



**Interconnection of SwyxWare 6.20 (QF2)  
and Microsoft Exchange 2007**

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## Table of contents

<b>1</b>	<b>Overview and Scenarios.....</b>	<b>3</b>
<b>2</b>	<b>SwyxWare Configuration.....</b>	<b>4</b>
2.1	Exchange SIP Profile.....	4
2.2	Exchange Trunk Group.....	5
2.3	Exchange Trunk.....	9
2.3.1	Registry Modifications.....	11
2.4	Exchange Operator .....	12
2.5	SwyxWare User Configuration .....	14
<b>3</b>	<b>Exchange Configuration.....</b>	<b>16</b>
3.1	UM Dialplan.....	16
3.2	UM IP Gateway.....	24
3.3	UM Mailbox Policies .....	25
3.4	Enable user for Unified Messaging .....	27
3.5	"Play at the phone" feature notes .....	29
3.6	Auto Attendant notes .....	29
<b>4</b>	<b>Special Thanks.....</b>	<b>30</b>

## History

Nr	Date	Comment
1	2007-12-10	First release
2	2008-01-15	Modified chapter 2.1 regarding the usage: - of the UM service on a separate machine - of an ISDN trunk for incoming calls to an exchange user or operator
3	2009-04-06	<b>Added:</b> Chapter 2.3.1 "Registry Modifications" Chapter 3.3 "UM Mailbox Policies" Chapter 3.6 "Play at the phone" feature notes Chapter 4 "Special Thanks" <b>Removed:</b> "Auto Attendant" chapter (not needed any more) <b>Changes:</b> Chapter 1 - reworked requirements, scenario descriptions (new picture) and the list of the supported features Chapter 2.1 - new Exchange SIP profile Chapter 2.3 - new Screenshots Chapter 2.5 - changed forwarding settings Chapter 3.1 - added dialing rules for outgoing calls to SwyxWare <b>New Features:</b> - Now incoming calls can directly be delivered to the users voice mailbox - Play on the Phone (OWA feature)

## 1. Overview and Scenarios

With SwyxWare it is possible to interconnect with Microsoft Exchange 2007. For this purpose the Swyx LinkManager is used to establish a TCP SIP connection (without registration) to Exchange 2007 by using a special provider configuration (see step 2.1).

### Requirements:

- Microsoft Exchange 2007 (incl. Service Pack 1 and Rollup 4)
- SwyxWare 6.20.0240 (incl. Quickfix 2) or later

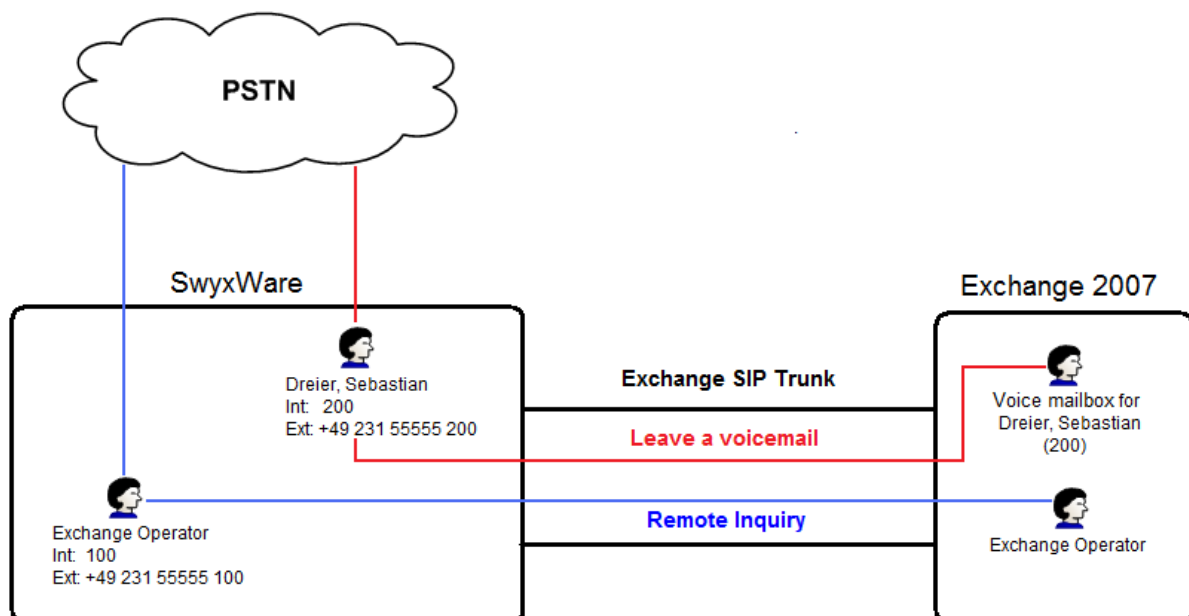
### Scenarios:

#### 1) Leaving a voice message

An external party calls the SwyxWare user “Dreier, Sebastian” (This call is represented by the red line in the picture below). If Sebastian is not reachable or busy, the call will be routed through the SIP trunk to the Exchange server. There, the call will be routed to the relevant Exchange voice mailbox and the caller can leave a message for Sebastian.

#### 2) Outlook Voice Access (Remote Inquiry)

The SwyxWare user “Dreier, Sebastian” is on a business trip and wants to check if he has new voicemails. Therefore, Sebastian calls the SwyxWare user “Exchange Operator” from his e.g. mobile phone (blue line). The SwyxWare user will redirect the call to the operator at the Exchange server. This automatic operator asks for the extension and the PIN of the user to validate the access. Now Sebastian has access to the Outlook Voice Access menu and can check his voicemails stored at the Exchange server.



### 3) Playing a voice message at the phone (via Outlook Web Access)

Sebastian is on another business trip and wants to check his voicemails but this time he uses Outlook Web Access. He logs on and sees that he has two new voicemails but he cannot listen to them because the computer has no audio devices. So he decides to use the "Play at the phone" feature. Therefore he clicks on the "Play on Phone" button (see chapter 3.6) and enters the number of his mobile phone. Now the Exchange server initiates an outgoing call through the SwyxWare to Sebastian's mobile phone. When Sebastian accepts the call he will hear the voicemail.

**The following Exchange 2007 UM features should work in the described scenario:**

- Voice Messaging System (leave a voicemail)
- Outlook Voice Access (like SwyxWare Remote Inquiry)
- Speech-Enabled Remote Inquiry (navigate with your voice)
- Play on the Phone (OWA feature)
- Self-Service Voice Mail Support

**The following features do not or only partially work:**

- Dialing from contacts within Outlook Voice Access
- Fax Messaging System (incoming faxes via T.38)
- New Voice Mail Alerts (Microsoft Office Communication Server 2007 required)
- Direct Dial into Outlook Voice Access (Microsoft Office Communicator 2007 required)
- Message Waiting Indication (not supported by Exchange 2007 - third party add-on available)

**Read more about the Exchange 2007 Unified Messaging features here:**

[Features of Microsoft Exchange Server 2007](#) (English)

[Exchange 2007 Unified Messaging](#) (German)

[Frank's Exchange FAQ - Exchange 2007 Unified Messaging](#) (German)

## 2. SwyxWare Configuration

### 2.1 Exchange SIP Profile

For the interconnection of SwyxWare and Exchange the LinkManager is used. This service uses UDP as default transport type for SIP messages but Exchange 2007 only supports TCP as SIP transport type and so a special SwyxWare SIP profile is required. Therefore create a file called "CustomProviderProfiles.config" in your SwyxWare installation directory and paste the following XML data into the file.

```
<?xml version="1.0" encoding="utf-8"?>
<sp:ProviderProfiles xmlns:sp="http://www.lanphone.de/ProviderProfiles" allowcustom="false">
<sp:SIPProviderProfile id="ex2007" name="Exchange 2007" proxy="ExUnifiedMessagingServiceIP":5065"
DtmfMode="Rfc2833_Event" CallingPartyNumberPosition="FromHeaderSIPURI" TransportType="TCP"
UseRegistration="False">
  <sp:NumberFormats outbound_called="Transparent" outbound_calling="CanonicalWithoutPlus" inbound_called="PbxUser"
inbound_calling="Transparent" />
</sp:SIPProviderProfile>
</sp:ProviderProfiles>
```

The value for the "Proxy" attribute must be the IP address (the port must be 5065) of the server where the Exchange Unified Messaging Service is running. The value of the attribute "TransportType" indicates that TCP is used for this SIP profile. A restart of the SwyxWare Administration is required before you can continue! In some special cases it could be necessary to restart the LinkMgr service.

#### **Please note:**

Since SP1 Microsoft recommends to install the UM service on a separate machine.

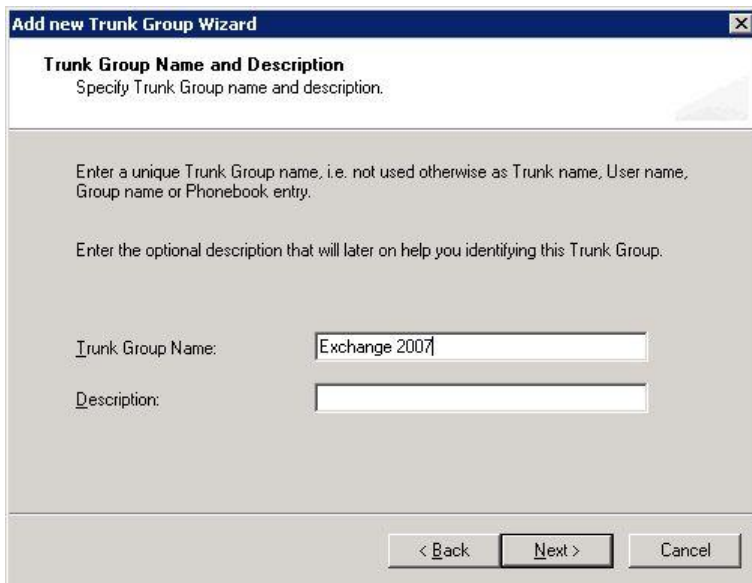
**Important:**

If you want to use an ISDN trunk in this scenario (for incoming calls to e.g. the Exchange Operator) you have to set the following registry key to enable DTMF tones on the Exchange SIP trunk:

Path: HKLM\Software\Swyx\LinkMgr\CurrentVersion\Options  
Key: SignalDTMFWithDuration1  
Type: DWORD  
Value: 1


## 2.2 Exchange Trunk Group

Open the SwyxWare Administration and create a new Trunk Group called e.g. "Exchange 2007".



The screenshot shows the "Add new Trunk Group Wizard" window, specifically the "Trunk Group Name and Description" step. The window title is "Add new Trunk Group Wizard". The subtitle is "Trunk Group Name and Description" with the instruction "Specify Trunk Group name and description." Below this, there are two text boxes: "Trunk Group Name:" containing "Exchange 2007" and "Description:" which is empty. At the bottom, there are three buttons: "< Back", "Next >", and "Cancel".

Choose "SIP" as "Trunk Group Type" and select the SIP profile you just created from the drop down box (e.g. Exchange 2007).



The screenshot shows the "Add new Trunk Group Wizard" window, specifically the "Trunk Group Type" step. The window title is "Add new Trunk Group Wizard". The subtitle is "Trunk Group Type" with the instruction "Specify the type of the Trunk Group and select the appropriate profile." Below this, there are two dropdown menus: "Trunk Group Type:" set to "SIP" and "Profile:" set to "Exchange 2007". At the bottom, there are three buttons: "< Back", "Next >", and "Cancel".

As “Definition of Routing” you can choose whatever you want because the routing record is not needed and will be deleted in one of the next steps.

**Add new Trunk Group Wizard**

**Definition of Routing**  
Specify for what calls this Trunk Group is supposed to be used.

Depending on your choice, initial Routing Records will be created.  
Public Numbers should be added in canonical format (e.g. "+4930123456"), "" can be used as a wildcard.

Use Trunks of this Trunk Group...

- ☒ for all external calls
- ☐ for all external calls to the following Called Party Number or SIP URI only:
- ☐ for all external calls and all unassigned Internal Numbers
- ☐ for Internal Numbers:

< Back   Next >   Cancel

If you want to use the Exchange “Play at the phone” feature you must set the “Calling Right” to “No call restrictions”, otherwise “Internal destinations” is the correct choice.

**Add new Trunk Group Wizard**

**Calling Right**  
Select a Calling Right to be used for this Trunk Group.

The Calling Right of a Trunk Group determines, where incoming calls from this Trunk Group are allowed to be routed to.

Please select one of the listed Calling Rights which will be assigned to this Trunk Group.

Calling Right:

Description  
Default profile allowing calls to all destinations.

