



PAPAGENO

SMTP Gateway

Version 5.9

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Content

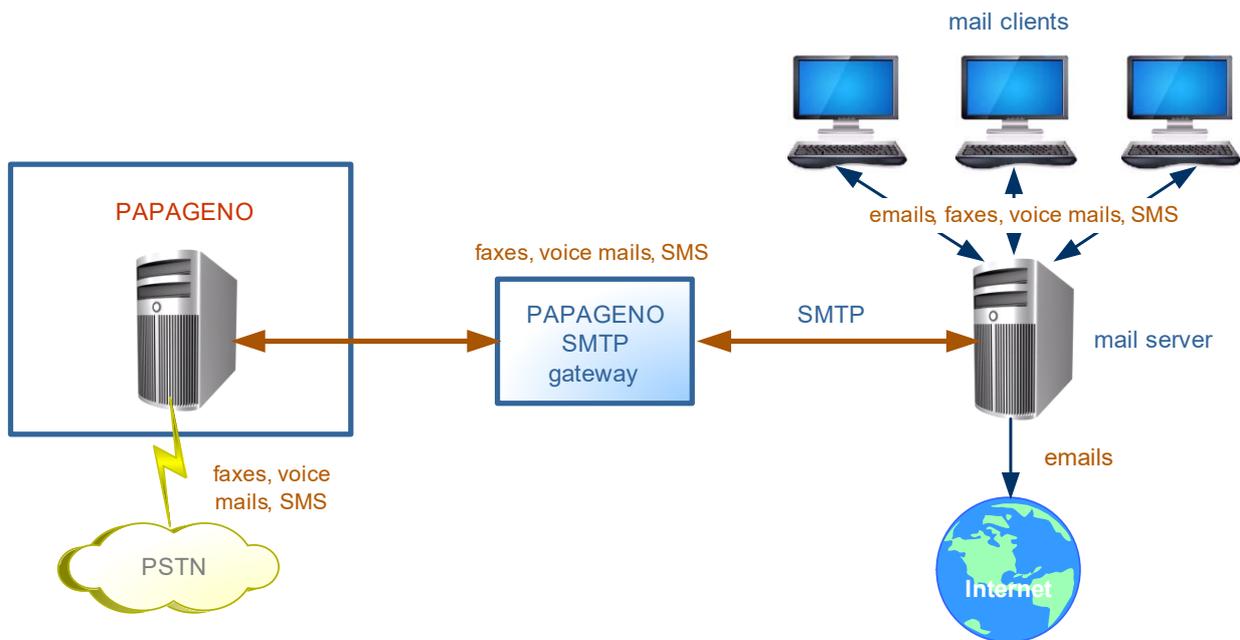
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Features

The PAPAGENO SMTP gateway establishes the connection between the SMTP mail server and PAPAGENO.

It is automatically installed with PAPAGENO on a computer and can be enabled by a configuration variable.



The PAPAGENO SMTP can be

- installed on **all PAPAGENO platforms** (Windows, Unix, Linux).
- **convert all current formats** like PostScript, ASCII, Tif, Waf (Audio), PCL and HPGL (PostScript Level 2 license required) whereby it is irrelevant, on which operating system the gateway is installed.
- easily be extended with **new formats**.
- use **MAPI** for document converting under Windows.
- handle faxes for **several SMTP mail servers**.
- It provides **high throughput rates** characterized by a **high stability**.

The Gateway is installed automatically with PAPAGENO on a computer, cleared by the license entry and activated by a configuration variable.

Every SMTP capable product can be used as an SMTP server (e. g. Unix Sendmail, Exchange Server).

The PAPAGENO SMTP gateway can be used together with a directory server via **LDAP**. If LDAP is not used, the gateway can access the user database for message sending and receiving.



A. Configuration Planning

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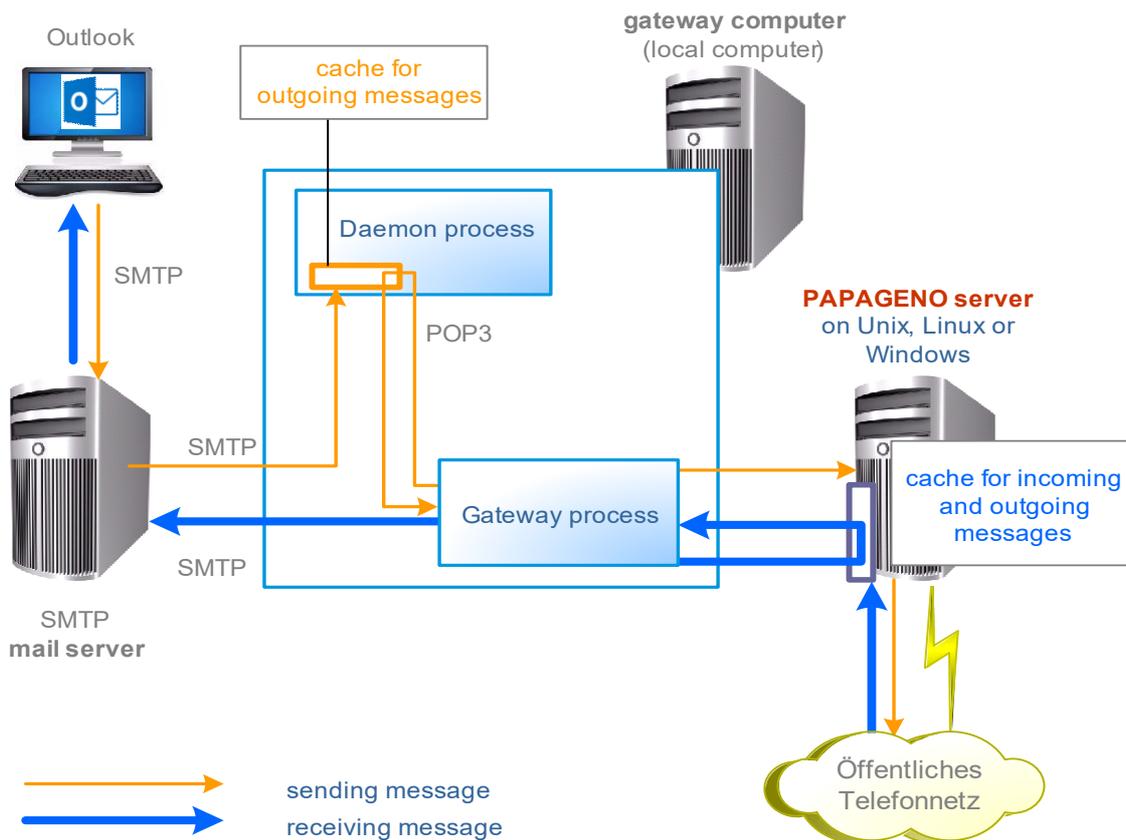
1. To-Do-List for Setting Up a PAPAGENO SMTP Gateway

- ☺ **Decide** on which computer the Gateway is to be installed (see page 11).
- ☺ Decide, whether to convert **Windows documents** - at the gateway or at user computers (see page 12)
- ☺ **LDAP?** (see page 16).
- ☺ Be aware of the **installation requirements** (see page 21).
- ☺ Enter the new **license key** (see page 23).
- ☺ Complete the **preliminary work** on the gateway computer (see page 24).
- ☺ **Activate** the **gateway** by setting a **configuration variable** (see page 26).
- ☺ Set the required **gateway variables** (see page 27).
- ☺ If **LDAP is used**, make the necessary configurations (see page 34)
- ☺ If **LDAP is not used**, make the necessary configurations (see page 43).
- ☺ If Windows documents shall be converted install the PAPAGENO MAPI Connector on the gateway computer respectively the FAX Mapi Printer on the user computers (see page 54).

Then start the gateway and you can send your first fax (see Page 58 and 69).

2. Gateway Process Cooperation

For a better understanding, the following graphic shows the cooperation of the individual processes of the gateway with fax sending and receiving. The gateway consists of the daemon and the gateway process.



The gateway process (`gateway.exe`) fetches **incoming messages** from the PAPAGENO cache and passes them to the mail server.

