file, choose ***Open With*** > ***Outlook***.

- Image 3.36 shows an open E-Mail. This element has to be published on the new library for organizational forms (in this case the Organizational Forms Library). To execute this step in Outlook, open the ***Developer*** tab, select ***Publish*** and choose ***Publish Form As…***

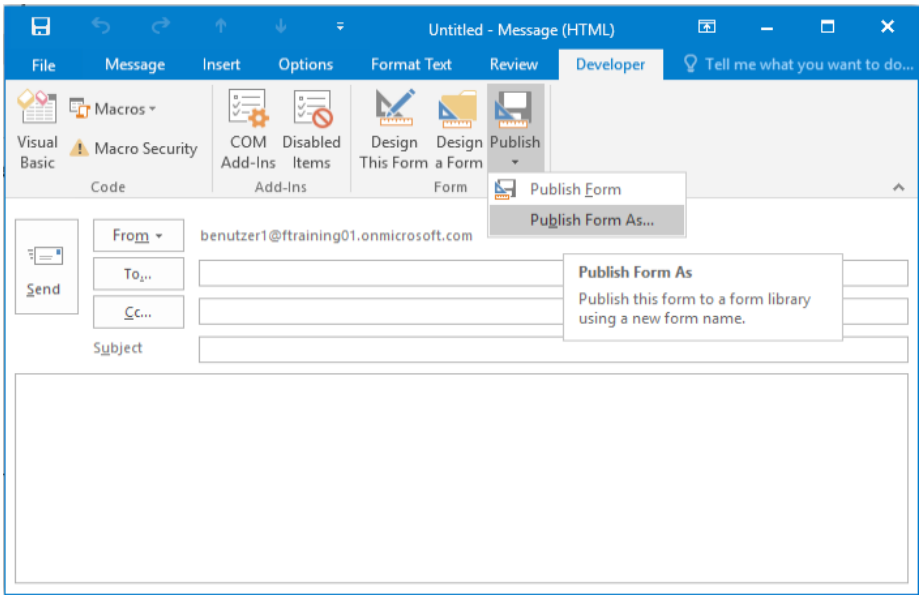

Image 3.36: Publishing the Outlook template for Voice

- The form will bear the name ***FFVoice*** (see Image 3.37 below)

- Once confirmed, all inbound voice messages will henceforth show a speaker icon within Outlook.

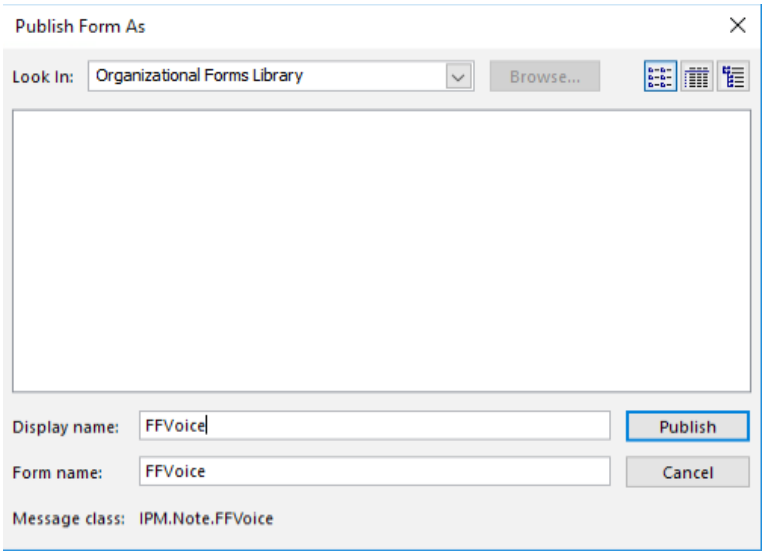

Image 3.37: Publishing the template in the library for organizational forms voice

Note! Please create the *Organizational Form Library* if it is not yet existing.

3.8. Removing a Connector

To delete a connector, select it and click on *Remove* (see Image 3.38).

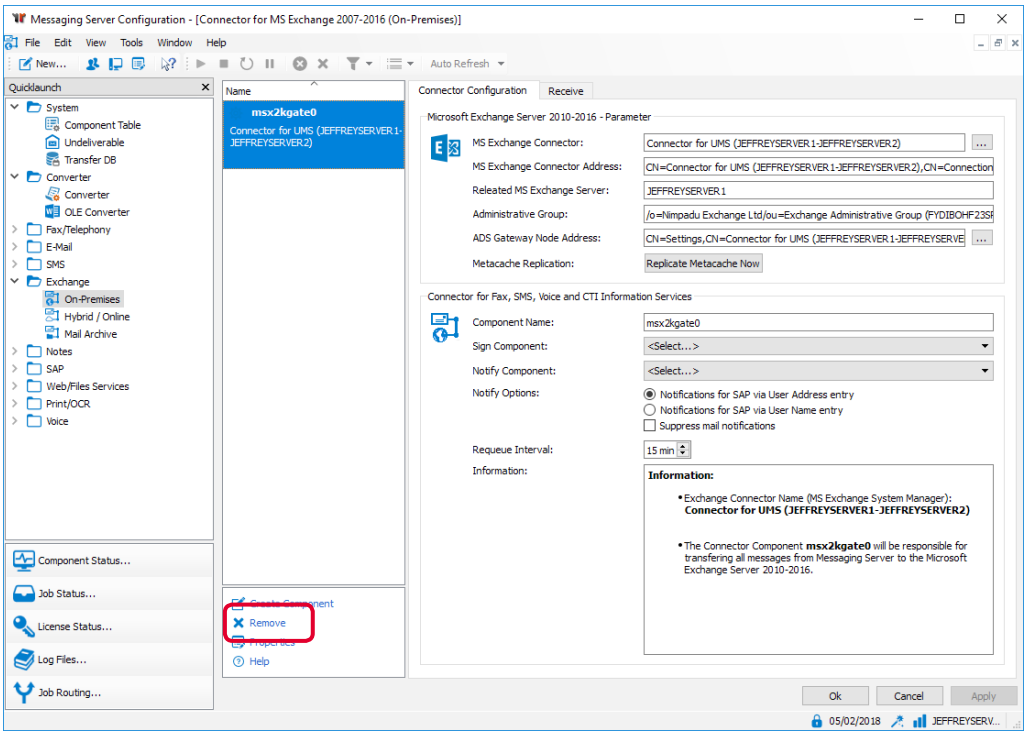

Image 3.38: Removing a component

In the next window, select *Remove Connector/Gateway Components*.

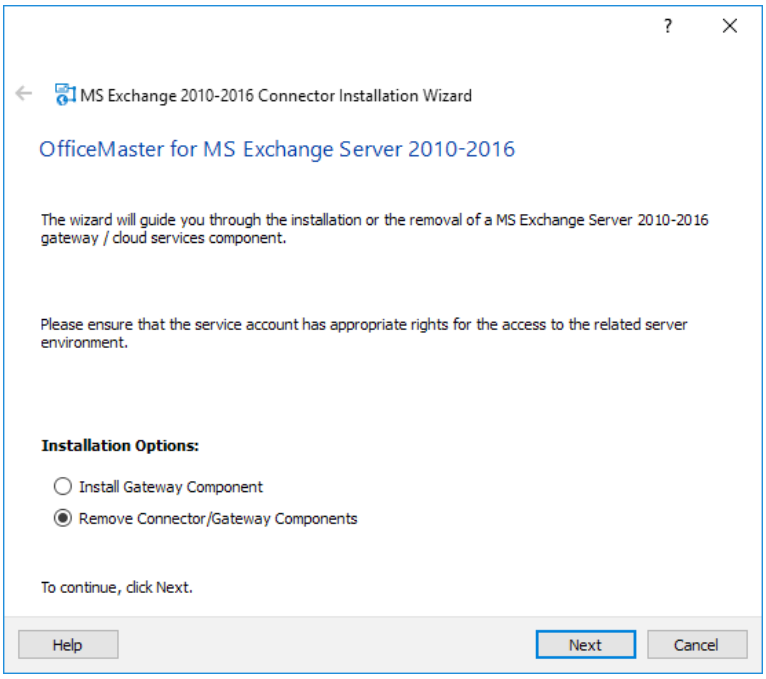

Image 3.39: Welcome dialog

In the next window, you may specifically select connectors you wish to delete (see Image 3.40). This will also allow the removal of previous connector versions.

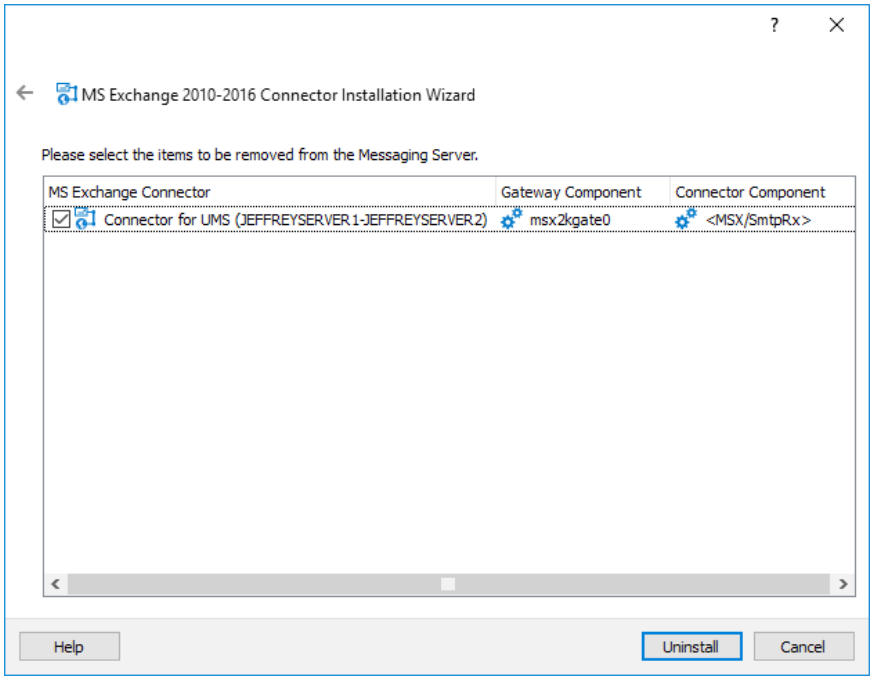

Image 3.40: Selecting the respective Exchange connector

If the organization contains yet another connector, please select *No*. The global settings will then be retained.

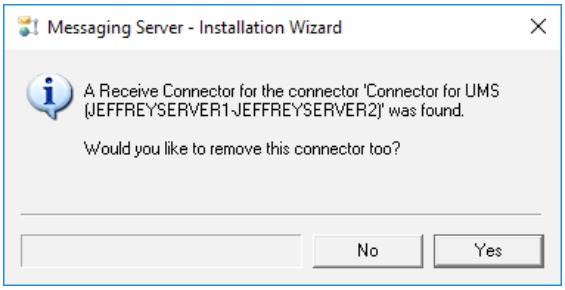

Image 3.41: Deleting the global configuration object

While the Messaging Server removes the connector, it also attempts to remove global settings. However, the remaining connectors might require these settings. Thus, the wizard inquires whether the connector that is about to be removed is the last entity in the organization (see Image 3.42). If this is the case, select *Yes*. All global settings within the Active Directory will then be removed.

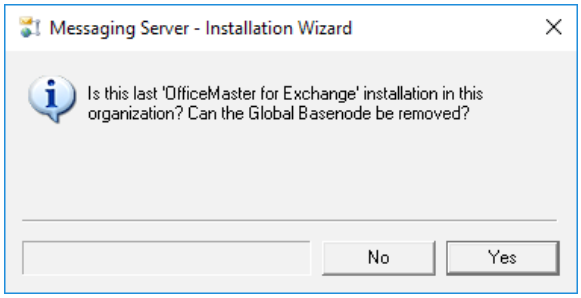

Image 3.42: Removing the configuration node

Execute the same procedure to remove Exchange receive connectors (Image 3.41).

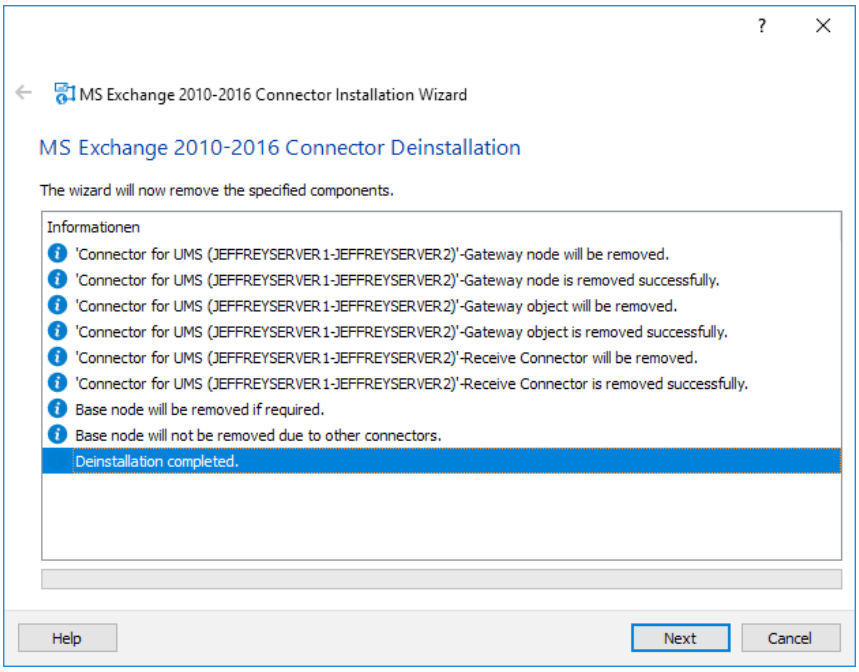

Image 3.43: Process status

Individual removal tasks are listed consecutively, as shown in Image 3.43. Select *Next* to conclude the removal process.

Note! You may contact the Ferrari electronic support team if errors occur during removal. In that case, please provide the ***finstallhelp.log*** file. The file is being updated continually during installation and uninstallation processes.

3.9. Cover Pages

A fax message sent via Microsoft Exchange can hold a cover page with transmission information of the respective transmission job. Any text-processing program capable of generating *RTF* files can essentially generate cover pages as well (such as *WordPad*). You may add the following field types (container) to the cover pages:

- Fields with a fixed expression
- All fields that are also featured in the global address directory of Microsoft Exchange

Table 3.7: Cover page input fields

Meaning	Field Name
Sender	ORIGINATORNAME
Fax number of the sender	ORIGINATOR
Recipient (all)	RECEIVERNAME
Fax number of the recipient (all)	RECEIVER
Recipient Carbon Copy (CC)(all)	CCRECEIVER

Include the respective placeholders by typing

@@[Field Name]@@

Fields that contain listed content (Recipient, Fax number of the recipient, Recipient Carbon Copy, Recipient Blind Copy) will appear as full list on the document.

Placeholders for text attributes (Font, font size, leading etc.) will be replaced with the appropriate content.

Note! Attributes added to a placeholder need to be persistent throughout the placeholder chain. Thus, the font, font size, leading etc. must not be edited within the **@** symbols. Furthermore, please refrain from using an explicit line feed within the placeholder.

Example 3.9.

Fax Message

Sender : @@ORIGINATORNAME@@
Fax extension No.: 03328/455-@@ORIGINATOR@@
Recipient: @@RECEIVERNAME@@
Fax No.: @@RECEIVER@@
Send Copy to: @@CCRECEIVER@@

Subject: @@SUBJECT@@

»End of example

Use the following syntaxes to integrate fields from a global directory into the cover page:

@@AddressIdentification_NumberfromAddressList_AddressDirectoryField@@

Table 3.8: Integrating fields from the address directory

Address Identification	One of the Four Objectives FROM, TO, CC, BCC
Number from address list E.g.: @@TO_1_DISPLAY_NAME@@	The number that represents an address within the address list
Address directory field	The name that is used for addressing the field within the global address directory (see Table 3.10 for reference)

Table 3.9: Sample parameter for cover pages with elucidation

Entry on Cover Page	Effect
@@FROM_1_DISPLAY_NAME@@	Name of sender as displayed in the address directory
@@FROM_1_BUSINESS_TELEPHONE_NUMBER@@	Calling number of sender
@@TO_1_DISPLAY_NAME@@	Name of first recipient listed in the To-list
@@TO_1_DEPARTMENT_NAME@@	Department specification of the first recipient in the To-list
@@CC_2_BUSINESS_TELEPHONE_NUMBER@@	Calling number of the second recipient listed in the CC-list

As a message always possesses one sender only, set the *Address Identification FROM* to *Number From Address List =1*. You may use a dedicated syntax for the address identification *TO*, such as:

@@TO_*_ AddressDirectoryField@@

The asterisk character (*****) serves as placeholder. While processing the address list, the Messaging Server gradually replaces this character with the *Address directory field* of the respective recipient. This feature is optimized for circular faxes with a comprehensive recipient list, where the cover page is supposed to show only the respective recipient and not the entire recipient list. The cover page will feature the entire address list of the *TO* field if you enter *CC* or *BCC* addresses.

Example 3.10.

Fax Message

Recipient:	@@TO_*_DISPLAY_NAME@@
Department:	@@TO_*_DEPARTMENT_NAME@@
Recipient Distributor:	@@TO_1_DISPLAY_NAME@@, @@TO_1_COMPANY_NAME@@ @@TO_2_DISPLAY_NAME@@, @@TO_2_COMPANY_NAME@@ @@TO_3_DISPLAY_NAME@@, @@TO_3_COMPANY_NAME@@ @@TO_4_DISPLAY_NAME@@, @@TO_4_COMPANY_NAME@@
Sender:	@@ORIGINATORNAME@@
Calling Number:	@@FROM_1_BUSINESS_TELEPHONE_NUMBER@@
Subject:	@@SUBJECT@@

The cover page sent to the second recipient of the *TO*-list would essentially look as follows:

Fax Message

Recipient:	Johann Deutinger
Department:	Chairman
Recipient Distributor:	Holger Schröder, Ferrari electronic AG Johann Deutinger, Ferrari electronic AG Peter Schröder, OfficeMaster GmbH Bert Mittelstedt, Ferrari electronic AG
Sender:	Holger Schröder
Calling Number:	03328 455 960
Subject:	Cover Page Design

»End of example

The cover page template incorporates placeholders for five recipients. As only four have been stated, the fifth entry remains blank. Should the list of recipients exceed the amount of placeholders, no entry will be made and the field is left blank as well.

Use the syntax on the previous page to add information of the recipient to the cover page. Please note that this recipient needs to be a member of the global address directory. To access the address field *PRIMARY_FAX_NUMBER*, open the tab *Telephone/Remarks* and enter a value into the box *Fax*. Ensure you are within the global address directory.

Note! By filling out *Fax*, Microsoft Exchange will not create an entry that could potentially be used for transmission. It is shown for information purposes only.

Specify the fax number of the recipient in the tab *Addressing*. The fax number entered here will not be applied to any field in the address directory that could potentially be used by the Address identification ***Address Directory Field***. To make the actual recipient fax number appear on the cover page, use the following syntax:

@@TO_*_RECEIVER@@

The placeholder ***Receiver*** represents the recipient fax number that has actually been used as recipient address. It can be obtained from the address directory (***Fax*** type address) or the *TO* field. The latter has to be filled in manually.

By applying the asterisk (*****), the cover page will only feature the fax number of the recipient that ultimately receives the fax as opposed to listing every fax number that are part of the distribution list.

The following Table 3.10 contains a list of all designations that can be used as ***Address Directory Field*** on the cover page. It also specifies their location within the ***Active Directory User and Computer*** environment. Please note that not every attribute within the user administration is directly administrable.

Table 3.10: *Address Directory Field* for cover pages

Shortcut	Variable	AD Users and Computers	
		Tab in AD	Input field in Tab
AS	ALIAS	General	Description
AT	ASSISTANT		
AN	ASSISTANT_TELEPHONE_NUMBER		
BC	BUSINESS_ADDRESS_CITY	Address	City
BY	BUSINESS_ADDRESS_COUNTRY	Address	Country/region
BB	BUSINESS_ADDRESS_POST_OFFICE_BOX	Address	P.O. Box
BP	BUSINESS_ADDRESS_POSTAL_CODE	Address	Zip/ Postal Code
BS	BUSINESS_ADDRESS_STATE_OR_PROVINCE	Address	State/province
BT	BUSINESS_ADDRESS_STREET	Address	Street
BF	BUSINESS_FAXNUMBER	Telephones	Fax
BH	BUSINESS_HOME_PAGE	General	Web page
BN	BUSINESS_TELEPHONE_NUMBER	General	Telephone number
BU	BUSINESS2_TELEPHONE_NUMBER		
CN	CALLBACK_TELEPHONE_NUMBER		
CU	CAR_TELEPHONE_NUMBER		
CO	COMMENT	Telephones	Notes
CM	COMPANY_MAIN_PHONE_NUMBER		

Shortcut	Variable	AD Users and Computers	
		Tab in AD	Input field in Tab
CE	COMPANY_NAME	Organization	Company
CW	COMPUTER_NETWORK_NAME		
CI	CUSTOMER_ID		
DN	DEPARTMENT_NAME	Organization	Department
DE	DISPLAY_NAME	General	Display name
DP	DISPLAY_NAME_PREFIX		
EA	EMAIL_ADDRESS		
ES	EMAIL_ADDRESS_SMTP	General	E-mail
FS	FTP_SITE		
GE	GENERATION		
GN	GIVEN_NAME	General	First name
GI	GOVERNMENT_ID_NUMBER		
HO	HOBBIES		
HC	HOME_ADDRESS_CITY		
HY	HOME_ADDRESS_COUNTRY		
HB	HOME_ADDRESS_POST_OFFICE_BOX		
HP	HOME_ADDRESS_POSTAL_CODE		
HS	HOME_ADDRESS_STATE_OR_PROVINCE		
HT	HOME_ADDRESS_STREET		
HF	HOME_FAX_NUMBER		
HN	HOME_TELEPHONE_NUMBER	Telephones	Home
HU	HOME2_TELEPHONE_NUMBER		
IS	INITIALS	General	Initials
IN	ISDN_NUMBER		
KW	KEYWORD		
LE	LANGUAGE		
LN	LOCATION		
MN	MANAGER_NAME		
ME	MHS_COMMON_NAME	General	(Object Name)

Shortcut	Variable	AD Users and Computers	
		Tab in AD	Input field in Tab
MA	MIDDLE_NAME		
MT	MOBILE_TELEPHONE_NUMBER	Telephones	Mobile
NN	NICKNAME	Exchange (Gen.)	Alias
OL	OFFICE_LOCATION		
OI	ORGANIZATIONAL_ID_NUMBER		
ON	ORIGINAL_DISPLAY_NAME		
OC	OTHER_ADDRESS_CITY		
OY	OTHER_ADDRESS_COUNTRY		
OB	OTHER_ADDRESS_POST_OFFICE_BOX		
OP	OTHER_ADDRESS_POSTAL_CODE		
OS	OTHER_ADDRESS_STATE_OR_PROVINCE		
OT	OTHER_ADDRESS_STREET		
OU	OTHER_TELEPHONE_NUMBER		
PN	PAGER_TELEPHONE_NUMBER	Telephones	Pager
PH	PERSONAL_HOME_PAGE		
PA	POSTAL_ADDRESS		
PB	PREFERRED_BY_NAME		
PF	PRIMARY_FAX_NUMBER	Telephones	Fax
PT	PRIMARY_TELEPHONE_NUMBER		
PR	PROFESSION		
RN	RADIO_TELEPHONE_NUMBER		
SN	SPOUSE_NAME		
SE	SURNAME	General	Last name
TN	TELEX_NUMBER		
TE	TITLE	General	Title
TD	TRANSMITABLE_DISPLAY_NAME	General	(Object Name)
TP	TTYTDD_PHONE_NUMBER		

Note! Please use the *PRIMARY_FAX_NUMBER* and not the *BUSINESS_FAX_NUMBER* to apply the fax number of a recipient or sender to a cover page.

Any text-processing program capable of generating RTF files can essentially generate cover pages (such as *WordPad*). During administration, select the name of the respective cover page file and turn the cover page option on. Furthermore, the cover page file must be located in the sub-folder Cover and on the same server that runs the fax connector.

You may also add images to a cover page, such as company logos. However, please ensure that Microsoft Word had been activated during administration. Only then will the converter be capable of converting images into a fax format.

Caution! If you created the cover page with *Microsoft Word*, we strongly recommend using it again for the central conversion of a message. *Microsoft Word* creates RTF files that are not interpreted by the internal RTF converter of *Microsoft Exchange* or *Quick View Plus*, particularly if you used more complex formats like tables or position frames.

To minimize paper consumption and optimize the transmission time, cover pages are not generated on an individual page but rather precede the text body of an Exchange message. If the Exchange message contains no text body, you will be given the option of having no cover page created.

Server Administrators set the behavior and the eventual use of cover pages. As cover pages are saved to the public folder (see Table 3.2 on page 135), the server Administrator is also responsible for using adequate security measurements to essentially restrict unauthorized access.

Choose one of three settings:

- Default Cover Page for all Microsoft Exchange Users

  The administrator can set whether the individual user is authorized to turn cover pages off. This setting applies to all fax messages.

- Default Cover Page for Each Individual User

  The administrator can set a specific cover page for an individual user if required. Additionally, the user may be given authorization to turn automatic cover pages off whenever he transmits faxes. For this functionality, the same checkbox is used that also disables cover pages for all Microsoft Exchange users.

- Individual Cover Page for Each Transmission job

  Lastly, the administrator can choose whether the user is authorized to choose a specific cover page for each transmission job. In doing so, the user needs to select the respective file name (RTF file). As mentioned further above, this file must be located on the same machine that also incorporates the fax connector.

Note! By looking at the *OfficeMaster Send Options for Outlook*, the users cannot conclude their assigned settings.

CONNECTOR FOR OFFICE 365

OfficeMaster Suite 6

Manual Chapter

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4. Connector for Office 365 ®

This documentation describes the installation and configuration process of the Connector for Microsoft Office 365® of the OfficeMaster™ Server starting at version 6.0. These descriptions lay the technical groundwork for the development of further documentations.

4.1. General

4.1.1. What is the OfficeMaster Connector for Microsoft Office 365?

Since OfficeMaster 4.0 an additional connector for online services is being offered with the Exchange Connector. This connector is the improved version of the successful Exchange Connector ***msx2kgate***.

msxbcsgate (Microsoft Exchange Business Communication Services Gateway)

We endeavor to achieve the following functions:

- Compatibility to earlier versions
- Possibility to use an existing Active Directory
- Use in On-Premise- and Hybrid settings
- Connector configurations not saved in Active Directory
- Use of known and proven administration tools

Bidirectional support of the Exchange Server transmission format (TNEF)

Benefits:

- Easy installation
- No higher authorization in the Exchange Organization necessary
- Use for Office 365 possible (Full Featured)
- No MAPI to access mailbox
- Use of existing user configurations in Active Directory at on-premise and hybrid installations

Downsides:

- SMTP-Transfer-Connectors have to be set up manually at on-premise installations

4.1.2. Range of Application

This product is an Exchange Connector for Fax, SMS and Voicebox services. It can connect all installation forms of Exchange Server based messaging settings.

- Connection to Microsoft Office 365

- Connection to Microsoft Office 365 / Exchange 2016 On-Premise Hybrid
- Connection to Microsoft Exchange Server 2010 On-premise
- Connection to Microsoft Exchange Server 2013 On-premise
- Connection to Microsoft Exchange Server 2016 On-premise

4.1.3. Differences From Previous Versions

OfficeMaster versions 4 and 5 required a local Active Directory. Voice mailboxes were not supported. These shortcomings have been eradicated with the current product.

4.1.4. Differences From On-Premise Exchange Connector

The Online Connector MSXBCSGATE differs from the Exchange Connector msx2kgate in the following points:

- The msx2kgate traditionally requires a Microsoft Active Directory with a working Exchange Server Organization.
- The Online Connector MSXBCSGATE always saves configuration data in a datafile. It doesn't create a node in an Active Directory. For that reason, the Connector doesn't require an Active Directory.
- The Online Connector MSXBCSGATE supports the individual user configuration by optionally saving the data in the Active Directory to create compatibility to the msx2kgate. This compatibility is only for migratory settings. The MSXBCSGATE supports saving user data directly in their mailbox. Again, the Connector doesn't necessarily need an Active Directory.
- The Online Connector MSXBCSGATE supports mail transfer through a transfer mailbox (***Service Transfer Mode***). This circumvents the existing SMTP transfer through the Internet.
- The Online Connector is optimized for direct communication with the Microsoft Online Protection Endpoint.
- The installation wizard of MSXBCSGATE supports direct communication with Microsoft Office 365.

4.1.5. General Requirements Prior Setup

To use the Connector for Office 365 an OfficeMaster installation is required. This installation has to happen with the option of installing the ***OfficeMaster for Exchange/Exchange Online Connector***. Without this option, the Exchange management tools are not available.

Ideally, ISDN hardware or VoiP access points should be available and in working order.

Further requirements:

- Microsoft Windows Server 2008 (32Bit or 64Bit) or higher
- Microsoft Windows 8 (32Bit or 64Bit) or higher
- Microsoft .Net-Framework 4.5 Client Profile

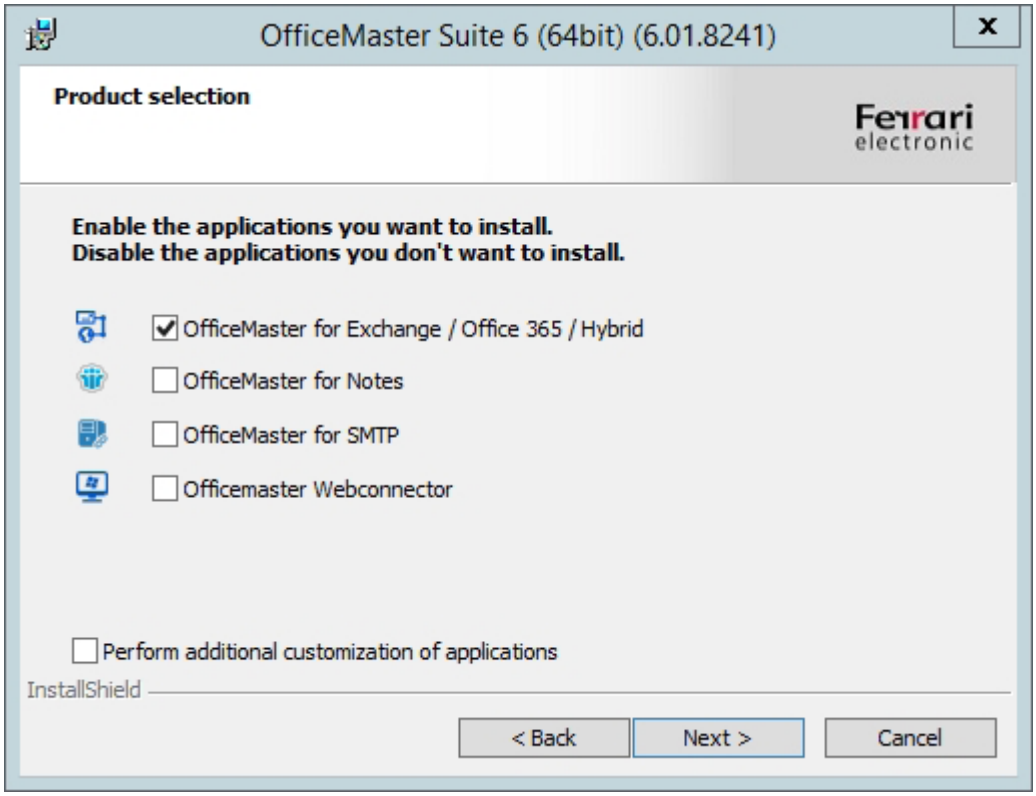


Image 4.1: Exchange install options

For the use of the different work modes, different service accounts are necessary. They will be dealt with separately in the corresponding section on each installation.