< Back   Next >   Cancel

Choose the location profile you want to use for the connection! Please note that these location settings must be the same as in the Exchange configuration (see 3.1 Dial Plan Properties).



**Add new Trunk Group Wizard**

**Location Profile**  
Select the applicable Location Profile for this Trunk Group.

A Location within SwyxWare defines all location specific settings like the time zone, the required public access code, the country and area codes.

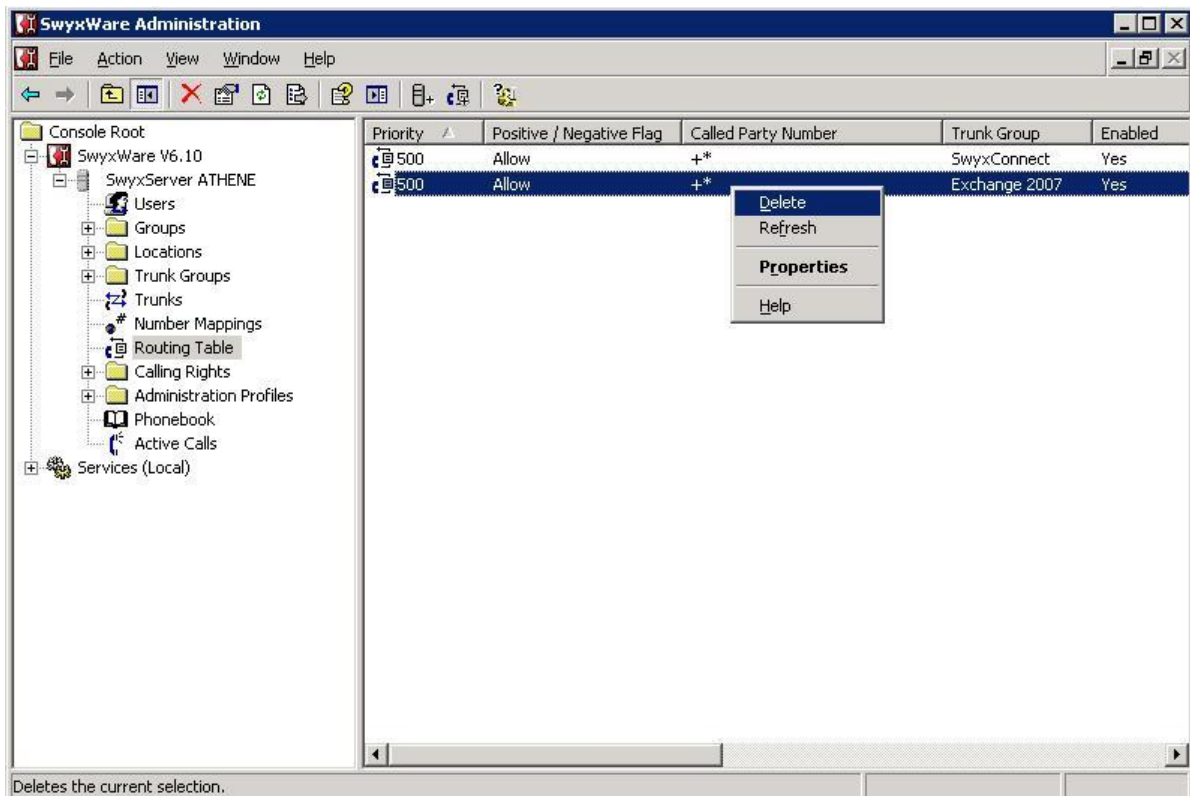
Please select one of the listed Locations which will be assigned to this Trunk Group.

Location:

Description:

< Back   Next >   Cancel

Finish the “Trunk Group Wizard” and go to the “Routing Table”.  
Select the record for the Exchange trunk group and delete it.



**SwyxWare Administration**

File Action View Window Help

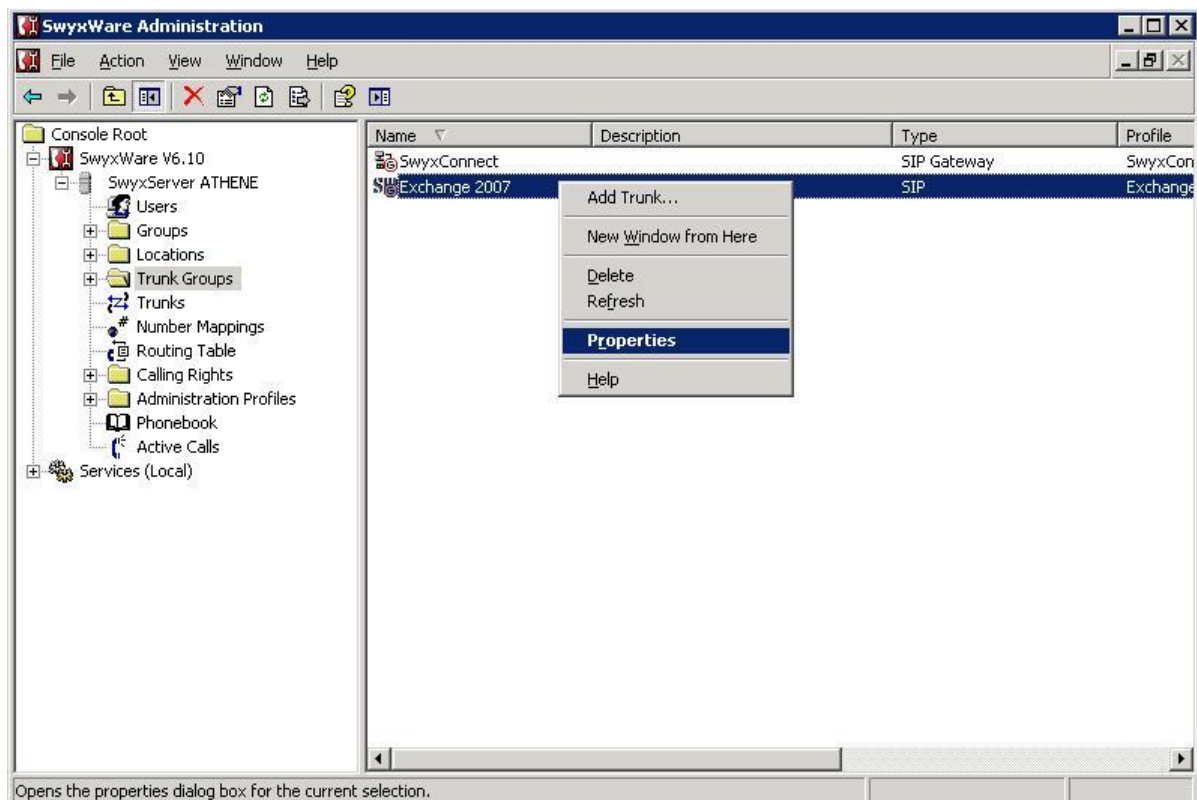
Console Root  
SwyxWare V6.10  
SwyxServer ATHENE  
Users  
Groups  
Locations  
Trunk Groups  
Trunks  
Number Mappings  
Routing Table  
Calling Rights  
Administration Profiles  
Phonebook  
Active Calls  
Services (Local)

Priority	Positive / Negative Flag	Called Party Number	Trunk Group	Enabled
500	Allow	+	SwyxConnect	Yes
500	Allow	+	Exchange 2007	Yes

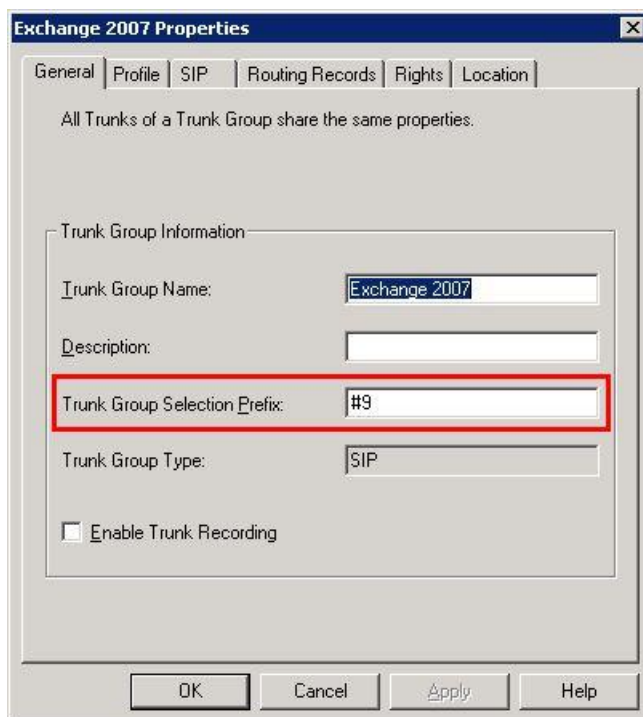
Delete  
Refresh  
Properties  
Help

Deletes the current selection.

Go back to the trunk groups and open the properties of the Exchange trunk group.



Set a "Trunk Group Selection Prefix" on the "General" tab (e.g. #9). This prefix is used instead of a routing record to prevent accidental call deliveries to the Exchange Server.

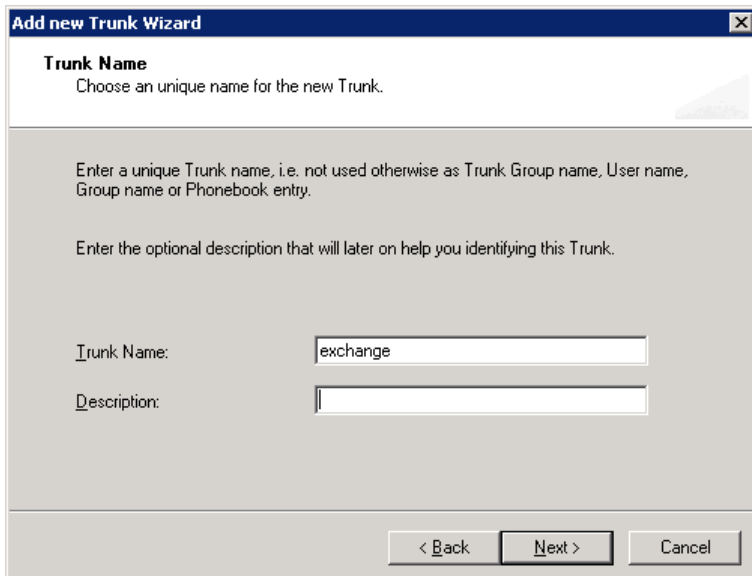


Close the trunk group properties and go to the next step.



## 2.3 Exchange Trunk

Create a new trunk called e.g. "exchange".



**Add new Trunk Wizard**

**Trunk Name**  
Choose an unique name for the new Trunk.

Enter a unique Trunk name, i.e. not used otherwise as Trunk Group name, User name, Group name or Phonebook entry.

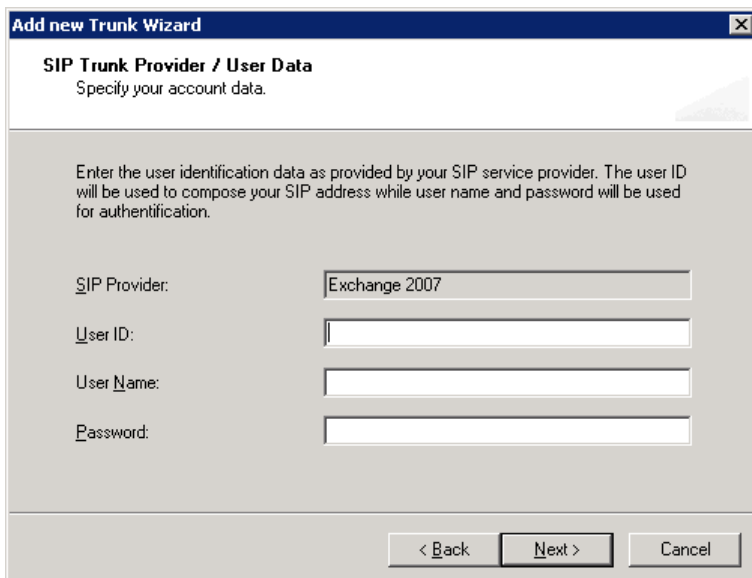
Enter the optional description that will later on help you identifying this Trunk.

Trunk Name:

Description:

< Back   Next >   Cancel

The SIP connection between SwyxWare and Exchange 2007 works without a registration - so no user id, no user name and no password is required. Just skip this step.



**Add new Trunk Wizard**

**SIP Trunk Provider / User Data**  
Specify your account data.

Enter the user identification data as provided by your SIP service provider. The user ID will be used to compose your SIP address while user name and password will be used for authentication.