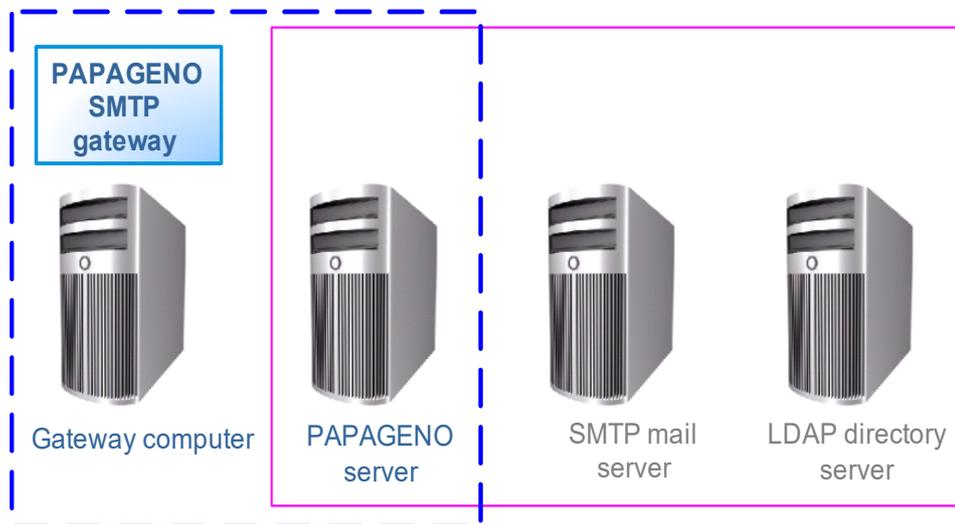
The gateway process uses POP3 to retrieve **outgoing messages** from the daemon process (`daemon.exe`) and pass them to PAPAGENO.

The gateway processes can be installed on different computers, but they must have the same operating system. **Normally, both processes run on the same machine.** The two processes are installed with each PAPAGENO installation on the respective computer and can be activated via variables.

(See below „SG_DMH”, page 27 und „SG_GWH”, page 27).

If a PAPAGENO MAPI connector or a fax MAPI printer is installed for document conversion, the gateway process communicates with it.

3. Plan the Configuration



Gateway, PAPAGENO and mail server can run on **all platforms**.

Gateway and SMTP mail server **must** be installed on **separate computers** because the daemon process and the mail server have the same standard port number (port 25).

They can run on the same system, if the port number is changed for one of them

The gateway can be installed on the PAPAGENO server. Directory server, mail server and PAPAGENO server can be installed on the same computer.

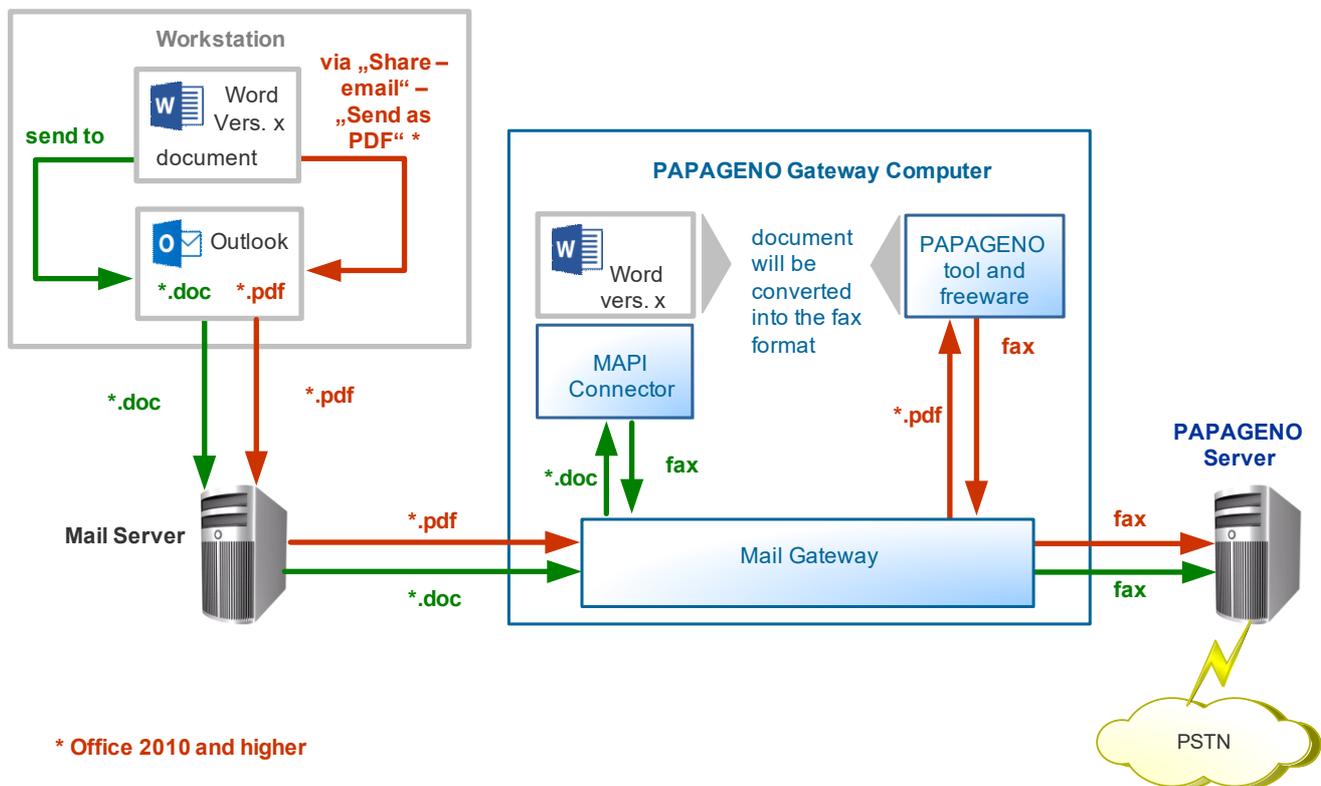
Note: If huge amounts of documents shall be converted, the gateway computer needs sufficient work space.

4. Converting Windows Documents into Fax Format

You decide whether faxes should be converted to the fax format (*.tif) on the **gateway machine** or on the **users' computers** using the fax MAPI printer. (See below page 14).

Conversion on the Gateway Computer

A fax document that have been created in a Windows application can be sent as an email attachment to a fax address. On the gateway system it is then converted to fax format by a **PAPAGENO tool** or by the **PAPAGENO MAPI Connector**.



pdf and html documents can be converted using PAPAGENO tools and freeware programs. For this, you only have to install the freeware and activate the respective PAPAGENO tool.

Other formats are converted via the PAPAGENO MAPI connector. Since this requires the respective Windows program for conversion, you must install the necessary Windows programs on the gateway computer next to the connector. The versions must correspond to the versions on the user computers. Otherwise, there may be problems with the conversion.

**Advantage:**

- The CPU load for conversion is on the gateway system.
- One-time installation of freeware and activation of a tool and/or one-time installation of the MAPI connector

Disadvantage:

- Using the PAPAGENO MAPI Connector: Application programs must be installed on the gateway computer. Possibly, the application programs on the gateway computers require a lot of space, in any case they must be maintained.

Functionality

The user selects `send to... E-Mail` in the `File` menu in Word or other Windows applications.

An Outlook Send window opens. The document is attached (eg `.docx` or `.pdf`).