4.2. Connection to Microsoft Office 365™

The exclusive connection to a Microsoft Office 365 service does not require a Microsoft Active Directory. The Connector only needs a connection to the Internet to access the Office 365 server.

Because connecting to Microsoft Office 365 does not require an Active Directory, the user specific settings are saved directly to the mailbox of the appropriate user. The Connector msxbcsgate retrieves the data when sending or receiving documents. This connection supports all Unified Messaging services available with a conventional Exchange Connector.

The installation wizard automatically carries out all important installation steps in the Cloud. Technically, it is possible to go through each step via Office 365 admin center or Office 365 PowerShell respectively.

4.2.1. Installation requirements

Login to Office 365 with an organization administrator

Installing the Connector requires an Internet connection. During the installation Office 365 requires a login. This login refers to the administrative account containing the rights to create objects in the Office 365 Exchange admin center (organization administrator).

Attention! The installation account is no service account. It is primarily an administrative login for installation purposes. This account should never be used as a service account.

Office 365 service account to access address books

Operation of the Connector requires a separate service account or mailbox. This mailbox should be created manually as any user mailbox beforehand. The mailbox is used to access the global address list of the Office 365 installation and is saved in the Connector.

Note! It is essential to remove the service account of the Connector from the password rotation of Office 365. For this purpose the Azure AD-Module should be used. (https://msdn.microsoft.com/de-de/library/jj151815.aspx)

It is part of the default OfficeMaster installation. To remove the service account from the password rotation, use this command:

```
set-msoluser <ServiceAccount> -PasswordNeverExpires $TRUE
```

Office 365 service transfer account

The Office 365 Connector differentiates between two transfer modes:

- Service transfer mode

  For the service transfer mode outgoing messages are not sent to the OfficeMaster server over the Internet, but are redirected to an internal Office 365 mailbox. This circumvents the time-consuming administration of the SMTP-line to the OfficeMaster server (MX record, Provider, etc.)

- Internet transfer mode

  The Internet transfer mode is the conventional way of transferring outgoing messaged to the OfficeMaster server through the Internet. A unique fax and SMS domain is chosen for this purpose (e.g. fax.domain.com, sms.domain.com). It will then be connected by an Internet provider to an MX record, that will be configured to the public Internet address of the OfficeMaster server or an existing Frontend server.

To use the service transfer mode, you have to create a mailbox manually that temporarily buffers outgoing messages, before the OfficeMaster Server collects them. For that, the data limit for that mailbox should be adjusted to handle possible mass faxes.

For convenience sake the general service account can be used for this function.

Note! The general service account can be used as transfer account. It is essential to set an adequate mailbox limit and remove this account from the password rotation.

For this purpose the Azure AD-Module should be used. (https://msdn.microsoft.com/de-de/library/jj151815.aspx). It is part of the default OfficeMaster installation. To remove the service account from the password rotation, use this command:

```
set-msoluser <ServiceAccount> -PasswordNeverExpires $TRUE
```

4.2.2. Installation

The installation of the connectors is carried out in the properties section of the “Exchange Gateway for Online Services” window.

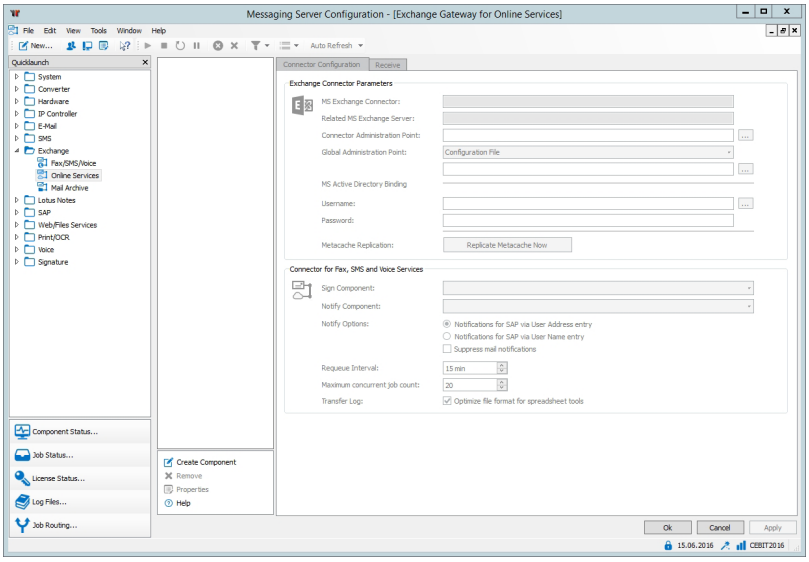


Image 4.2: Installing the Connector in the configuration

An installation wizard appears. Installation and removal of components should only be carried out with the installation wizard.

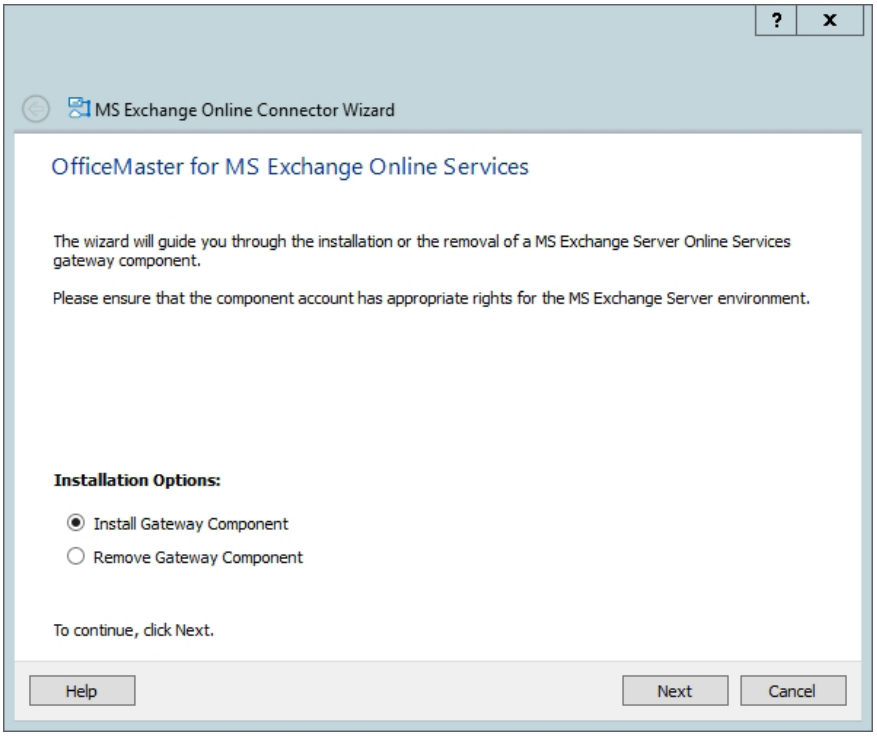


Image 4.3: Selection dialog for installation

The welcome screen is followed by a dialog to choose the type of installation. There are three types of installation available:

1. Microsoft Office 365 as complete Cloud installation

2. Microsoft Office 365 Hybrid installation with a local Active Directory

3. Local Exchange Server installation (On-Premise)

The first installation type is used for a pure Office 365 installation without local directory services.

To set up further installation objects within Office 365, a successful login to the Office 365-organization is necessary.

This should take place with an administrative account, holding appropriate organizational authority. The wizard will verify the login. The next step will become available only after the login has been cleared.

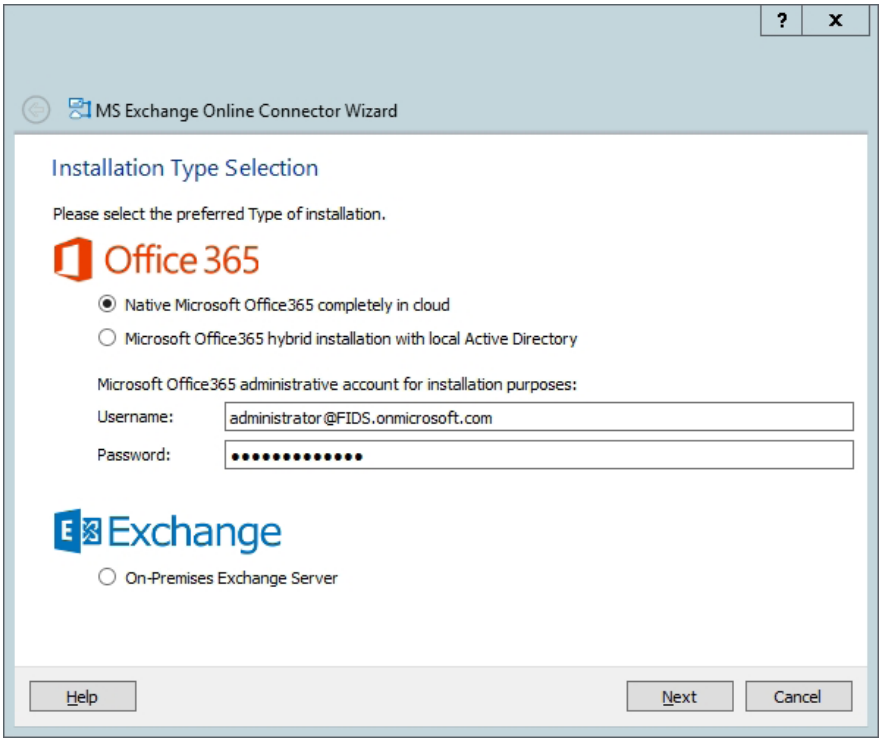


Image 4.4: Installation dialog and login to Office 365

The next step allows you to choose the transport type. The transport type determines how outgoing documents are treated. The decision is meaningful as it determines whether the transfer of outgoing documents is to be conducted through the Internet or be collected in a mailbox to be retrieved by msxbcsgate.

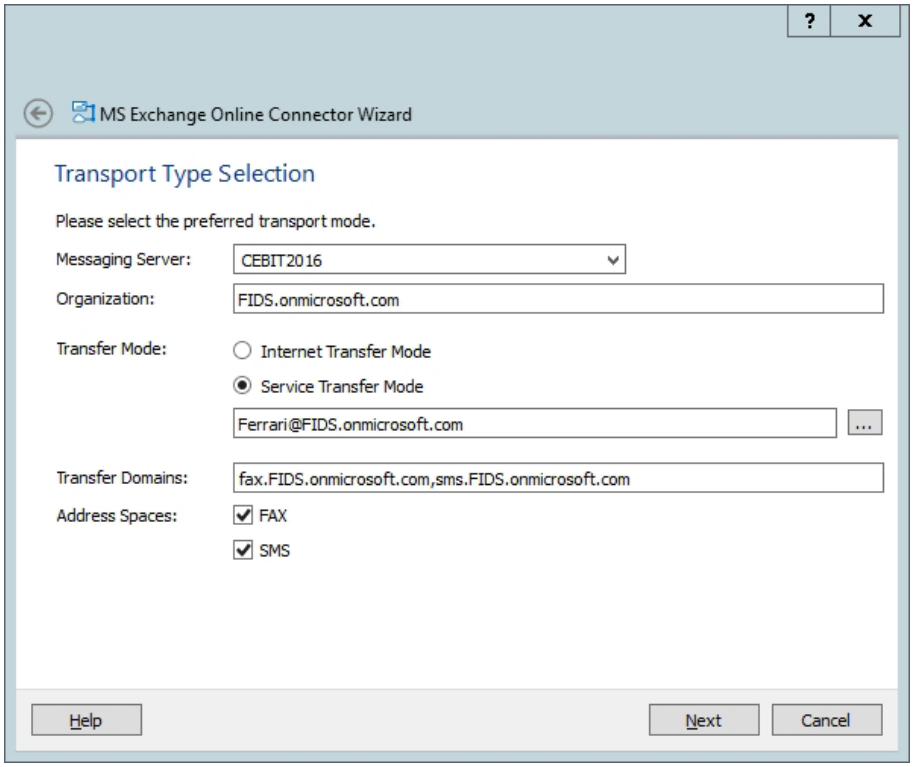


Image 4.5: Transport type selection

► Messaging Server

You can select the server that will eventually run the connector component. The field shows the main messaging server by default. You can enter a different messaging sub-server. Should the configuration program fail to access certain sub servers and thus show an empty list, you can enter their names manually.

► Organization

In the pure Office 365-mode, this field only shows the name of the organization of the current Office 365 login. In this case it is not editable and serves only as information.

► Transfer Mode

Here you can select the transfer mode. “Internet Transfer Mode” is selected by default. For reasons of simplicity, it is suggested to set the mode to “Service Transfer Mode”.

► Internet Transfer Mode

The Internet transfer mode is the conventional way of transferring outgoing documents to the Office-Master server. “Outgoing” describes the direction from mail client to Fax server. This is usually done via SMTP protocol through the Internet. This form of transfer holds some drawbacks or obstacles:

- To configure the OfficeMaster server for SMTP reception from the Internet, the server or the SMTP reception has to be accessible through the Internet. This is generally done using Frontend-server or

through custom port forwarding settings. However, the OfficeMaster server is now accessible through the Internet. The OfficeMaster server has no SPAM or malware protection systems. If required, they have to be installed as third-party software.

- To correctly transport an e-mail with an SMTP domain, the selected domain (transport domain) has to be linked with the IP address of the OfficeMaster, meaning the transfer server (Office 365) identifies the IP address of the OfficeMaster hardware. Such a configuration is set in a MX record that, in a global DNS server environment, is usually entered by an Internet provider.

These configurations always have to be done manually for the Internet transport of outgoing messages.

▶ Service Transfer Mode

The service transfer mode uses a dedicated mailbox for outgoing message transport, addressed by msxbcsgate. The emails therein—outgoing messages only—are being processed and then deleted. This method has advantages and disadvantages:

Advantages

- Fax and SMS addresses can be used unrestrictedly. There is no compulsory use of Fax domains or SMS domains.
- The transfer domain can be set at your discretion.
- Transfer SMTP domains don't have to be entered in global MX records.
- The OfficeMaster server doesn't have to be available as SMTP server on the Internet. An SMTP server administration is unnecessary.
- A transfer of outgoing messages through the Internet does not apply.

Disadvantages

- The transfer mailbox has to possess a suitable data limit to handle possible mass sending.
- The transfer mailbox has to be accessible by the OfficeMaster server at all times.
- The transfer mailbox should be omitted from the password rotation.

It is recommended to use the service transfer mode, allowing for more flexibility when transporting messages. This method allows for the use of FAX and SMS address spaces without restrictions.

▶ Transfer domains

Even though the service transfer mode makes no restrictions to FAX and SMS address spaces, it is essential to enter transfer domains. Transfer domains are SMTP domain specifications that are used as Fox or SMS send domains. These domain specifications are also used for inbound messages. The sender can send their outgoing documents to faxnumber@domain. By default, domains should be specified with the sub-domain prefix "fax" and "sms".

E.g. `fax.exampledomain.com`, `sms.exampledomain.com`

The domains are separated with a comma or a semicolon.

Note! With the service transfer mode, the domains can be set without restrictions. With the Internet transfer mode, the domains have to be make known to each other on the Internet through an *MX record*. Those entries are not arbitrarily adjustable.

▶ Address spaces

When activating the address spaces, the traditional address spaces for FAX and SMS can be used in accordance with the local Exchange-Connector installation.

Apart from transfer domain addressing, users can address as follows:

- `[FAX:Faxnumber]`
- `[SMS:Smsnumber]`

In the same manner the local Outlook fax contacts can be used—when the FAX address space is activated—without explicitly changing them into SMTP addresses.

Note! Activating address spaces is only possible in the service transfer mode. The Internet transfer mode forces addressing through transfer domains.

The following step sets the service account for accessing the Office 365.

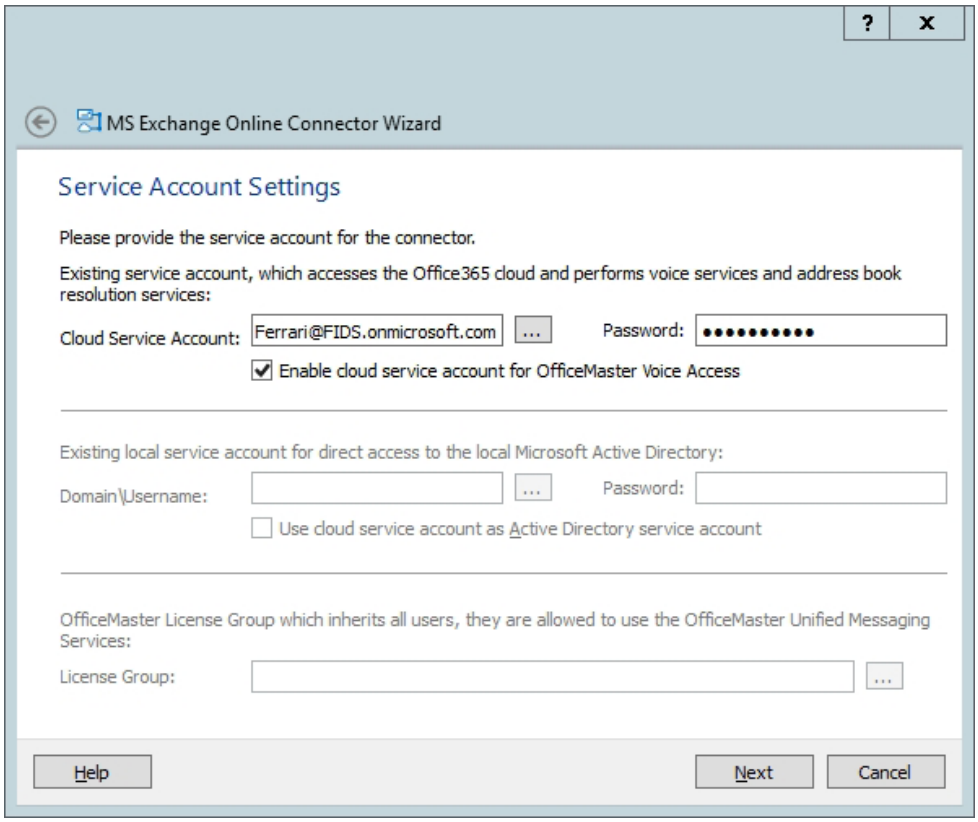


Image 4.6: Setting up the service account

Here you can choose the service account. The dialog shows all available mailboxes in the Office 365 that can be used as the service mailbox.

Note! The service mailbox of the connector has to be removed from the Office 365's password rotation list. For this purpose the Azure AD-Module should be used (https://msdn.microsoft.com/de-de/library/jj151815.aspx).

It is part of the default OfficeMaster installation. To remove the service account from the password rotation, use this command:

```
set-msoluser <ServiceAccount> -PasswordNeverExpires $TRUE
```

▶ Enable Service Account for Voicemail Services

Activating this function automatically enables the selected service account to access voicemail services. That is to say, the account is then able to read voice mailboxes and make telephone remote access possible. No further administrative steps are necessary.

Note! To manually open access afterwards, a connected remote PowerShell to the Office 365 can be used:

```
New-ManagementRoleAssignement OfficeMasterVoiceAccess -Role

ApplicationImpersonation -User <ServiceAccountEmailAddress>
```

Further information on the topic of remote PowerShell and Office 365 can be found here: https://technet.microsoft.com/de-de/library/jj984289(v=exchg.160).aspx

▶ Local Service Account With Access Authorization to the Local Active Directory

This item is not available in the pure Office 365 installation mode because this type of installation doesn't have local Active Directory connections.

▶ OfficeMaster License Group

In the small business versions (e.g. OfficeMaster 250 for MS Exchange) the license group, that includes the licensed users, is entered here. By default, the license group is created automatically and is named "OfficeMaster License Group". For unlimited OfficeMaster versions, this item is not accessible.

The next step in the installation configures parameters that determine the location of saved connector configurations.

▶ Filepath

Traditionally the general configuration of the component msxbcsgate is administrated through MMC configurations SnapIns. With this type of connector, the configuration data is always saved in a configuration file. The path for this file can be set here. By default a file is suggested that is located within the OfficeMaster clearance FFACCESS.

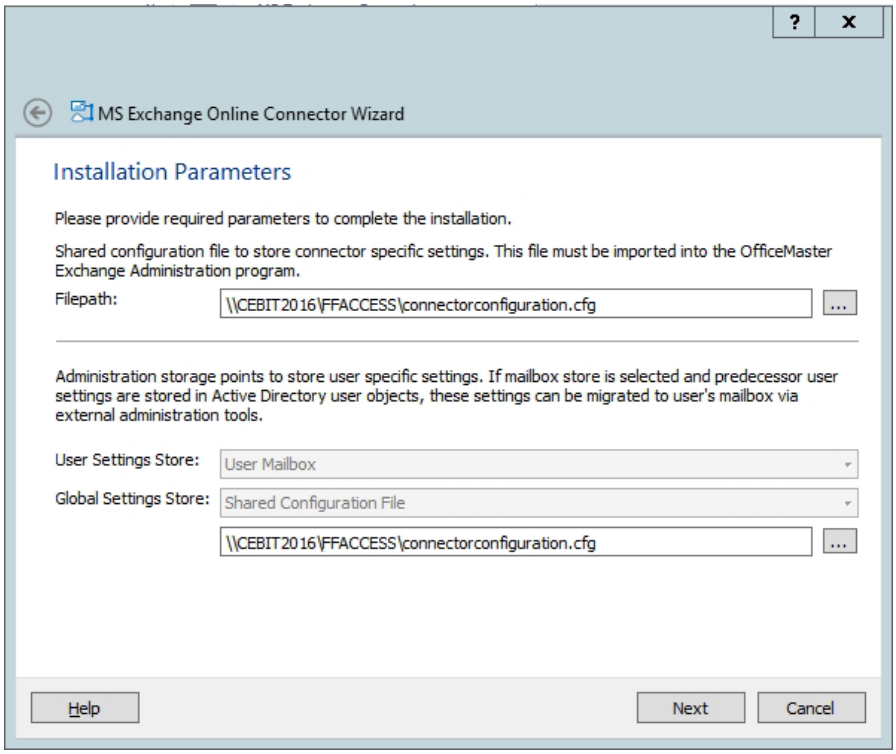


Image 4.7: Installation parameters

▶ User Settings Management

In the pure Office 365 installation type the user data (fax identifier, header, front page, etc.) can only be saved in the user's mailbox. There is no alternative.

▶ Global User Settings

Global user settings are presets that apply to all users, except when otherwise specified (fax identifier, header, cover sheet, etc.). In the pure Office 365 installation type these presets can only be saved in a configuration file. It is recommended to use the same file that also contains the connector configuration data.

The necessary parameters for the installation of the connector have now been established. The connector can be created in the next steps.

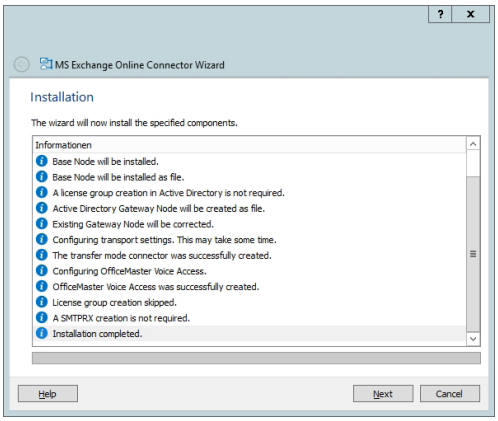


Image 4.8: Installing the connector

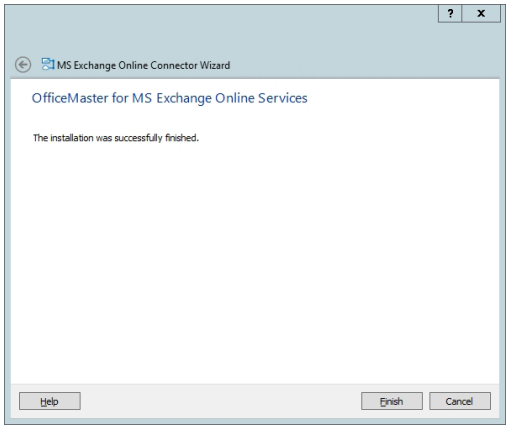


Image 4.9: Finishing installation

After installation, the component should start directly and be ready for use.

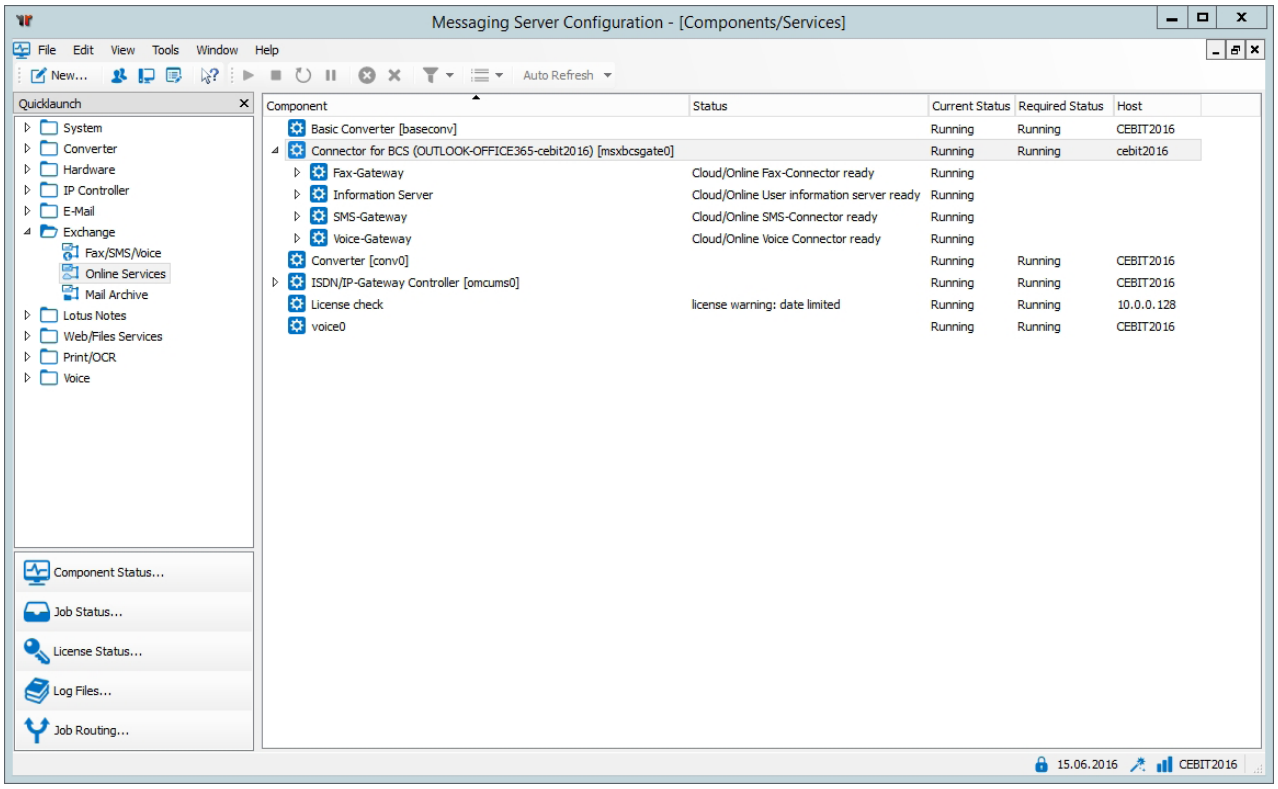


Image 4.10: Components view

4.3. Office 365™ On-Premise-Hybrid Installation

Another installation type is the hybrid installation. This corresponds to the established installation type of the precedent installation. Saving user settings and determining SMTP addresses requires a local Active Directory. The connector needs an Internet connection to access the Office 365 server. A connection to the local Active Directory is also required.

4.3.1. Installation Requirements

Login to Office 365 With an Organization Administrator

Installing the connector requires an Internet connection. During the installation, Office 365 will requires a login. This login refers to the administrative account containing the rights to create objects in the Office 365 Exchange admin center (organization administrator).

Note! The installation account is no service account. It is primarily an administrative login for installation purposes. This account should never be used as a service account.

Office 365 Service Account to Access Address books

Operation of the Connector requires a separate service account / mailbox. This mailbox should be created manually as any user mailbox beforehand. The mailbox is used to access the global address list of the Office 365 installation and is saved in the connector details.

Note! It is essential to remove the service account of the Connector from the password rotation list of Office 365. For this purpose the Azure AD-Module should be used. (https://msdn.microsoft.com/de-de/library/jj151815.aspx)

It is part of the default OfficeMaster installation. To remove the service account from the password rotation list, use this command:

```
set-msoluser <ServiceAccount> -PasswordNeverExpires $TRUE
```

Office 365 Service Transfer Account

The Office 365 Connector differentiates between two transfer modes:

► Service Transfer Mode

For the service transfer mode outgoing messages are not sent to the OfficeMaster server over the Internet, but are redirected to an internal Office 365 mailbox. This circumvents the time-consuming administration of the SMTP-line to the OfficeMaster server (MX record, Provider, etc.)

► Internet Transfer Mode

The Internet transfer mode is the conventional way of transferring outgoing messages to the OfficeMaster server through the Internet. A unique fax and SMS domain is chosen for this purpose (e.g. `fax.domain.com, sms.domain.com`). It will then be connected by an Internet provider to an MX record, that will be configured to the public Internet address of the OfficeMaster server or an existing frontend server.

To use the service transfer mode, you have to create a mailbox manually that temporarily buffers outgoing messages, before the OfficeMaster server collects them. For that, the data limit for that mailbox should be adjusted to handle possible mass faxes.

For the sake of convenience the general service account can be used for this function.

Note! The general service account can be used as transfer account. It is essential to set an adequate mailbox limit and remove this account from the password rotation list.

For this purpose the Azure AD-Module should be used. (https://msdn.microsoft.com/de-de/library/jj151815.aspx). It is part of the default OfficeMaster installation. To remove the service account from the password rotation list, use this command:

```
set-msoluser <ServiceAccount> -PasswordNeverExpires $TRUE
```

Local Active Directory

The hybrid installation assumes that user settings can be saved in the Microsoft Active Directory. The main reason for this installation type is the migration of a local exchange installation to the Office 365 cloud. The local Active Directory, that holds the Exchange organization's extension, remains. The user objects then possess the necessary attribute fields (`proxyAddresses, extensionAttribute15`).

Are those attributes missing, because a new Active Directory has been created during migration, or, as it was a new installtion the attributes have never existed, there are two ways in which to proceed:

1. Extending the Scheme to the Exchange attributes

   In this case a scheme extension can still be done. Download test version of any Exchange server from the Internet and start the setup with the following parameter:

   ```
   Setup /PrepareScheme
   ```

   Optional:

   To create a global configuration node that can be saved in the Active Directory, the following command can create the Active Directory requirements:

   ```
   Setup /PrepareAD
   ```

   Usually this is not necessary because the global configuration node is set via configuration file. This scheme extension should be expendable.

2. Installation as Pure Office 365 Connection

   If no scheme extension is needed, the installation type "pure Office 365 Connection" can ignore the local Active Directory.

Local Service Account (Access to the Local Active Directory)

The connector has to possess minimal access to the local Active Directory, to authenticate the users accordingly. Its reading rights within the organizational units of the domain should correspond to those needs.

▶ Several Reasons Speak for Using a Service Account:

- Reading of configuration data of the Connector in the Active Directory
- Reading of global configuration data
- Resolving the domain's users and reading of user data
- Writing user specific data after configuring voice parameters (unique phone number, voice box pin, etc.)