SIP Provider:

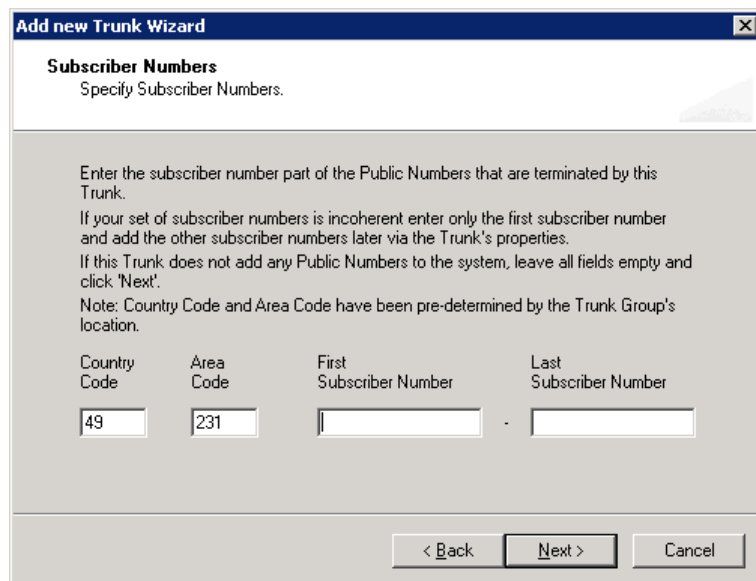
User ID:

User Name:

Password:

< Back   Next >   Cancel

Public numbers are not needed for this trunk. This can also be skipped!



**Add new Trunk Wizard**

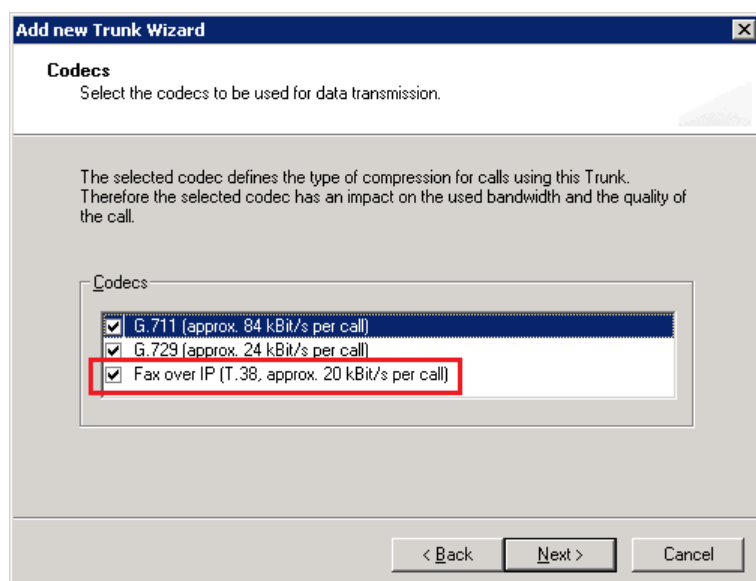
**Subscriber Numbers**  
Specify Subscriber Numbers.

Enter the subscriber number part of the Public Numbers that are terminated by this Trunk.  
If your set of subscriber numbers is incoherent enter only the first subscriber number and add the other subscriber numbers later via the Trunk's properties.  
If this Trunk does not add any Public Numbers to the system, leave all fields empty and click 'Next'.  
Note: Country Code and Area Code have been pre-determined by the Trunk Group's location.

Country Code	Area Code	First Subscriber Number	Last Subscriber Number
49	231		

< Back   Next >   Cancel

In our scenario we only need the G.711 compression codec.  
However, if you want to test the Exchange fax implementation you have to activate the T.38 codec ("Fax over IP") on the codec selection page.



**Add new Trunk Wizard**

**Codecs**  
Select the codecs to be used for data transmission.

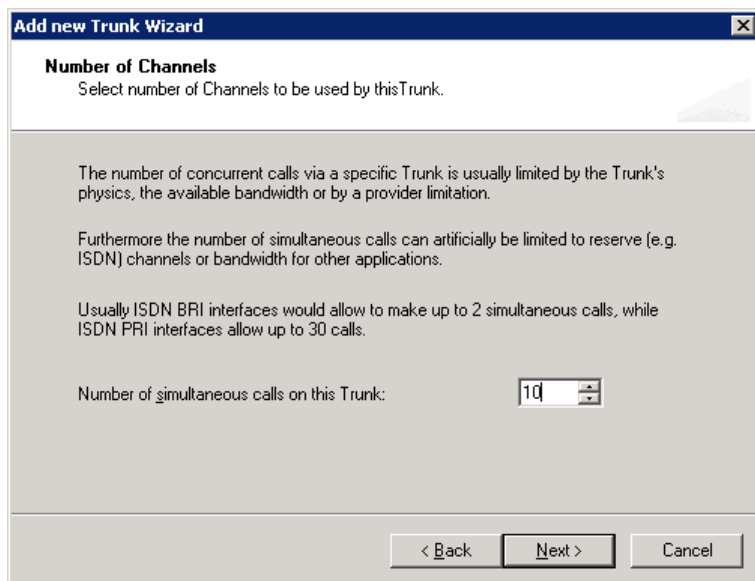
The selected codec defines the type of compression for calls using this Trunk.  
Therefore the selected codec has an impact on the used bandwidth and the quality of the call.

Codecs

- ☒ G.711 (approx. 84 kBit/s per call)
- ☒ G.729 (approx. 24 kBit/s per call)
- ☒ Fax over IP (T.38, approx. 20 kBit/s per call)

< Back   Next >   Cancel

The “Number of Channels” depends on your SwyxWare voice channel licenses and on the amount of users who should be able to use Exchange features.



Finish the Wizard and go to the next step.

### 2.3.1 Registry Modifications

To ensure that all calls which will be routed to the Exchange Server can be assigned to the correct voicemailbox the following registry key has to be added:

#### x86 Operating Systems:

Path: HKLM\Software\Swyx\LinkMgr\CurrentVersion\Options\<TrunkName>  
Key: AddExchangeHistoryInfo  
Type: DWORD  
Value: 1

#### x64 Operating Systems:

Path: HKLM\Software\Wow6432Node\Swyx\LinkMgr\CurrentVersion\Options\<TrunkName>  
Key: AddExchangeHistoryInfo  
Type: DWORD  
Value: 1

The corresponding trunk name in this manual is “exchange” (see first screenshot in chapter 2.3) and therefore the registry path should look like this (x86 OS):

HKLM\Software\Swyx\LinkMgr\CurrentVersion\Options\exchange

## 2.4 Exchange Operator

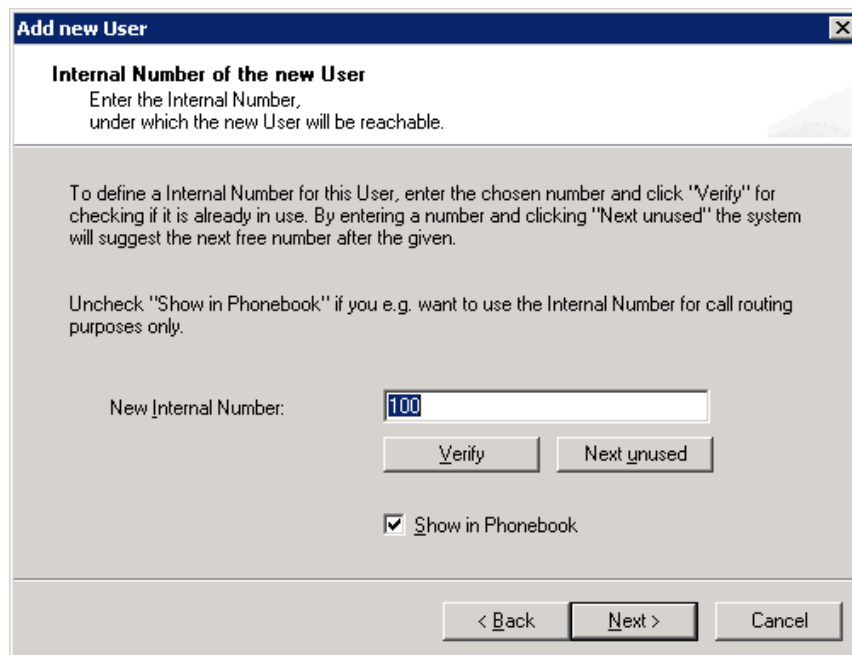
To use the Exchange “Outlook Voice Access” feature (like Remote Inquiry) you must create a SwyxWare “dummy” user who will only be used for call routing. All incoming PSTN calls to this user will be redirected to the Exchange Server. In our scenario we call this user “Exchange Operator”.

The screenshot shows a Windows-style dialog box titled "Add new User" with a close button (X) in the top right corner. The main heading is "Name and type of the new User" with a sub-instruction "Enter name and type of the new User." Below this, there is explanatory text: "An unambiguous name for the new User is required. The description is optional." and "In case you would like to connect a fax, it can be defined under 'User type'." There are three input fields: "Name:" with the text "Exchange Operator" entered, "Description:" which is empty, and "Type:" which is a dropdown menu showing "Standard (Voice)" with a small user icon to its left. At the bottom, there are three buttons: "< Back", "Next >", and "Cancel".

This dummy user should use the same location as the Exchange trunk group.

The screenshot shows the same "Add new User" dialog box, but at the "Location of the new User" step. The heading is "Location of the new User" with the instruction "Please select a Location for the new User." Below this, explanatory text reads: "A Location within SwyxWare defines all location specific settings like the time zone, the required public access code, the country and area codes." and "Please select one of the listed Locations which will be assigned to this User." There are two input fields: "Location:" which is a dropdown menu showing "Default", and "Description:" which is a large empty text box. At the bottom, there are three buttons: "< Back", "Next >", and "Cancel".

Assign an internal and an external number to this user.  
In our case we use 100 and +49 231 55555 100.



**Add new User**

**Internal Number of the new User**  
Enter the Internal Number,  
under which the new User will be reachable.

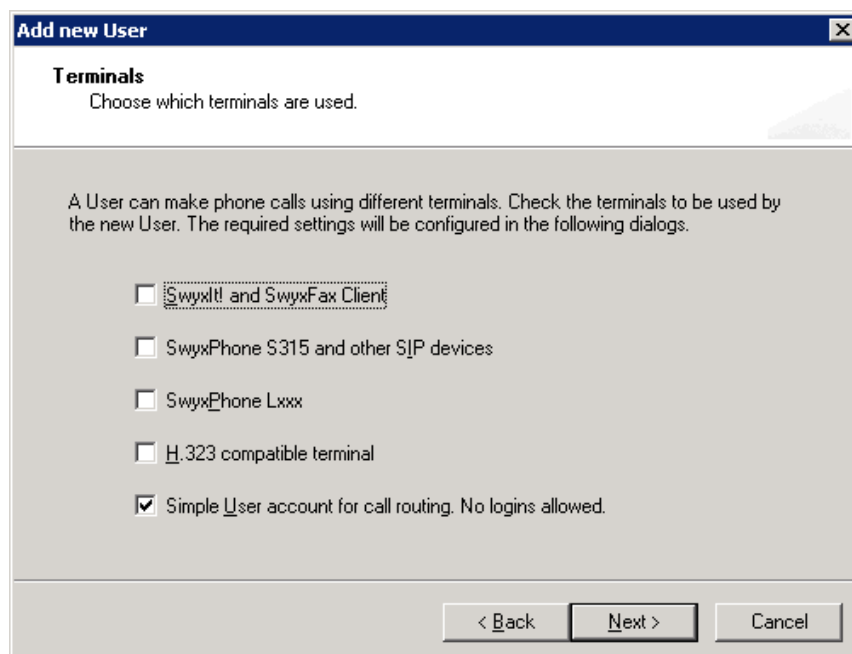
To define a Internal Number for this User, enter the chosen number and click "Verify" for  
checking if it is already in use. By entering a number and clicking "Next unused" the system  
will suggest the next free number after the given.

Uncheck "Show in Phonebook" if you e.g. want to use the Internal Number for call routing  
purposes only.

New Internal Number:

☒ Show in Phonebook

As "Terminal" you should select "Simple user account for call routing..."  
so no additional user license is needed.



**Add new User**

**Terminals**  
Choose which terminals are used.

A User can make phone calls using different terminals. Check the terminals to be used by  
the new User. The required settings will be configured in the following dialogs.