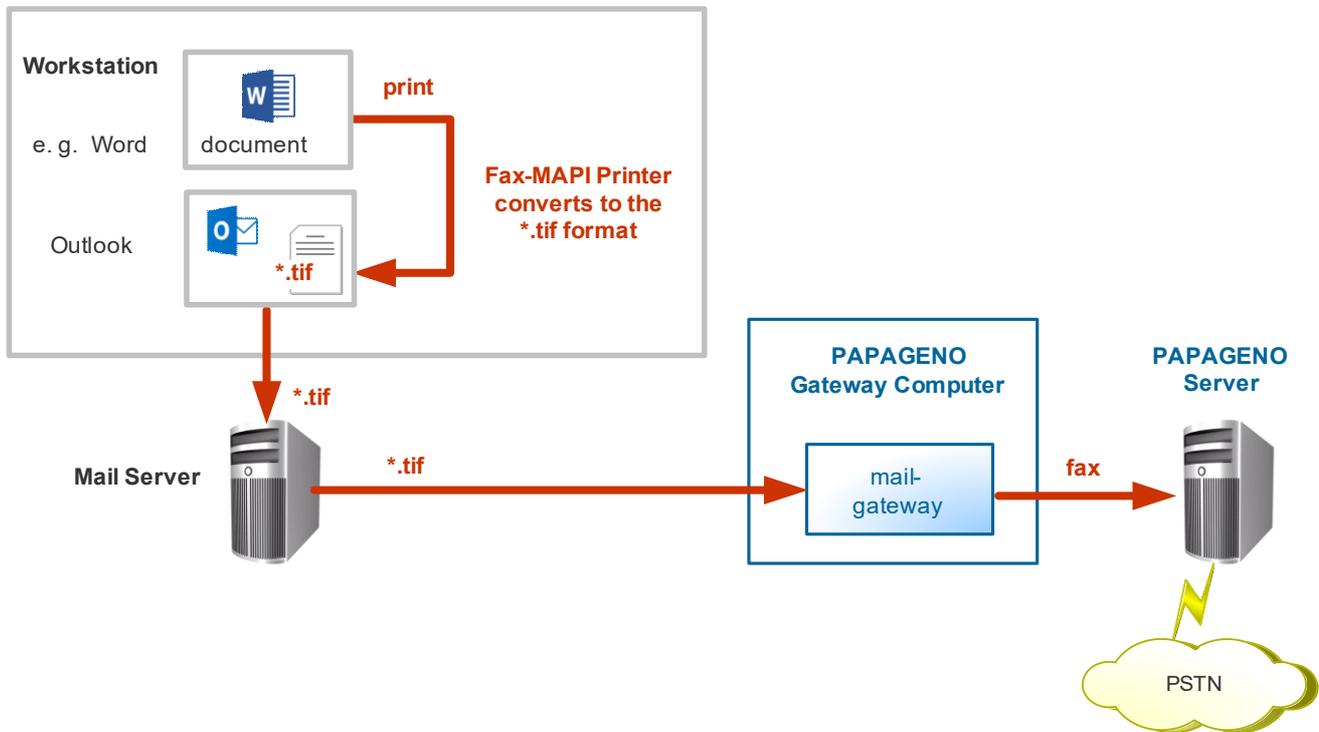
The user enters the fax address in the format

fax number@fax.domain

Example: `123456@fax.samplefirm.de`

The document is sent to the mail gateway via the mail server and converted into fax format. Then it is sent to the according recipient.

Conversion on the User Computers



The Fax MAPI Printer is a virtual printer which converts documents into fax format. It is part of the MAPI connector, but can also be installed separately.

Advantages:

- The user can view the document in the mail transmission window as it is sent (in tiff format). There it is available as an attachment in the *.tif format.
- Windows applications from which users send faxes, **do not** have to be installed and administered on the gateway system.
- Version incompatibilities can be avoided,
- Protection against macro viruses is guaranteed

Disadvantage:

- The Fax Mapi Printer must be installed on each user machine.

Functionality

- ▶ Install the Fax Mapi Printer on each user computer. (See „PAPAGENO MAPI Connector“ manual).

In the `File` menu in Word or other Windows applications the user selects `Print... - Fax MAPI Printer` (or `send to... - Fax recipient - Fax MAPI Printer`).

The Fax MAPI Printer converts the document into fax format. Then the * .tif document is passed to the user's mail client.

The user specifies the fax address in the format

fax number@fax.domain

Example: `123456@fax.samplefirm.de`

The document is sent via the mail gateway to the according recipient.

5. Is LDAP Being Used?

The Use of LDAP has Certain Advantages:

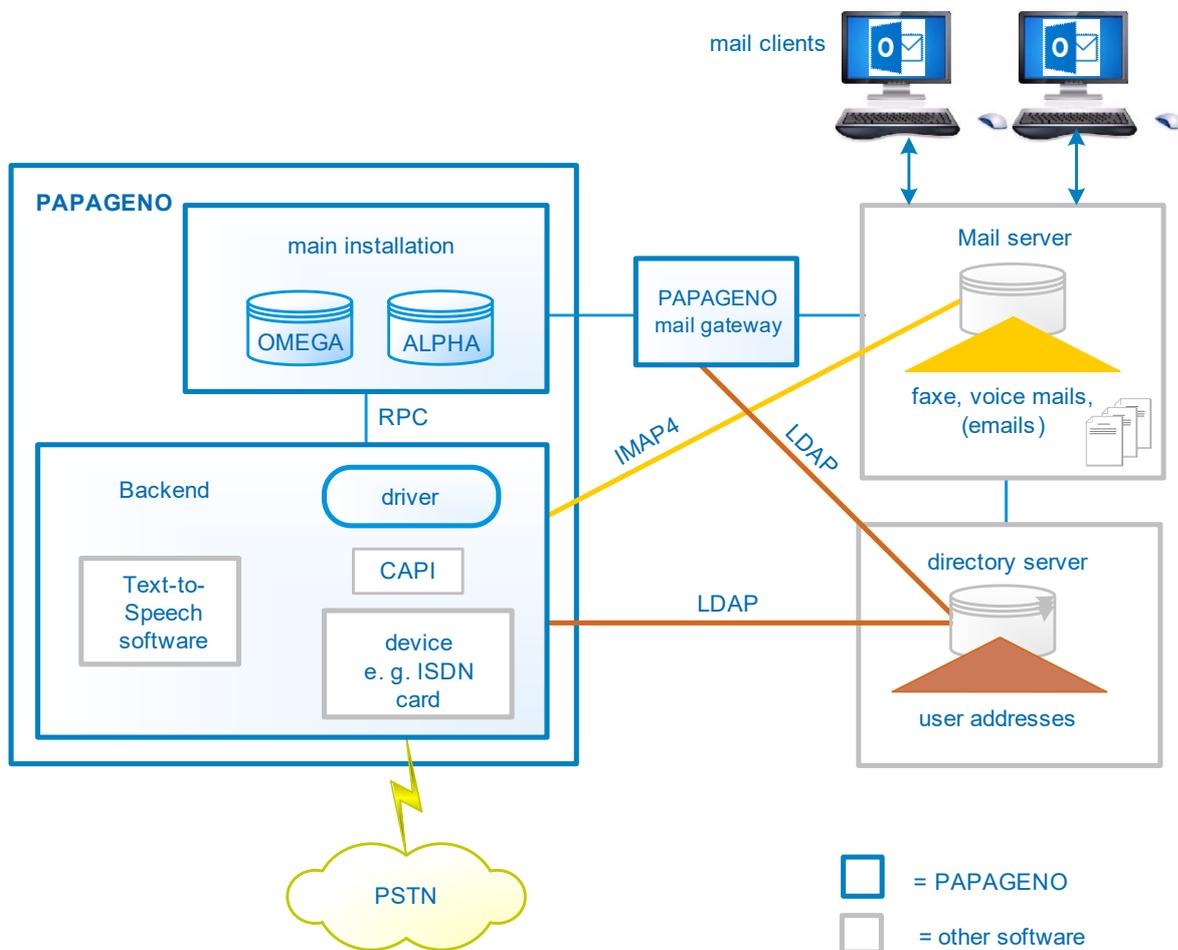
If an LDAP directory server is integrated into your mail environment to manage the internal users, the PAPAGENO SMTP gateway can access the central address data via LDAP (access protocol for the directory server) immediately after the installation.

This means that the existing user addresses only need to be extended by the fax voice mail and SMS addresses.

The advantage is the **easy maintenance** of user entries, since you only have one entry per user to manage mail and fax addresses.

Another advantage of using an LDAP directory server is that user-specific sending parameters can be taken into account.

Only when LDAP as well as IMAP4 are used, users can access their messages stored on the mail server via telephone.





The gateway processes daemon.exe and gateway.exe use both LDAP.

The daemon.exe process uses LDAP to check whether a mail user is allowed to send faxes.

The gateway.exe process requires LDAP information about the user who is sending a fax. It uses LDAP to assign incoming faxes to a user.

Therefore an LDAP connection must be established between the gateway computer and the directory server as well as between the PAPAGENO backend device server and the directory server.