▶ This Account Should Possess the Following Authorization:

- Member of the group of domain users
- Local administrator of the computer the installation is running on
- Reading permission to the path that contains the configuration file
- (Installation option) global data: global Active Directory context

  In this case the service account needs organization authorizations (Exchange-ViewOnly-Administrator). This setting is recommended, when there are other connectors with this setting.
- (Installation option) global data: Active Directory standard context

  In this case, no additional authorizations are needed for the account.
- (Installation option) global data: shared configuration file

  In this case, no additional authorizations are needed for the account.
- (Installation option) User data: Active Directory user object

  If the connector is meant to change voice attributes like Pin or phone numbers of users remotely or with the Outlook-Client, the account needs reading access to the user objects of the connected domains. Saving data within the user mailbox makes this unnecessary.

4.3.2. Setup

Installing the Connector is done in the settings of the component administration for Exchange/Online services.

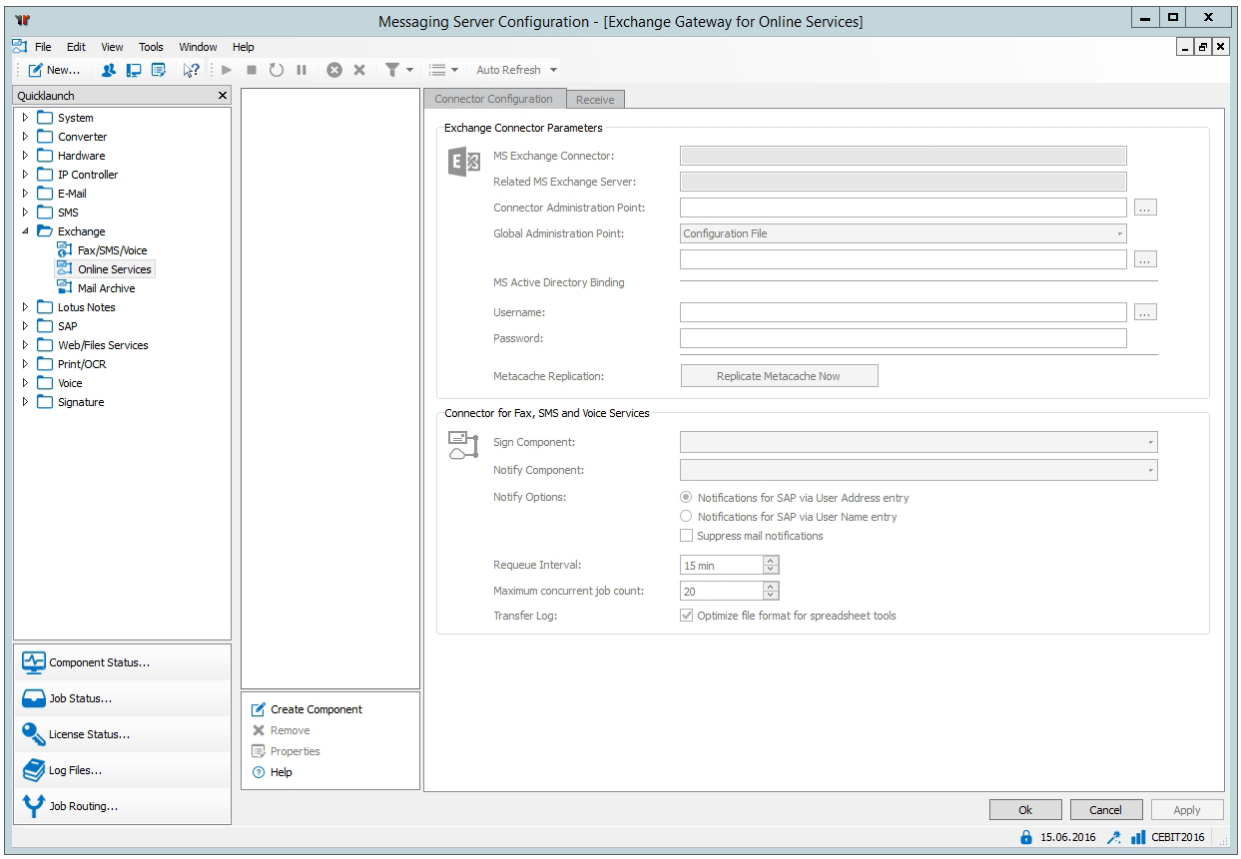


Image 4.11: Create component

An installation wizard appears. Creating and deleting components should only be done with this wizard.

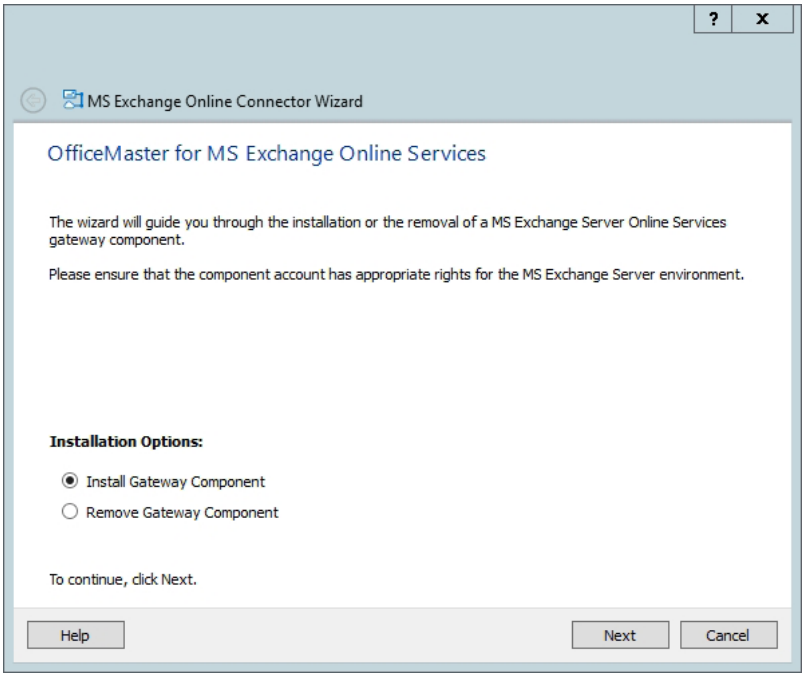


Image 4.12: Welcome screen

After the welcome screen you can choose the installation type. There are three types available:

1. Microsoft Office 365 as complete Cloud installation
2. Microsoft Office 365 Hybrid installation with a local Active Directory
3. Local Exchange Server installation (On-Premise)

For the Office 365-Hybrid-Installations with local Active Directory, choose the second type.

To set up further installation objects within Office 365, a successful login to the Office 365-organization is necessary.

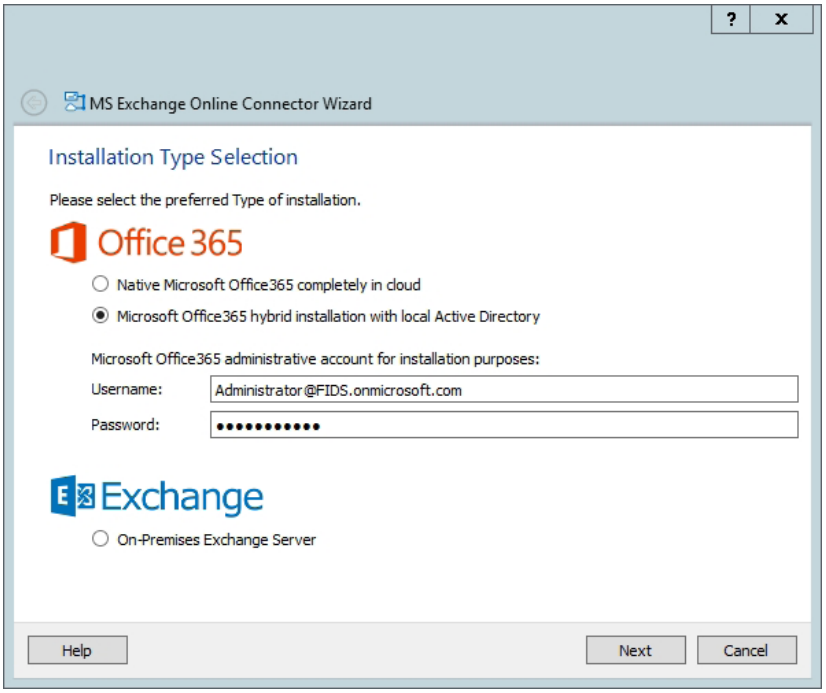


Image 4.13: Installation Type Selection and login to Office 365

This should take place with an administrative account, holding appropriate organizational authority. The wizard will verify the login. The next step will become available only after the login has been cleared.

Note! Should you, as an exception, need to continue the installation without login, nothing can be set up within Office 365. In this case, leave username and password empty. The installation wizard will grant access to the next step anyway.

You can choose the transport type in the next step. The transport type determines how outgoing documents are treated.

The decision is important as it determines whether the transfer of outgoing documents is to happen through the Internet or be collected in a mailbox to be retrieved by *MSXBCSGATE*.

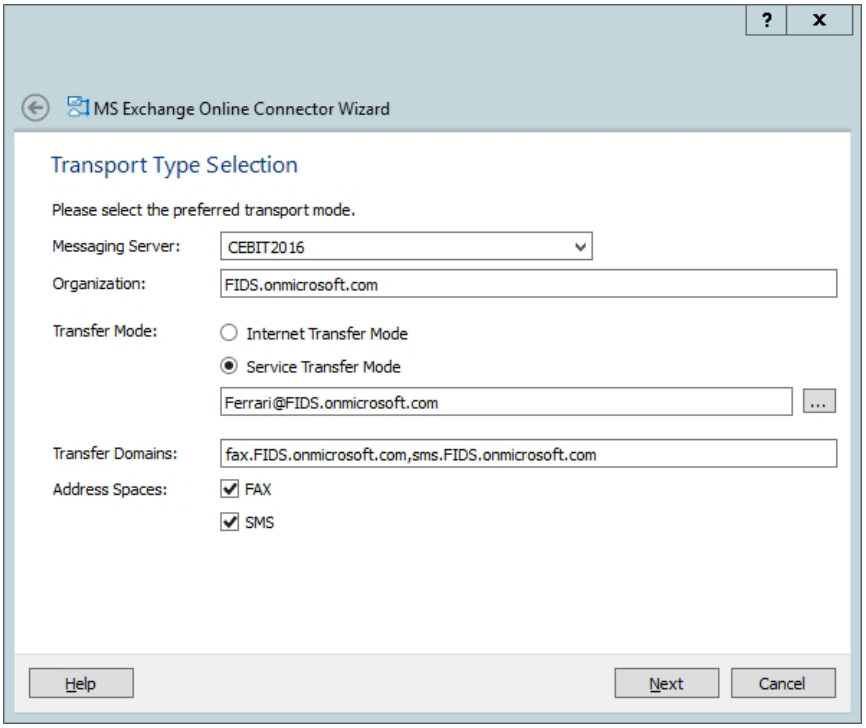


Image 4.14: Transport type selection

▶ Messaging Server

You can select the server that will eventually run the Connector component. The field shows the main messaging server by default. You can enter a different messaging sub-server. Should the list be incomplete because the configuration program cannot access certain sub-servers, you can enter their names manually.

▶ Organization

This box shows the name of the organization of the current Office 365 login. In this case it is not editable and serves only as information. If you skipped the login earlier, you can enter the name of an organization or some suffix of a domain here. This can serve as a guideline for the transfer domains.

▶ Transfer mode

Here you can select the transfer mode. By default “Internet Transfer Mode” is selected. For reasons of simplicity, it is suggested to set the mode to “Service Transfer Mode”.

▶ Internet Transfer Mode

The Internet Transfer Mode is the conventional way of transferring outgoing documents to the Office-Master Server. “Outgoing” describes the direction from mail client to Fax server. This is usually done via SMTP protocol through the Internet. This form of transfer holds some drawbacks or obstacles:

- To configure the OfficeMaster server for SMTP reception from the Internet, the server or the SMTP reception has to be accessible through the Internet. This is generally done using Frontend-Server or through custom port forwarding settings. However, the OfficeMaster server is now accessible through the Internet. The OfficeMaster server has no SPAM or malware protection systems. If required, they have to be installed as third-party software.

- To correctly transport an e-mail with a domain designation, the selected domain (transport domain) has to be linked with the IP address of the OfficeMaster. This enables the transfer server to determine the address of the respective OfficeMaster computer. Such a configuration is set in an MX record that, in a global DNS server, is usually entered by an Internet provider.

For the Internet transport of outgoing messages, these configurations always have to be entered manually.

▶ Service Transfer Mode

The service transfer mode uses a dedicated mailbox for outgoing message transport, addressed by msxbcsgate. The emails therein—outgoing messages only—are being processed and then deleted. This method has advantages and disadvantages:

Advantages

- FAX and SMS addresses can be used unrestrictedly. There is no compulsory use of fax domains or SMS domains.
- The transfer domain can be set at your discretion.
- Transfer SMTP domains don't have to be entered in global MX records.
- The OfficeMaster server doesn't have to be available as SMTP server on the Internet. An SMTP server administration is unnecessary.
- A transfer of outgoing messages through the Internet does not apply.

Disadvantages

- The transfer mailbox has to possess a suitable data limit to handle possible mass sending.
- The transfer mailbox has to be accessible by the OfficeMaster server at all times.
- The transfer mailbox should be omitted from the password rotation list.

It is recommended to use the service transfer mode, allowing for more flexibility when transporting messages. This method allows for the use of FAX and SMS address spaces without restrictions.

▶ Transfer Domains

Even though the service transfer mode makes no restrictions to FAX and SMS address spaces, it is essential to enter transfer domains. Transfer domains are SMTP domain specifications that are used as Fox or SMS send domains. These domain specifications are also used for inbound messages. The sender can send their outgoing documents to faxnumber@domain. The domains should be set with sub-domain prefixes "fax" and "SMS" as default.

E.g. `fax.exampledomain.com`, `sms.exampledomain.com`

The domains are separated with a comma or a semicolon.

Note! With the service transfer mode, the domains can be set without restrictions. With the Internet transfer mode, the domains have to be make known to the Internet through an MX record. Those entries are not adjustable at will.

▶ Address Spaces

When activating the address spaces the traditional address spaces for FAX and SMS can be used in accordance with the local Exchange-Connector installation.

Users can address, in addition to the transfer domain addressing, in the following manner:

- `[FAX:Faxnumber]`
- `[SMS:Smsnumber]`

Likewise, the local Outlook fax contacts can be used—when the fax address space is activated—without explicitly changing them into SMTP addresses.

Note! Activating address spaces is only possible in the service transfer mode. The Internet transfer mode forces addressing through transfer domains.

The following step sets the service account for accessing the Office 365 and the local domain.

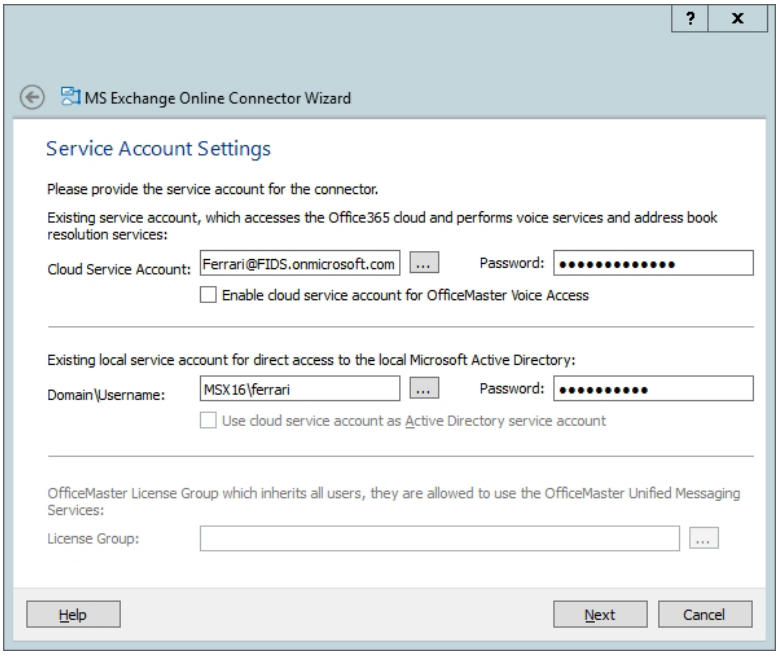


Image 4.15: Setting up the service account

Here you can choose the service account. The dialog shows all available mailboxes within Office 365 that can be used as the service mailbox.

Note! The service mailbox of the connector has to be removed from the password rotation list of the Office 365. For this purpose the Azure AD-Module should be used (https://msdn.microsoft.com/de-de/library/jj151815.aspx).

It is part of the default OfficeMaster installation. To remove the service account from the password rotation list, use this command:

set-msoluser <ServiceAccount> -PasswordNeverExpires $TRUE

▶ Enable Service Account for Voicemail Services

Activating this function automatically enables the selected service account to access voicemail services. The service account is then capable of reading voice mailboxes and making telephone remote access possbile. No further administrative steps are necessary.

Note! To manually open access afterwards, a connected remote PowerShell to the Office 365 can be used:

```
New-ManagementRoleAssignement OfficeMasterVoiceAccess -Role

ApplicationImpersonation -User <ServiceAccountEmailAddress>
```

Further information on the topic of remote PowerShell and Office 365 you can find online here: https://technet.microsoft.com/de-de/library/jj984289(v=exchg.160).aspx

▶ Local Service Account With Access Authorization to the Local Active Directory

This item is not available in the pure Office 365 installation mode because this type of installation doesn't have local Active Directory connections.

▶ OfficeMaster License Group

In the small business versions (e.g. OfficeMaster 250 for MS Exchange) the license group, that includes the licensed users, is entered here. By default, the license group is created automatically and is named "OfficeMaster license group". For unlimited OfficeMaster versions this item is not accessible. This group is deposited within the Active Directory if hybrid installation was chosen

The next step in the installation configures parameters, deciding where the connector configurations are to be saved.

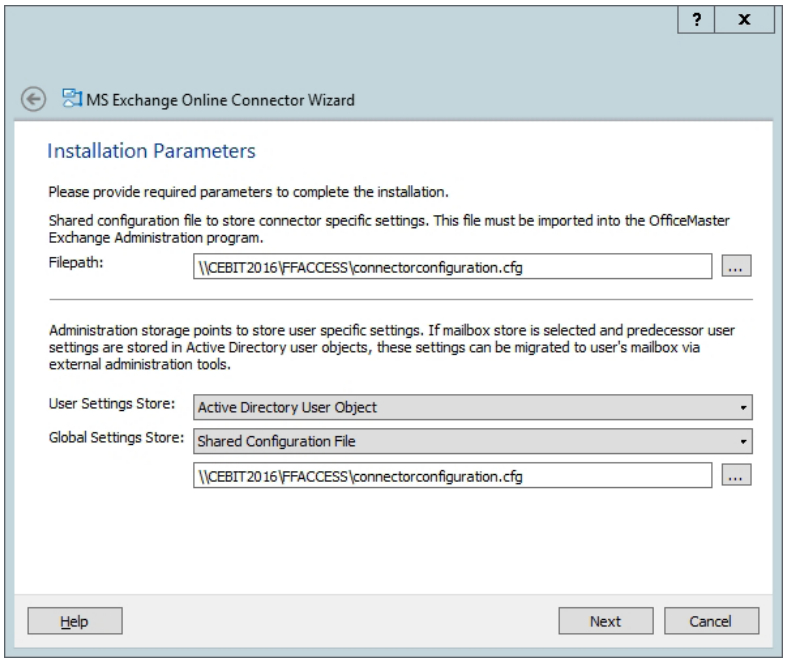


Image 4.16: Installation parameters

▶ Filepath

Traditionally the general configuration of the component msxbcsgate is administrated through MMC configurations SnapIns. With this type of connector, the configuration data is always saved in a configuration file. The path for this file can be set here. By default a file is suggested that is located within the OfficeMaster clearance FFACCESS.

▶ User Settings Management

The hybrid installation type offers two ways of installation:

- Active Directory – User Object

  This is the recommended standard, if the current Active Directory is able to accept user specific data.

- User mailbox

  User specific data can also be saved in the user mailbox. This may be useful when the current Active Directory doesn't have an Exchange scheme extension or if you have plans to remove the local Active Directory.

Note! If you used to run an older version of the Ferrari electronic AG's Exchange-Gateway, and user specific data already exists in the Active Directory, they remain compatible. If you then change the mode of user management to user mailbox, the data from the Active Directory has to be migrated to the Office 365 mailboxes, by way of special programs. Otherwise the Active Directory will not be accessed.

▶ Global User Settings

Global user settings are presets that apply to all users, except when otherwise specified (fax identifier, header, cover sheet, etc.). In the pure Office 365 installation type these presets can only be saved in a configuration file. It is convenient to use the same file here that also contains the connector configuration data. The standard setting assumes that the data is saved in the existing Active Directory. This setting exists for compatibility reasons with the previous version. It is useful, if such a global configuration node has been installed by the previous product.

Note! If no global configuration node exists, it is recommended to use a shared configuration file.

The necessary parameters for the installation of the connector have now been established. The connector can be installed in the next steps. After installation the component should start directly and be ready for use.

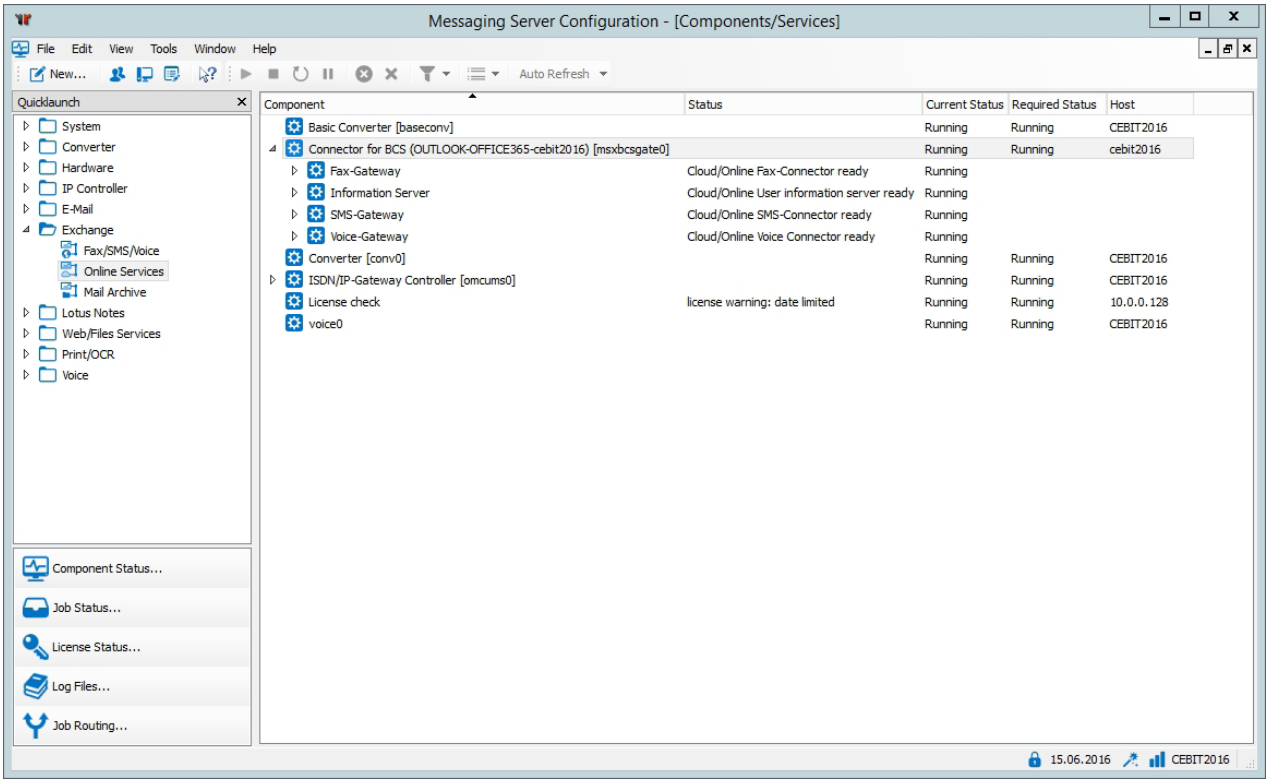


Image 4.17: Installation finished

4.4. Local Exchange Server Installation

A special installation type is the local Exchange server installation (On-Premise). This type is similar to the installation of the Exchange gateway *MSX2KGATE*. Saving user settings and determining SMTP addresses requires a local Active Directory. The Connector needs nothing but a LAN connection to access the local Exchange Server.

The local installation is usually supported by the typical Exchange-gateway *MSXBCSGATE*. Installing the previous version made it necessary on some local environments to use the gateway *MSXBCSGATE*. The reason generally was due to access problems via MAPI (Message Application Programmers Interface) and with access authorization to the Active Directory (configuration node couldn't be created because of missing authorization). To remain compatible to those installations, the local Exchange Server installation type is supported by the *MSXBCSGATE*.

The installation wizard automatically carries out all important installation steps. After installation you have to adjust it to the Exchange Server. No object in the Exchange Server organization is created automatically.

Attention! The installation is based on bidirectional E-Mail transfer. For that reason the installation wizard installs a distinctive SMTP-server and opens port 25. This kind of installation should therefore not be done on an Exchange server itself. An Exchange server has its own connection to the port 25. The installation of an OfficeMaster server with a local installation type of ***msxbcsgate*** should always run on a dedicated server.

Should this be impossible, you have to configure an alternative port for the component *smtprx* where the Exchange server can send the documents.

4.4.1. Installation Requirements

Service Account to Access Address Books and the Local Active Directory

Operation of the Connector requires a separate service account or mailbox. This mailbox should be created manually as any user mailbox beforehand. The mailbox is used to access the global address book of the Exchange server and is saved in the Connector.

Local Service Account (Access to the Active Directory)

The Connector needs minimal access to the local Active Directory to authenticate users. Authorize the reading access in the organizational units of the domains.

Using a service account has several reasons:

- Reading of the configuration data of the Connector saved in the Active Directory
- Reading of global configuration data
- Resolving domain users and reading of user data
- Writing of user-specific data after configuring voice parameters (unique phone number, voice box pin, etc.)

Such an account should possess the following authorization:

- Member of the group of domain users

- Local administrator of the computer the installation is running on
- Reading permission to the path that contains the configuration file
- (Installation option) global data: global Active Directory context

  In this case that service account needs organization authorizations (Exchange-ViewOnly-Administrator). This setting is suggested, when there are other Connectors with this setting. Starting with Exchange 2010 the Active Directory read authorization of the organization can be done through a membership in the group Exchange Public Folder administration.

- (Installation option) global data: Active Directory standard context

  In this case the account does not need an additional authorization.

- (Installation option) global data: shared configuration file

  In this case the account does not need additional authorization.

- (Installation option) User data: Active Directory -User Object

  If the Connector is meant to change voice attributes like Pin or phone numbers of users remotely or with the Outlook-Client, the account needs reading access to the user objects of the connected domains.

4.4.2. Installation

Installing the Connectors is done in the settings of the component administration for Exchange/Online services.

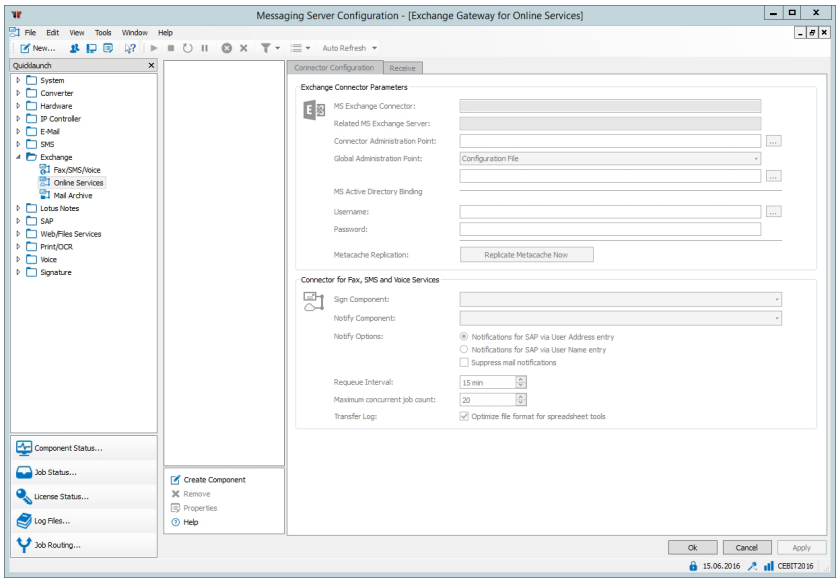


Image 4.18: Create component

An installation wizard appears. Creating and deleting components should only be done with this wizard.

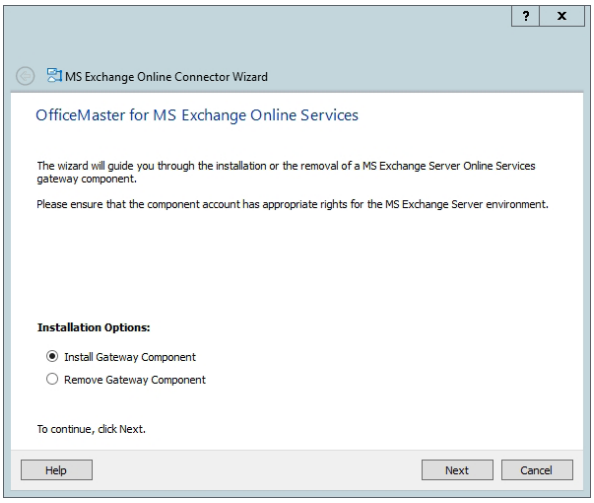


Image 4.19: Welcome screen

After the welcome screen you can choose the installation type. There are three types available:

1. Microsoft Office 365 as complete Cloud installation
2. Microsoft Office 365 Hybrid installation with a local Active Directory
3. Local Exchange Server installation (On-Premise)

For the local installations, choose the third type.

There is no explicit login to the Exchange Server necessary.

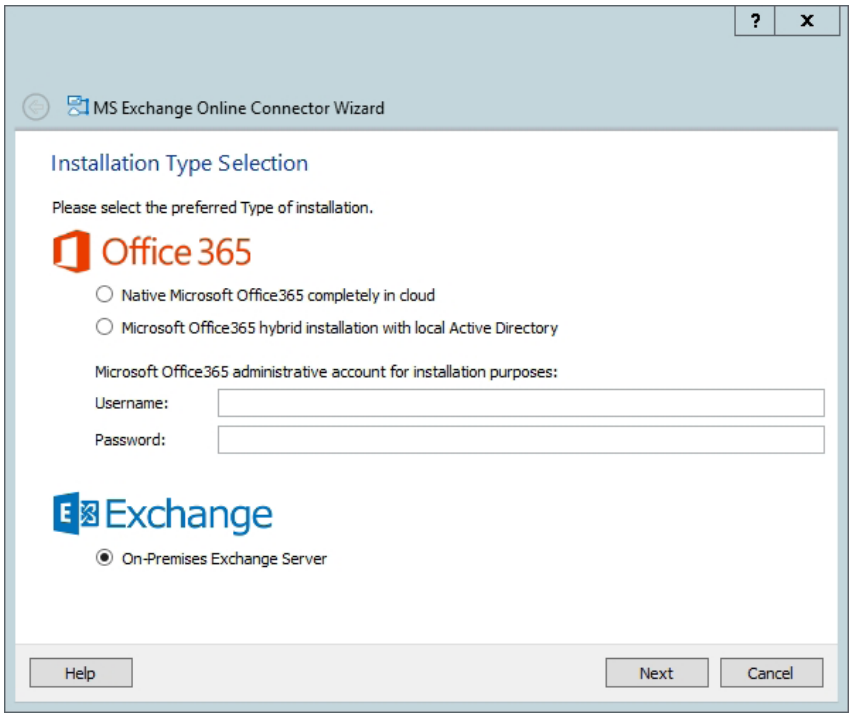


Image 4.20: Select installation type

The next step allows you to choose the transport type. The transport type usually determines how outgoing documents are treated.