☐ Swyxlt! and SwyxFax Client

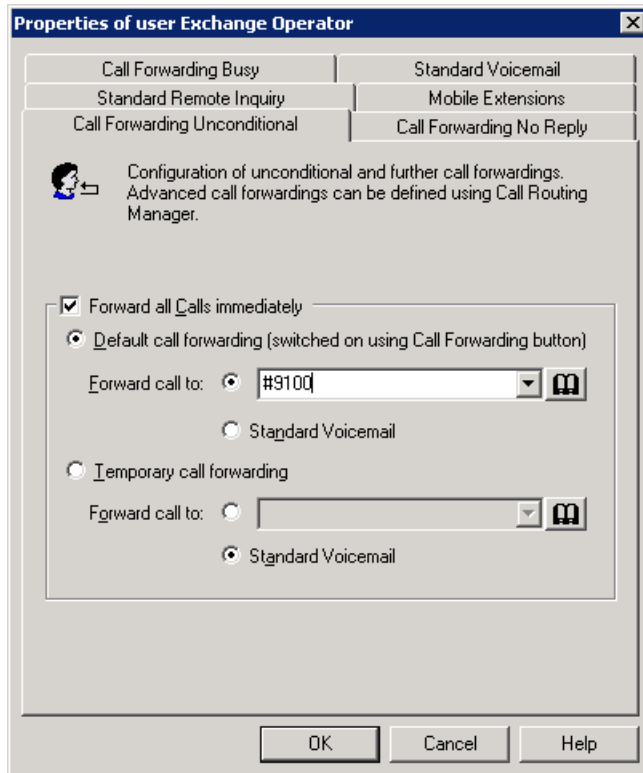
☐ SwyxPhone S315 and other SIP devices

☐ SwyxPhone Lxxx

☐ H.323 compatible terminal

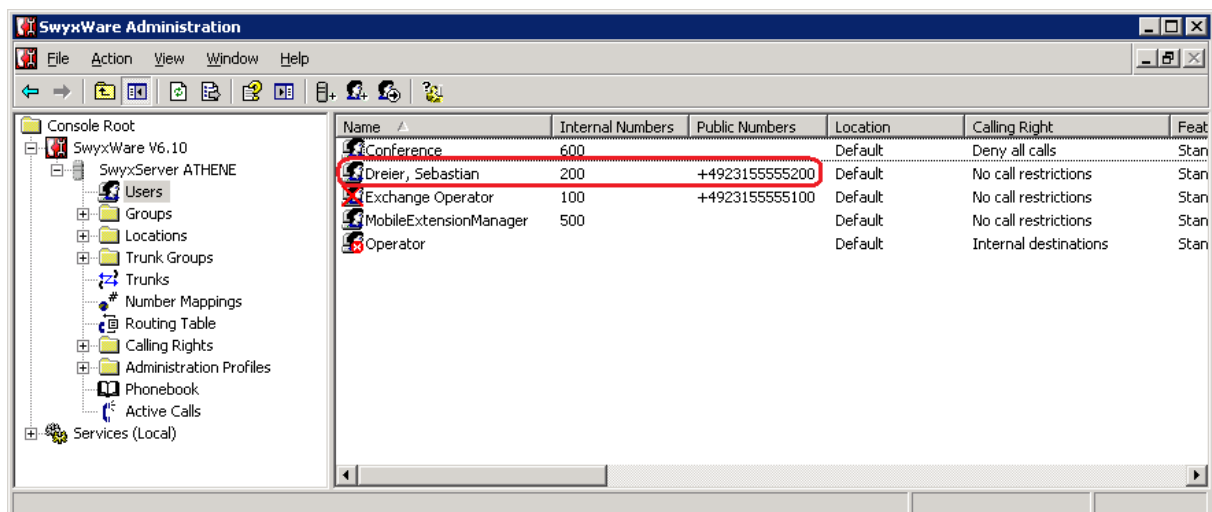
☒ Simple User account for call routing. No logins allowed.

Finish the user wizard and open the “Call Forwarding” of the “dummy” user.  
Activate the unconditional call forwarding and route all calls to the number #9100.  
#9 is the trunk selection prefix for the Exchange trunk group and 100 is a number  
which is not assigned to an Exchange user. Calls to unassigned numbers will be  
redirected to the hidden built-in “Exchange Operator” automatically.



## 2.5 SwyxWare User Configuration

Every user who should use the Exchange Server for voicemails must have a special (very easy) call routing. Therefore, select a user and open the “Call Forwarding” settings.



Activate the “Call Forwarding No Reply” and route such calls to #9200.  
#9 is the trunk selection prefix for the Exchange trunk group and 200 is the internal phone number of the SwyxWare user. Please note that the Exchange UM number and the SwyxWare internal phone number of a user have to be the same (see chapter 3.4 “Enable user for Unified Messaging”).

The screenshot shows the 'Properties of user Dreier, Sebastian' dialog box with the 'Call Forwarding No Reply' tab selected. The 'Delayed Forwarding if Line is idle resp. User is absent' section is active. The 'Forward calls after' checkbox is checked, with a value of 15 seconds. The destination is set to #9200 via a dropdown menu. The 'Standard Voicemail' option is unselected. The 'OK', 'Cancel', and 'Help' buttons are at the bottom.

You can also activate the “Call Forwarding Busy” if you wish to route every additional incoming call to your Exchange voice mailbox.

The screenshot shows the 'Properties of user Dreier, Sebastian' dialog box with the 'Call Forwarding Busy' tab selected. The 'Forward calls if line is busy to:' checkbox is checked. The destination is set to #9200 via a dropdown menu. The 'Standard Voicemail' option is unselected. The 'OK', 'Cancel', and 'Help' buttons are at the bottom.

Click OK to save these settings.  
At this point the SwyxWare configuration is complete.

### 3. Exchange Configuration

The first step of the Exchange configuration is the creation of a default “UM Dial Plan”. This plan includes the location information (dial codes), the operator extension, compression codec selection for voicemails and much more. Before this dial plan can be used it has to be assigned to an Exchange server.

The second step describes the configuration of an “UM IP Gateway” which is the counterpart to the SwyxWare SIP trunk. Therefore the Exchange Management Shell is needed because not all settings can be changed through the management console.

The next step is the modification of the default “UM Mailbox Policy” which contains some rules and restrictions for the UM usage.

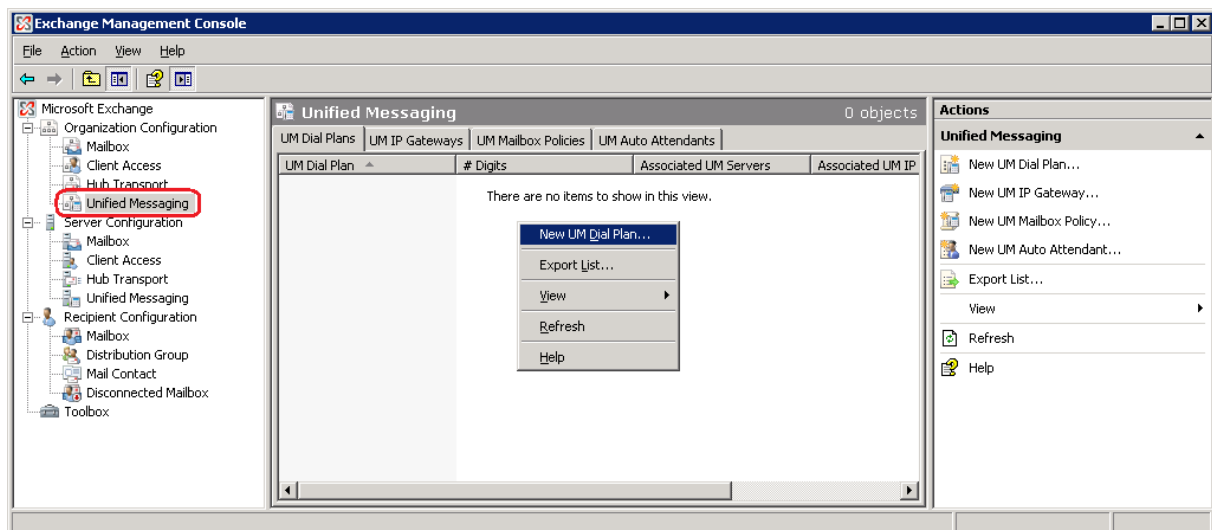
At the end the relevant active directory users has to be enabled for unified messaging.

**Please note:**

The “Auto Attendant” chapter is not needed any more, so the most parts has been deleted. Actually it only contains notes and hints for everybody who still wants to use an “Auto Attendant”.

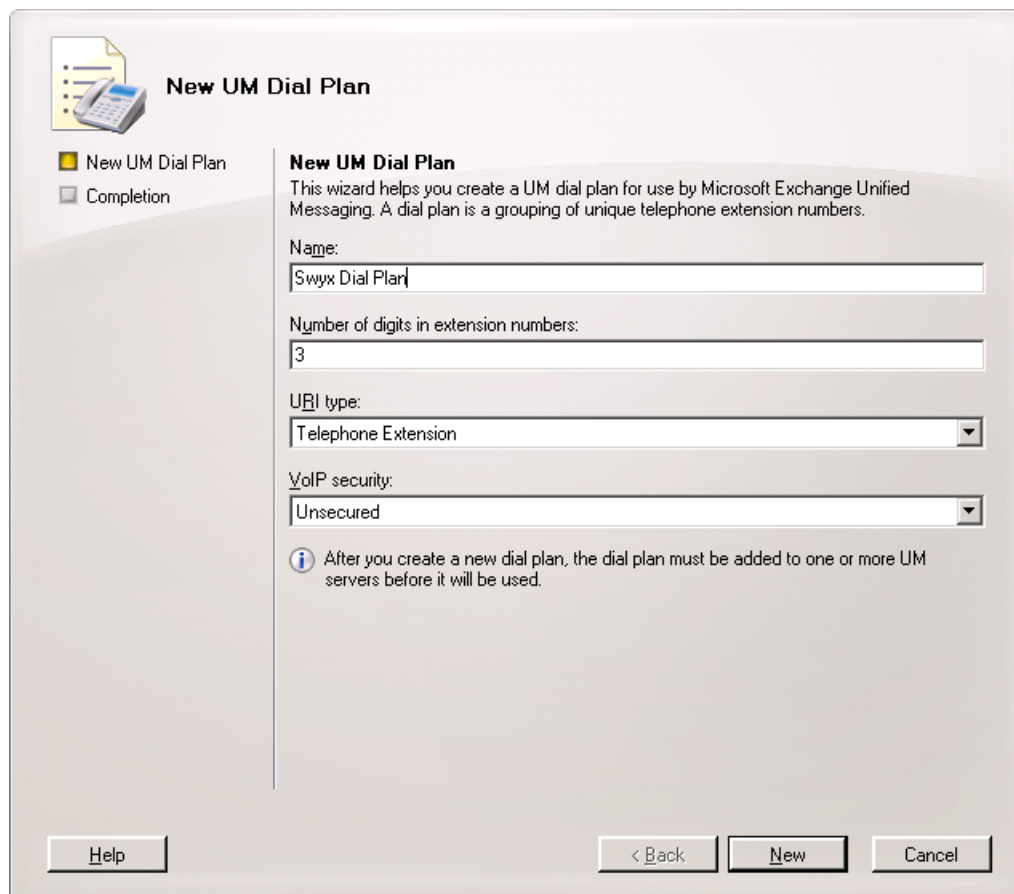
#### 3.1 UM Dialplan

Open the Exchange Management Console and expand the complete menu tree on the left. Go to “Unified Messaging” (under “Organization Configuration”) and choose the “UM Dial Plans” tab in the middle. Open the mouse context menu and select “New UM Dial Plan”.