If LDAP is not used,

- The PAPAGENO SMTP gateway uses the PAPAGENO gateway user database to determine the fax recipient using the fax address.
- users **cannot** access their messages by phone stored in the mail server, but they can access their faxes and SMS on the telephone.



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1. Note the Installation Prerequisites

- ☺ The **PAPAGENO server** (version 5.8) is installed, running and accessible.
- ☺ **One user licence** in PAPAGENO is free (incoming and outgoing faxes are sent to a Gateway user).
- ☺ On the gateway computer ensure that no other service runs on **port 25** (SMTP) .
- ☺ Under Linux and Unix ensure that root is the owner of the process `$FAXROOT/gateway/smtp/daemon` and that has the rights `rwsr-sr-x`.
- ☺ The **SMTP mail server** is installed, running and accessible.

If LDAP is used:

- ☺ LDAP interface in Active Directory must be enabled.
- ☺ The name and password for LDAP access are noted.
- ☺ In the database there is a fax number field,
e. g. with the name `facsimileTelephoneNumber`
- ☺ The start path for accessing the directory server is noted.

2. To Install the PAPAGENO SMTP Gateway

If the gateway is to run on the same computer as PAPAGENO, it is already installed with the PAPAGENO main installation and has to be activated.

If the gateway is **not** to run on the same computer as the PAPAGENO main installation:

- ▶ Run an extended PAPAGENO installation on the planned gateway machine.
See manual "PAPAGENO Configuration Installation and Administration", part B1, chapter 6. „How to Install a Single PAPAGENO Server”, page 56 or part B2, chapter 6. „How to Install a Single PAPAGENO Server”, page 78.
- ▶ Disable all server components in the installation routine and enter the host name of the computer on which the OMEGA server gateway is installed (on which the basic installation was performed).

Preparing the gateway Computer

If documents are to be converted into fax format on the gateway computer:

- ▶ Install the PAPAGENO MAPI connector (see Manual „PAPAGENO MAPI Connector“).
For integrating the connector in the mail client, you can use `FAXADM` as mail user.

3. To Enable the Mail License

You may have previously used only the PAPAGENO fax service and purchased the mail license now. In this case, you have received an extended license key for SMTP gateway users from your merchant, which you must enter in PAPAGENO.

Note that the license key contains only lowercase letters. You can omit or paste the blanks as you like. Similarly, the line break is not relevant.

To enter the new license key in the administration program:

- ▶ Open the `license` folder in the PAPAGENO administration program.
- ▶ In the `file` menu select `new`.
Enter the license key and confirm.

If you have made an incorrect entry or the license is not valid (date, serial number), you will receive an error message. Even if the current configuration data exceeds the limits of the new license, an error occurs.

In this case, the old license is retained.

Do not close the administrative program yet, you still have to make entries.

License Administration

The **PAPAGENO gateway user database** is created during installation of the gateway.

When using an LDAP directory server, each mail user who sends a fax is automatically entered in the PAPAGENO gateway user database. The data (mail address and direct dial number) retrieves the gateway from the directory server where the allowed fax users have already been saved.

For use without LDAP, mail users bound to send or receive faxes must be explicitly entered with their full address and dedicated direct dial number in the PAPAGENO gateway user database.

This way, the gateway user licenses are counted. If "registered mail users" = "number of licenses", no further user can send a fax.

Database Entry Management

You can enter or delete users manually via the PAPAGENO administration program (menu item `Gateway`).

- ▶ Be sure to delete "old" users who are no longer sending or receiving faxes from the database.

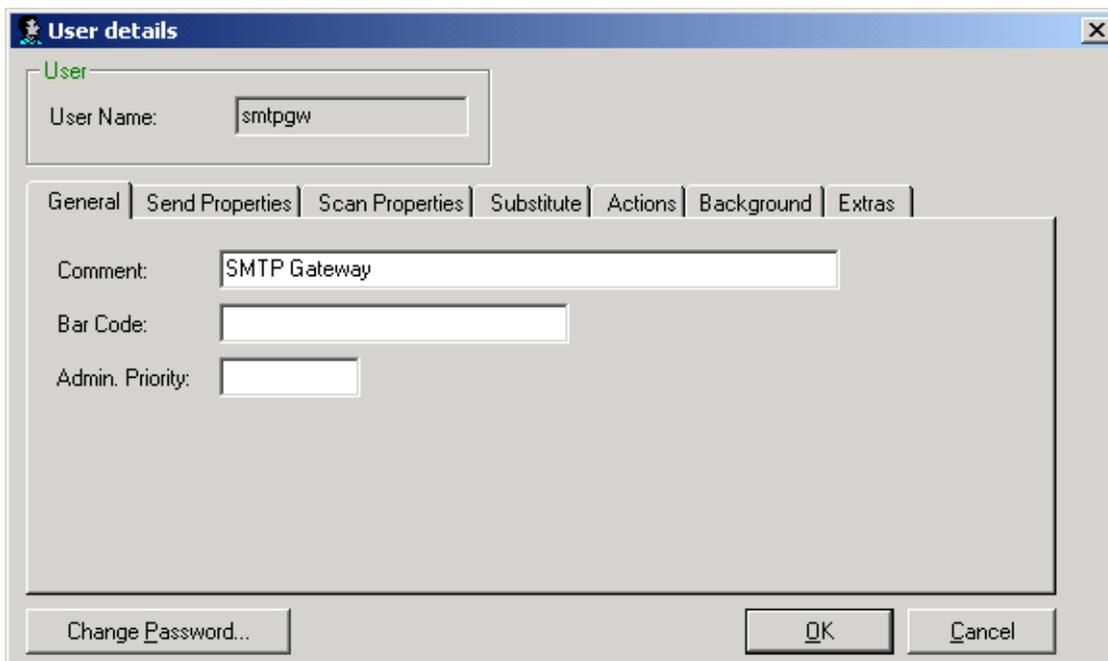
4. Complete the Preparatory Work in PAPAGENO

Enter the Gateway User in PAPAGENO

The gateway user receives incoming faxes via the gateway and distributes them via predefined rules to the users.

It does not matter, on which alpha server this user is added.

- ▶ Enter a gateway user in the administration program. Enter only the short name (possibly `smtpgw`), description, and possibly a password. The other fields do not need to be filled. (see manual "PAPAGENO Configuration Installation and Administration", part C, chapter 4. „Registering Users“, page 98).



The screenshot shows a dialog box titled "User details" with a close button (X) in the top right corner. The dialog is divided into several tabs: "General", "Send Properties", "Scan Properties", "Substitute", "Actions", "Background", and "Extras". The "General" tab is currently selected. In the "User" section, the "User Name" field is filled with "smtpgw". Below this, there are three more fields: "Comment" (filled with "SMTP Gateway"), "Bar Code" (empty), and "Admin. Priority" (empty). At the bottom of the dialog, there are three buttons: "Change Password...", "OK", and "Cancel".

Enter a distribution rule that forwards incoming faxes to the gateway user

- ▶ Open the folder `routes` in the PAPAGENO administration program.
- ▶ Open the default rule `r1`.

Route Details

Route

Route Name:

Inbound

Comment:

Match Extension:

Match TSI:

User:

Group:

Polling

Poll Server:

Poll Document:

- ▶ Replace the term `comFAX User` in the rule „r1“ with the name of the gateway user (`smtpgw`). See Manual „PAPAGENO Configuration Installation and Administration“, part C, chapter 10. „Enter at Least One Distribution Rule“, page 117.

Configure a Default User for Undeliverable Messages

During the installation of the gateway, a distribution rule has been set up, which will forward any incoming fax that can not be assigned to a particular user (e. g. `office@vipcomag.com` or `default@vipcomag.com`). The mail address of this default user must be entered in the mail or directory server. After activation of the gateway the default user has to be set via a variable.

In any case, it should be guaranteed that a real user receives the mails that can not be mapped and is looking through them regularly.

- ▶ Make sure that the mail address of the "Default" user is entered in the mail or directory server.