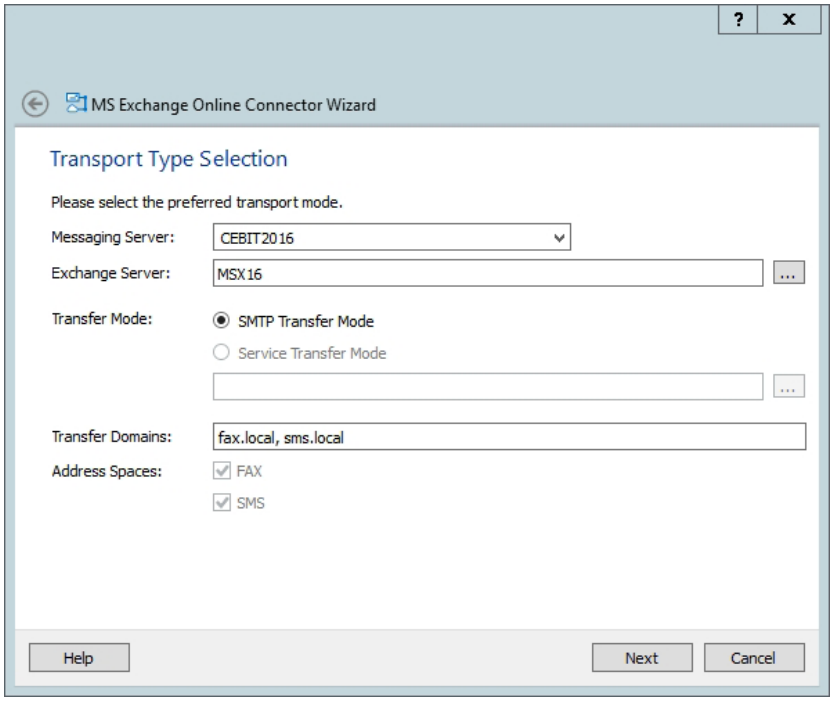


Image 4.21: Transport type selection

The local Exchange server installation doesn't offer an alternative to the SMTP transport. A temporary mailbox is unnecessary within the local network.

► Messaging Server

You can select the server that will run the connector component in the end. The field shows the main messaging server by default. You can enter here a different messaging sub-server. Should the list be incomplete, because the configuration program cannot access some sub-servers, you can enter the favored names manually.

► Exchange Server

To communicate with an Exchange server, it has to be set as the standard partner of communication. You can enter a fully qualified domain name (FQDN) or a NetBIOS name. You should refrain from entering an IP address, because this entry is used to generate a display name.

► Transfer Mode

You cannot choose another transfer mode. This installation type only supports SMTP transfer.

► Transfer Domains

The transfer domains are reference points for the installation to use when transmitting messages. The Connector will register with the OfficeMaster server for those domains.

The sender can send their outgoing documents to faxnumber@domain. By default, domains should be specified with the sub-domain prefix "fax" and "sms".

- E.g. `fax.exampledomain.com, sms.exampledomain.com`

Note! The domains are separated with a comma or a semicolon. The transfer domains are entered here for registration purposes only. Whether emails from the Exchange server make it to the OfficeMaster server with this domain setting is dependent from the manual administration of the Exchange server.

▶ Address Spaces

Even though the installation supports the use of address spaces, they cannot be defined at this point. During installation, you cannot exert influence on address spaces.

The following step sets the service account to access the Exchange server and the local domain.

Here you can choose the service account. You may decide on different service accounts to access the Exchange server (Exchange Web Services) and the local Active Directory. But this is optional. It is recommended to use the same account for both types of access.

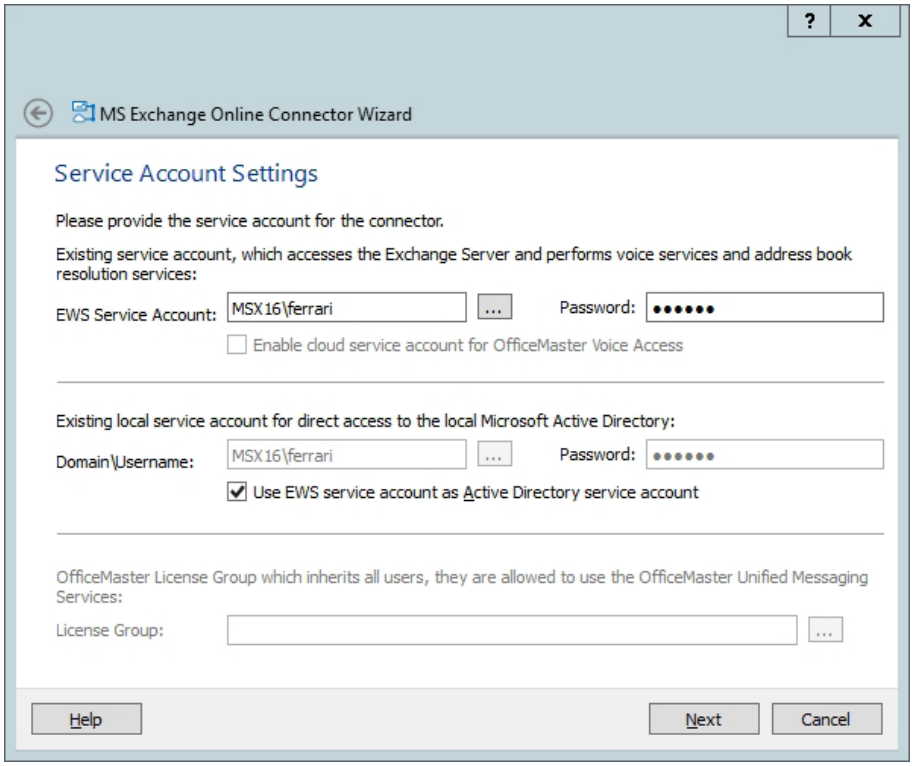


Image 4.22: Setting the service account

► Enable Service Account for Voicemail Services

This item is not available in this installation type. If you want to use voicemail services, you have to activate the account manually for OfficeMaster voicemail services.

Note! You can use the Exchange-PowerShell to do this manually:

```
New-ManagementRoleAssignement OfficeMasterVoiceAccess -Role
ApplicationImpersonation -User <ServiceAccountEmailAddress>
```

► Local Service Account with Access Authorization to the Local Active Directory

Here you can set a separate account for the access to the Active Directory.

► EWS (Exchange Web Services) Service Account to use as Active Directory Access Account

Ticking this box copies the data for the Exchange access account (***EWS*** service account) into the spaces for the Active Directory service account.

Note! It is generally recommended to use the same service account for the access to the Exchange server (Exchange Web Services) and to the Active Directory.

► OfficeMaster License Group

In the small business versions (e.g. OfficeMaster 250 for MS Exchange) the license group, that includes the licensed users, is entered here. By default, the license group is created automatically and is named “OfficeMaster License Group”. For unlimited OfficeMaster versions, this item is not accessible.

The next step will deal with the local configuration parameters that are saved within the connector configuration.

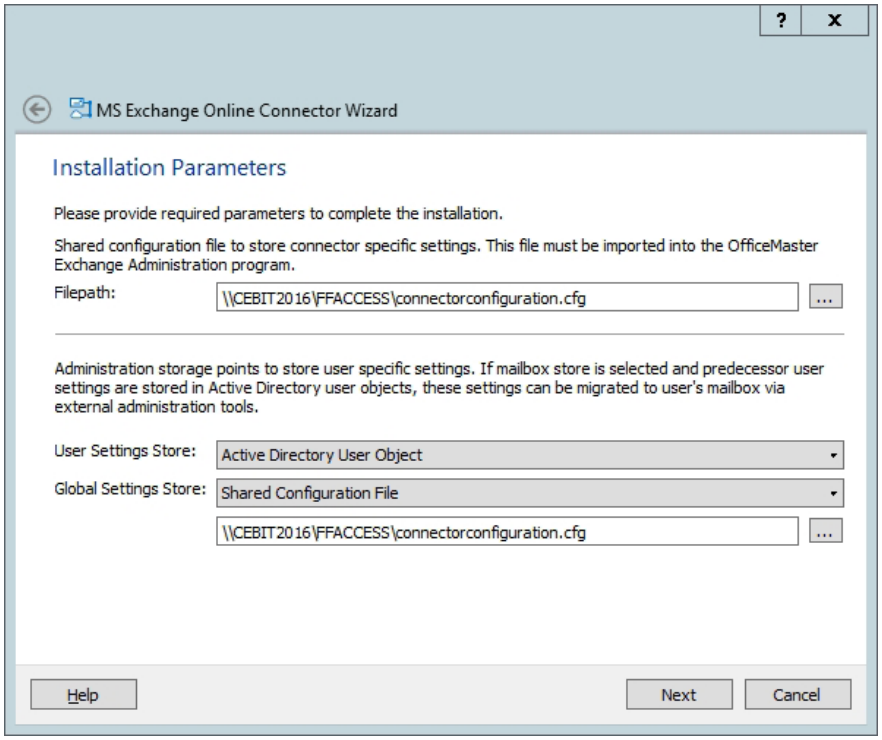


Image 4.23: Installation parameters

► Filepath

Traditionally the general configuration of the component msxbcsgate is administrated through MMC configurations SnapIns. With this type of connector, the configuration data is always saved in a configuration file. The path for this file can be set here. By default a file is suggest that is located within the OfficeMaster clearance FFACCESS.

► User Settings Management

The local Exchange server installation type offers two alternatives at this point:

► Active Directory User Object

This is the recommended default.

► User Mailbox

As an alternative the user data can be saved within the user mailbox. This is not advisable for the local installation.

Note! If you used to run an older version of the Ferrari electronic AG's Exchange-Gateway, and user specific data already exists in the Active Directory, they remain compatible. If you then change the mode of user management to user mailbox (not recommended), the data from the Active Directory has to be migrated to the Office 365 mailboxes, by way of special programs. Otherwise the Active Directory will not be accessed.

▶ Global User Settings

Global user settings are presets that apply to all users, except otherwise specified (fax identifier, header, cover sheet, etc.). In the pure Office 365 installation type these presets can only be saved in a configuration file. It is recommended to use the same file here that also contains the Connector configuration data. The standard setting assumes that the data is saved in the existing Active Directory. This setting exists for compatibility reasons with the previous version. It is useful, if such a global configuration node has been installed by the previous product.

Note! If no global configuration node exists, it is recommended to use a shared configuration file.

The necessary parameters for the installation of the connector have now been established. The connector can be installed in the next steps.

After installation the component should start directly and be ready for use.

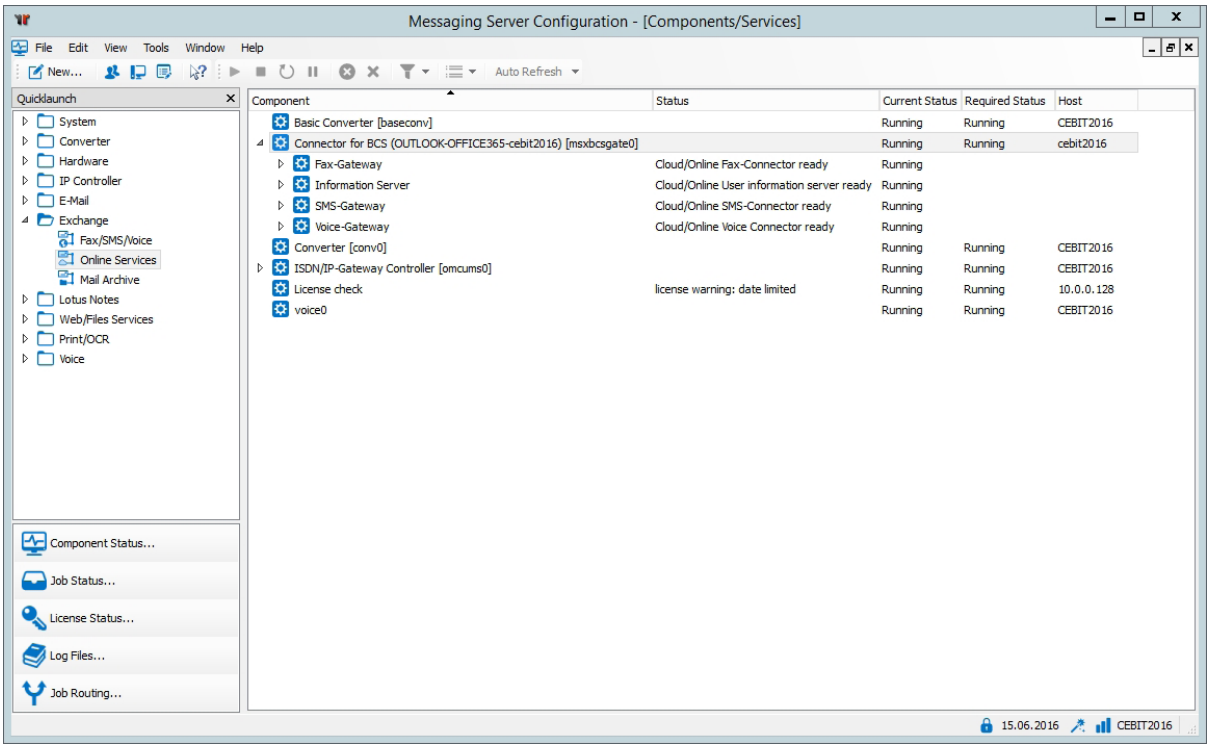


Image 4.24: Component Overview

4.4.3. Objects to be Manually Created in a Local Exchange Environment

If the connector is to be installed in a local exchange server environment, it has to be made certain that outgoing emails are routed directly to the messaging server. This is generally achieved using a send connector or SMTP connector. The following base values can be configured:

- Object

  SMTP transfer Connector

- Type

  SMTP Smart host communication

- Send server

  Exchange Server to be send from (Source server, Local Bridgehead)

- Smarthost

  IP address, name or FQDN of the OfficeMaster server

This kind of send connector can accept the desired transfer domains into its address spaces. You can also configure the FAX and the SMS address space here. We want to show creating a transfer Connector using the example of an Exchange server 2016.

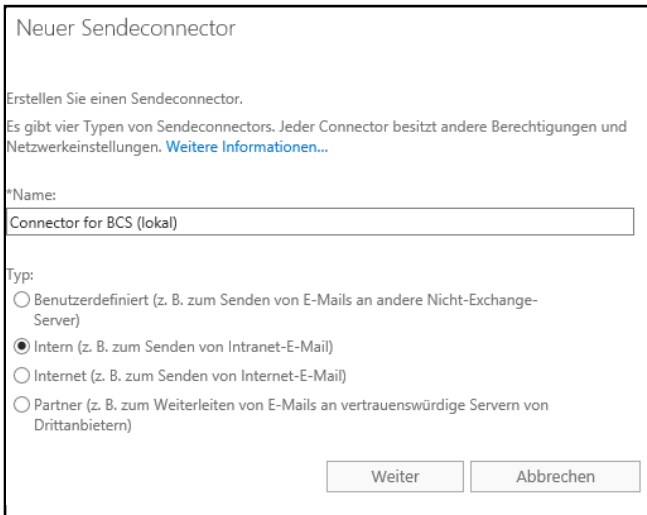


Image 4.25: Create transfer Connector

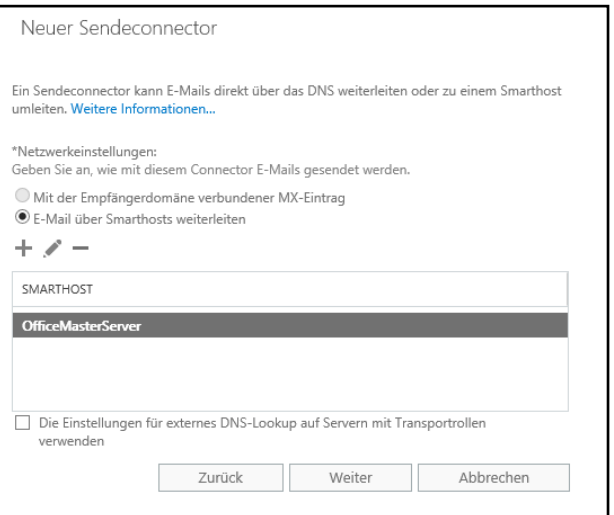


Image 4.26: Add Smarthost

Communication with an OfficeMaster server doesn't require an authentication. (The name "OfficeMasterServer" in the Smart host field is an example. Please use the correct name or IP address of the server you are using!)

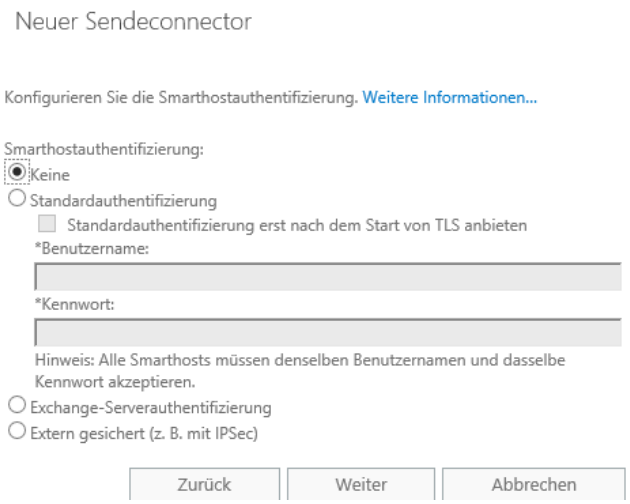


Image 4.27: Add authentication

Image 4.28: Configure address spaces / Transfer domains

As the last step the source server is added. The Exchange Server is now able to send documents to the OfficeMaster.

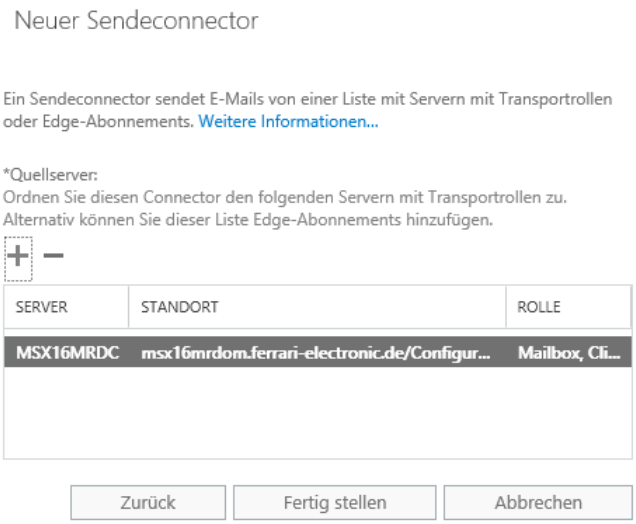


Image 4.29: Add source server

Because the OfficeMaster sends its own documents to the Exchange server, a receiving connector is necessary. The component *MSXBCSGATE*, on standard settings, doesn't require authentication, which is why the standard SMTP receiving connector or a separate connector should be made accessible for anonymous reception.

4.5. Configuration

4.5.1. Messaging Server Configuration

The exclusive connection to a Microsoft Office 365 service does not require a Microsoft Active Directory. The Connector only needs a connection to the Internet to access the Office 365 server.

Even though the connectors save all relevant settings in a configuration file to integrate into the Exchange server environment, the smooth operation of all components is insured by base settings within the messenger configuration.

Basic settings are located in the tab “Exchange-Connector-Parameter”.

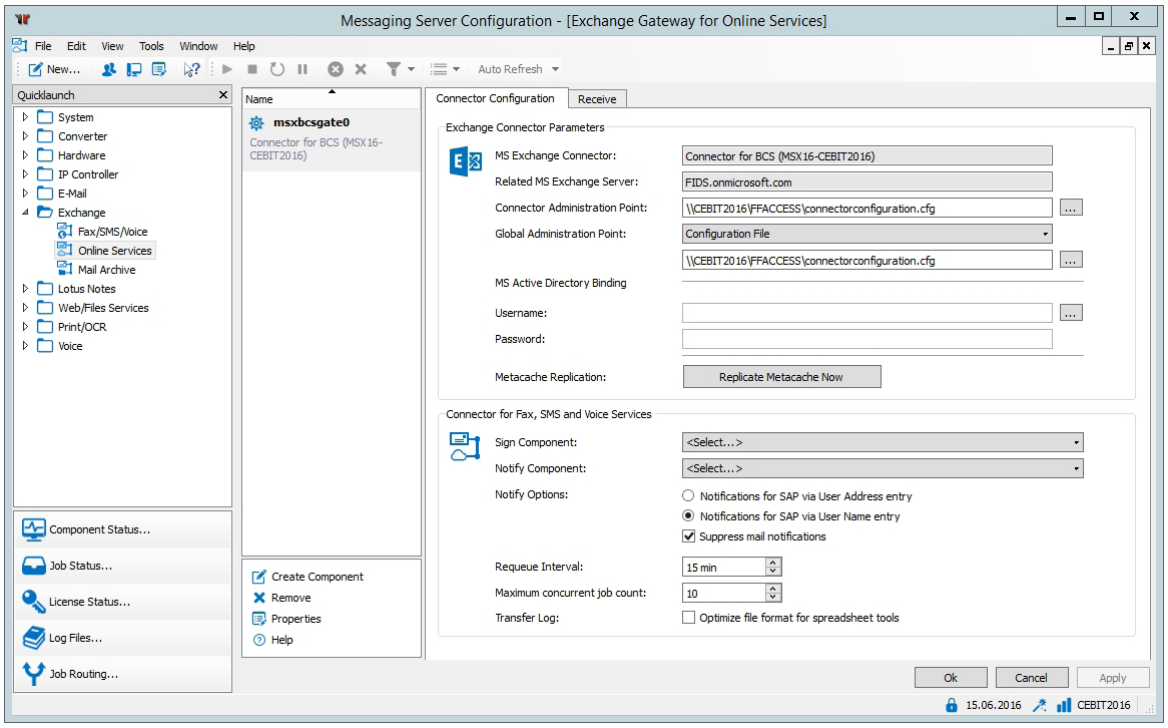


Image 4.30: Messaging Server Configuration

Exchange Connector Parameter

These values are filled in by the installation wizard. They contain the name of the connector, the FQDN of the target server, the path of the configuration file and more.

Note! The basic settings can be configured in expert mode, but manual administration is not recommended. The base values should only be set by the installation program. Manual changes can have severe consequences for the operation of the components.

► MS Exchange Connector

This field shows the name of the connector component. It exists for information purposes only and cannot be edited.

▶ MS Exchange Server

This field cannot be edited as well and, for information purposes, contains the selected server.

▶ Connector Administration Point

The Connector administration point is the configuration file that should contain the actual configuration of the connector. This parameter exists for backup purposes only and should never be changed without employing the installation wizard.

▶ Global Administration point

The global administration point is the place to save global user presets. You can only change the general access mode.

► Microsoft Active Directory

In this mode, the connector searches for the global point within the configured Active Directory

► Configuration file

In this case, the connector uses the selected file to read the global user data.

This parameter exists for backup purposes only and should never be changed without using the installation wizard.

▶ MS Active Directory – Binding

The fields 'Active Directory Binding' can be filled with a username and password that the connector can use to access the configured Active Directory. With a pure Office 365 binding the fields are empty.

▶ Replicate Metacache

The configuration includes a button to replicate the metacache outside the usual interval. This feature has been implemented solely for testing.

► Signature Component

To support digital signatures you can choose a signature component here. This signature component works closely with the connector component to provide this feature.

▶ Status Component

A status component is an additional component that is informs about the progress of sent fax documents or SMS messages. You could enter an archive gateway here, for example.

▶ Status Options

The status options help optimize and adjust the interaction between components.

▶ Status Messages for SAP Using the User Address

If the connector msxbcsgate is used by an SAP-Gateway as status component, there are several possible ways for the SAP connector to store sender information inside the job. The basis for the sender information is the internal field UserAddress.

▶ Status Messages for SAP Using the User Name

The criterion for the sender is here the internal field UserName

▶ Suppress Mail Notifications

If the connector msxbcsgate is used with a filegw component (file interface) or an lpd component (printer component), the connector can send the document automatically via SMTP, as long as an email address is provided. Sending is done using the connected Exchange server. Completing this Exchange relay, the connector receives a report, stating whether or not the mail has been accepted by the server. Because this report contains no information if the email reached it's final destination, but only about a step on the way, many users like to ignore this report altogether. This can be done by checking this box.

▶ Requeue Interval

If the connector msxbcsgate fails to deliver the message to the target system (because of servicing, problems converting, print problems), the job is repeated. The delay, in minutes, until resend (requeue) can be set here.

▶ Concurrent Jobs

The connector is able to process several jobs at once. You can set here a maximum to the number of jobs it will process simultaneously.

Note! A value above 20 doesn't improve performance. 10 is the ideal number for current systems. This corresponds to the standard setting. To force sequential processing, set the value to 1 (this should be limited to testing). We recommend using a value between 8 and 15.

▶ Transfer Log / Optimize File Format for Spreadsheet Tools

The component msxbcsgate writes one log per day containing every incoming jobs that were processed. This file also contains phone numbers written in the format E.164. Spreadsheet tools often change this format (e.g. +49332845590) to one with a floating point (+49332845590 is changed to 4,93E+10). These applications also tend to omit leading zeros. To mark these entries as text, an inverted comma can be set ahead of them. Modern spreadsheet applications will then keep the string as it is.

Tab Receive

The tab "Receive" has direct impact on incoming documents. The called party numbers can set as address filters for Fax and SMS.

Using the standard setting (***.****) all received fax or short messages will be relayed to the Exchange-Connector. Change is only necessary if received messages are to be send to different gateways, like *SAPCONN* or *FILEGW*.

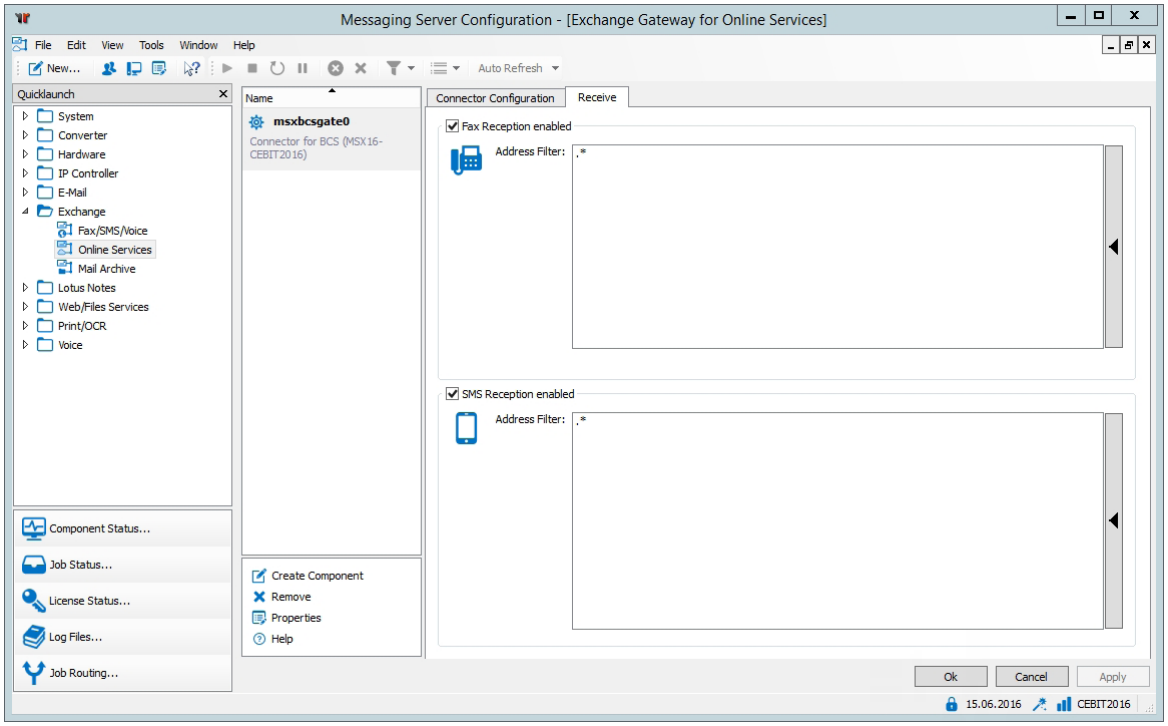


Image 4.31: Messaging Server Configuration (Receive)

4.5.2. OfficeMaster Exchange Administration

If you chose “OfficeMaster for Exchange/Exchange Online Connector” during installation of the server, the OfficeMaster Exchange administration console is available. This console expands the Exchange Server 2010 administration console and possibly constitutes its own administration node. The setup changed with the new version. After activating the console from the available program symbols, the following screen is displayed.

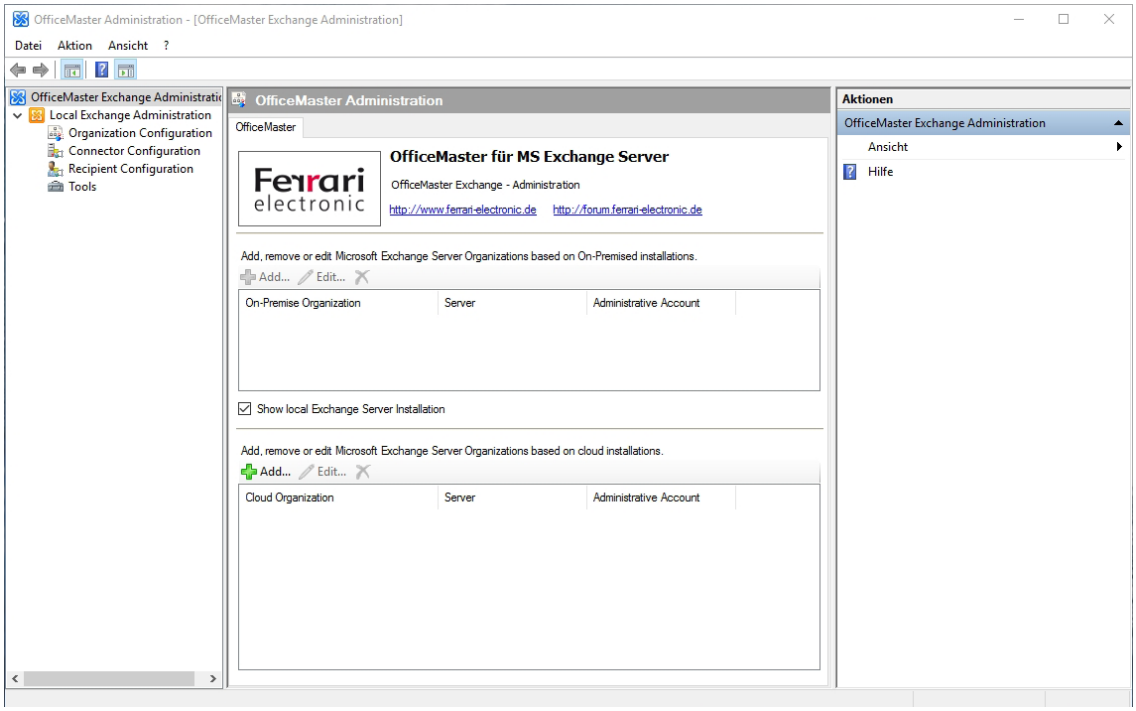


Image 4.32: OfficeMaster Exchange Administration

Traditionally, OfficeMaster Exchange Connectors are configured using MMC SnapIns, which integrate into Exchange server administration tools, if available, or into Active Directory administrations. The Exchange Server 2010 administration console is expanded into the organization configuration node, the server configuration node and the user configuration node, by the OfficeMaster Exchange administration.