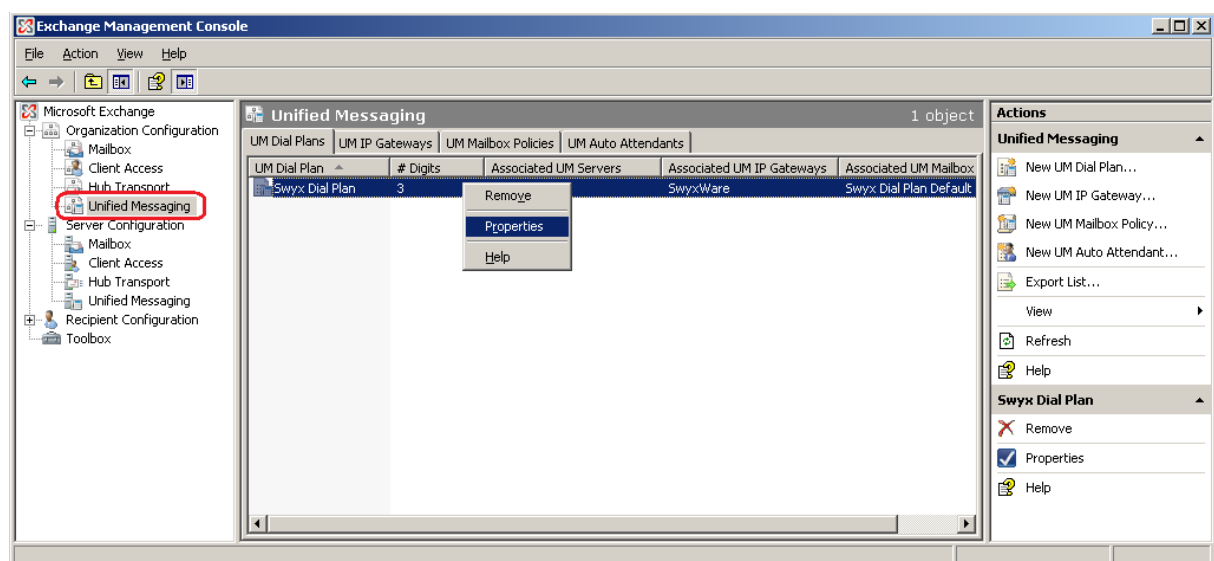


Choose a suggestive name for the new “UM Dial Plan” e.g. “Swyx Dial Plan”.  
The “number of digits in extension numbers” must correspond the SwyxWare configuration.  
The “URI type” must be set to “Telephone Extension” and “VoIP Security” to “Unsecured”.

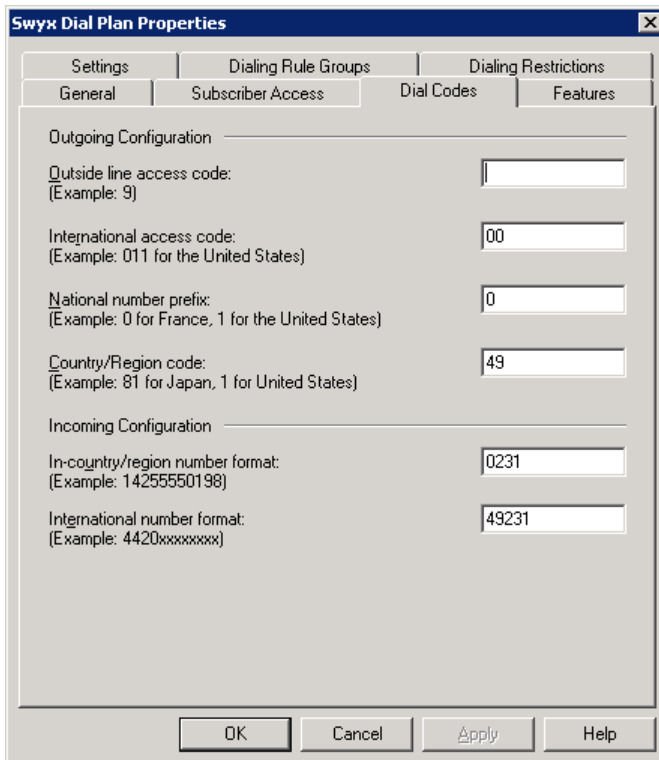


The screenshot shows the 'New UM Dial Plan' wizard in Microsoft Exchange 2007. The wizard is titled 'New UM Dial Plan' and includes a sub-header 'New UM Dial Plan'. Below the sub-header, there is a description: 'This wizard helps you create a UM dial plan for use by Microsoft Exchange Unified Messaging. A dial plan is a grouping of unique telephone extension numbers.' The wizard has four steps: 'New UM Dial Plan' (selected), 'Completion', 'Help', and 'Cancel'. The 'New UM Dial Plan' step contains the following fields: 'Name' (Swyx Dial Plan), 'Number of digits in extension numbers' (3), 'URI type' (Telephone Extension), and 'VoIP security' (Unsecured). A note at the bottom states: 'After you create a new dial plan, the dial plan must be added to one or more UM servers before it will be used.'

Finish the wizard and open the properties of the new dial plan.



Go to the “Dial Codes” tab and fill in all fields (**except the public line access prefix**) corresponding to the SwyxWare location which the Exchange trunk group is associated with.



The image shows the 'Swyx Dial Plan Properties' dialog box with the 'Dial Codes' tab selected. The 'Outgoing Configuration' section contains the following fields:

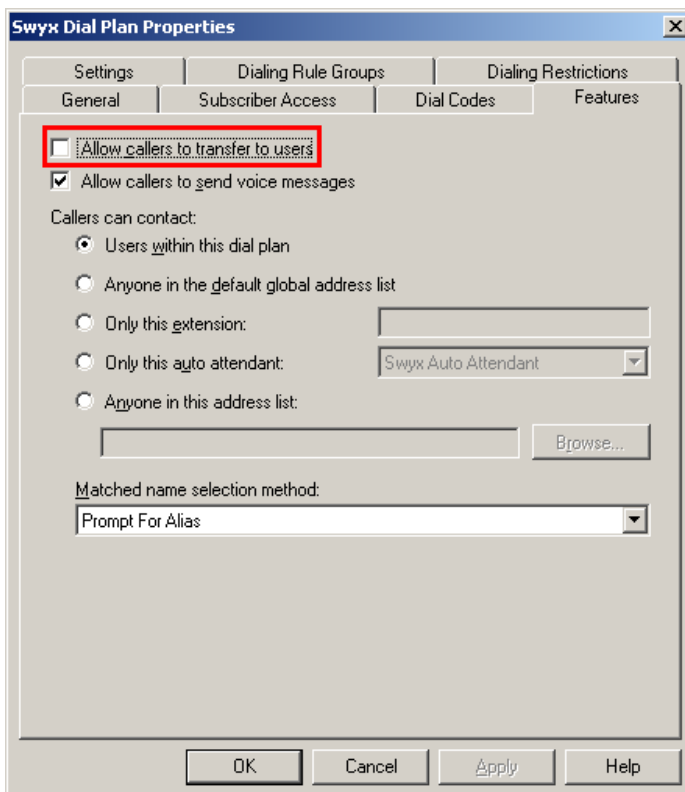
- Outside line access code: (Example: 9)
- International access code: (Example: 011 for the United States)
- National number prefix: (Example: 0 for France, 1 for the United States)
- Country/Region code: (Example: 81 for Japan, 1 for United States)

The 'Incoming Configuration' section contains the following fields:

- In-country/region number format: (Example: 14255550198)
- International number format: (Example: 4420xxxxxxx)

Buttons at the bottom: OK, Cancel, Apply, Help.

Go to the “Features” tab and ensure that “Allow callers to transfer to users” is deactivated.

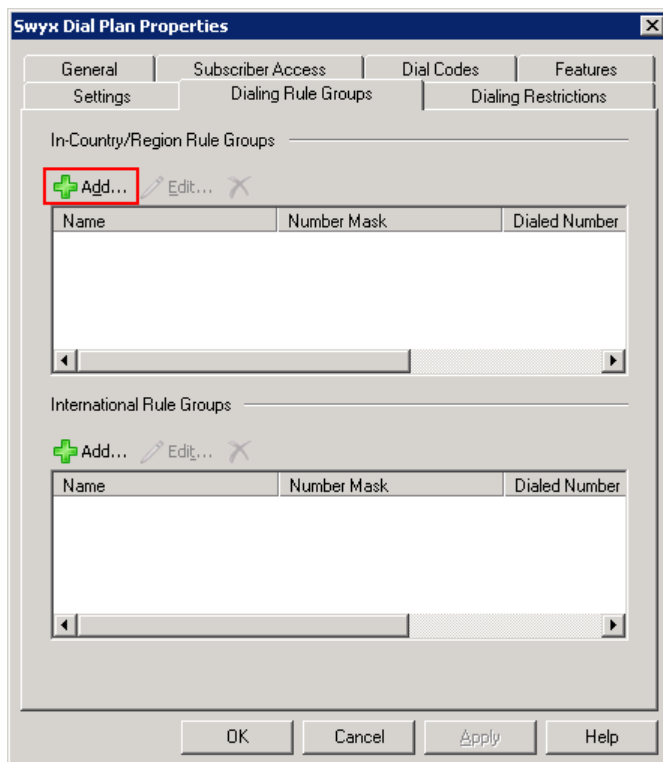


The image shows the 'Swyx Dial Plan Properties' dialog box with the 'Features' tab selected. The 'Allow callers to transfer to users' checkbox is unchecked and highlighted with a red rectangle. Other features include:

- ☒ Allow callers to send voice messages
- Callers can contact:
  - ☒ Users within this dial plan
  - ☐ Anyone in the default global address list
  - ☐ Only this extension: [text box]
  - ☐ Only this auto attendant: [Swyx Auto Attendant dropdown]
  - ☐ Anyone in this address list: [text box] [Browse... button]
- Matched name selection method: [Prompt For Alias dropdown]

Buttons at the bottom: OK, Cancel, Apply, Help.

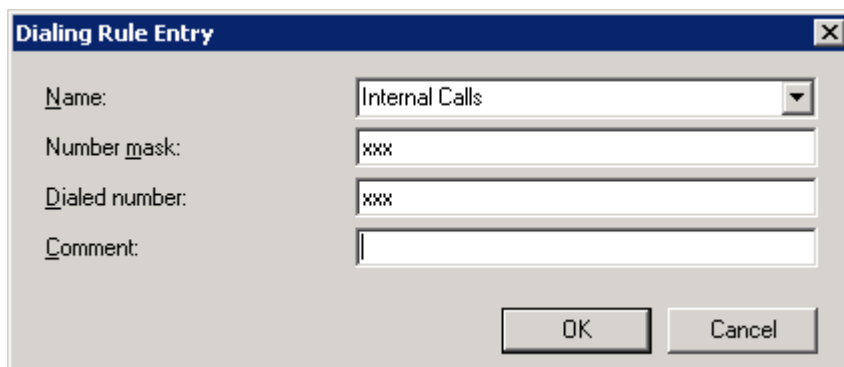
Select the “Dialing Rule Groups” tab and click on the “Add” button for the “In-Country/Region Rule Groups”. “Dialing Rule Groups” are used for the “Dialing restrictions” of outgoing calls.



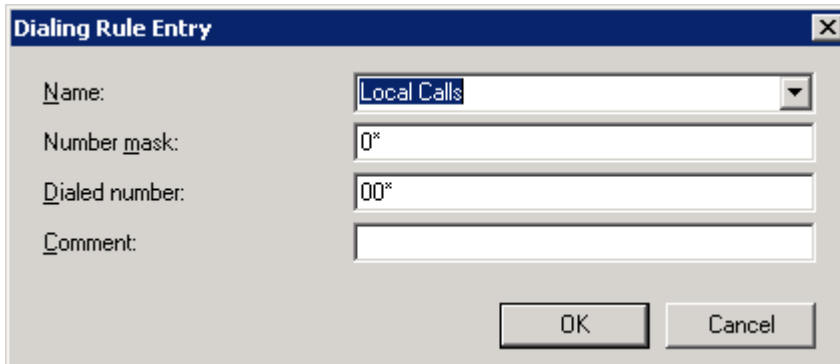
To allow outgoing calls you must add “Dialing Rule Entries”.  
These entries can also be used for number replacement.

The “Number mask” is the number which is dialed by the user.  
Before this number is used for an outgoing call it can be modified  
through the “Dialed number” field (e.g. add a Public Line Access Prefix).

The following rule allows outgoing calls to SwyxWare users.  
The “x” parameter stands for one digit from 0 to 9.  
The number mask must be as long as your internal numbers  
(e.g. 100 -> xxx / 1000 -> xxxx).

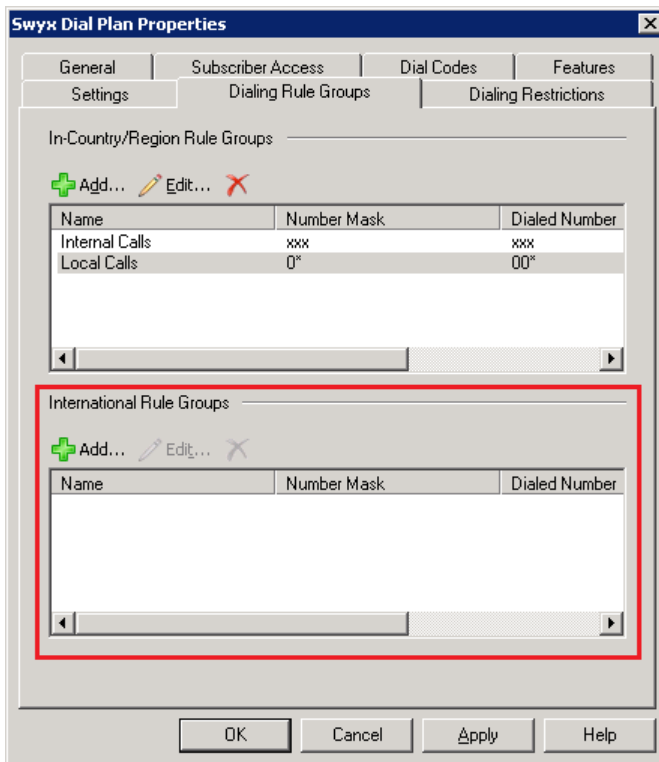


The second rule allows local area calls and adds a public line access prefix. In this case our PLAP is a 0.