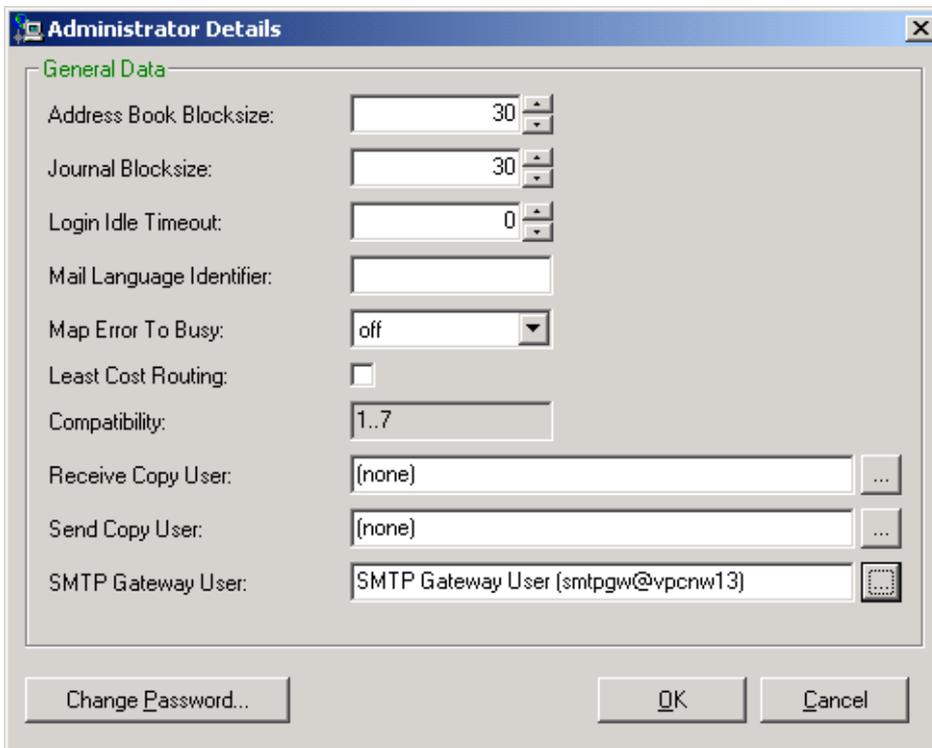
NOTE! A default LDAP installation does not accept undeliverable messages if the omega variable `GD_ACPTALL` is not set. (See also below page 46).

Do not close the administrative program yet, you still have to make entries.

5. Enable the Gateway

To enable the gateway, set the `SMTPnative` configuration variable.

- ▶ In the main window of the administration program select the `Administrator` folder and open the `Administrator Details` window via the `file - properties` menu.
- ▶ In the `SMTP gateway user` field, click the `...` button to open the `Select user` window.
- ▶ In the `Server:` field, select the ALPHA server on which the gateway user is entered.
- ▶ Select the gateway user (`smtpgw`) and close the window with `OK`.



The user name and ALPHA server are entered in the `SMTP Gateway User` field.

6. Set the Gateway Variables

The following variables described below have to be set:

All variables begin with SG for SSMTP Gateway.

The following variables **you have to set** for the Gateway :

- **Domain name** of the **gateway computer**
- **Host name** of the **SMTP mail server**
- **Default user**
- **Password** of the gateway user
- **Host name** of the **daemon process** computer
- **Host name** of the **gateway process** computer
(in case daemon process and gateway process run on different systems)

Required Variables

Variable	Value	Description
SG_MYDOM	<i>gateway computer</i>	Host name of the gateway computer and domain, where your company is registered. The format is: <i>computername.organization.TopLevelDomain</i> e. g.: UMS.vipcomag.com In this way, the user can send messages in the format <i>faxnumber@gatewaycomputername.organization.TopLevelDomain</i> Example: 08912345677@UMS.vipcomag.com
SG_MAHOST	<i>smtp mailserver</i>	Host name of the computer, on which the SMTP mail server is installed.
SG_MADEFU	<i>default user</i>	Name of the user (e. g.: <i>office@vipcomag.de</i>), who receives incoming faxes, that can not be assigned as well as outgoing faxes that cannot be sent (see page 65).
SG_GWPWD	<i>password gateway user</i>	Password of the gateway user (<i>smtpgw</i>), if it exists default: empty
SG_DMH	<i>daemon computer</i>	Name of the computer on which the daemon process is running
SG_GWH	<i>gateway computer</i>	Name of the computer on which the gateway process is running

To Set the Variables

- ▶ In the PAPAGENO administration program open the `User details` window for the gateway user `smtpgw`.
- ▶ Change to the `Extras` tab.
- ▶ Enter or change the value for the corresponding variable.
- ▶ Confirm with `Set`.

Variables You Can Set

The following optional variables can be set for the **gateway process**.

Variable	Default Value	Description
SG_ADMUSER	umgw	Transport name for reports and input documents umgw = unified messaging gateway. You can enter another transport name for incoming documents, delivery- and non delivery reports. Note: Do not use a name under which faxes are sent or received in PAPAGENO! ADMUSER can be entered also user-specific (see Extension-Attribute-10, page 38), e. g. if several faxservers or different languages are used.
SG_ADMTEXT	see *1	*1 „unified messaging gateway @“. This is the ADMUSERs text. The default text is completed by the gateway computer name . Example: „unified messaging gateway@faxgw“ If you enter another text in „“ the gateway computer name will not be attached. ADMTEXT can also be entered user-specific (see Extension-Attribute-10, Seite 38).
SG_ATTn		Controls the conversion documents into fax format in the gateway (see page 54).
SG_CPI_CE	SG_LDE	Send user-specific CPI The variable offers the possibility to send a user-specific CPI, even if no LDAP server is used. If LDAP is deactivated (SG_LDE has the value 0), the extension number of the user entered in the PAPAGENO gateway database is inserted as CPI when sending (see also page 44). The CPI can be configured appropriately using the variables SG_CPI_CSK and SG_CPI_CPR (see below). If LDAP is used (SG_LDE has the value 1), the number to be inserted is the result of an LDAP query, see SG_LDUDA, page 37.
SG_CPI_CSK	0	Specify the number of digits to be skipped at the beginning of the number, for example, if the number is too long.
SG_CPI_CPR		Enter a prefix, possibly the phone number, e. g. if only the extension number is entered in the PAPAGENO gateway database.
SG_CVTWIN	1	0 disables the conversion of Windows documents.
SG_CVTPDF	1	0 disables the conversion of PDF documents.
SG_CVTTXT	1	0 disables the conversion of TXT documents.

SG_DEFNET	<i>nettype</i>	Set the default network type. This type of network (fax, sms, voice, telex or video) is used if no network type is specified for an output document.
SG_DRASMSG		Transmittal confirmation in Outlook Prerequisite: In Outlook, the user has set the <code>message options</code> to receive a confirmation message when sending a message. If the variable has the value 1 at the start of the gateway, the gateway sends a normal mail instead of the delivery notification. The original message is attached.
SG_GWEDLL		Name for number file Here you have the possibility to set the name of a <code>.dll</code> file, in which numbers are noted which allow the sending of a message. (Description for <code>.dll</code> file see <code>\$FAXROOT/gateway/smtp/extapi</code>).
SG_GWEXPF	0	Depending on the viewer used, the format of incoming faxes can be set (some viewers can not display multiple fax pages or a tiff format). 0: Multi page tiff 1: Single page tiff 2: Single page gif
SG_GWFDR	2	Error Messages in Outlook Sets whether users receive error and success messages after sending faxes in the mail client (outbound report). 2: error and success reports (default value) 0: no reports 1: only error reports
SG_GWFLR	0	Possibility to access the current status of a sent message at any time („live report“). 1: Access allowed (enter path in SG_GWHTR). 0: Access not allowed
SG_GWHTR		Path to the live report HTML pages <i>Intranet</i> /umgwrep respectively <code>umgwrep.exe</code> (<code>\$FAXROOT/gateway/smtp/umgwrep</code> must have been previously copied to the intranet).
SG_GWIATT		Certain file formats can be indicated, which the gateway is not allowed to accept when sending documents. e. g.: <code>\.att\$</code> The Gateway ignores all files with an extension <code>.att</code> Blank separates the list of the file formats to be ignored.
SG_GWMAXP	100	Maximum number of pages of an outgoing message.
SG_GWNI	1	Number of incoming messages to be processed in a loop.
SG_GWNO	1	Number of outgoing messages to be processed in a loop.