Using the OfficeMaster Exchange administration, you can easily configure individual user settings as well as connector settings.

The areas highlighted in the above image will now be explained:

1. OfficeMaster Basic Configuration Node

   The OfficeMaster basic configuration node is the highest level of the OfficeMaster Exchange administration. Clicking this node in the scope pane (left hand side) the result pane (middle) shows the main administration dialog to add tenants that can be configured.

2. Configuring a Local Exchange Server Installation

   The area of the local Exchange server installation is the traditional view of the local exchange organization as set by the current Windows login. You can find the very same area in the extended Exchange 2010 administration console. From the local tenant area you can turn displaying the local administrations off.

3. Local Tenant Area

The local tenant area lets you add on-premise Exchange organizations. The console will then establish a connection to the latest Active Directory.

4. Cloud/Office 365 Organization Area

The Cloud/Office 365 organization area lets you add pre-installed Cloud/Office 365 organizations. The new organizations are shown in the scope pane (left hand side) as new basenodes of equal rank to the local Exchange Server administration. Cloud/Office 365 basenodes are not shown in the Exchange 2010 administration console.

4.5.3. Configuring an Office 365 Installation Without a Local Active Directory

Because the pure Office 365 installation doesn't have a local Active Directory, you should deactivate the local administration by checking the box in the local tenant area. The nodes will then be removed from the scope pane. For the configuration of Office 365 connectors, add a new organization in the Cloud/Office 365 organization area.

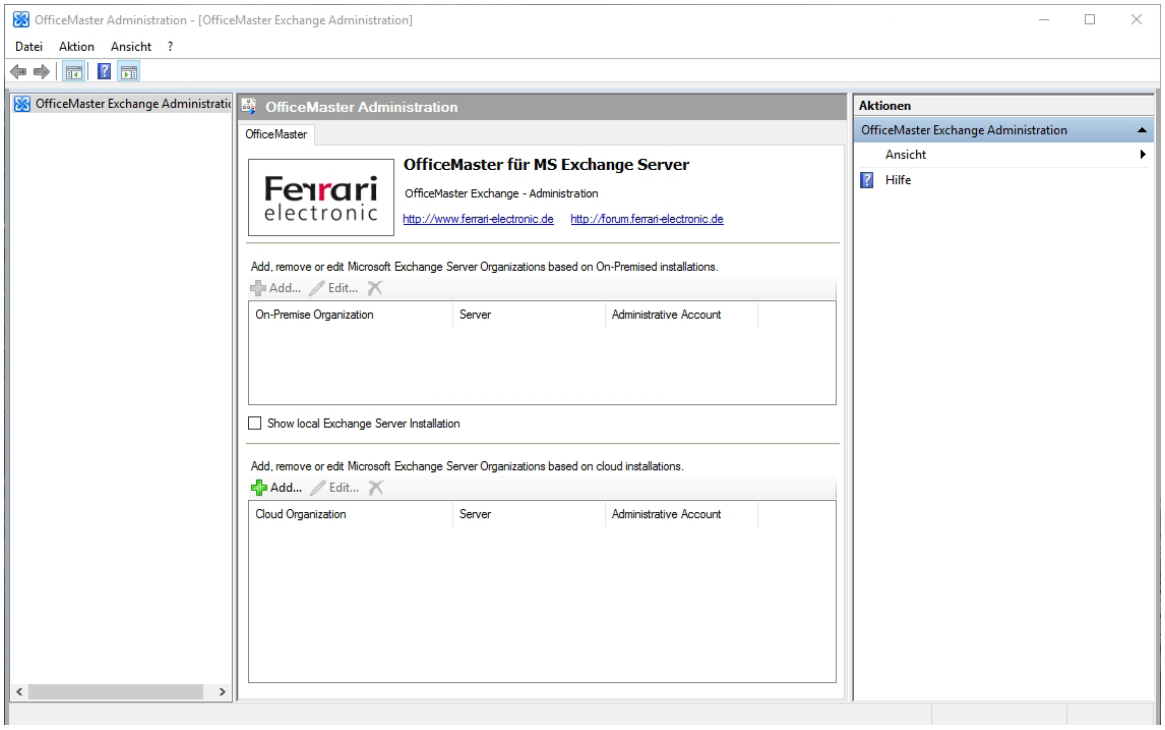


Image 4.33: Remove local Exchange administration and add Cloud installation

After clicking "Add" a wizard opens showing the parameters of the new organization. Label your new organisation adequately here. Then set the standard username for the access to the Office 365. You could enter the password, but it would be saved in a configuration table. For security reasons we don't recommend this. Leave the password field empty. After that, you can enter the connector configuration file.

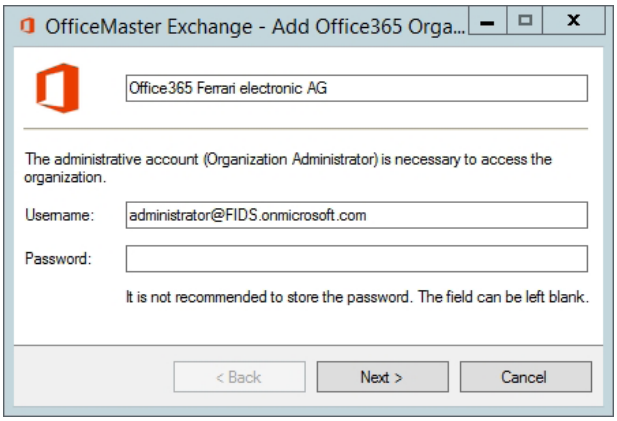


Image 4.34: Add a new Cloud organization

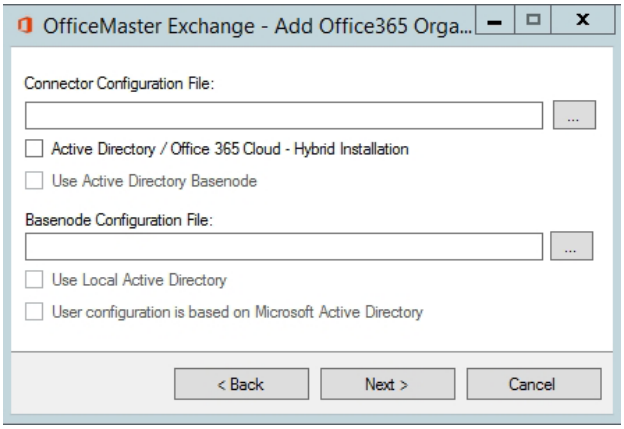


Image 4.35: Enter the configuration file

After choosing the shared Connector configuration file that has been used during the installation of the connector, a window opens asking for the appropriate connector. Choose carefully, since the file may contain more then one connector.

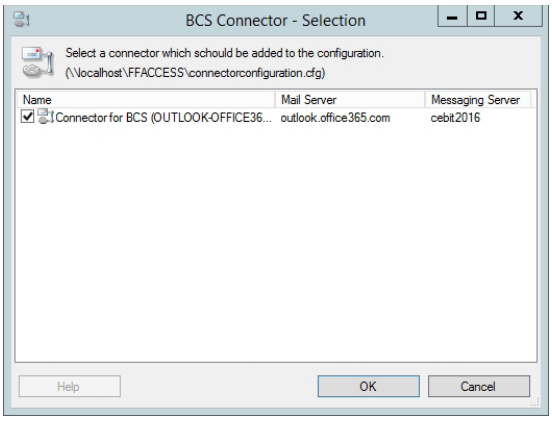


Image 4.36: Choose the connector

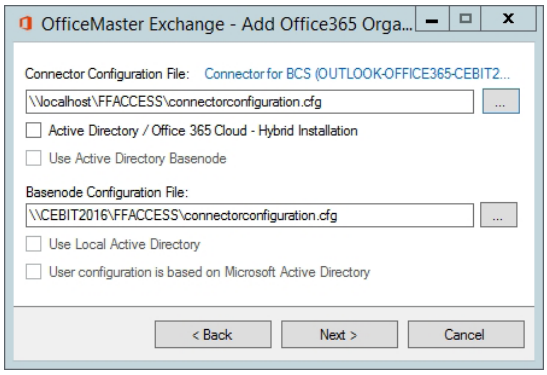


Image 4.37: Prepopulated configuration parameters

After choosing the connector, the configuration dialog should appear prepopulated. Please check the data and check marks carefully.

► Connector Configuration File

Enter the same configuration file here, that you set when installing the connector.

► Active Directory / Office 365 Cloud Hybrid Installation

Activate this option to prepare the administration to access an Active Directory. When installing a pure Office 365 environment, this option is deactivated.

► OfficeMaster Basenode in Active Directory

Enter where the global user data is located at. Activate this function when an Active Directory node contains the data. If the data cannot be found there, you have to enter a configuration file that contains the global user data.

▶ Configuration File of the Basenode

Enter the configuration file that contains the global user data here, if you selected the corresponding answer during the connector installation. Usually this field will be filled in automatically after choosing the connector configuration file.

▶ Use Local Login for Active Directory Access

Usualy, a server and an access account can be used to access an Active Directory. Activating this option makes optional user data inapplicable. The Windows login account will then be used to access the Active Directory.

This field should fill automatically after choosing the connector configuration file.

▶ User Configuration Based on Active Directory Entries

The administration has to know how the OfficeMaster user settings are saved to correctly deal with the settings. Activating this option means, that user data will be read from and saved to the Active Directory. Leaving this option inactive, the settings will be read from and saved to the user mailbox.

This field should be filled automatically after choosing the connector configuration file.

Enter login data to an Active Directory in the next step. For a pure Office 365 installation, these fields remain empty.

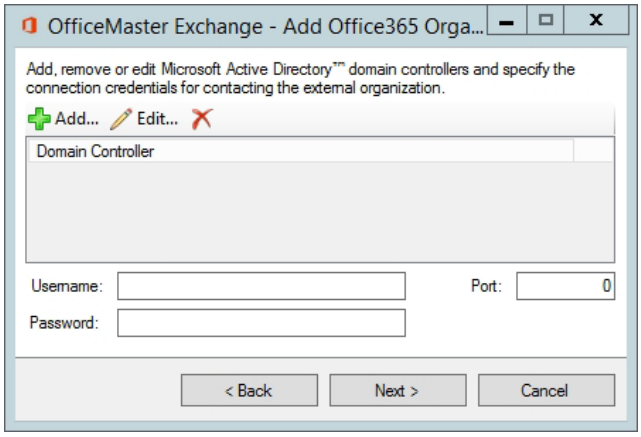


Image 4.38: Active Directory login data

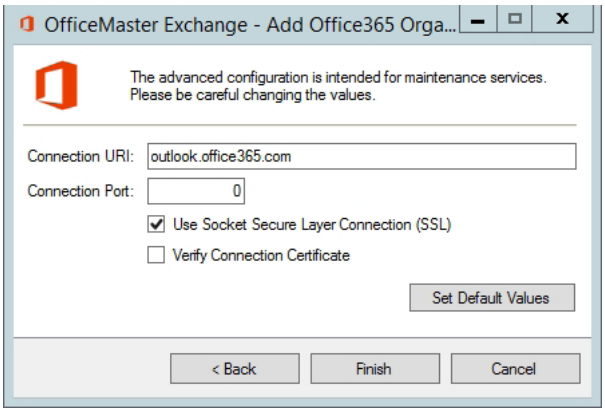


Image 4.39: Extended parameters

The last screen of the wizard asks for extended parameters. They should not be changed. Those parameters are the basis for the connection to the Office 365.

After the wizard closed, a “New Office 365 Organization” appears in the scope pane (left hand side). By clicking the node “Authentication”, you can connect to Office 365.

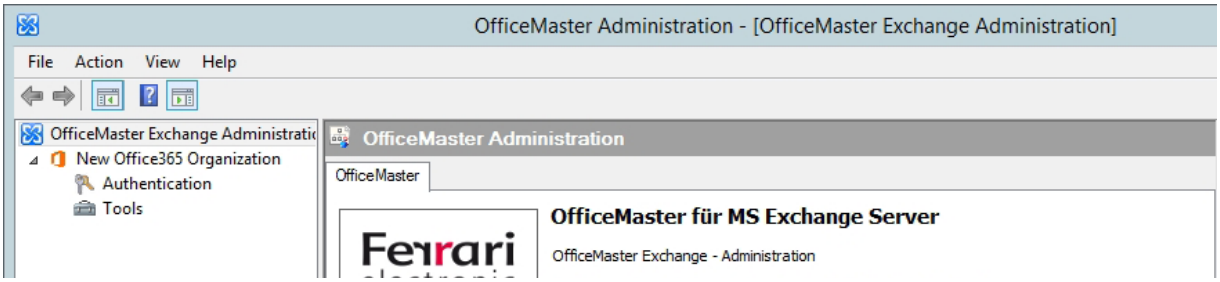


Image 4.40: A new organization has been added

The new organization can be edited or removed in the Cloud/Office 365 organization area.

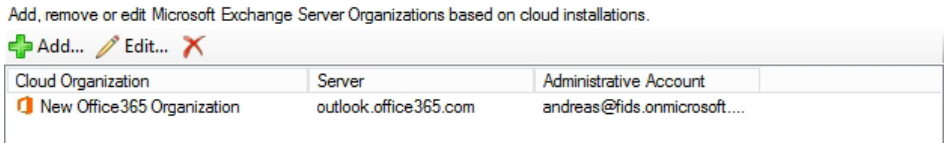


Image 4.41: List of Office 365 organizations

Each added organization requires an interactive authentication.

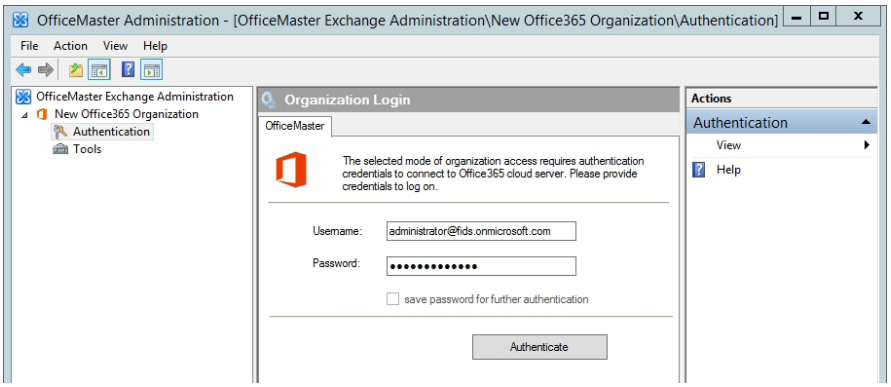


Image 4.42: Connecting to an Office 365

After completing the login, the area nodes for organization configuration, connector configuration and recipient configuration become available.

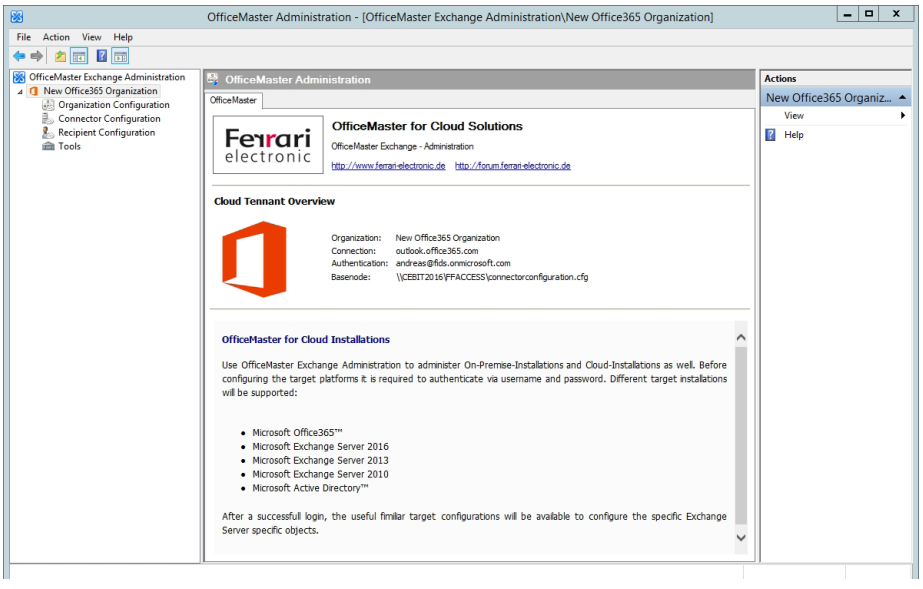


Image 4.43: Overview - configurations

You can now configure the connector and the user. The new configuration is visible for all user logins on the local computer.

4.5.4. Configuring an Office 365-On-Premise-Hybrid Installation

Even though the Office 365-On-Premise-Hybrid installation uses a local Active Directory, logging in to Office 365 may become necessary. This depends on where user specific settings are saved. The local administration should therefore be deactivated by checking the box in the local tenant area. The nodes will then be removed from the scope pane. For the configuration of Office 365 connectors, add a new organization in the Cloud/ Office 365 organization area.

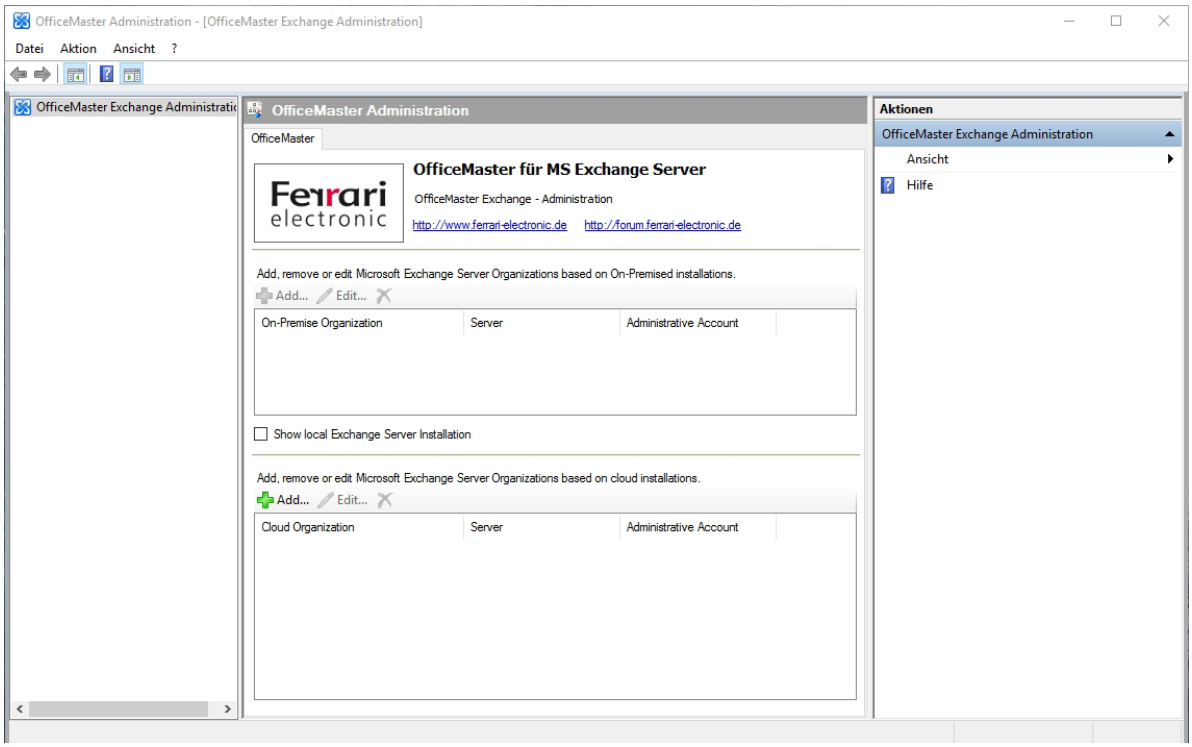


Image 4.44: Remove local Exchange administration and add Cloud installation

After clicking “Add”, a wizard opens, showing the parameters of the new organization. Set an adequate name for your new organization here. Then set the standard username for the access to Office 365. You could enter the password here, but it would be saved in a configuration table. For security reasons we don’t recommend this. Leave the password field empty. After that, you can enter the connector configuration file.

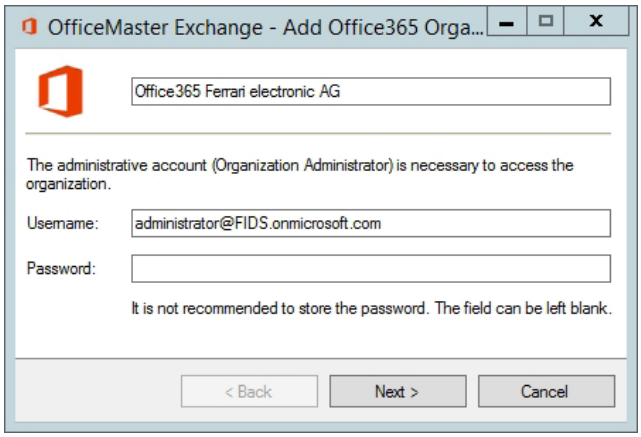


Image 4.45: Add a new Cloud organization

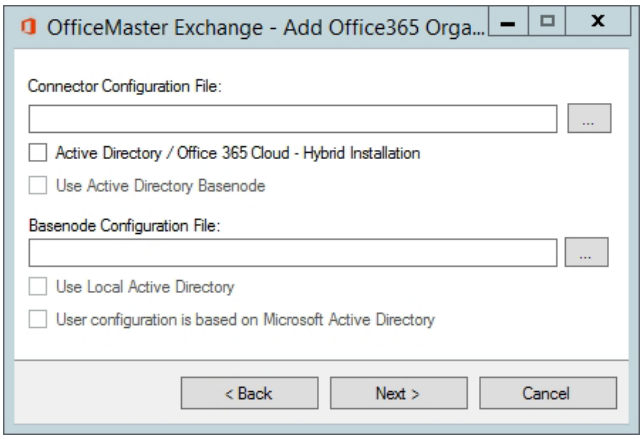


Image 4.46: Enter the configuration file

After choosing the shared Connector configuration file that had been used during the installation of the connector, a window opens asking for the appropriate Connector. Choose carefully, since the file may contain more then one Connector.

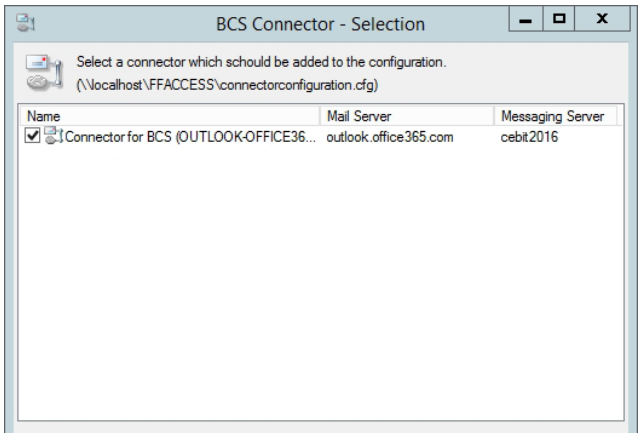


Image 4.47: Choose the connector

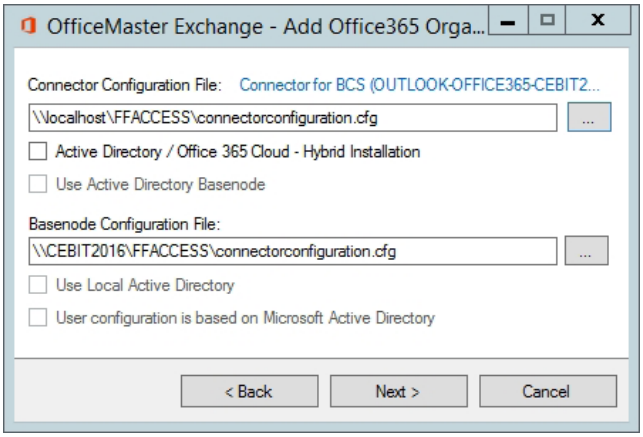


Image 4.48: Prepopulated configuration parameters

After choosing the Connector, the configuration dialog should appear automatically filled in. Please check the data and marks carefully.

► Connector Configuration File

Enter the same configuration file here, that you set when installing the connector.

► Active Directory / Office 365 Cloud Hybrid Installation

Activate this option to prepare the administration to access an Active Directory. When installing a pure Office 365 environment, this option is deactivated. For hybrid installations this is the default.

► OfficeMaster Basenode in Active Directory

Enter where the global user data is. Activate this function when an Active Directory node contains the data. If the data cannot be found there, you have to enter a configuration file that contains the global user data.

▶ Configuration File of the Basenode

Enter the configuration file that contains the global user data here, if you selected the corresponding answer during the Connector installation. Usually this field will be filled in automatically after choosing the connector configuration file.

▶ Use Local Login for Active Directory Access

Usually to access an Active Directory you can use a server and an access account. Activating this option makes optional user data inapplicable. The Windows login account will then be used to access the Active Directory.

This field should fill automatically after choosing the Connector configuration file.

▶ User Configuration Based on Active Directory Entries

The administration has to know how the OfficeMaster user settings are saved to correctly deal with the settings. Activating this option means that user data will be read from and saved to the Active Directory. Leaving this option inactive, the settings will be read from and saved to the user mailbox.

This field should fill automatically after choosing the Connector configuration file.

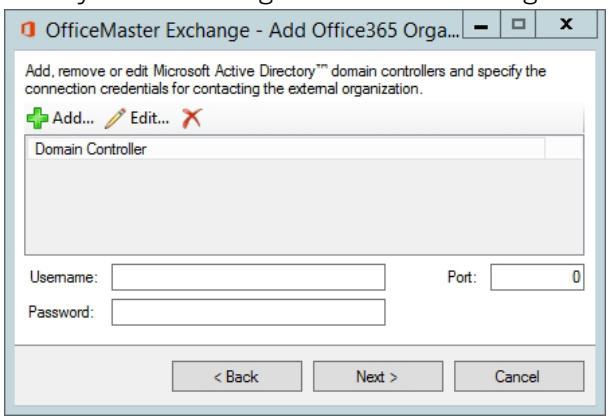


Image 4.49: Active Directory login data

▶ Domain Controller List

You can provide a list of domain controllers (AD service providers) for the connection to the Active Directory. You can enter fully qualified domain names, NetBIOS names or IP addresses. If you leave this field empty, the ADSI (Active Directory Service Interface) will attempt to automatically find the closest domain controller of the current Windows login.

▶ Username and Password

The login data defines which account is going to be used. Enter the username as DOMAIN\Username.

▶ Port

Communication with the Active Directory is usually done through secure RPCs (Remote Procedure Calls). You can also use a dedicated communication port for LDAP (Lightweight Directory Access Protocol Port 389). Communication via LDAP is slower than the standard connection. To use the standard connection, leave the field empty or enter a zero.

The last screen of the wizard asks for extended parameters. They should not be changed. Those parameters are the basis for the connection to Office 365.

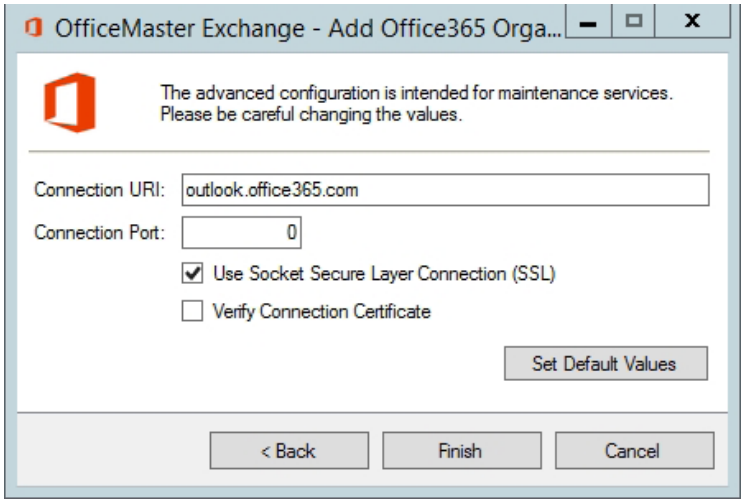


Image 4.50: Extended parameter

After the wizard closed, a "New Office 365 Organization" appears in the scope pane (left hand side). By clicking the node "Authentication", you can connect to Office 365.

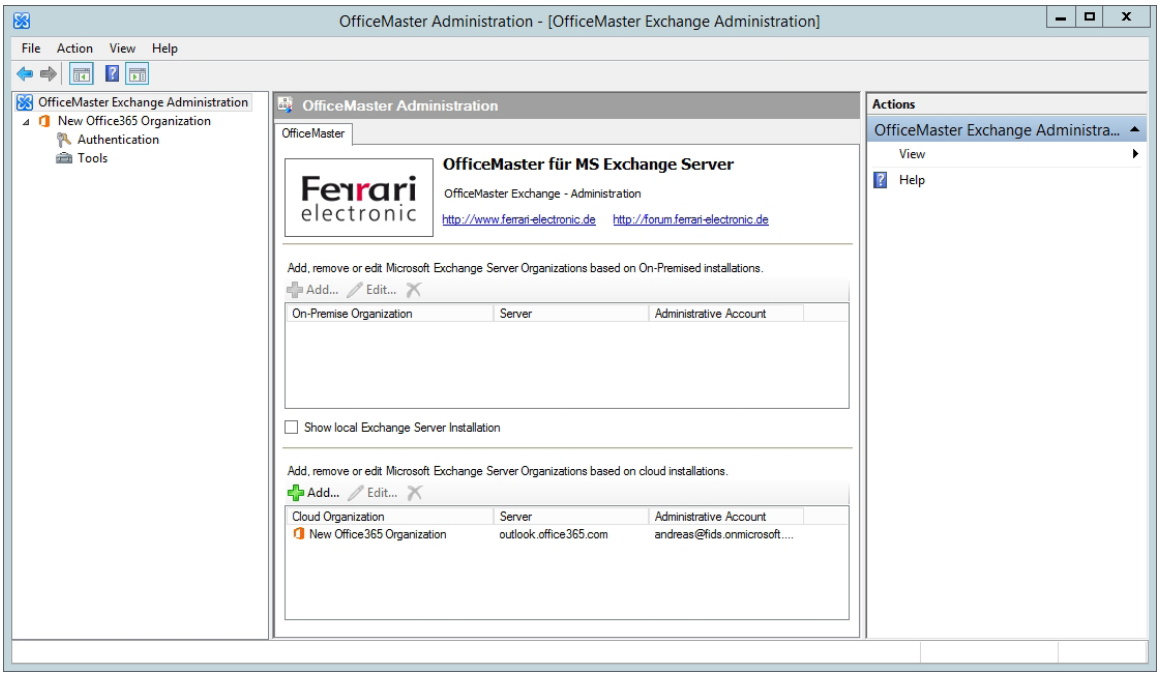


Image 4.51: A new organization has been added

The new organization can be edited or removed in the Cloud/Office 365 organization area.

Each added organization requires an interactive authentication.