The 'Dialing Rule Entry' dialog box is shown. It has a title bar with a close button. The fields are: Name (dropdown menu with 'Local Calls' selected), Number mask (text box with '0\*'), Dialed number (text box with '00\*'), and Comment (empty text box). At the bottom are 'OK' and 'Cancel' buttons.

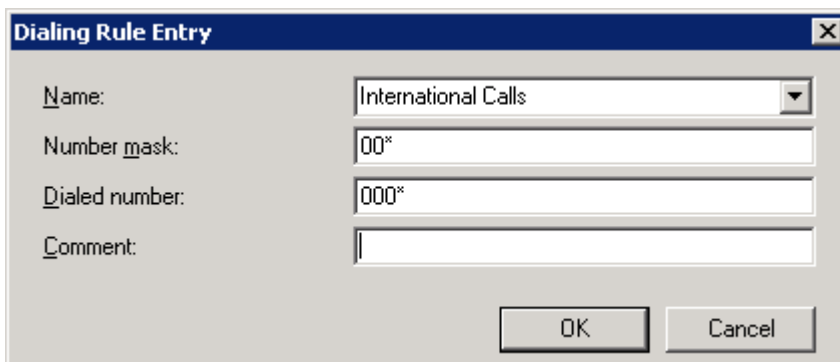
The last rule allows international calls and so it belongs to the “International Rule Groups”.



The 'Swyx Dial Plan Properties' dialog box is shown with the 'Dialing Rule Groups' tab selected. It has sub-tabs: 'In-Country/Region Rule Groups' and 'International Rule Groups'. The 'In-Country/Region Rule Groups' section contains a table with two rows: 'Internal Calls' (Number Mask: xxx, Dialed Number: xxx) and 'Local Calls' (Number Mask: 0\*, Dialed Number: 00\*). The 'International Rule Groups' section is empty and is highlighted with a red rectangle. At the bottom are 'OK', 'Cancel', 'Apply', and 'Help' buttons.

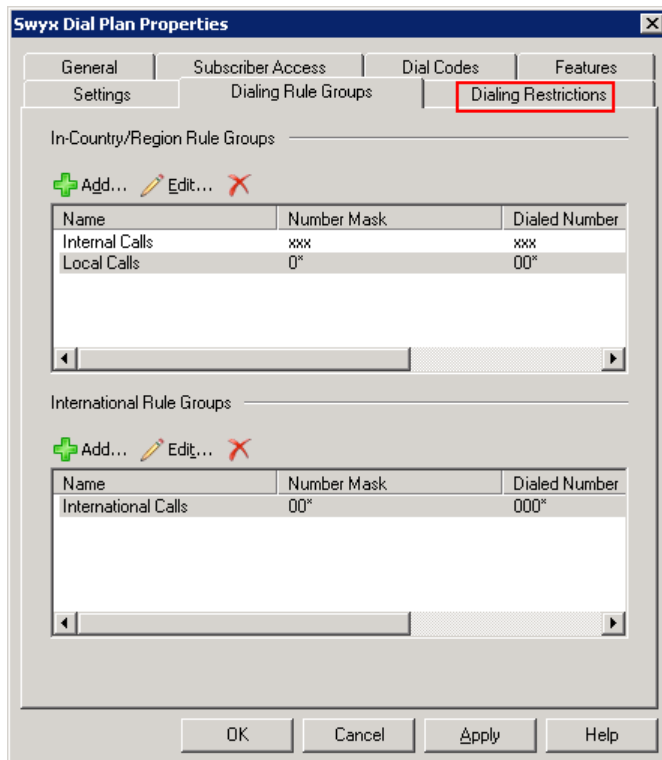
Name	Number Mask	Dialed Number
Internal Calls	xxx	xxx
Local Calls	0*	00*

Click on the “Add” button and add your rule for international calls.  
The public line access must be applied here too!

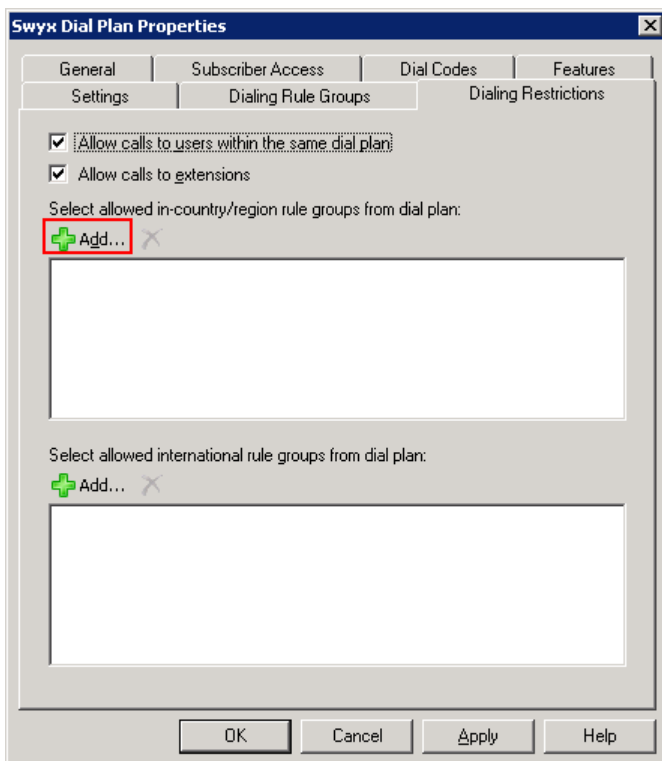


The 'Dialing Rule Entry' dialog box is shown. It has a title bar with a close button. The fields are: Name (dropdown menu with 'International Calls' selected), Number mask (text box with '00\*'), Dialed number (text box with '000\*'), and Comment (empty text box). At the bottom are 'OK' and 'Cancel' buttons.

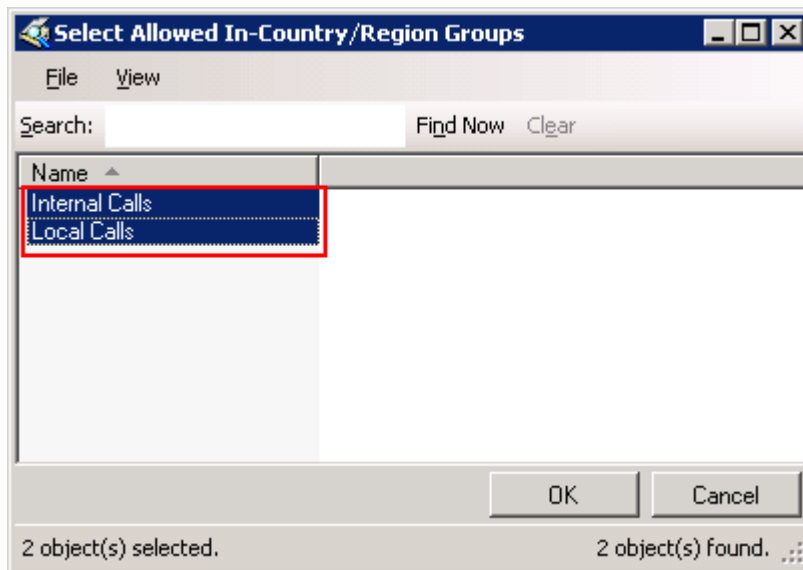
The final result should look like this:



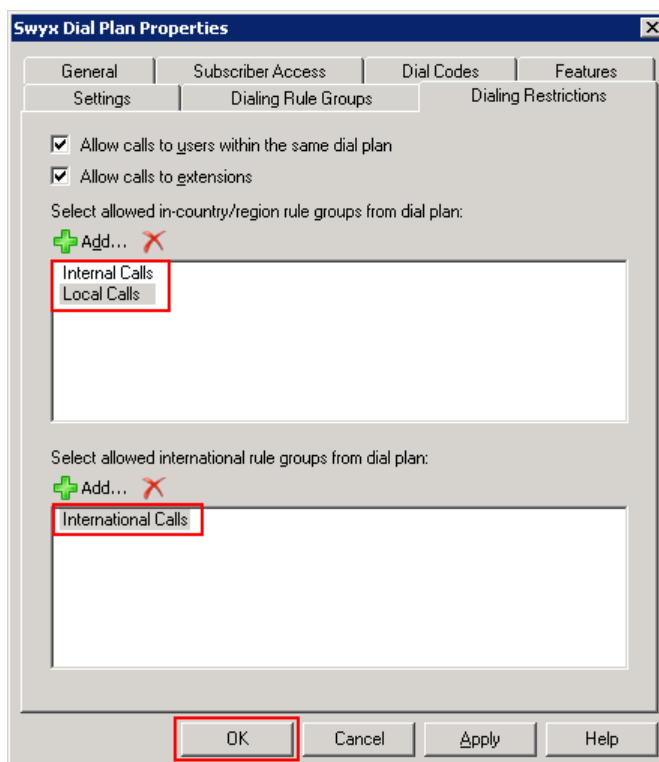
Now the “Dialing Rule Groups” must be added to the “Dialing Restrictions” to become effective. Therefore select the “Dialing Restrictions” tab and click on the “Add” button for the “In-Country/Region Rule Groups”.



Select the Rule Groups you wish use with this dial plan and click on the “OK” button.

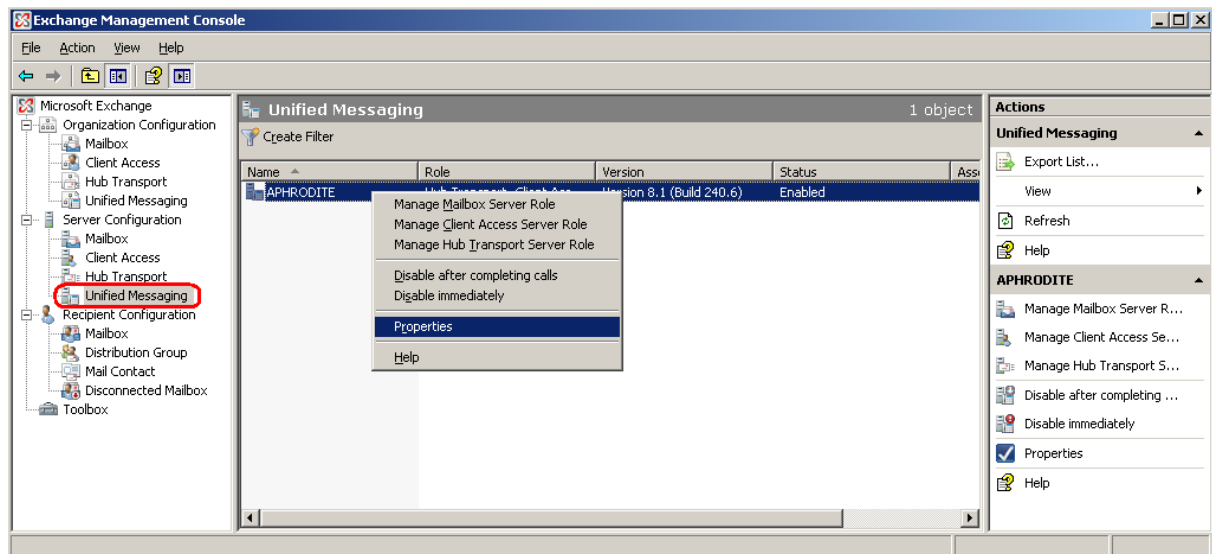


Now do the same for the “International Rule Groups”.  
The result should look like this:

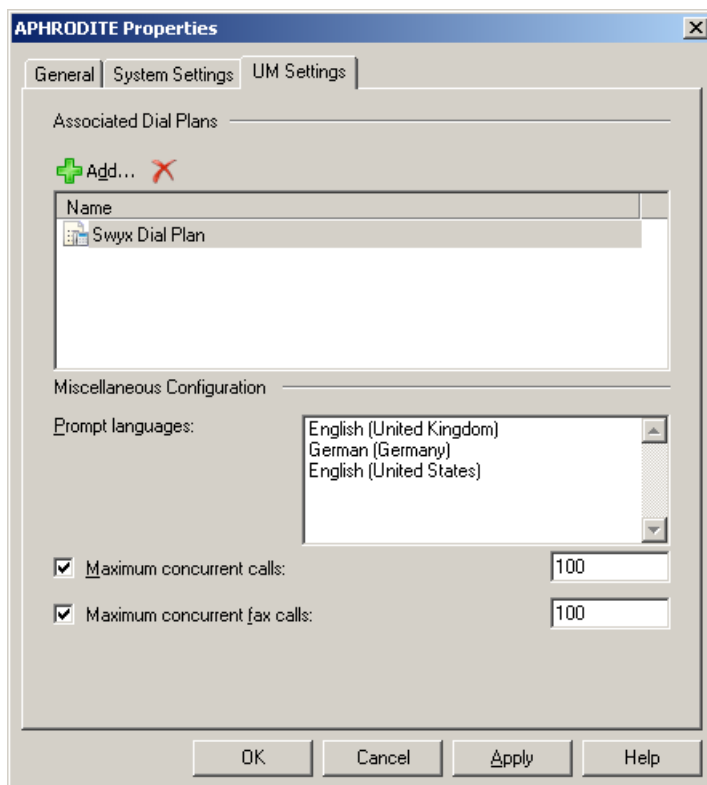


Click on OK and go to “Unified Messaging” (under “Server Configuration”).