SG_GWNR	1	Number of outgoing reports to be processed in a loop.
SG_GWNRP		Number prefix, if not already entered in the PAPAGENO administration (See manual „PAPAGENO Configuration Installation and Administration“, Part C, „Number Prefix“, page 104). (Examples for number prefix: 547509 or 0049-89-547509)
SG_GWSP	25	SMTP port on the computer of the mail server (SG_MAHOST) to which the gateway process sends mails.
SG_GWRTRY	60	Behavior of the gateway after an unsuccessful transmission or delivery attempt of a message. You can set the minutes after which the attempt should be started again. See also page 61 and SG_GWWARN and SG_GWGIVUP.
SG_GWWARN	24	Behavior of the gateway after further failed transmission or reception attempts The hours after which the default user ((SG_MADEFU) receives a warning every hour can be set.
SG_GWGIVUP	4	Behavior of the gateway after the transmission and reception attempts were unsuccessful. The days after which the message is sent to the default user can be set.
SG_HEADFIN	0	Send user-specific header If no LDAP server is used, the variable offers the possibility to send a user-specific header line. If the variable is set to 1, the <i>name@company name</i> is given as header, as is TSI, CPI and PINCODE, if their values are set. Via SG_HEADFMT the headline can be modified.
SG_HEADFMT	%s	Prerequisite: SG_HEADFIN is set to 1. %s is replaced by the mail address of the dispatcher (<i>name@companyname</i>). Enter another value, example: VIPcom Munich %s When sending this headline appears, for example: VIPcom Munich max.muster@vipcomag.de
SG_INLOG	1	0 disables the incoming document logbooks (umslog.txt).
SG_KEEPTMP	0	1 does not delete tmp files.
SG_LDOUTP		Inserts the value of the variable before the recipient fax number. If, for example, users send faxes from the remote server in Hamburg via the PAPAGENO main installation in Munich, the Hamburg faxes can be billed separately. Least cost routing can also be used in this way depending on the sender.

SG_SAP	0	<p>Enable SAP SMTP compatible mode</p> <p>If the value is set to -1, an SAP-SMTP compatible mode is activated. (0 means: SMTP only, 1: SAP only)</p> <p>Attention: This mode disables all valid LDAP and user options. You can find the exact syntax for SAP addressing in the SAP R/3 documentation.</p>
SG_TCPTMO	120	TCP timeout in seconds.
SG_TSI_CE		<p>Submit user-specific TSI</p> <p>The variable offers the possibility to send a user-specific TSI when sending, even if no LDAP server is used.</p> <p>If LDAP is disabled (SG_LDE is set to 0) the users extension number entered in the PAPAGENO gateway database is inserted as a TSI (see also page 44).</p> <p>Via the variables SG_TSI_CSK and SG_TSI_CPR the TSI can be modified (see below).</p> <p>(If LDAP is used (SG_LDE has the value 1) the number to be inserted is the result of an LDAP request, see SG_LDUDA, page 37)</p>
SG_TSI_CSK		Specify the number of digits to be skipped at the beginning of the number, for example if the number is too long.
SG_TSI_CPR		Enter the number, that is to be pre-set to each extension number. For example, if in PAPAGENO has only entered the extension number for users, but the entire number is to be sent as CPI.
SG_TXTFAX		Enter the name of a text file to add as body text to a fax.
SG_TXTVOC		Enter the name of a text file to add as body text to a voicemail.

If required the following variables can be set for the **daemon process**

Variable	Default Value	Description
SG_DMMAXS	1024	Maximum size of messages in kilobytes.
SG_DMNU	0	<p>0: Only users registered in LDAP can use the gateway.</p> <p>1: Users that are not registered in LDAP can use the gateway as well (for testing).</p> <p>Note! If 1 is set and the gateway is accessible from the Internet, anyone can send messages about your installation.</p>
SG_DMP3A	110	POP3 IP address for the internal communication between the daemon and the gateway process.

SG_DMP3P	110	POP3 port for the internal communication between the daemon and the gateway process.
SG_DMSPA		Location of the SMTP IP-address. (e. g. for router).
SG_DMSPP	25	SMTP port for the communication from the mail system to the gateway.
SG_NRSES	10	Number of simultaneous SMTP sessions the server accepts.

7. Using LDAP

Prerequisites see page 21.

So that gateway users can send or receive faxes, voice mails, and SMS messages, you must enter their extension number in the LDAP directory server (see below).

Normally there is a field `facsimileTelephoneNumber` or `fax` in the LDAP directory server. Normally the extension number for faxes, voicemails and SMSs is the same.

If the extension number and the TSI are different, 2 fax number fields are required per user.

To configure LDAP in PAPAGENO you have to set or change several **variables** (see page 35)

Enter the Extension Numbers in the Directory Server

For the entry in the fax number field, you have already considered whether you want to enter only dial-in and extension numbers (eg 1 99) or the entire international call number (e.g. +49 89 54755475 1 99). (See manual "PAPAGENO Configuration Installation and Administration" Part C, „How to Enter Parameters for the Inbound Routing“, page 111).

Attention: In any case, make sure to enter the number in the same syntax (spaces, dashes, etc.) that you entered for the "FAX Number Prefix" entry when you installed the gateway or an ISDN device .

- ▶ For each mail user who is to receive faxes, voice mails and SMS, enter the extension number or the international number in the database.

In the LDAP configuration, you specify how this information can be accessed (see below).

The current fax numbers of the mail users must then only be maintained in the central user table of the directory server.

LDAP Configuration Variables

LDAP can be configured by means of some variables.

Two variables you have to set in any case. The remaining ones can be used to change the default setting.

The variables start with **SG** for **S**SMTP **G**ateway. These variables are used by the gateway to query various values from the LDAP directory server.

Overview

In addition to the variables for „LDAP host“, „Timeout“, „LDAP user“ and „port“ there are three groups of variables that control the data query from the LDAP server: the „UserData options“, the „Allow options“ and the „LineID options“. These three groups are described below:

UserData options (SG_LDUD...)

When sending a fax, the gateway looks for information associated with the user, such as user-specific send attributes (TSI, Pincode ...).

First, the user must be located in the directory server. You can specify the starting point (SG_LDUDB) for the search in the directory server and the depth of the directory search (SG_LDUDS), the search filter to find the column where the mail address of the user is stored (SG_LDUDF), as well as the user-specific send attributes (SG_LDUDA).

The start point of the directory search **MUST** be set, the default values of the other variables can be changed if necessary.

See also page 37.

Allow options (SG_LDAL...)

While sending a fax, e-mail or SMS the gateway checks whether the user has permission to do so.

The directory server searches for the user's mail address. The starting point (SG_LDALB) for the search in the directory server, the depth of the directory search (SG_LDALS), the search filter to find the column in which the mail address of the user is stored (SG_LDALF) can be changed via variables.

You do not need to change the default values if

- **all mail users are allowed to fax,**
- **the name of the mail address field corresponds to the default name,**
- **the mail address field is located in the same directory as the other user data.**

The starting point of the directory search is automatically set to the same value as you specified it in the UserDataOptions (SG_LDUDB).

Possibly only users with a extension number are allowed to fax or a field „permitted to fax“ exists.

You can set this via the variable SG_LDALF.

See also page 39.

Lineld options (SG_LDMB...)

In the case of incoming faxes, voice mails and SMS, the gateway must find the mail address of the user by means of the extension number of the user in order to be able to deliver the message.

Via variables the following can be set: the start point for the search in the directory server (SG_LDMBB), the depth of the search (SG_LDMBBS), the search filter to find the column in which the subordinate numbers are stored (SG_LDMBF), and the name of the field, which contains the user's mail address (SG_LDMBA).

You only need to change the default settings of the variables in specific cases, for example, if the column containing the user's sub-number or mail address has a different name.

The starting point of the directory search is automatically set to the same value as you specified it in the UserDataOptions (SG_LDUDB).

See also page 40.

Set the Configuration Variables

- ▶ Stop the gateway.
- ▶ In the PAPAGENO administration program open the window `User details` for the gateway user `smtpgw`.
- ▶ Change to the file card `Extras`.
- ▶ Set the variable `SG_LDH` to the hostname of the LDAP computer.
- ▶ Open the variable `SG_LDUDB`.
- ▶ Enter the path to the directory where the gateway should start the search for user data.

- ▶ If required set further variables (description see below).