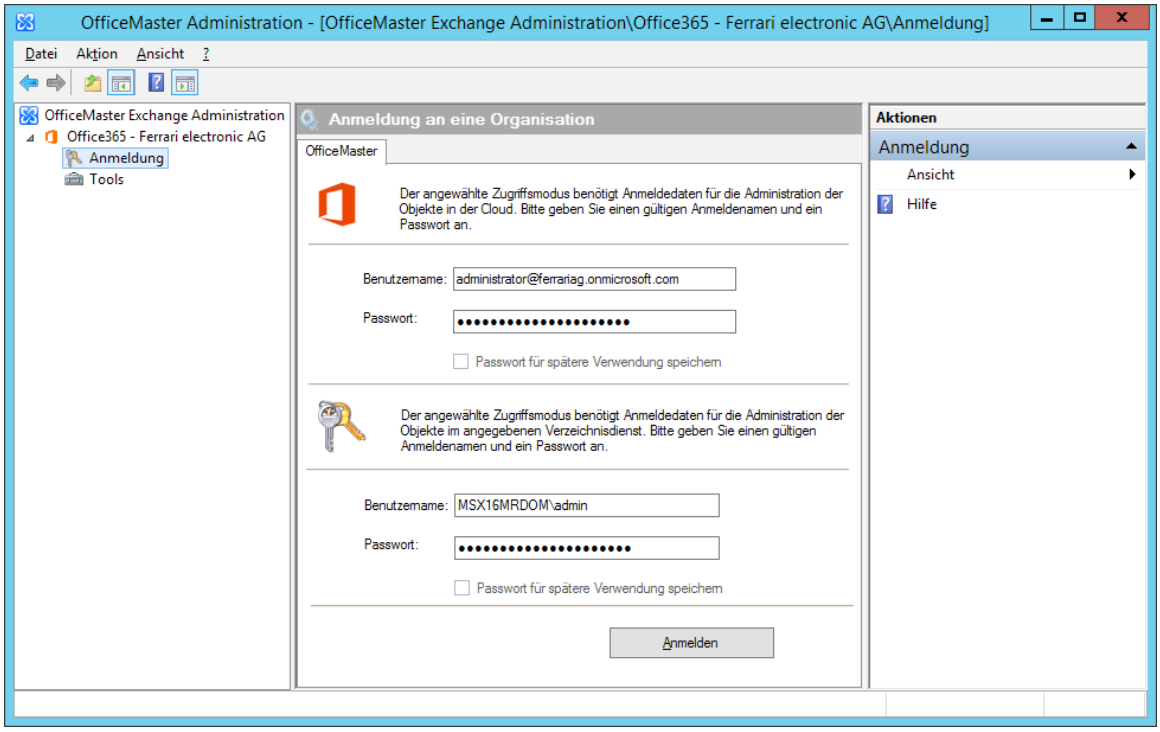


Image 4.52: Connecting to Office 365 and an Active Directory

After completing the login, the area nodes for organization configuration, Connector configuration and recipient configuration become available.

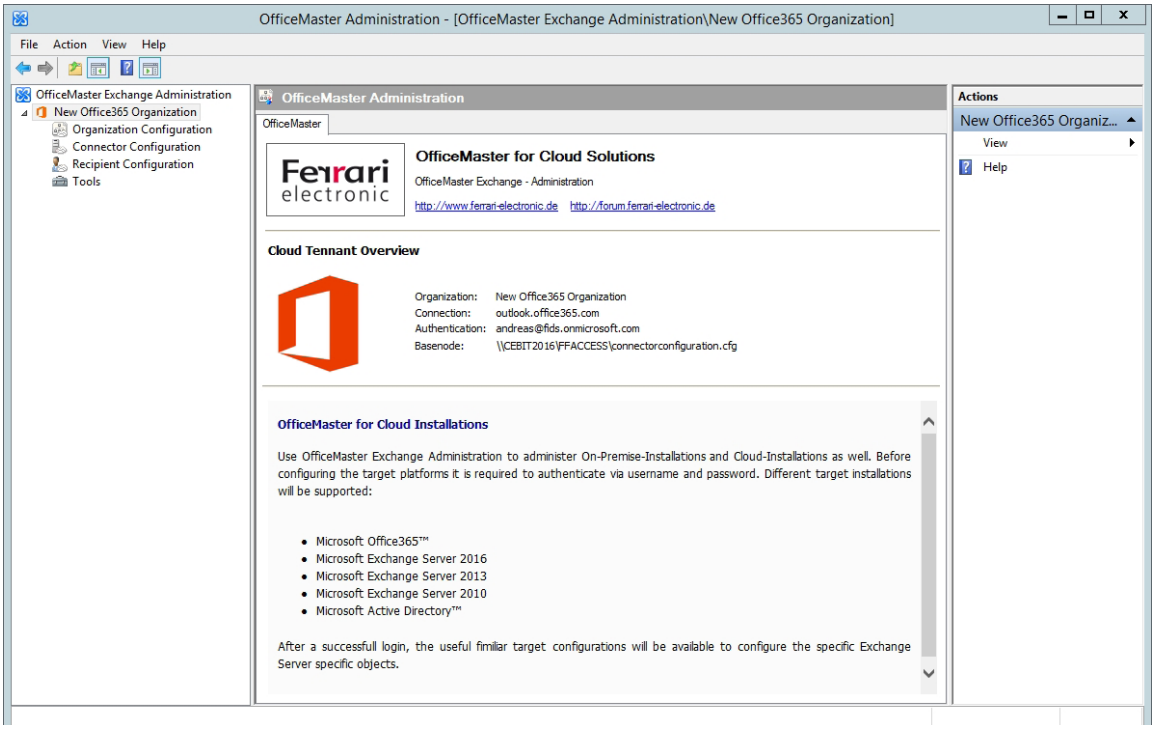


Image 4.53: Overview - configurations

You can now configure the Connector and the users. The new configuration is visible for all user logins on the local computer.

4.5.5. Configuring a Local Exchange Server Installation

Supporting a local Exchange server installation with the component msxbcsgate is a special case, because the functionality is included in msx2kgate. Should you encounter this special case, use the local Exchange administration for configuration. The local Exchange administration should remain active.

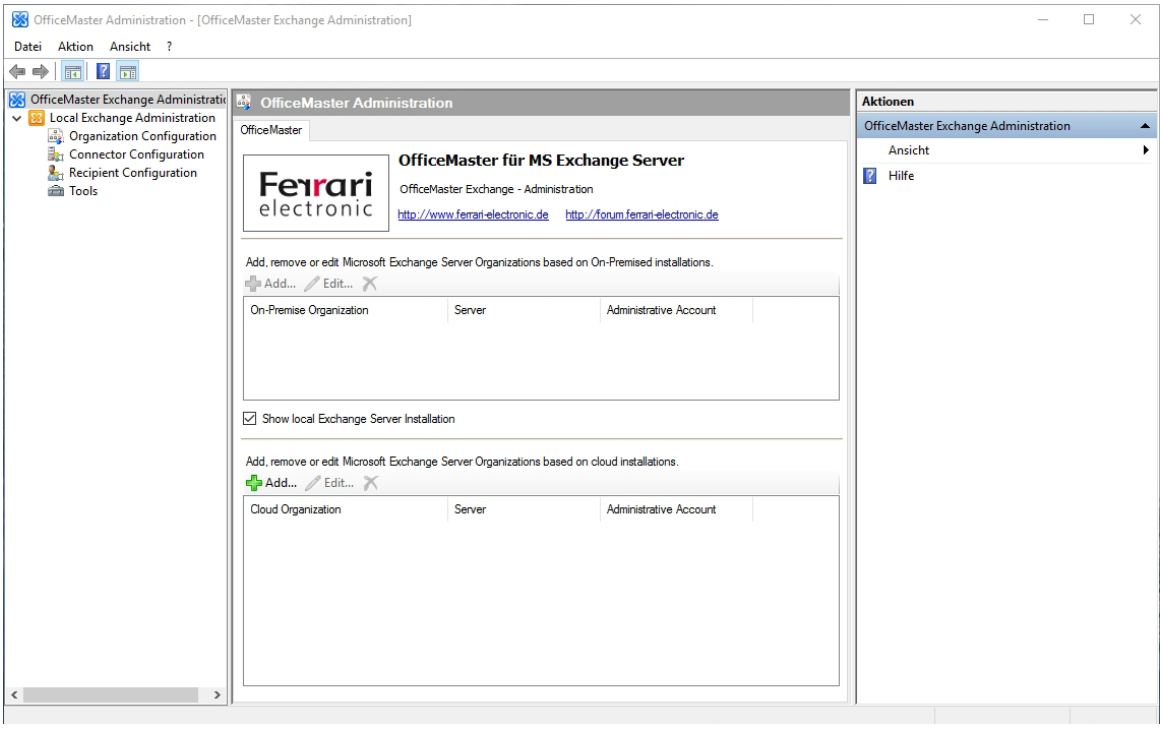


Image 4.54: Use local Exchange administration

The next steps are dependent on the kind of installation. During the installation of the Connector, you provided a place to save global user data. Should this place be an Active Directory, you don't have to add anything to the organization configuration. The basenodes in the local Active Directory will be shown automatically. Should your data be stored in a configuration file, you have to add this file to the configuration.

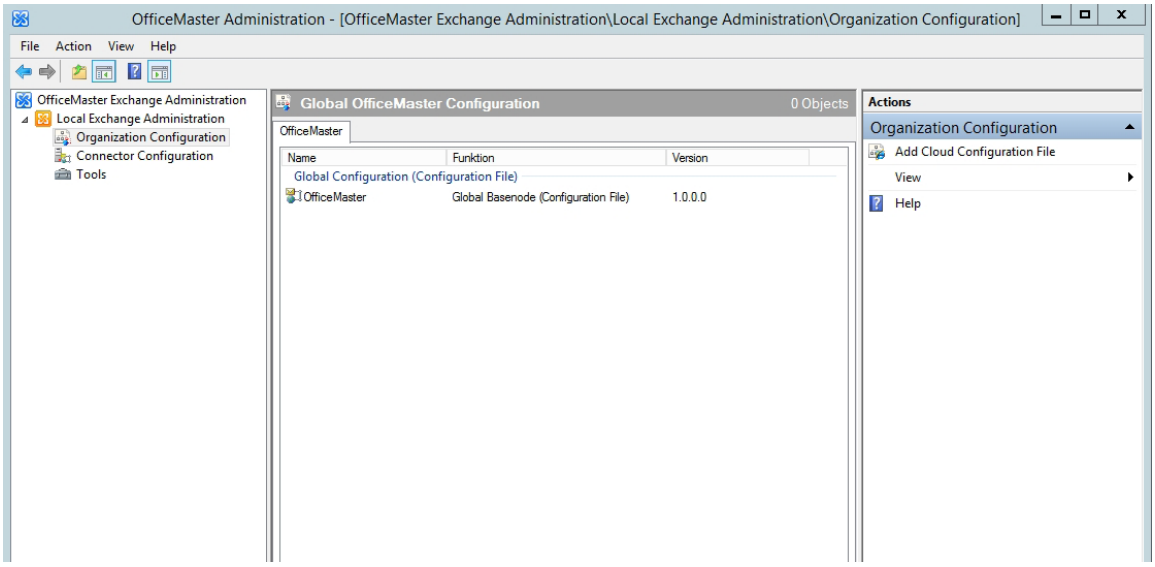


Image 4.55: Add local basenode (file)

After adding this file, you can configure the global user data.

To configure the Connector's settings (msxbcsgate component, „Connector for BCS"), you have to add the configuration file to the connector configuration.

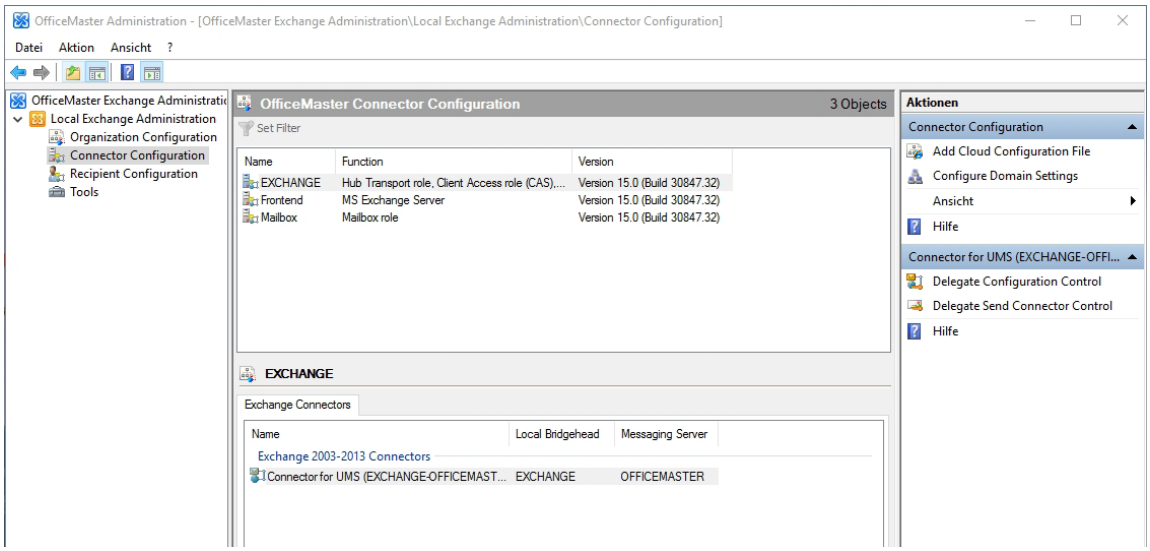


Image 4.56: Add connector configuration file

The Connector will appear in the list of Exchange Connectors after you added its configuration. You can now adjust its settings.

Configuration files that were added in the local Exchange configuration are only visible for the current user.

You don't have to become active in the node "User Settings". The user objects will be shown automatically and can be configured right away.

4.5.6. Configuring Global User Data

The global user data are managed in the organization configuration in the settings of the basenode.

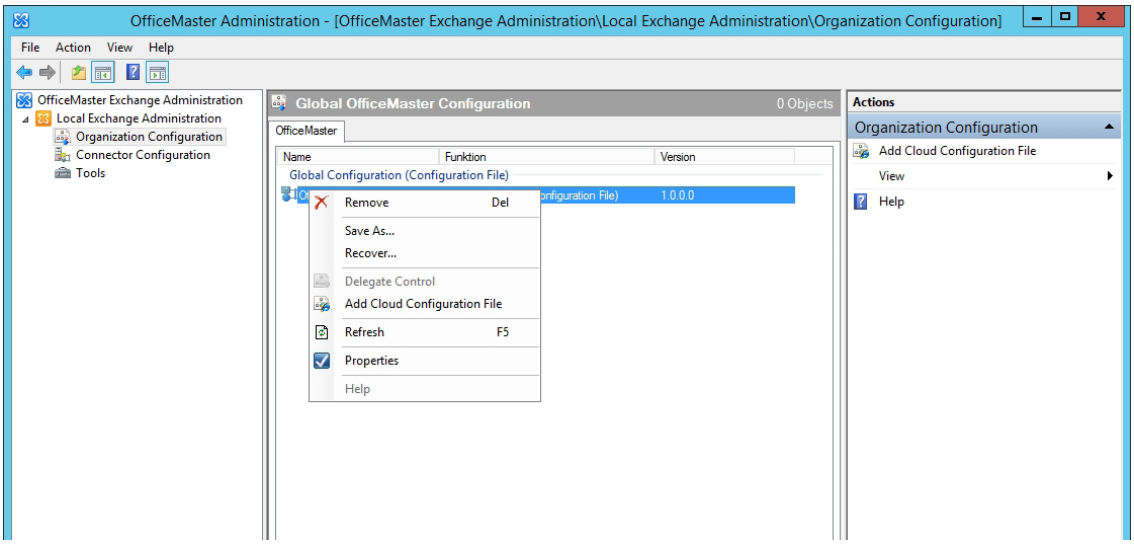


Image 4.57: Configuration of basenode (global user data)

General Settings

Here you can adjust general settings that receive attention globally. All OfficeMaster Exchange Connectors of the organization will be based on these settings.

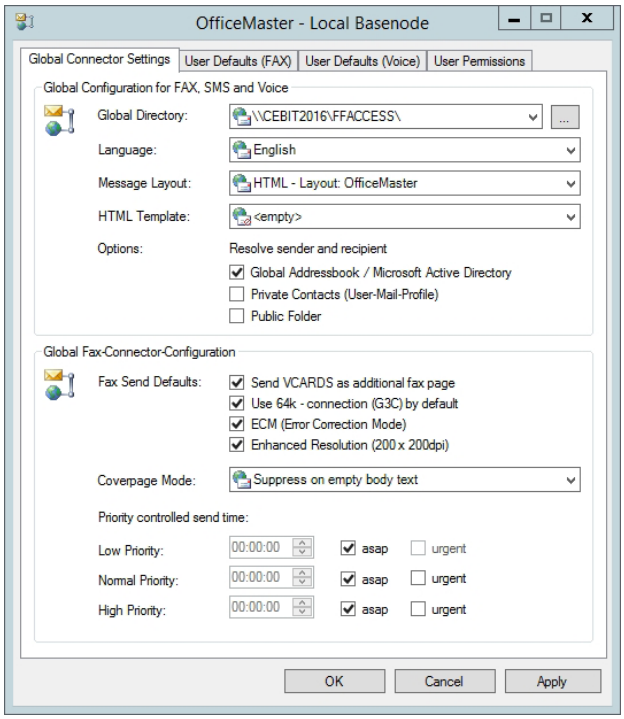


Image 4.58: Tab Global Connector Settings

► Global Directory (for Front Pages etc.)

To store front pages, signature files, stationery and caller images you have to set a global directory as UNC path that matches the structure of the FFACCESS clearance. This means, that the connectors expect sub-directories with the names of COVER (front pages), LETTER (stationary files), SIGN (signature files) and PICTURE (caller images). Administrating these folders is only useful, if there are several OfficeMaster Connectors in one organization. During installation this folder might be subject to change. The administrator can, in agreement with the operators of the other connectors, set a root directory. Choosing “save global settings in local domain” during installation creates a global directory at every site.

► Language

You can choose between German, English, French, Italian and Spanish as the language the Connector displays notifications to users. You can change this setting for each recipient in the corresponding settings.

► Notifications

The OfficeMaster-Connectors are able to send notifications as well as incoming documents in different layouts. You can choose between the following internal options:

► Text Only

Documents will be created as emails with an entire text content. This setting creates the highest compatibility to all user applications the Exchange server can be connected with.

► HTML-Layout Neutral, OfficeMaster and Outlook

HTML-Layouts add design to the message. The message is created in HTML format and the first page of the attachment of the fax document is a preview.

Feedback includes the converted attachment files individually, therefore the first page of each attachment file is displayed in the message. The format of the included preview file (PNG) is independent from the actual attachment file format. The three internal layouts you can choose from contain different color designs. The administrator can choose the layout. The standard layout is OfficeMaster.

▶ HTML Template

In addition to the HTML templates included, you can load external templates for more specific designs. They are created using a special HTML/XML variant and can be saved with the normal RTF cover pages in the global cover directory. These special template files (*.HTL) save entire language sets to HTML templates and can positively transform the appearance of incoming documents and ,if applicable, adjust them to your corporate design. The HTL editor and a documentation of the HTL script language can be found in the directory <SERVER>\FFACCESS\Redist\Tools.

▶ Identifying Sender and Recipient

The connectors can resolve incoming and outgoing telephone numbers. You can set in which directories contact information can be searched for by default.

▶ Global Address Book / Microsoft Active Directory

When choosing this option, incoming caller identification and outgoing cover page information are taken from Active Directory user data or Active Directory contact data. This option ensures that only internal calls are resolved, because contact data is usually not stored in the Active Directory.

▶ Private Contacts (User- Mail- Profile)

Private Contacts are contact information stored to the E-Mail profile of the sender or for incoming documents of the recipient. They do not refer to private folder files (PST file) embedded in the email profile, but rather to the contacts folder of the email profile. Note that you can only use this function if the service account of the connector component has sufficient reading rights to the mailbox storage of the corresponding user.

▶ Public Folder

The connectors usually resolve cover page fields and information from senders of incoming and outgoing documents and messages from the address book. As most of this sender information is not saved as an Active Directory contact, but as an element in global folders, this setting allows the connectors to use this as data source. It essentially uses the first contact element. Although duplicates are narrowed down by their display name, they are not recognized as errors because no other information is used to find the data.

Note! The search within private contacts and global folders are processed in real time for each of the settings. Such processes can take a considerable amount of time. As an alternative, the connectors can use the meta-cache database which works independently of this setting.

▶ Fax Send Defaults

▶ Business Cards (VCARDS) as Additional Page

In Microsoft® Outlook you can choose to attach the electronic business card of Outlook to the message. This option, common to emails, can also be activated for sending faxes. The business card is then converted into an additional page of the fax.

► Use 64k Connection by Default

The OfficeMaster card supports the standard fax protocol ***G3C*** that, within fax group 3, allows transmission with a speed of 64 kBit/s on ISDN lines. In this case, with using the OfficeMaster Gate, it attempts to both establish and transmit the fax or the file with this speed. If the connection is successful, the time and money saved is of considerable importance. Should the connection fail, because the recipient is incapable of accepting the data stream, a new connection has to be attempted. The second attempt uses the default speed. Please bear in mind that trying to establish a connection twice takes up more time. Should this option be active, the individual user can deactivate it for their task in the transmission options.

► ECM (Error Correction Mode)

This option activates the error correction mode when sending faxes or files. Should the recipient support this function, faulty data packages will be identified and resent. This allows files to be transmitted faultlessly even through poor lines. We recommended leaving this option at its default. Should the need arise, the individual user can deactivate it later for each task.

► Enhanced Resolution (200 x 200 dpi)

By deactivating this option, all faxes will be sent using the standard resolution of 200 dpi horizontally, 100 dpi vertically. This saves considerable time and financial resources compared to the enhanced resolution (200x200 dpi). The individual user may set a custom resolution for each task.

► Coverpage Mode

A cover page can be incorporated into a fax message that is sent with Microsoft Exchange. This box lets you customize the cover page.

► Never Suppress Cover Page

If a cover page exists, it will always be sent.

► Suppress on Empty Body Text

Should the message contain no text but attachments only, this option will suppress the cover page. Any data entered into the ***Subject*** input field will be ignored. You may use this option if the attached files contain this information, e.g. a cover page created with a word processor.

► Suppress on Empty Body Text and Subject line

This option suppresses the cover page only if there is no text in both the message itself as well as in the ***Subject*** input field. You should select this option if you want a cover page to be created for each message that contains a value in the ***Subject*** input field, since the subject is usually part of the cover page.

► Priority Controlled Send Time

Use this option to set the transmission periods of fax and SMS documents according the E-Mail priority. The check box ***urgent*** assigns a higher prioritization to the queued messages within the Messaging Server. Use this option for high priority E-Mails only as it interferes with the placing of documents within the server queue.

User Defaults (Fax)

The settings apply to every user of the organization, unless they had been administrated individually.

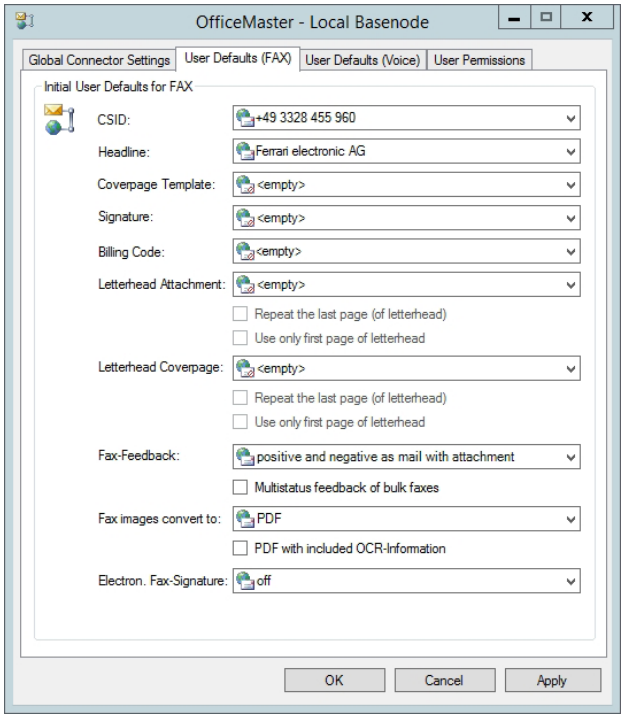


Image 4.59: User defaults for fax

▶ CSID

You can set the global fax identifier for all users of the organization. It will appear in the header of each outgoing fax. Please use the international norm: (**+**) (**country area code**) (no leading 0) (**calling number**) (**forwarding number**).

Example: +49 3328 455 960

Thanks to the individual setting of the identifier, the fax number of the sender, including the in-dialing number, is being transmitted correctly. Answering faxes can therefore go directly back. If you leave this field empty, data entered during installation of the messaging server will be used.

▶ Headline

You can globally set a headline for the users of the organization. This may be your company name and the department.

▶ Coverpage Template

Here, you can activate a cover page. Enter the name of the RTF file in the corresponding field. Cover pages are saved to the sub folder “COVER” that is created automatically upon setup. The default is set to Inactive. Should you activate cover pages, all faxes sent through connectors of this organization receive a cover page unless the respective user was given authorization to turn off or replace the preset cover pages.

Note! If you created the cover page using Microsoft® Word, we strongly recommend to use it again for central conversion of the message. Microsoft® Word creates RTF files that aren’t interpreted by the internal RTF converter of Microsoft® Exchange or Quick View Plus, particularly if you used more complex formats like tables or frames.

▶ Signature

You can choose the name of a signature file here. It is turned off by default. All signature files from the sub-folder *SIGN* are shown. You may also enter an alternative name; In this case save a cover page file to the sub-folder *SIGN* before using the system.

Note! It is the responsibility of the administrator to assign the correct signature files to each user. The signature file has to be an RTF file so it can be correctly integrated into the

Microsoft® Exchange message. You can create such a file by scanning a signature and saving it as an image file such as a PCX and import this image into an RTF file as an object afterwards. The internal converter cannot convert objects into RTF files which is why you need to employ Microsoft® Word or some alternative as the converter.

▶ Billing Code

The billing code refers to an entry in the log file, created by the messaging server. This is only useful if users do not possess a billing code entry, thus the value that is set here is supposed to be applied. A billing code is a code with a maximum of 12 digits that identifies the user in the log file.

▶ Letterhead Attachment

The default setting for this field is 'standard', meaning that the letterhead set for the fax connector for attachments is used for the user.However, they can individually set a different set of letterhead if needed. You can choose any one of the letterhead files saved in the sub folder LETTER or type a new filename, if you make sure that an appropriate file is saved to LETTER before starting the system. How the letterheads should be used for documents with more than one page can be adjusted with the check boxes:

- Repeat letterhead (last page)
- Use only first page of letterhead

There are four possible ways to combine these options:

▶ 1. Both Settings off (default)

Every page of the letter paper is associated to the appropriate cover page and message. Should the cover page or message have more pages than the letter paper, the other pages receive no letter paper.

▶ 2. Repeat Letterhead (Last Page)

Here again, every page of the letter paper is associated to the appropriate cover page and message. As opposed to the previous scenario, remaining pages of the cover page or message receive the last page of the letter paper.

▶ 3. Use Only First Page of Letterhead

Only the first page of the letter paper associated to the appropriate cover page and message. Remaining pages of the letter paper are discarded just as well as remaining cover pages or message pages.

▶ 4. Repeat Letterhead (Last page), use Only First Page of Letterhead

Only the first page of the letterhead is used. This page is repeated on all pages of cover page and message.

▶ Fax- Feedback

Every user sending a fax is eligible to receive a transmission report. This report (called feedback hereafter) can be configured depending on the Exchange server. Feedbacks indicate whether the fax transmission was successful or not. If a ***Non-Delivery Report*** (***NDR***) is requested, the sender will receive a report that includes information about why the fax could not be delivered and allows the user to change the fax number and repeat the process. As a ***NDR*** is fairly versatile, you may choose your preferred output.

▶ Positive and Negative Feedbacks as Mail Without Attachment

Positive and negative feedbacks are conveyed via mail to the inbox of the sender, excluding the converted fax.

▶ Positive as Mail, Negative as NDR

Positive feedbacks are conveyed to the sender's inbox via mail, whereas negative feedbacks generate a *NDR*. *NDR*'s occupy an option that allows the user to resend the message.

▶ Only Negative as Mail

Only negative feedbacks are conveyed to the sender's inbox.

▶ Only Negative as NDR

Choosing this option triggers one *NDR* per transmission error.

▶ Positive and Negative as Mail with Attachment

Here, positive as well as negative feedbacks are conveyed via mail to the inbox of the sender, along with the converted fax as attachment.

▶ Positive as Mail with Attachment, Negative as NDR

Positive feedbacks will be sent as mail with the converted fax included, while negative feedbacks are sent as *NDR* to the mailbox of the respective sender.

▶ Only Negative, as Mail with Attachment (Recommended)

Usually the sender receives a message from the fax Connector, informing them of success or failure. Especially for serial faxes it doesn't seem sensible to send messages for each and every successful fax. When you choose this option, you will only be informed of unsuccessful attempts at sending a message.

▶ Multistatus feedback of bulk faxes

An additional option is to choose to receive a summary of the feedbacks for bulk faxes (outgoing faxes with the same content but different addresses). Instead of receiving one mail for each successful or unsuccessful fax transmission, you rather receive one message that confirms the successful delivery of ALL faxes or you receive a message indicating which fax transmission job was faulty. Please note that this option is not possible for bulk E-Mails, as each job needs to be processed manually.

▶ File format

The standard format for incoming fax documents is TIFF/G4. But you may choose any other format from the list. Select the format for attachments with the image viewer in mind that is used to open faxes.

▶ PDF with inluded OCR- Information

Additionally, if the text recognition is turned on, you may choose to have a searchable document created that is then attached to the incoming document.

▶ Electron. Fax- Signature

Use this input filed to include a qualified electronic signature with outgoing fax documents. This option requires the respective OfficeMaster Exchange Connectors to possess a corresponding signature component (*SIGN*). Because signatures are usually used by individuals rather than by groups, you should activate this option in the user settings and not here.

User Defaults (Voice)

Use this tab to set user defaults for the voice connectors. They will be applied to every user who is not administered individually.

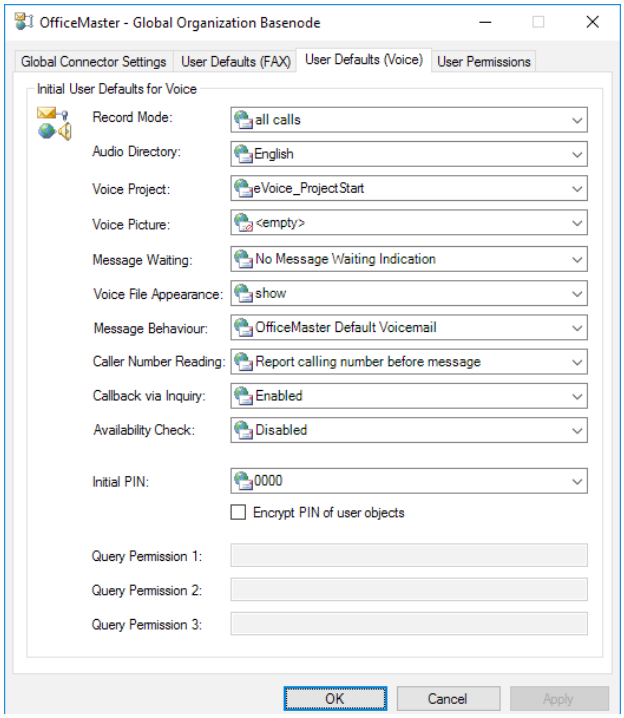


Image 4.60: Tab for setting up *Voice User Defaults*

▶ Record Mode

The record mode differentiates between conveying pure audio messages including file attachment (*Voice message only*) and conveying an additional call notification without attachment (*All calls*) if the caller didn't leave a message.