Select your Exchange Server (in the middle) and open the “Properties”.



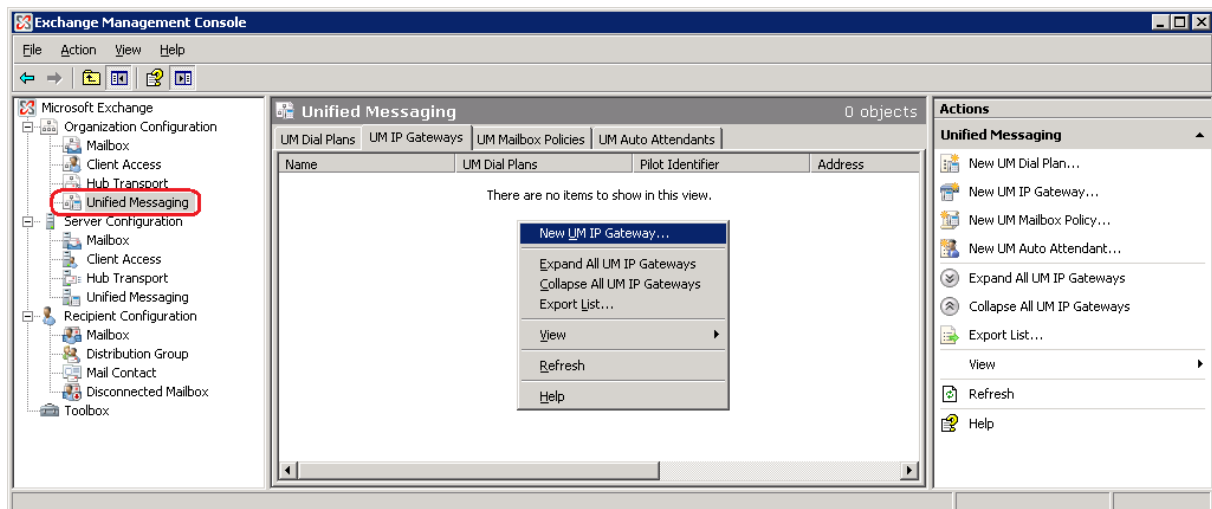
Go to the “UM Settings” and add your new dial plan to the list of “Associated Dial Plans”.



Click on the “OK” button to save the changes and go to the next step.

### 3.2 UM IP Gateway

Go to “Unified Messaging” (under “Organization Configuration”) and choose the “UM IP Gateways” tab in the middle. Open the mouse context menu and select “New UM IP Gateway”.



Choose a name for the UM IP Gateway and enter the IP address or the FQDN of the SwyxWare Server. Click on the “Browse” button to assign your dial plan to this gateway.

A screenshot of the 'New UM IP Gateway' wizard. The title bar reads 'New UM IP Gateway'. The left pane shows a progress indicator with 'New UM IP Gateway' selected and 'Completion' unchecked. The main area contains the following fields and options:

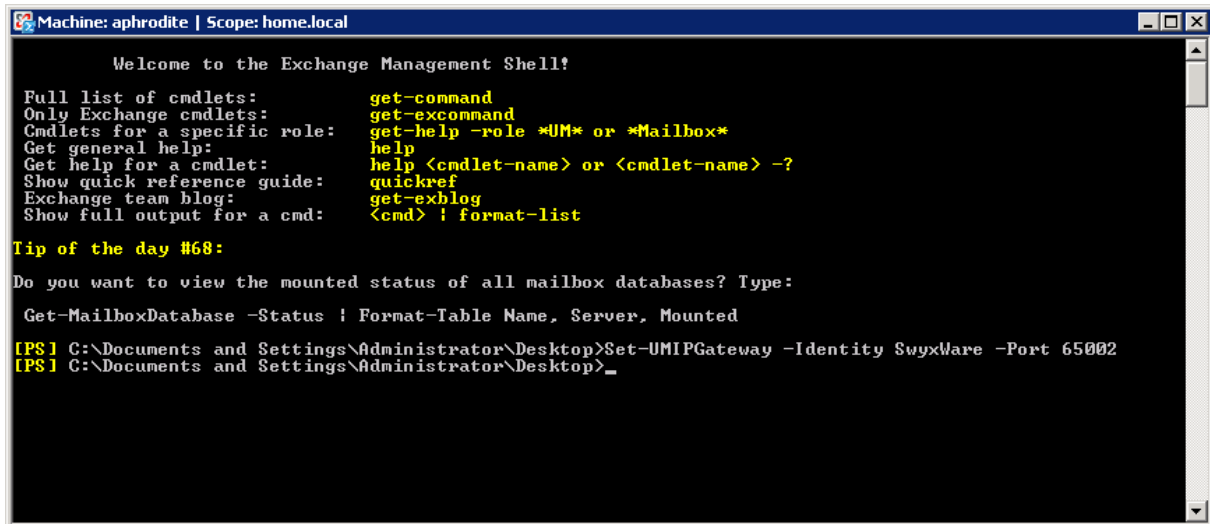
- Name:** A text box containing 'SwyxWare'.
- IP Address:** A radio button is selected. Below it is a text box containing '192.168.10.2'. An example '192.168.10.10' is shown below the text box.
- Fully qualified domain name (FQDN):** An unselected radio button. Below it is an empty text box. An example 'smarthost.company.com' is shown below the text box.
- Dial plan:** A text box containing 'Swyx Dial Plan'. To its right is a 'Browse...' button.

Below these fields is an information icon (i) and a text block: 'If a dial plan is selected, a default hunt group will be created to associate this new UM IP gateway to the specified dial plan. If no dial plan is selected, a hunt group must be created manually.' At the bottom of the wizard are three buttons: 'Help', '< Back', and 'New', followed by a 'Cancel' button.



By default every “UM IP Gateway” connection uses port 5060. In our scenario this has to be changed because the SwyxWare LinkMgr uses port 65002. The Exchange Management Console does not offer a possibility to change this value, therefore the “Exchange Management Shell” (Windows Powershell) must be used. Open the shell and execute the following command:

Set-UMIPGateway -Identity <Name of your UM IP Gateway> -Port 65002



```
Machine: aphrodite | Scope: home.local

Welcome to the Exchange Management Shell!

Full list of cmdlets:      get-command
Only Exchange cmdlets:   get-excommand
Cmdlets for a specific role: get-help -role *UM* or *Mailbox*
Get general help:        help
Get help for a cmdlet:    help <cmdlet-name> or <cmdlet-name> -?
Show quick reference guide: quickref
Exchange team blog:      get-exblog
Show full output for a cmd: <cmd> ! format-list

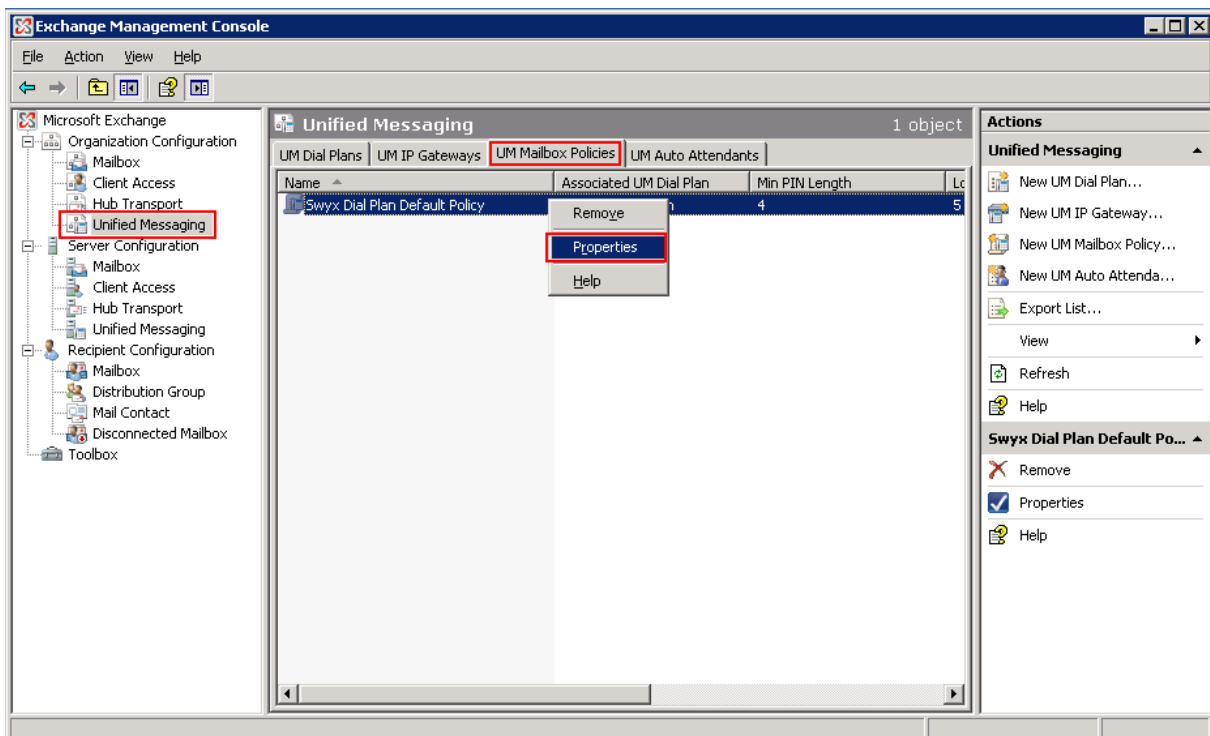
Tip of the day #68:
Do you want to view the mounted status of all mailbox databases? Type:

Get-MailboxDatabase -Status ! Format-Table Name, Server, Mounted

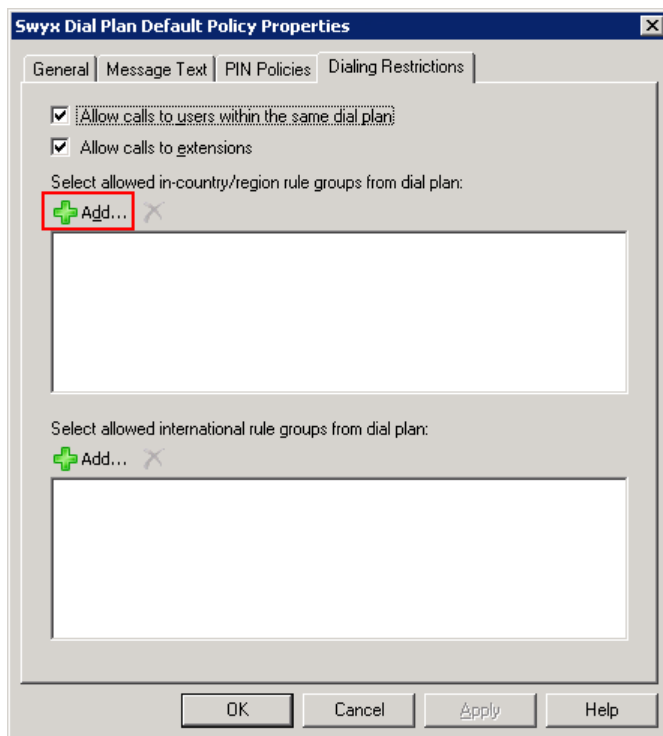
[PS] C:\Documents and Settings\Administrator\Desktop>Set-UMIPGateway -Identity SwyxWare -Port 65002
[PS] C:\Documents and Settings\Administrator\Desktop>_
```

### 3.3 UM Mailbox Policies

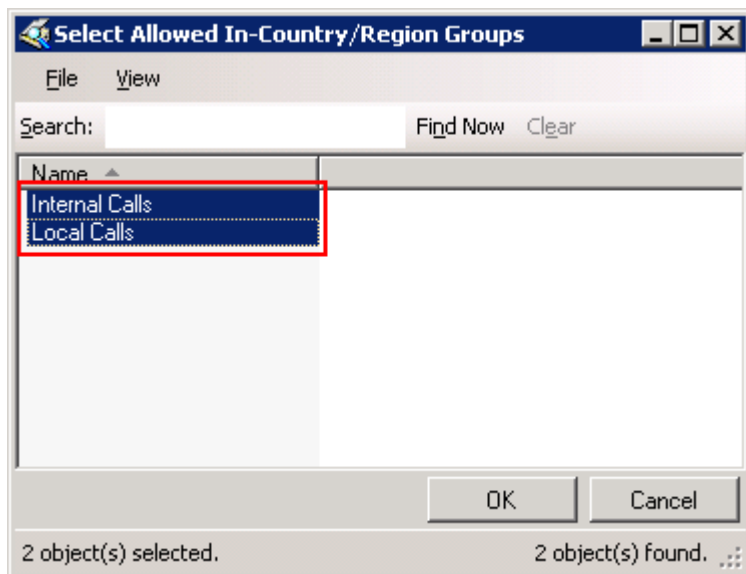
Go to “Unified Messaging” (under “Organization Configuration”) and choose the “UM Mailbox Policies” tab. Open the properties of the “Swyx Dial Plan Default Policy”.