UserData options

Name	Description	Default	Other possibilities
SG_LDUDB	Path to the directory where the mail users are stored.	empty The whole directory tree will be browsed	Enter path (Obligation!)
SG_LDUDS	Depth of the search	2 levels in the directory will be browsed.	Another digit
SG_LDUDF	Search filter for the user that sends the email.	rfc822Mailbox=%0 rfc822Mailbox: Name of the field that contains the mail address. %0 is the wildcard for the mail address of the user.	Another field name (Search filter syntax see 41)
SG_LDUDA	Attributs to take along while sending a fax	SG_LDUDA=given-Name,sn,facsimileTelephoneNumber,faxLineId,faxHeadLine,faxCoverId,faxPinCode,faxCpi,Extension-Attribute-10 Names of the corresponding fields in the Exchange database (see also page 38)	Other field names If an attribute do not exist omit the fieldname in the string. You have to enter 8 attributs even if some fields are not existent. The string do not have blanks! Example: SG_LDUDA=given-name,surname,,faxnumber,,,,userspecific_attributs Maximum 80 characters Alternatively split the string: SG_LDUDA= SG_LDUDA0= SG_LDUDA1=

Field names

Acceptation of the field names:

Attribut	Description
givenName	Given name
sn	Surname
facsimileTele- phoneNumber	Fax number with extension number
faxLineId	The TSI is the identification number when documents are sent (TSI)
faxHeadLine	Headline
faxCoverId	Cover page
faxPinCode	Pin code for billing in the TC system
faxCpi	The CPI is the number that will be delivered and displayed when sending an SMS. (See manual „PAPAGENO Configuration Installation and Administration“, part C, „How to Enter User’s Fax Send Properties“, page 100).
Extension- Attribute-10	User specific attributs Here you can summarize several fax attributs in one field: COVERID, HEAD- LINE, TSI, CPI, PINCODE, MYDOM, ADMUSER and ADMTEXT. These parameters set for a user have priority to those set above. (faxCoverId, faxHeadLine, faxLineId, faxCpi, faxPinCode). ADMUSER and ADMTEXT see page 29, MYDOM see page 27)

Sequence of given name and surname

In the variable `SG_LDUDD` the sequence of the user’s given name and surname for the cover page can be set.

`%0` = given name, `%1` = surname

Default setting:

`SG_LDUDD=%0%1`

Change setting:

`SG_LDUDD=%1%0`

AllowOptions

Name	Description	Default	Other possibilities
SG_LDALB	Path to the directory where the mail users are stored.	If SG_LDUDB is set, SG_LDALB will automatically have the same value.	If the mail address is stored in another directory you can enter the path here.
SG_LDALS	Depth of the search	2 levels in the directory will be browsed.	Another digit
SG_LDALF	Search filter for the user that sends the email.	rfc822Mailbox=%0 rfc822Mailbox: Name of the field that contains the mail address. %0 is replaced by the e-mail address of the sender.	- enter another field name. - enter the field for the extension numbers, too Example: (& (rfc822Mailbox=%0) , (facsimileTelephoneNumber=*)) ,"*" means that the facsimileTelephoneNumber field is busy. Thus it can be configured that only the owner of a extension number may send a message. (Search filter syntax see 41).
SG_LDALA	Attributs to take along while sending a fax	SG_LDUDA=given-Name,sn,facsimileTelephoneNumber, faxLineId, faxHeadLine, faxCoverId, faxPinCode, faxCpi, Extension-Attribute-10 Names of the corresponding fields in the Exchange database (see also page 38).	Other field names If an attribute do not exist omit the fieldname in the string. You have to enter 8 attributs even if some fields are not existent. The string do not have blanks! Example: SG_LDUDA=Vorname,Nachname,,Faxnummer,,,,,Benutzerspezifische Attribute Maximum 80 characters. Alternatively split the string: SG_LDALA= SG_LDALA0= SG_LDALA1=

LineIdOptions

Name	Description	Default	Other possibilities
SG_LDMBB	Path to the directory where the extension numbers are stored.	If SG_LDUIDB is set, SG_LDMBB will automatically have the same value.	If the extension number is stored in another directory you can enter the path.
SG_LDMBS	Depth of the search	2 levels in the directory will be browsed.	Another digit.
SG_LDMBF	Search filter for the user's extension number.	<pre>((faxLineId=%1%0) (facsimileTelephoneNumber=%1%0))</pre> <p>facsimileTelephoneNumber is the name of the faxnumber field (faxnumber possibly with country and area code (%1) and extension number (%0). faxLineId is the TSI of the fax recipient. That means: the incoming number will be searched in the faxLineId or in the facsimileTelephoneNumber field. (Search filter see page 41).</p>	<p>Other field names, if you use another data base.</p> <pre>(facsimileTelephoneNumber=%0)</pre> <p>finds the extension number in the data base. (e. g. 99)</p> <pre>(facsimileTelephoneNumber=%*0)</pre> <p>finds the whole number in the data base. (e. g. 54750-99).</p>
SG_LDMBA	Name of the mail address field.	rfc822Mailbox	<p>You can enter another field name for rfc822Mailbox</p> <p>Furthermore you can enter <i>Extension-Attribute 10</i> additionally to use user specific attributes. (rfc822Mailbox, <i>Extension-Attributes 10</i>). See also page 38.</p>

Other LDAP Variables

Name	Description	Default	Other possibilities
SG_LDTO	Timeout in seconds for an LDAP request. After this the search will be canceled.	10	Another digit. e. g. if 10 seconds are too short or too long.

Name	Description	Default	Other possibilities
SG_LDP	Port number of the LDAP service	389	Another port number
SG_LDBNAM	User name for the LDAP request.	Anonymous access	Enter user name
SG_LDBPWD	User password for the LDAP request.	None	Enter password.

Search Filter Syntax

Within the outer two brackets, any number of filters can be specified. As described above, a filter is also specified in parentheses in the syntax (fieldname =% 1% 0). The filters can be linked by the arguments "and" (&), "or" (|), and "not" (!). After "and" or "or" links, any number of filters can be specified. With a "not" link, you can exclude only one filter.

The argument „simple“ describes the string:

attribute type, filter type, attribute value

filter types:

= | ~= | <= | >=

~= means approximate

(~= is not supported by all LDAP versions).

The *attribute value* and *attribute type* values are described in RFC 1778. Additionally *attribute type* can be a wildcard (*).

Wildcards

PAPAGENO accepts wildcards. It is, however, to be checked whether the directory server also permits this.

Examples for using wildcards:

field name=* (means that the field is taken),

field name=*text (* is a wildcard).

Test the LDAP Configuration

Test the LDAP configuration with `sgrestest`.

Syntax:

```
sgrestest [option] [option] action
```

```
thus: sgrestest [-v] [-i number] action
```

`sgrestest` is tested for a particular situation or user. Therefore, always have an action and can be specified an additional option.

Actions to check when faxes are being sent

Actions	Description
<code>-a mail address</code>	checks whether the mail user specified by <i>mail address</i> is allowed to send faxes. (AllowOptions, page 35)
<code>-d mail address</code>	displays the user information (eg TSI, CPI, Headline) required for the fax transmission of the mail user specified with <i>mailadresse</i> . (UserDataOptions, page 35)

Actions to check when faxes are being received

Actions	Description
<code>-r number</code>	Finds the mail address using the number. (LineIdOptions, page 36).
<code>-p nummer [from]</code>	displays the user-specific attributes found for the number. (See „LineId options (SG_LDMB...)”, page 36) <i>from</i> is optional. With <i>from</i> the ADMUSER will be displayed. (See page 29 and page 38)

Options

Options	Description
<code>-v number</code>	<i>v</i> = verbose. Detailed debugging messages. In addition, all LDAP attributes are listed.
<code>-i number</code>	If multiple gateways are used, the number of the gateway can be specified here
<code>-l</code>	Displays a list of the set user-relevant variables.

Start the LDAP test program `sgrestest` with the following options:

- ▶ Test the actions.

e. g.:

```
sgrestest -v -d john_sample@anycompany.de
```

8. To use the Gateway without an LDAP Directory-Server

In this case:

- deactivate the **LDAP use** via a variable,
- enter the **gateway users** in the PAPAGENO gateway user database.