▶ Audio Directory

The audio directory is the audio tree of the messaging server. Each messaging server with an installed voice-tree includes audio directories, which in turn include language-related voice prompts. As of now, you can choose between *English* and *German*.

▶ Voice Project

Please choose the voice project that you intend to use. The voice project determines the behaviour of the voice server for inbound messages.

▶ Voice Picture

The voice picture is a default image, which is shown if the user has no allocated picture or the caller could not be identified. It is an image file (*PNG* or *JPG*) saved to the global directory *PICTURE*. The image should not exceed 160 x 180 pixel (width x height).

▶ Message Waiting

Depending on its configuration, a Message Waiting Indicator (MWI) can be turned on or off on the telephone of the respective user. Turning the MWI light on is determined by the messaging server configuration and the appropriate use of the "***Message Waiting***" functionality of the PBX. Four modes can be selected:

- No Message Waiting Indication
- Indication off by remote inquiry

- Indication off by inquiry of one message at least
- Indication off by inquiry of all messages

▶ Voice File Appearance

Use this input field to choose whether the voice files (WAV or MP3) are shown within the message or not. Suppressing them will let you to listen to them by remote request only and not through your computer's speakers.

▶ Caller Number Reading

Use this input field to determine whether the telephone number of the caller is read out during listening to the respective audio message. It may be read out prior or after the message.

▶ Availability Check

If needed, the voice connector employs a functionality that evaluates the private schedule of the user and determines whether he is available or not.

▶ Initial PIN

Every user who has not been administrated individually uses this PIN entry. This PIN is also used to adjust the functional sequence in accordance to the actual behavior. In conjunction with other connectors, the voice server is given the option of utilizing an initial PIN as well. To generate a dynamic PIN, utilize the voice server. Should the voice server configuration apply to the Exchange Server as well, leave the input field blank. (Hence, delete the default value '***0000***').

▶ Encrpyt PIN of user objects

To amplify the safety, the Messaging Server is giving you the possibility to encrypt the PIN by a ***PBKDF2-Hash*** standard

▶ Query Permission 1-3

If the voice box receives calls from the telephone numbers entered into this box, it immediately enters the configuration mode. We recommend leaving these input fields blank, as they cannot be integrated into a useful global operation.

User Permissions

Each user of the OfficeMaster Exchange Connectors can receive a multitude of permissions from the administrator.

The permissions shown are set for all users by default, unless users possess an individual administration. The tab *User Permissions* (see image below) incorporates all permissions a user can obtain. Activate them by ticking the respective box.

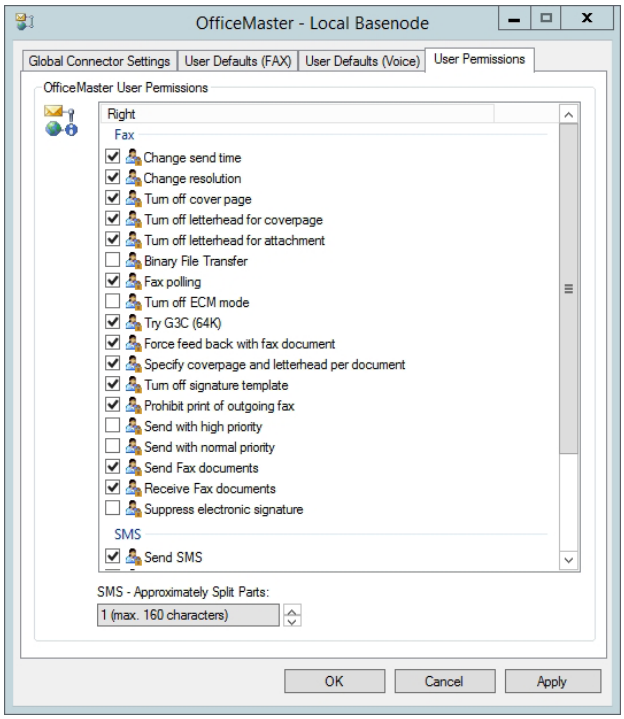


Image 4.61: User Permissions

▶ Change send time

This permission enables the user to set a date and time for messages to be broadcast. These entries have priority to the urgency settings *low*, *normal* and *high*. If a time is given without a specific date, the current date is taken. Has the time already passed, the next day will be taken.

▶ Change resolution

The resolution can be set to high or standard. We recommend having these settings set to standard resolution. This will essentially keep the costs as well as the transmission time at a minimum. For special cases, the resolution can be changed for the individual task.

▶ Turn off cover page

Within the global administration, a cover page for all users or a cover page for an individual user can be set. This option enables the user to suppress the selected cover page. This is useful whenever an outgoing document already contains a cover page. Please note that the use of cover pages add additional transmission time and costs.

▶ Turn off letterhead for cover page

A default letterhead for cover pages can be set within the global administration. With this option, the user can suppress the use of letterheads/ letter paper for cover pages.

▶ Turn off letterhead for attachment

The same can be done for attachments. It also lets users suppress the use of letterheads for attachments.

▶ Binary file transfer

The actual message as well as possible attachments are conveyed to the counterpart station via file transfer through the fax connection. We recommend choosing this option only if the counterpart station inherits the respective option for the fax protocol using the *ITU guideline T.434*. This will give the recipient the possibility to further process the files or execute the programs within the files. Please note that the binary file transfer might not be supported by the utilized fax hardware.

▶ Fax polling

The user has the ability to use fax polling as offered by OfficeMaster. The number entered as fax address is being called and the fax protocol signals that a document is to be send. The user receives the document just like a normal fax.

▶ Turn off ECM

Here, the user is given the possibility to suppress the default setting ***Sending with error correction***. OfficeMaster Gate supports transmission with ***ECM*** (***Error Correction Mode***) and we highly recommend utilizing it.

Should the addressee use devices that do not support ECM, the ECM suppression is applied automatically. ECM repeats the transmission of all faulty data blocks and thus regulates the errorless conveyance of faxes. If the line quality is poor, it may cause a minor transmission delay. Suppressing ECM is only recommended if the line is very poor and essentially causes the transmission time to soar up immensely. Furthermore, errors need to be tolerated.

▶ Force feedback with fax document

When sending faxes users may opt to receive feedbacks stating whether the fax has been transmitted successfully. In addition to the status information, they also receive the actual fax as image file attachment. Utilizing this option is of particular significance for users who triggered multiple jobs but cannot allocate the transmission feedbacks to the respective faxes.

▶ Specify cover page and letterhead per document

The user will be authorized to choose their own cover pages and letterheads. They can set a name of a cover page file or letterhead, as long as the corresponding file exists in the installation clearance <Messaging Server>\FFACCESS\Cover.

▶ Turn off signature template

The global administration can set a signature for each user, saved in the directory <Messaging Server>\FFACCESS\Sign. This option lets the user suppress the use of the signature for their messages.

▶ Prohibit print of outgoing fax

The administrator can select a default printer, which automatically prints all outbound faxes. Turning on this option suppresses this functionality.

Note! The internal mechanisms for Microsoft Exchange prevents the display of any rights that had been enabled for the user. Thus, they see all settings and essentially rely on the administrator to tell them which settings they may take influence on. This functionality is applied regardless on the configuration of any printing interfaces (***printgw***).

Note! Although the following settings affect the user permissions, they do not appear in the OfficeMaster transmission settings for Outlook.

▶ Send with high priority

An important feature of transmitting faxes is to set the priority for a message. As a message with high priority is sent immediately, significant transmission costs may arise for long faxes. To avoid this, we recommend assigning only priority levels that are low in costs. Enabling this option will allow the user to make use of the highest priority level.

▶ Send with normal priority

Normal priority faxes are not necessarily send at the most opportune time, so the administrator can force users to always use low priority. Checking this box allows the user to send messages with normal priority.

▶ Send fax documents

Here you give permission to Microsoft Exchange users to send faxes.

▶ Receive fax documents

Use this checkbox to block the reception of faxes for the respective user. If activated, inbound faxes are forwarded to the inbox of the default user who then decides whether he himself forwards the fax document to the blocked user.

▶ Suppress electronic signature

The user is allowed to suppress the electronic signature through the send options.

▶ Send SMS

If an SMS connector is installed, this option allows the sending of SMS's. Users who send messages without permission receive an error message.

▶ Receive SMS

The SMS connector can also receive messages. This feature can be toggled on or off with this checkbox. All inbound messages addressed to the blocked user are forwarded to the default recipient, who will then decide whether to forward the SMS message to the intended user or not.

▶ Sending split SMS

If the user has been authorized to transmit SMS's, any text message that exceeds the maximal character count of 160 will be split up and transmitted individually. As this option might be quite costly, it is turned off by default.

▶ Activate CTI

CTI (*Computer Telephony Integration*) is an outdated feature and therefore not supported since OfficeMaster Server version 5 and higher.

▶ Voice administration

CTI includes a call monitor, making it possible to see the telephone status of other participants. The authorization to see this can be configured here.

▶ Maximum Of Partially Split SMS

When sending long SMS's the maximum number of SMS the message is allowed to be split into can be set here. Messages that are longer still, will be cut off after the maximum split. The largest value possible is 99.

4.5.7. Connector Configuration

The Connector configuration is in the node ‘Connectorkonfiguration’. A list of servers appears that you can choose from. If a server has a connector installed, it will be shown in the connector list.

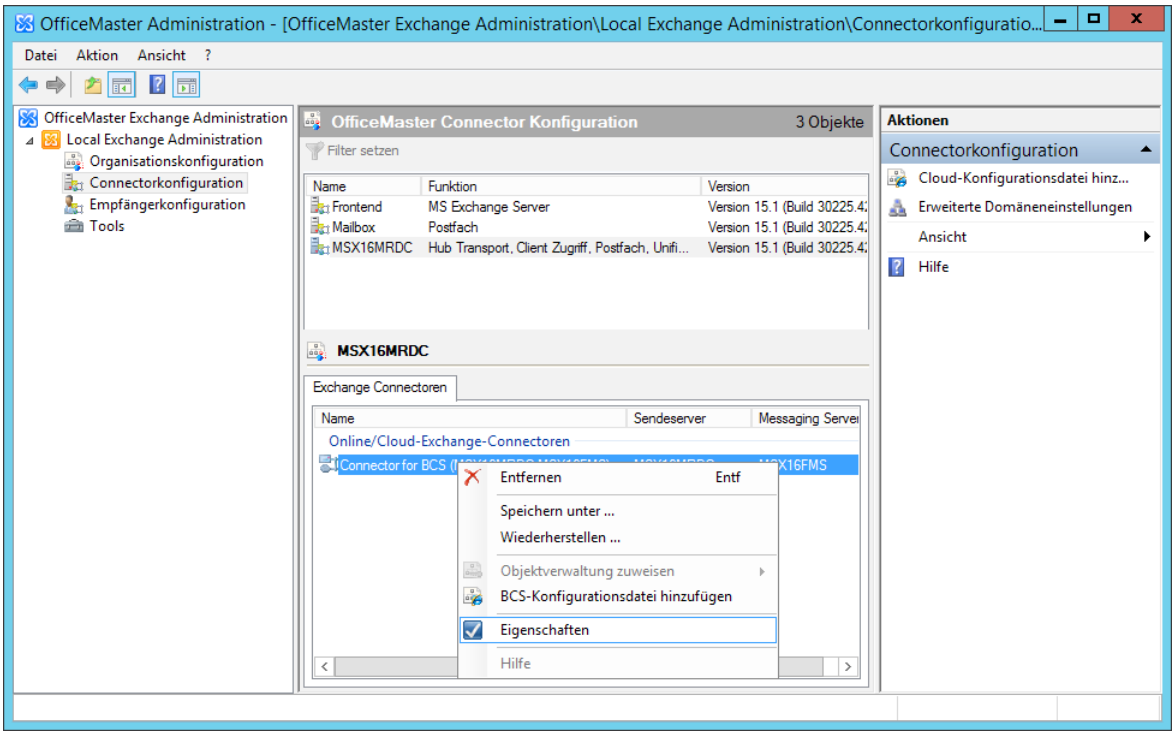


Image 4.62: Connector configuration

General settings

Every Connector has its own specific settings. These are administrated in the preferences section of the appropriate object.

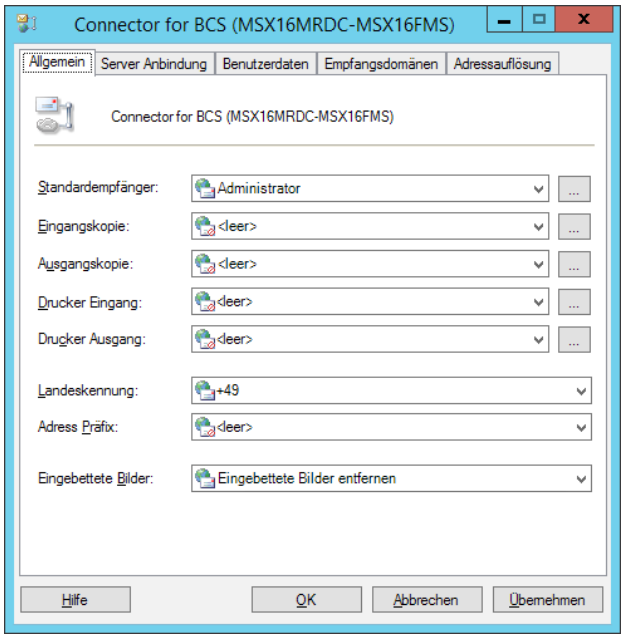


Image 4.63: General settings

▶ Default recipient

As default recipient you set a recipient or a global folder that will receive all documents (fax or SMS messages) that cannot be distributed automatically. Automatic distribution of fax messages requires ISDN hardware that allows every Exchange user to have an individual call-in number. On analog hardware, that don't support call-in numbers, all faxes are send to the default recepient. It is the responsibility of the default recipient to forward incoming faxes as messages to the correct recipient.

Mailing lists cannot be used as default recipients.

Note! It is required to set a default recipient. Should this entry be missing, it may be possible that undelivered documents are not send to anyone's email and remain stranded in the queue of the OfficeMaster server.

▶ Copy incoming to / copy outgoing to

This section can be used to forward a copy of all inbound and outbound documents to a preset public folder or inbox. Resorting to this option will allow the archiving of all fax communication straight to these folders. Furthermore, archived messages can be browsed through using various processes and copies can be resent. The folder ***Microsoft Exchange System Objects*** folder contains these public folders.

▶ Print incoming / Print outgoing (UNC path for fax documents only)

These fields let you choose a printer from the network that is to print all incoming documents for the user. Should the favored printer be hidden, you can enter it manually using the UNC standard (Universal Naming Convention). This setting is inactive by default.

For the connector to be able to actually print incoming and outgoing faxes with the selected printer, the computer running the connector component has to have the appropriate driver installed.

Note! The Messaging Server configuration also lets you set a print gateway that offers similar features. The two differ in the fact, that the configuration of print gateways cannot be user-specific. To test printing, you can use the tool MsxPrinterTest.exe. You may find it on the OfficeMaster server in the directory <SERVER>\FFACCESS\Redist\Tools.

▶ Additional send options

▶ Country dial prefix

Most ISDN ports fail to establish a connection if the country code is used as prefix. To avoid this issue, enter the country code prefix here. The Exchange connector will then convert this code into a zero (*0*). As the Messaging Server allows the setup of central system with OfficeMaster Gates distributed throughout multiple countries, the connector could also be used for processing documents in foreign countries. Having such an environment requires an adjustment of the Messaging Server, thus, this input field must bear the value ***<empty>***.

▶ Address prefix

This setting puts a prefix in front of incoming call numbers. This used to be done to avoid duplicate telephone numbers. This functionality has since been taken up by ISDN hardware and this field can only be configured for compatibility reasons.

▶ Per-unit fees

Some systems still relay calling costs as per-unit fees with the call. This is not common anymore and is almost never supported.

▶ Currency

Corresponding to per-unit fees an arbitrary alphanumeric value is set that represents the currency of the fees. This is not common anymore and is almost never supported.

▶ Embedded images

Image files included in email text is usually deleted from cover pages. The function “Support embedded pictures” allows images from the text to remain in the text and be integrated in the cover page to be send unchanged as a fax. This way, signatures added as images can be supported.

Server Connection

To configure the SMTP client of the OfficeMaster Exchange connector, use the *Server Connection* tab. To configure the SMTP client of the OfficeMaster Exchange connector, use the Server Connection tab. Here, properties of the Messaging Server for transmitting SMTP mails to the Exchange server can be set.

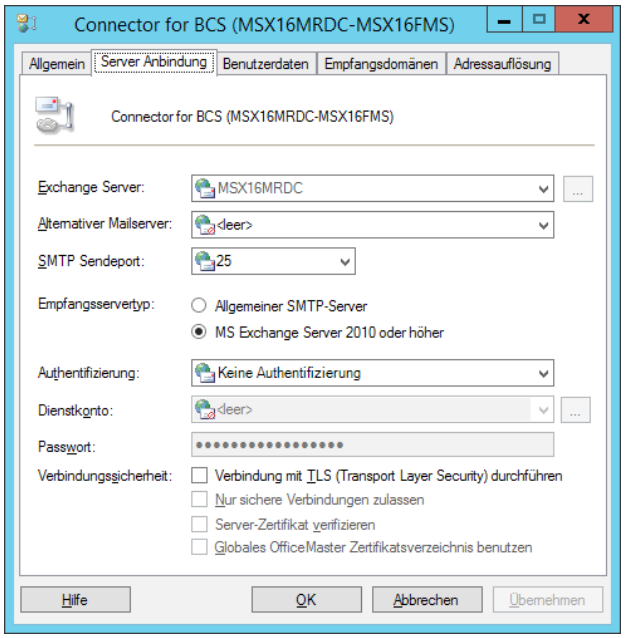


Image 4.64: Server Connection

▶ Exchange Server

The Exchange server shown here receives E-Mails from the component. This input field is not editable.

▶ Alternative Mail Server

Here you can enter the IP address of an alternative Exchange server that receives the documents. Usually, all E-Mails are sent to the one set in *Exchange Server*. This can be overthrown here.

▶ SMTP send port

In this input field, nominate the *SMTP* port that is used for receiving E-Mails via the Exchange server deposited above. This functionality essentially defines the transmission direction between Messaging Server and Exchange server.

▶ Target server type

The target server type controls the creation of emails that may differ from Exchange servers individually.

▶ Authentication

The authentication determines the level of security for mail traveling from messaging server to Exchange server. You cannot set this arbitrarily. A service account entered here has to appear at least once during installation while verifying data, because a special adjustment is made. There are three different options:

▶ No Authentication (default)

Choosing this option, no SMTP authentication is carried out. This requires that the Exchange Server allows anonymous access to the SMTP service. This is the default setting for the connection to Office 365.

▶ NTLM Authentication

This kind of authentication (NTLM, WindowsNT Challenge/Response, WindowsNT Lan Manager Authentication, internal Windows authentication) uses a WindowsNT domain account to login and send SMTP email. Because this account has to meet certain criteria, it is not used with an Office 365 installation.

► Plain Authentication

This kind of authentication (plain text password SMTP) uses a special login account for the related server. Because this account has to meet certain criteria, it is not used with an Office 365 installation.

► Service Account, Password

This section is used to deposit a service account and password. Once a service account is deposited, please do not change it here but rather take the installation wizard of the Messaging Server for these kinds of edits.

► Connection Security

This parameter determines how the communication to the server is encrypted. It essentially increases the communication security. This option is turned off for Office 365 installation, but may be turned on for encrypted connections.

There are different levels of security:

► Enable Transport Layer Security (TLS)

This activates the general encryption via *TLS*. The encryption protocols are mediated between systems automatically and no certificate is used for authentication.

► Establish only secure connections

This option prevents communications with server that do not use *TLS*. Connections will be terminated immediately, should the recipient request a TLS-free communication.

► Verify server certificate

If this checkbox is activated, the certificate provided by the server and the certificate stored within the local Windows certificate storage are compared. The connection will be dropped immediately should both certificates not match up.

► Use Global OfficeMaster Certificate Folder

As outlined above, the system checks whether the certificates provided by the server match up to any certificates stored to the Windows certificate storage. In addition to this general validation, the global OfficeMaster certificate directory (\\Server\FFACCESS\CERT) may also be browsed through to check for explicit certificates. Activate this box to enable this functionality.

User Data

The tab *User Data* incorporates options that help increase the processing speed of inbound and outbound documents for fax and SMS, as well as increase the user resolution for voice calls.

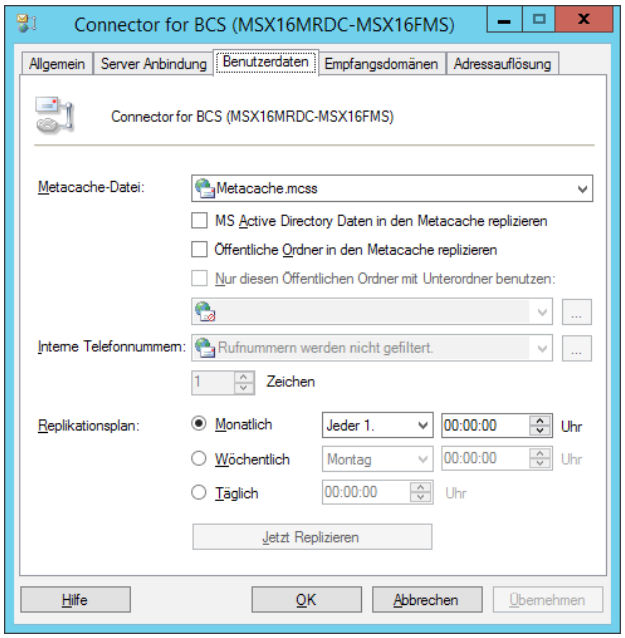


Image 4.65: Tab *User Data*

▶ Metacache File

The metacache database is a proprietary database that can be created while the connector component is running. Unlike the ***global catalog***, this database contains all relevant address data of the domain. It is created by choosing a file with the file extension ***.mcss***. The files, which are ready for access almost immediately, are used for the resolution of users if cover pages are being generated. Thus, the database is speed-optimized and can be run without additional database systems. Moreover, it can be extended with interfaces that allow the connection of databases to CRM systems via third party plugins.

▶ Replicate MS Active Directory Data to Metacache

Activating this option copies the Active Directory Forest of the user data to the database. This may take some time.

▶ Replicate Public Folders Items to the Metacache

Additional global contact folders can be copied to the meta cache with this option. This requires the existence of global folders and may take some time to process.

▶ Replicate only the following Public Folder with subfolders

To optimize access time when accessing the global folder database, you can enter or create a global contact folder here that limits the search.

▶ Internal Phone Numbers

As the metacache saves all calling number data, internal calling numbers that contain ambiguous data may cause doublets. To avoid doublets, use this input field and specify how internal calling numbers are treated according to their length and whether they ought to be assigned to certain domains.

▶ Replication Schedule

The replication schedule determines the point of time, at which data are being copied. To trigger replication immediately, select *Replicate Now*.

Address Space

In this tab, address spaces or address types can be selected that utilize all functionalities provided by the connector (for outbound communication).

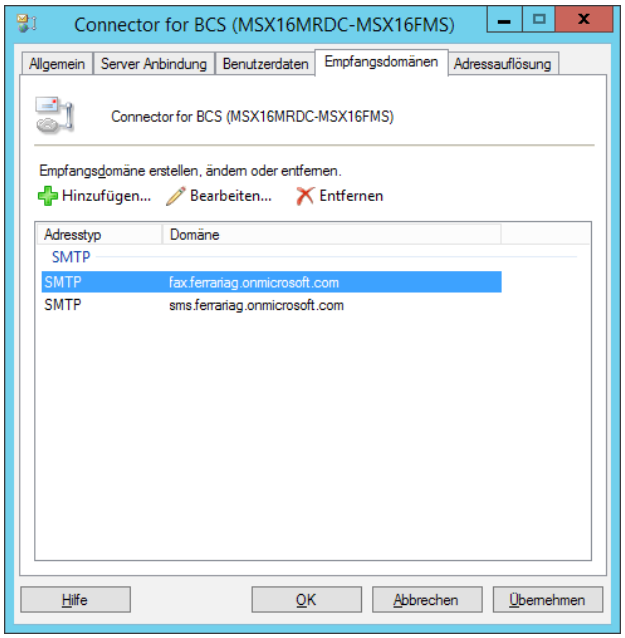


Image 4.66: Defining address space

The domain entered here is not used to automatically create objects in the target system but to register this domain with the OfficeMaster server. This setting is only necessary for the Internet connection mode.

For the service transfer mode, this setting is irrelevant.

Address resolution

The tab *Address Resolution* incorporates settings that help optimize the connector's performance. Upon every inbound/outbound processing of a document, the appropriate sender/recipient is being resolved in the Active Directory to gather and transmit information about permissions. All Active Directory domains are being browsed through on a worldwide organization. As this generally takes some time to process, you may set a domain selection and domain order explicitly or add a domain position of trust.

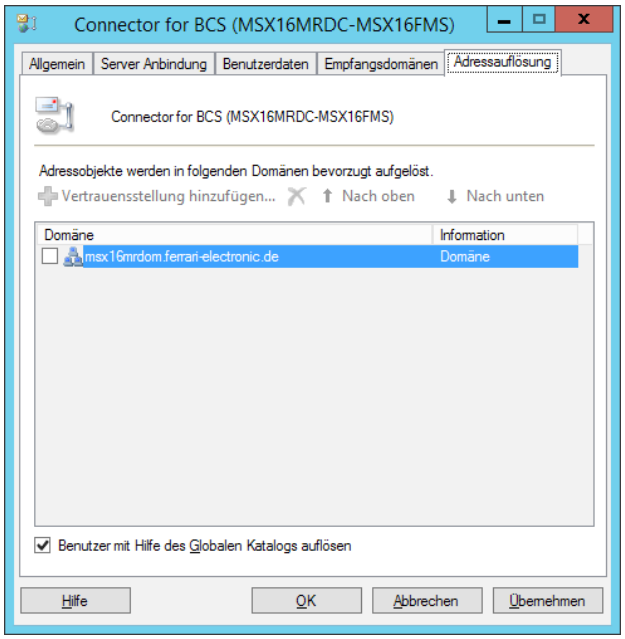


Image 4.67: Address resolution

► Add trusted domain

For comprehensive domain networks, you can add a trusted domain. In this case, the service account of the component is additionally used to contact this domain.

► Resolve users by using the Global Catalog

This option potentially increases the processing speed in networks that incorporate multiple domains. Whenever possible, the global catalog is requested.

Note! Administrating user resolution is only useful for hybrid and on-premise installations. For a pure Office 365 installation you do not need a domain inquiry. In this case these settings are irrelevant.

4.5.8. User Configuration

For the professional user administration the OfficeMaster Exchange offers a corresponding node. Local Active Directory connections offer an additional structural view, that correlates with the Active Directory user console and the computer console. This is not shown in pure Office 365 connections. The tab *Recipient* shows a list of available users. It is possible to administrate a number of settings (phone numbers, alias, etc.) that correspond to a standard user administration, however this console is not meant primarily for this purpose.

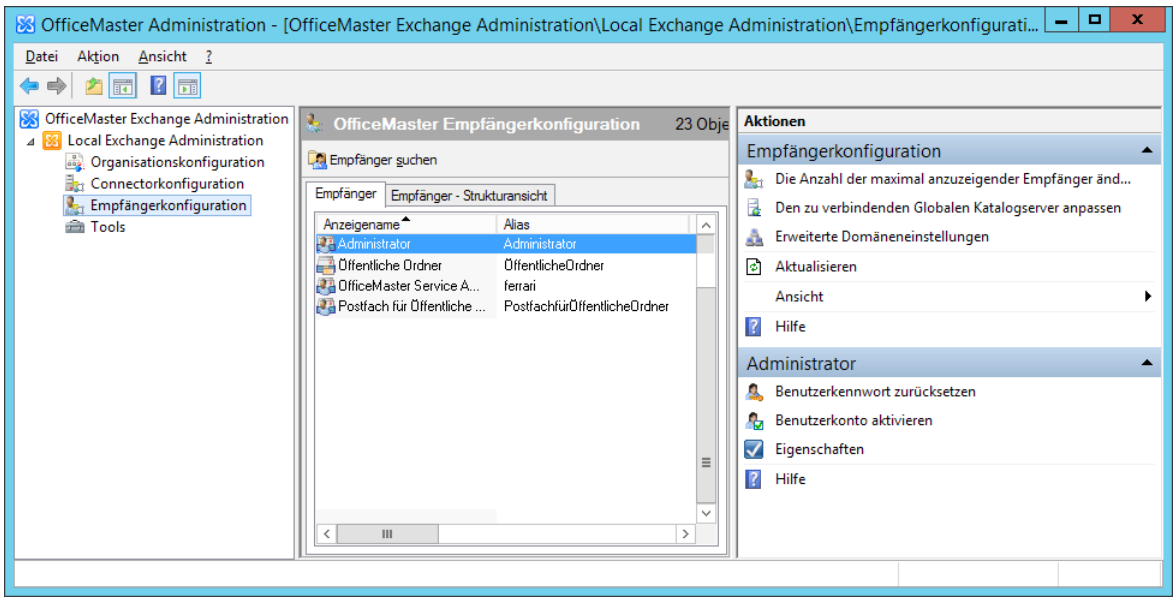


Image 4.68: User administration

Fax, SMS and VOX Addresses

The OfficeMaster Exchange administration lets you administrate many different kinds of recipient addresses, just like through the web based Exchange Server administration (ECP – Exchange Control Panel).

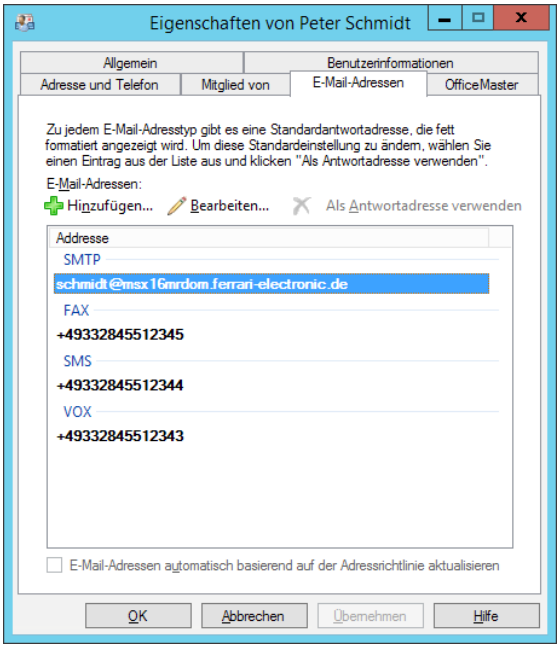


Image 4.69: User email addresses

The address field is filled with a call-in fax or SMS number of the user. This number should be unambiguous.

Note! It is not recommended to create FAX, VOX or SMS addresses through recipient policies! Addresses needed here cannot be created using recipient policies.

Tab “OfficeMaster”

User specific parameters can be set in the tab *OfficeMaster*.