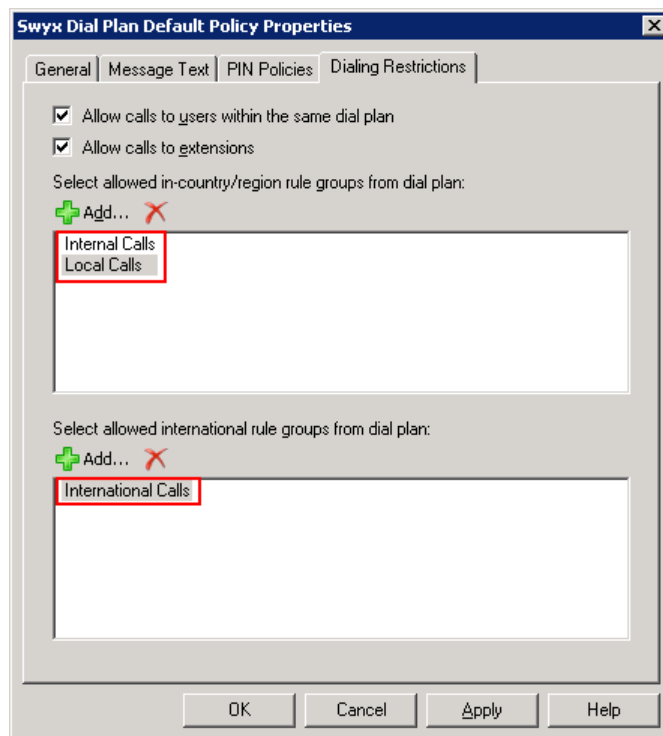
Just as in the “Dial Plan” configuration the “Dialing Rule Groups” must be added to the “Dialing Restrictions” here. Therefore select the “Dialing Restrictions” tab and click on the “Add” button for the “In-Country/Region Rule Groups”.



Select the Rule Groups you wish use with this dial plan policy and click on the “OK” button.



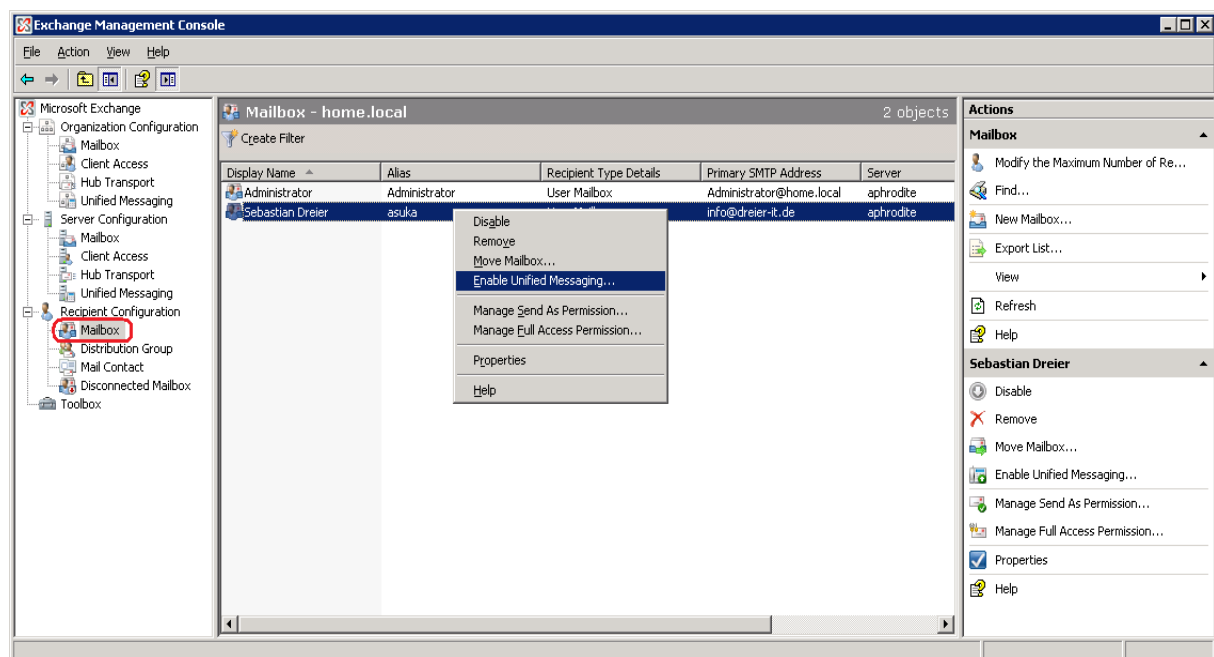
Now do the same for the “International Rule Groups”.  
The result should look like this:



Click on the “OK” button to save the changes and go to the next step.

### 3.4 Enable user for Unified Messaging

Last but not least you have to enable the active directory users for Unified Messaging.  
Select “Mailbox” under “Recipient” in the left menu tree. Select a user in the middle of the window and choose “Enable Unified Messaging” in the right menu.



On the first wizard page you can choose if the user PIN will be generated automatically or not. Please note the PIN length and the complexity depends on the Mailbox Policy you can select above.

The screenshot shows the 'Enable Unified Messaging' wizard, Introduction page. The left sidebar contains a list of steps: Introduction (selected), Extension Configuration, Enable Unified Messaging, and Completion. The main content area has a title 'Introduction' and a paragraph explaining that the selected mailbox will be enabled for Unified Messaging and that an email message will be sent to the mailbox upon completion. Below this, there is a section for 'Unified Messaging Mailbox Policy' with a dropdown menu set to 'Swyx Dial Plan Default Policy' and a 'Browse...' button. The 'PIN Settings' section has three options: 'Automatically generate PIN to access Outlook Voice Access' (selected), 'Manually specify PIN:' (with an empty text box), and 'Require user to reset PIN at first telephone login:' (checked). At the bottom, there is a warning icon and text stating: 'Unified Messaging is a premium feature and requires an Exchange Enterprise Client Access License (CAL) to enable it for the mailbox.' The bottom of the window has 'Help', '< Back', 'Next >', and 'Cancel' buttons.

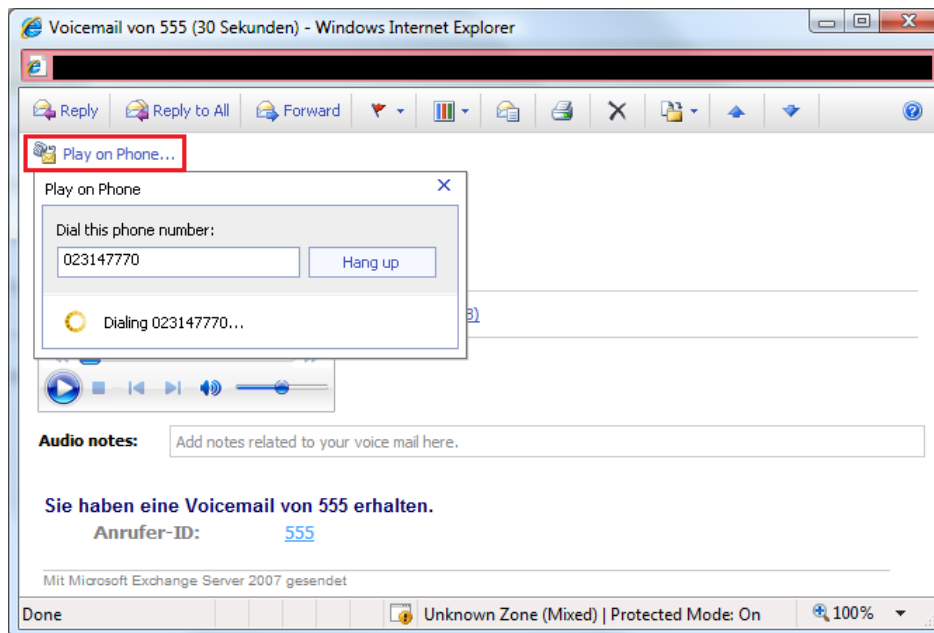
On the next page you have to enter the extension of the user (in our case we use 200).

The screenshot shows the 'Enable Unified Messaging' wizard, Extension Configuration page. The left sidebar contains a list of steps: Introduction, Extension Configuration (selected), Enable Unified Messaging, and Completion. The main content area has a title 'Extension Configuration' and two radio button options: 'Automatically generated mailbox extension' and 'Manually entered mailbox extension:' (selected). The 'Manually entered mailbox extension:' option has a text box containing '200'. Below this, there is a section for 'SIP Resource Identifier' with a paragraph explaining that for a SIP URI dial plan, this is the SIP address of the user (example: tony.smith@contoso.com) and for an E.164 dial plan, this is the E.164 address of the user (example: +14255550150). There are two radio button options: 'Automatically-generated SIP resource identifier:' and 'Manually entered SIP or E.164 address:' (selected). The 'Manually entered SIP or E.164 address:' option has an empty text box. The bottom of the window has 'Help', '< Back', 'Next >', and 'Cancel' buttons.

After the wizard is finished the user will receive a mail with all required information about his unified messaging account (PIN, extension etc.).

### 3.5 “Play at the phone” feature notes

As already described in chapter 1 scenario 3 the main use case for this feature is the possibility to listen to your voicemails even if no audio device is available. This can be initiated through the “Outlook Web Access” as shown on the screenshot below.



#### **Important:**

The “Dialing Rule Groups” configuration of your UM Dial Plan (see chapter 3.1) only allows the following number formats for dialing:

- Internal (e.g. 200)
- National (e.g. 0231 47770)
- International (e.g. 0049 231 47770)

Do not use the “Public Line Access Prefix” for dialing here!

### 3.6 Auto Attendant notes

Within this new version of the SwyxWare Exchange 2007 Interconnection Tutorial the configuration of an “Auto Attendant” is not required anymore! It is not needed for the user’s voice mailboxes; it only works as an operator who can redirect calls.

#### **If you still want to use an “Auto Attendant”, please note the following:**

An incoming call to a user who is assigned to an “Auto Attendant” cannot be delivered directly to the user’s voice mailbox! The “Auto Attendant” will catch up every incoming call for users who are associated with it.

---

## 4. Special Thanks

Frank Carius  
(Microsoft Exchange MVP)  
[www.msexchangefaq.de](http://www.msexchangefaq.de)

Without your excellent website this manual has not been possible so far! Big Thanks!

Paul Scholda  
(eHouse Informationstechnologie GmbH)  
[www.ehouse.at](http://www.ehouse.at)

Your contacts within Microsoft and your feedback really helped to address the outstanding problems. Sorry that we could not address them all in previous versions before.

Peter Meuser  
(iTlab Consulting / LANline-Lab)  
[www.lanline.de](http://www.lanline.de)

Your feedback about the previous versions of this article and your experience about the Microsoft Office Communications Server 2007 were very helpful for the creation of this version of the document.