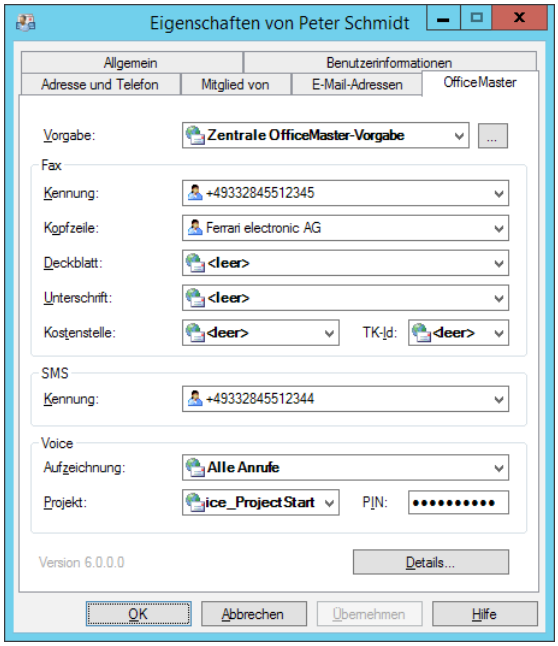


Image 4.70: Address resolution

► Defaults

You can choose a user default profile here. If the user is not administrated individually, after installation all global user defaults are entered automatically. If you enter a user group as default that is not administrated, the global OfficeMaster settings apply.

In a pure Office 365 installation, user groups cannot be set as defaults, because data is being saved directly to the mailbox and user groups do not own a discrete mail box.

► Fax

► CSID

Use the CSID input field to set a fax identifier that appears in the headline of an outbound fax. Please use the international norm:

<+> <Country area code (no leading 0)> < calling number> < extension number>

Example 4.1. +49 3328 455 960

»**End of example**

Setting an identifier ensures that both, the fax number of the sender and the call extension number are transmitted correctly. Hence, return faxes can be directly addressed to the sender. If this input field is left blank, data that have been globally set for the connector will be utilized. However, if no entry had been made there as well, data set for setting up the ISDN hardware will be used. It is generally recommend setting an individual identifier for each user. Only by doing this, valid addresses for return faxes can be transmitted even if users send data from various locations.

► Headline

Enter an individual header text for each user (or user group) into this input field. This could be their company name and the department the user is working in.

▶ Cover Page

Here you can choose a user-specific cover page file. The file names of all cover pages are listed here, which are saved to the sub-folder ***COVER***. The folder itself is created automatically on the computer that was used to carry out the setup of the fax connector. By default, this option is inactive.

Additionally, you may enter a new file name. However, ensure the file is located in the sub-folder ***COVER*** before running the system and the file extension ***.rtf*** has been stated.

▶ Signature

If your fax document is required to show a signature, choose the appropriate signature file here. All ***.rtf*** files that have been saved to the subfolder ***SIGN*** will be shown in this dropdown list. Again, this option is deactivated by default.

Similar to the *Cover Page* dropdown list, you may also enter a new file name. Before running the system, ensure the appropriate ***.rtf*** file has been saved to the sub-folder ***SIGN***.

▶ Billing Code

For the billing code, choose any alphanumerical identifier with up to 12 digits. This identifier will appear in the log file of the Messaging Server for all outbound jobs. Having a billing code allows the assignment of jobs and the corresponding costs to an individual user.

▶ PBX ID

Some organizations use their PBX to keep record of accumulating costs for telecommunication processes. On a trunk that is used by multiple users (e.g. fax line), each user has to type in a set of numbers (code) before providing the actual calling number. Thus, each cost can be traced back to an individual user. As the PBX interprets the code, the Messaging Server cannot establish a connection itself because the code would appear in front of the ***PBX ID***. One possibility to counteract this issue is to integrate the dial prefix into the ***PBX ID***.

▶ SMS

▶ Number

This number specifies the main send and receive address for SMS messages. It only applies to SMS Large Accounts. In all other instances, users are identified by their SMS address.

▶ Voice

▶ Record Mode

When choosing which messages to record, there are two options:

- All calls

  If you choose *All calls*, the recipient will additionally receive a message on the Exchange Client should no recording be made on the voice inbox. Hence, the recipient is notified that an inbound call has been received along with the details of the caller.

- Only voice messages

  Similar to *All calls*, with the exception that the recipient only gets a call notification, if the caller has left a voice message.

▶ Script

This is the initial script that manages the behavior of the mailbox. The default project is *eVoice_ProjectStart*.

▶ PIN

Enter a PIN for the voice box here. It will be requested when switching to the configuration mode or if you attempt to listen to voice recordings.

Details - General

Select *Details* to access further configuration settings for the respective user.

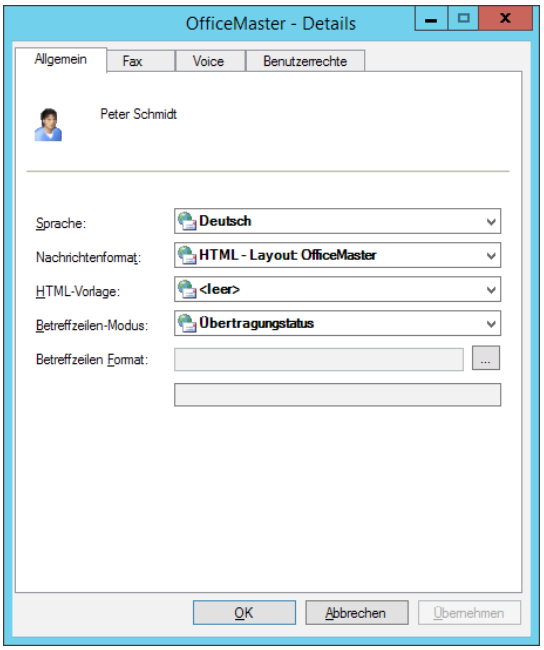


Image 4.71: General OfficeMaster settings

▶ Language

Set the language for text outputs and prompts here. As of December 2017, four languages are being offered (*German*, *English*, *French* and *Spanish*). The default setting is based on the language that has been set for the global connector settings.

▶ Message Format

In order to display the documents more flexibly, four display modes can be set here. You can choose between:

- *Plain Text*
- *HTML Layout: Neutral*
- *HTML Layout: OfficeMaster*
- *HTML Layout: Outlook*

▶ HTML Template

Apart from the *HTML* templates provided, you can load external templates for more specific design choices. Commonly, a special version of *HTML/XML* is used to generate them. In order for them to appear in this dropdown list, deposit them to the global *COVER* subfolder, which also contains the *.rtf Cover Page* files. As these template files (***.HTL***) save entire language sets to HTML templates, they can essentially alter the appearance of an inbound document to match the corporate design. Find the HTL editor and a manual for the HTL script language in the directory <SERVER>\FFACCESS\Redist\Tools.

▶ Subject Mode

To meet individual demands for the subject line of a fax document or a short message, the subject mode can be changed here. These modes do not affect voice messages. Choose between four modes:

► Transfer status

This is the classic form of a subject feedback.

Example 4.2. Sending fax to <Fax number> 1 page ok

»**End of example**

► Original Subject

The output is similar to the one given for *Transmission Subject*. However, the subject line is also added to the feedback. Business programs are capable of processing such feedbacks, which brings in a great advantage. Furthermore, stating the subject line provides an additional way to keep fax documents apart from each other.

► User Defined

Here, the subject line of the feedback can be arranged manually. See Table 4.1 for a list of placeholders than can be used according to the language setting.

Table 4.1: Placeholders for Feedbacks

Character	Feedback
%S	original subject line
%T	Transmission type (Fax or SMS)
%F	to/from (depending on transmission type and language set)
%E	Status (“OK” or “Error”)
%P	Number of pages (e.g. “1 page”, “2 pages”)
%A	Recipient (if it can be resolved in plaintext, or else recipient number or fax CSID if it cannot)
%N	Called number that has been transmitted via ISDN
%R	Exchange recipient number (fax address of the recipient)
%M	Short message (the word “short message” will be displayed in the respective language)
%%	percentage sign

Example 4.3. ***%S - %T %F %A %E***

Supposedly, a fax with the subject line ***Offer No. 0000145*** is sent to the fax number ***+49 3328 455 960***, the feedback line would display as follows:

Offer No. 0000145 – Fax transmission to +49 3328 455 960 OK

»**End of example**

FAX

This tab contains options that are specific to the fax service.

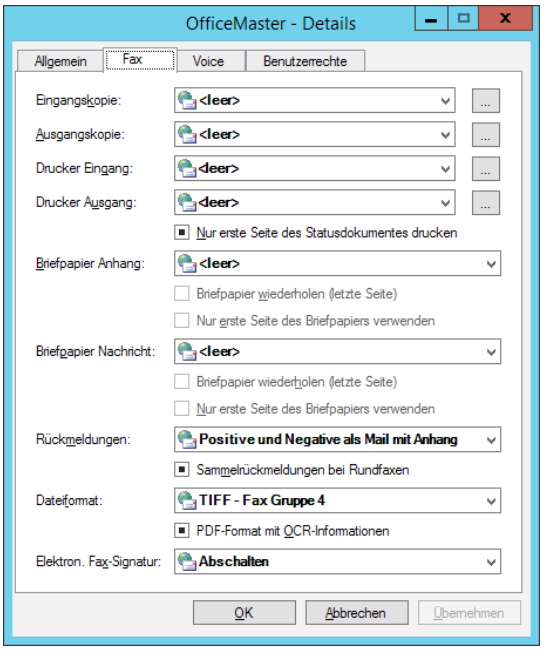


Image 4.72: Options for the fax service

▶ Copy Incoming to / Copy Outgoing to

Use this option to specify preconfigured folders or inboxes that are used for storing copies of all inbound and outbound documents (fax and SMS). Keeping copies of these documents have many benefits: It allows for a gapless archiving of fax/SMS communication, browsing for certain processes and resending faxes. Find public folders in the dropdown list of the folder *Microsoft Exchange System Objects*. Groups cannot be selected.

▶ Print Incoming to (UNC)

Here you can select a network printer that prints all inbound and outbound documents for the respective user. Instead of searching for a printer, you may enter the printer name in a *UNC* (*Universal Naming Convention*) format. This option is inactive (***<empy>***) by default.

▶ Print Outgoing to

Select a network printer that shall be used to print all outbound fax messages of the respective user. Instead of searching for a printer, you may enter the printer name in a *UNC* (*Universal Naming Convention*) format. This option is inactive (***<empy>***) by default.

Note! For the connector to be able to print incoming and outgoing faxes with the selected printer, the computer running the connector component has to have the appropriate driver installed

Note! Print gateways added to the Messaging Server Configuration may already employ these functionalities. However, these settings will not be user specific. To test the printing functionality, use the tool *MsxPrinterTest.exe*. It is located on the server that also contains the OfficeMaster software, more specifically in the <SERVER>\FFACCESS\Redist\Tools.

▶ Attachment Letterhead

The default for this field is standard, meaning that the letterhead set for the fax connector for attachments is used for the user. But they may set a different letterhead if needed. You can choose any one of the letterhead files saved in the sub folder *LETTER* or type a new filename, if you make sure that an appropriate file is saved to *LETTER* before starting the system.

The following checkboxes control in what manner documents with multiple pages utilize the letter paper file.

- Repeat the last page (of letterhead)
- Use only the first page from the letterhead

There are four possible ways to combine these options:

► 1. Both Settings off (default)

Every page of the letterhead is put behind the appropriate page of cover page and message. Should the cover page or message have more pages then the letterhead, the other pages receive no letterhead.

► 2. Repeat Letterhead (Last Page)

Every page of the letterhead is put behind the appropriate page of cover page and message. Should the cover page or message have more pages then the letterhead, the other pages are send using the last page of the letterhead.

► 3. Use Only First Page of Letterhead

Only the first page of the letterhead is used; it is put behind the first page of cover page or message. All following pages of letterhead are not used and the remaining pages of cover page and message receive no letterhead.

► 4. Repeat Letterhead (Last Page), use Only First Page of Letterhead

Only the first page of the letterhead is used. This page is repeated on all pages of cover page and message.

► Message Letterhead

The options and their functions are equivalent to *Attachment Letterhead*.

► Feedback

Here you can define, for each user individually, how feedback is send to the mailbox. You can choose from the following options:

- *Positive and negative as mail*
- *Positive as mail, negative as NDR (Non Delivery Report)*
- *Only negative cases as mail*
- *Only negative cases as NDR*
- *Positive and negative as mail with attachment*
- *Positive as mail with attachment, negative as NDR*
- *Only negative cases as mail with attachment* (recommended)

▶ Collected Feedback for Serial Documents

You may choose to combine feedback for bulk faxes (outgoing faxes with the same content and different addressees) into one single report for successful and unsuccessful transfers. For documents with a single recipient the settings under ***Feedback*** apply.

▶ File Format

Incoming faxes can be delivered in different file formats. The TIFF format (usually TIFF/G3) or the PDF format is the most useful option.

▶ PDF- Format with OCR- Information

In addition to the file formats, you can choose to create a searchable PDF file, if a OCR software is installed.

▶ Electronic fax Signature

Here you can set that the use of an electronic signature for the user's fax documents is applied. Is the signature turned on, it can be turned off through the OfficeMaster send settings for ***Outlook*** (assuming sufficient authorization). Note that the Messaging server has to support electronic fax signatures.

Voice

Use this tab to configure the personalized voicemail feature.

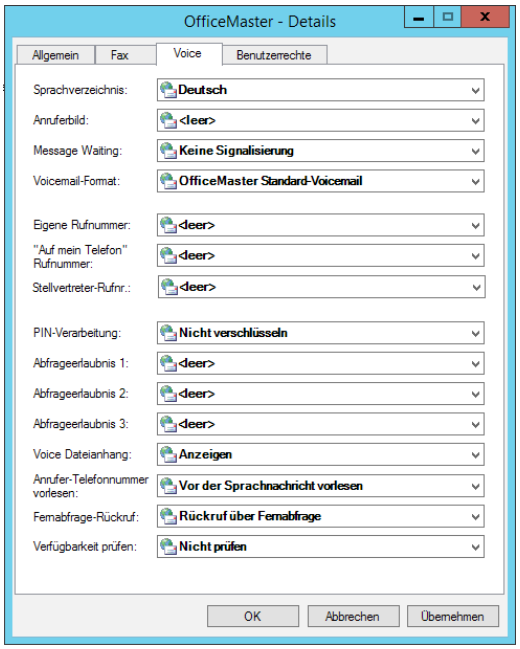


Image 4.73: User details Voice

▶ Audio Directory

The audio directory, which is essentially the voice tree of the Messaging Server, defines the language that the voicemail feature utilizes to play back commands and requests (output language). Every Messaging Server contains an audio directory where all voice feedbacks are stored. You may choose between English (EN) and German (DE).

▶ User Image

The user image is a standard image shown if the user has no picture or the caller couldn't be identified. This is an image file (PNG or JPG) saved in the global directory ***PICTURE***. The image should not exceed 160 x 180 pixel (width x height).

▶ Message Waiting

In this section, you may configure how the ***Message Waiting Indicator*** (***MWI***) resets. The MWI is a visual feature that notifies users on any new voice messages. It is triggered autonomously and its behavior primarily depends on the Messaging Server configuration and the respective MWI configuration on the PBX.

Choose between three reset modes:

- ***Reset by general remote request***

- *Reset by listening to one message at least*
- *Reset by listening to all messages*

▶ Message Behavior

Specify whether you prefer receiving voicemails in the classic E-Mail format used by the OfficeMaster Suite or the Exchange UM voicemail format.

▶ IP Phone

In many cases, the number of the voice box is not identical to the telephone that has been assigned to the voice box. To reset the ***Message Waiting Indicator*** (***MWI***) nonetheless, specify the calling number that shall have the MWI deactivated once its voice box had been accessed. This number essentially represents the telephone on the respective work desk.

▶ "To my Phone" Number

The integration to Outlook facilitates the forwarding of messages to a dedicated telephone, commonly the telephone on the work desk. In cases where the work desk regularly shifts its position or the mail client is run from various computers, you may specify an alternative telephone that is in close proximity. Enter its number into this input field.

▶ Representative Number

Specify a number that receives the redirected call in case the caller has no intention of speaking to the voicemail.

▶ Query Permission 1/2/3

If the voice box receives calls from these telephone numbers, it immediately enters the configuration mode. You may provide up to three numbers.

▶ Voice Attachment

Here you can determine whether the voice files (WAV or MP3) are incorporated into the message or not. If the files are suppressed, you may no longer play them via the computer speaker. Play them via remote request instead.

▶ Caller Number Reading

Use this input field to determine whether the telephone number of the caller is read out during listening to the respective audio message. It may be read out before or after.

▶ Callback via Inquiry

Activating this option allows the user to directly call back the user who left a voicemail message.

▶ Availability Check

If needed, the voice connector employs a functionality that evaluates the private schedule of the user and thus determines whether he is available or not.

Tab User Permissions

The tab *User Permissions* administrates user specific rights. The individual checkboxes have been described in chapter 3.3.4. User Permissions on page 156

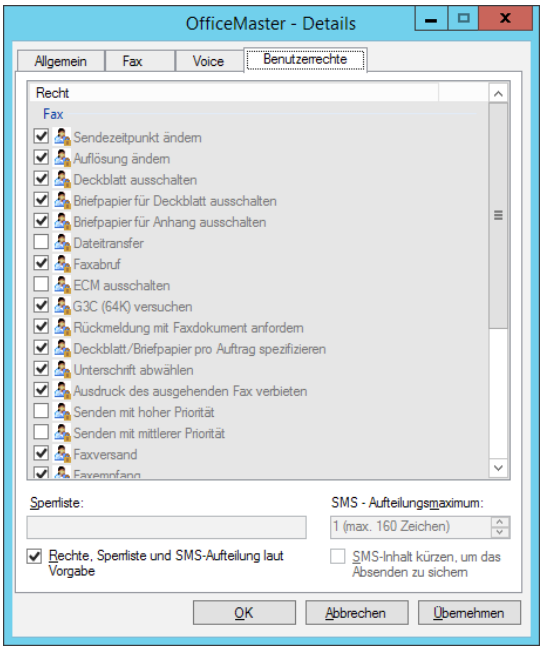


Image 4.74: User Permissions

- ▶ User Permissions, Blacklist and Short Message Split Parts by Default

  Activating this option sets the user rights to the default rights. The configuration as set in the profile chosen in “default” applies. Activating this function blocks the possibility of changing any option.

- ▶ SMS- Maximum Split Parts

  When sending long SMS, the maximum number of SMS the message is allowed to be split into can be set here. Messages that are longer still, will be cut off after the maximum of split parts was reached. The largest value possible is 99.

4.5.9. OfficeMaster Folder Administration Wizard

For larger companies it might not be possible to use the same global settings of the connectors for all user groups or recipients in certain locations. The global settings might not be in line with the companies guidelines for those users.

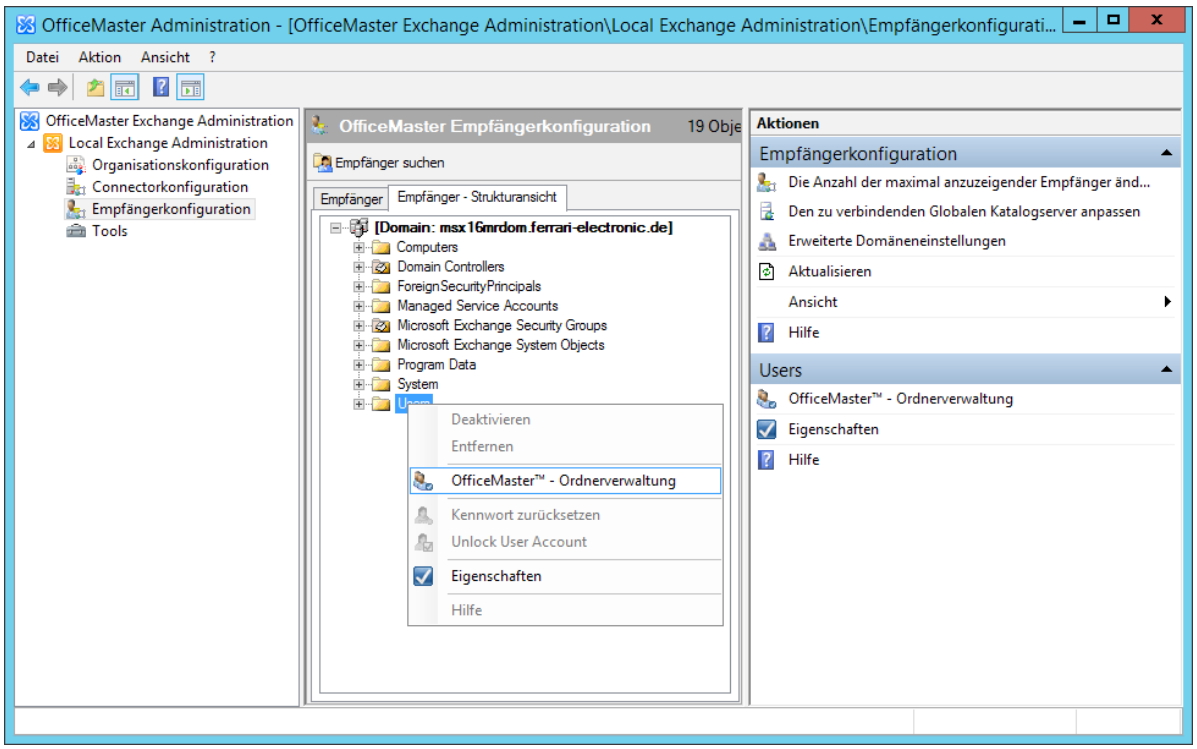


Image 4.75: Starting Directory Wizard

The wizard can make the required changes to the user settings without the administrator having to open every object. Individual settings can be ignored selectively during the automatic administration to keep the original value.

To reach the wizard, view the settings of the directory, the organization or the group. The item “Recipient structure view” under recipient settings leads to the wizard. This view also shows the folders and organization units to start the folder administration wizard.

This object also has its own OfficeMaster tab. For containers and organization units you can start the administration wizard. For groups this is the member administration.

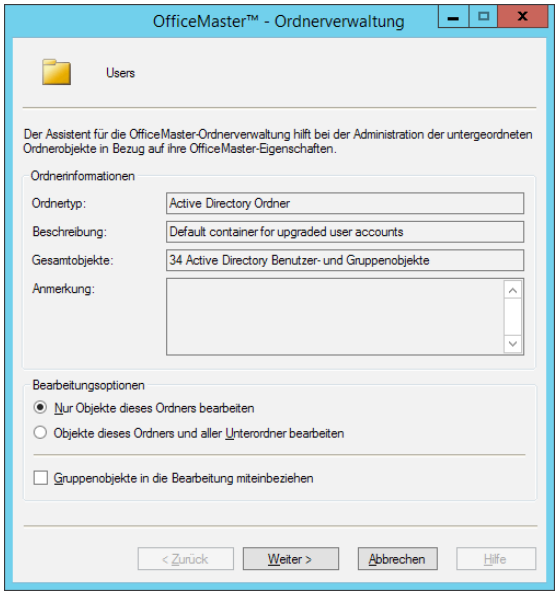


Image 4.76: File wizard

Editor Settings

► Edit Only Objects in This Folder

This option limits changes made by the wizard to the users contained in one folder. Should the folder contain further folders that contain user objects, they will not be administrated. This function is only available in the OfficeMaster file administration window.

► Edit all Objects in This Folder and its sub-Folders

This option lets the wizard make changes to the users contained in sub-folders of the main folder. This function is only available in the OfficeMaster file administration window.

► Include Group Objects

Activating this option applies the settings to mailing lists and security groups. Note that those group objects are not treated as senders by the OfficeMaster connectors, but as property defaults.

General Settings

The page *General* in the wizard mirrors the main settings in the "*User*" tab OfficeMaster. The individual items have been described in the last chapter.

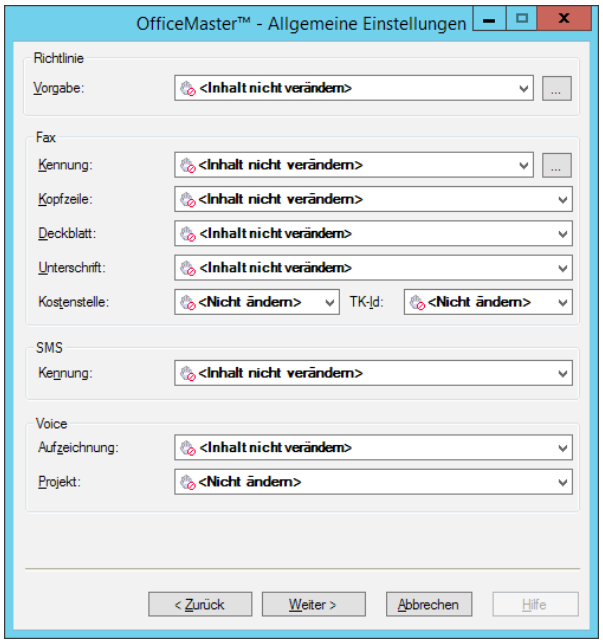


Image 4.77: General settings

To further optimize the setting of the fax identification, it can be extended in this dialog. In addition to the value entered manually, a preselected value of the user can be supplemented. Pressing the tool-button [...] opens a help dialog.

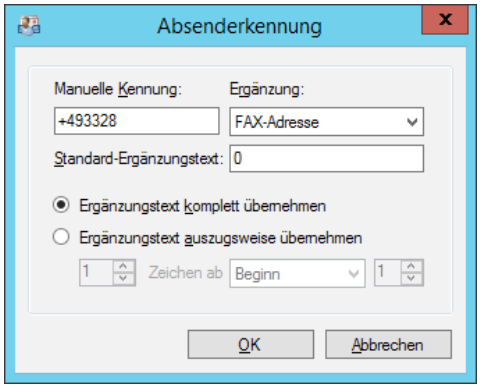


Image 4.78: Identifier Extension

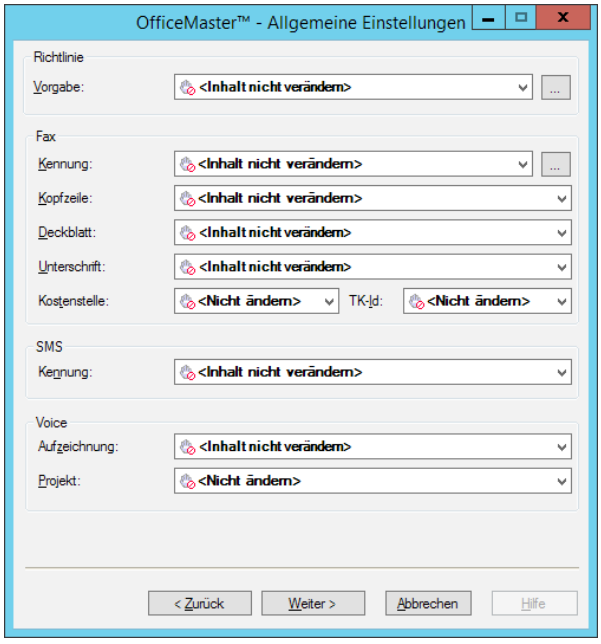
You can assemble the fax identification with the combination of preset data. The following preferences can be added to the fax identification automatically:

- Private number (first number from Active Directory field “call numbers” - Private)
- Pager number (first number from Active Directory field “call numbers” - Pager)
- Cellphone number (first number from Active Directory field “call numbers” - Mobile)
- Fax number (first number from Active Directory field “call numbers” - Fax)
- IP-Telephone (first number from Active Directory field “call numbers” - IP-Telephone)
- FAX Address (default return address of type FAX, if it is numeric)

Because the specified call numbers can’t always be used for the sender identification, you can make changes concerning the figures of the call numbers under “Apply extensions in extracts”.

Details Fax & Voice

The wizard pages “Details (FAX)” and “Details (Voice)” are the same as the button “Details” under the tab “OfficeMaster” of the users. The individual items have been described in the last chapter.



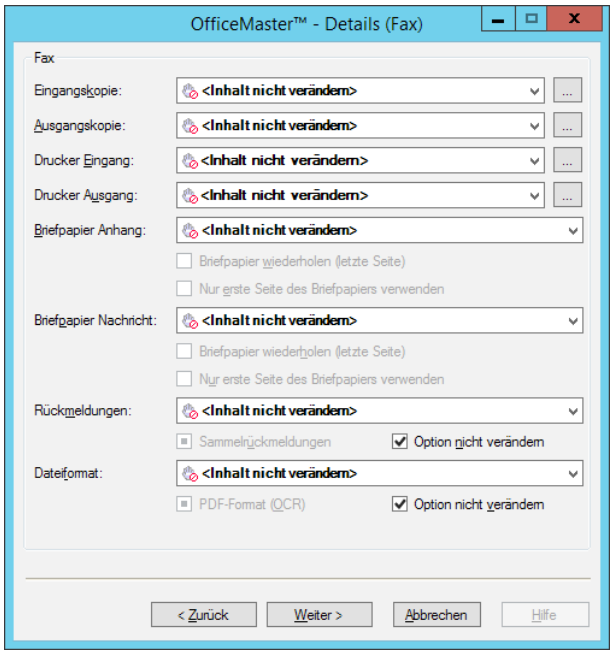


Image 4.79: Details - Fax

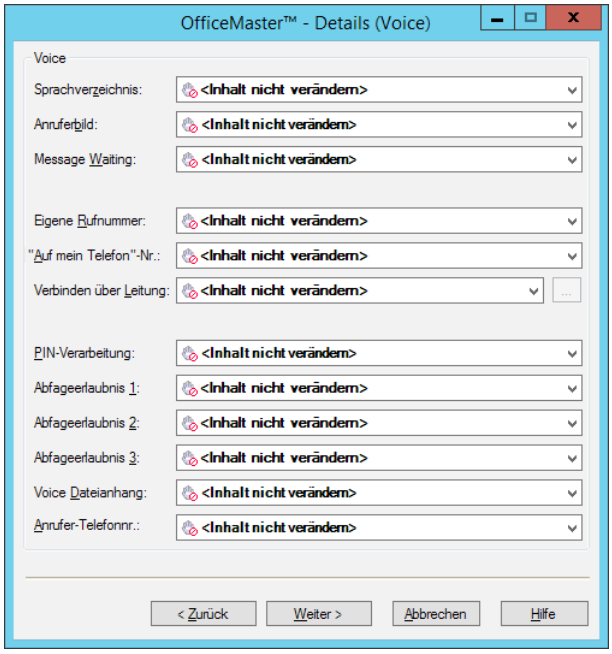


Image 4.80: Details - Voice

Details - User Permissions

The dialog “User permissions” are the same as the button “User permissions” under the tab “OfficeMaster” of the users. The individual items have been explained in the last chapter.

Details (General)

The general user settings (language, message format, etc.) can also be administrated. With the button “Finish”, all changeable objects in the focus of the configuration are changed in accordance to the values set.

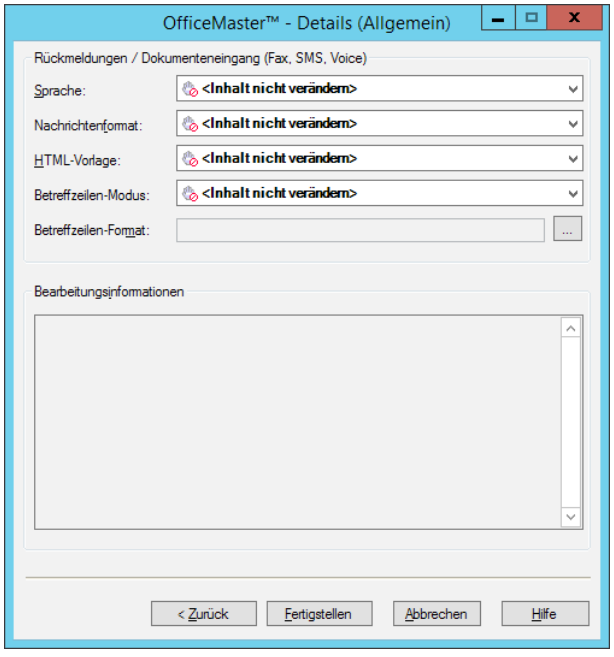


Image 4.81: Finish

Note! At the time this document was created, the folder wizard was not available for pure Office 365 installations.