To set the Variable `SG_LDE`

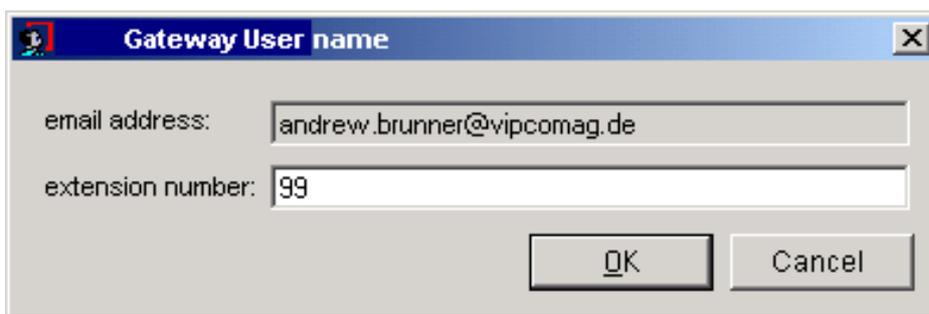
- ▶ Stop the gateway.
- ▶ In the PAPAGENO Windows Administrator, open the `User details Extras` tab of the gateway user `smtpgw`.
- ▶ Set the `SG_LDE` variable to `0` and save the setting.

To enter the Gateway Users in PAPAGENO

In order for incoming messages to be distributed correctly and for users to be authorized to send messages, you must enter each e-mail recipient who also receives or send faxes, voice mails, and SMS messages with his or her **extension number** in the PAPAGENO gateway user database.

The PAPAGENO Gateway user database is also used to count the licenses. (See above, page 23).

- ▶ Open the window `Gateway User name` via `Gateways - SMTP` in the PAPAGENO administration program.



The screenshot shows a dialog box titled "Gateway User name". It has a standard Windows-style title bar with a close button (X) in the top right corner. The dialog contains two text input fields. The first field is labeled "email address:" and contains the text "andrew.brunner@vipcomag.de". The second field is labeled "extension number:" and contains the text "99". At the bottom right of the dialog, there are two buttons: "OK" and "Cancel".

- ▶ Enter the user's **email address** and **extension number** (see next page).

Extension Number:

During the administration of PAPAGENO you have decided to either enter the extension number (e.g: 99) only, the extension number with direct dial (e.g: 1 99) or the complete international phone number (e. g..: +49 89 54755475 1 99).

You have skipped leading digits and/or entered a number prefix depending on what the TC system or the phone jack passes through (See Manual „PAPAGENO Installation and Administration“, Part C, „How to Enter Parameters for the Inbound Routing“, page 103).

Attention: In any case, make sure to enter the number **in the same syntax** as you did in the administration program in the field `number prefix` (with blancs or dashes etc.). Otherwise the numbers are not found for incoming documents!

- ▶ Enter all gateway users with their email address and their appropriate extension number.

9. To Configure Telephone Access to Messages

If there is an IMAP4 connection between PAPAGENO and the mail server, users can access their messages stored in the mail server.

For telephone access to messages see also the manual "PAPAGENO Configuration Installation and Administration", part D, chapter 6. „Configuring Telephone Access to Messages”, page 139.

Via variables you can determine,

- that IMAP is used,
- on which computer the SMTP mail server is installed
- the name of the LDAP resp. IMAP server
- search filters and search system
- the field names for user first and last names in the LDAP directory.

These Variables Have to be Set:

Variable	Value	Description
GD_IMU	gateway user	To confirm that IMAP is being used, enter the PAPAGENO gateway user (e. g. <code>smtpgw</code>). In this case the following variables are evaluated.
GD_IMH	host name	<u>Gen-Driver IMAP Host</u> . Host name of the computer, which provides the IMAP4 service (TCP/IP name).
GD_SMH	host name	Host name of the SMTP server. (TCP/IP name)
GD_LDH	host name	Host name of the computer which provides the LDAP service. (TCP/IP name)

For the Following Variables the Default Settings Can be Changed

Variable	Value	Description
GD_ACPALL	1	Default: blanc If the variable is set, all messages are accepted, even those that can not be assigned to any user. (See also Page 60) .
GD_IMS	path	Default: empty A folder for sent documents can be assigned here on the IMAP computer.
GD_IMD (at present not used)	path	Default: empty A folder for deleted documents can be assigned here on the IMAP computer.
GD_LDAED		Default: empty Here the LDAP field name can be specified for the user-specific CSI receiver ID.
GD_LDLNG		Default: empty This is the name of the LDAP field in which the language dialog for the individual user is entered (de or us).
GD_LDU (optional)	user name	Default: empty Depending on LDAP server access rights, a user can be entered here. If the variable remains empty, an anonymous access is performed.
GD_LDP (optional)	password	Default: empty Password for the LDAP user.
GD_LDFIL	<i>search filter</i> =%s	Default: <code>facsimileTelephoneNumber=%S</code> . <i>search filter</i>
GD_LDBAS	path	Default: empty Starting point for the directory search. Enter the path to the directory where the mail users are stored. Default is blank: The entire directory tree is searched.
GD_LDAGN	column name	Default: <code>gn</code> This is the column name for „given name“ (first name) from the LDAP directory database. If you are using a different database, you must set the column name from this database as the value for the variable. The greeting message is composed of the two fields <code>gn</code> and <code>sn</code> (first and last name of the user, see the following variable), unless the user has recorded an individual announcement text.
GD_LDASN	column name	Default: <code>sn</code> . This is the column name for „surname“ (last name) from the Exchange database. If you use another database the column name from this database must be set as value for these variable.

Variable	Value	Description
GD_LDAIU		Default: uid IMAP account
GD_VRREC	ms	Default: 60000 ms. Timeout in seconds for a LDAP request. The search is then canceled
GD_VRSIL	ms	Default: 1500 /Timeout in seconds for speech pauses.

Set the Variables

The variables either can be set via the administration program or on the operating system level in a shell. You are logged on to the gateway computer as administrator (Windows) or as user `comfax` (Unix).

- ▶ Stop the gateway
- ▶ In the PAPAGENO administration program open the window `User details` for the gateway user `smtpgw` and select the `Extras` tab.
- ▶ Set the variables `GD_IMH`, `GD_IMU`, `GD_SMH` and `GD_LDH` by typing in `Name` and `Value` and confirm with `Set`.

or

- ▶ Set the environment variable `SETUSER` to the gateway user by entering


```
set SETUSER = smtpgw
export SETUSER
```
- ▶ In a shell enter


```
a_put_usrconf GD_IMH value
a_put_usrconf GD_IMU value
a_put_usrconf GD_SMH value
a_put_usrconf GD_LDH value
```
- ▶ If necessary, set other variables.

To set the Language for the Speech Dialog

Dialog Scripts

The dialog, which is started when a user wants to listen to his messages on the telephone, is controlled via a dialog script, which is set in the OMEGA variable `GD_SCRIPT` (see manual "PAPAGENO Configuration Installation and Administration", part B1, „Scripts for Call Acceptance“, page 53).

The speech dialog which is started when a user wants to listen to his messages on the telephone, is controlled via a dialog script, which is set in the **OMEGA variable** `GD_SCRIPT`.

If `GD_SCRIPT` is not set, the german dialog script `dlg.vdl` is used by default.
The english dialog script `dlg-us.vdl` is provided with PAPAGENO as well.

Dialog Script `lng.vdl`

The script `lng.vdl` controls the selection of different-language dialogs depending on the extension number.

The assignment „user-language“ can be stored in the LDAP server (e. g. via an LDAP attribute `language`) or via gateway variables.

Example:

The variable `l26` is set to the value `dlg-it.vdl`. (`26` is the direct dial, `l` stands for "language").
If the user starts a phone query with the extension number `26`, the Italian language dialog will be started.

First of all the script `lng.vdl` checks whether a corresponding attribute for the user is stored in the LDAP server. If this is not the case, the gateway variables are searched. If the result is also negative the script `dlg.vdl` is started.

In order to activate a dialog script different from `dlg.vdl`:

- ▶ Set the OMEGA variable `GD_SCRIPT` to the value of the appropriate script.

Establishing Telephone Pin Code

To access messages via telephone users need to enter a numeric pincode for authorisation. Via an Intranet mask users can create and change that pincode by themselves.

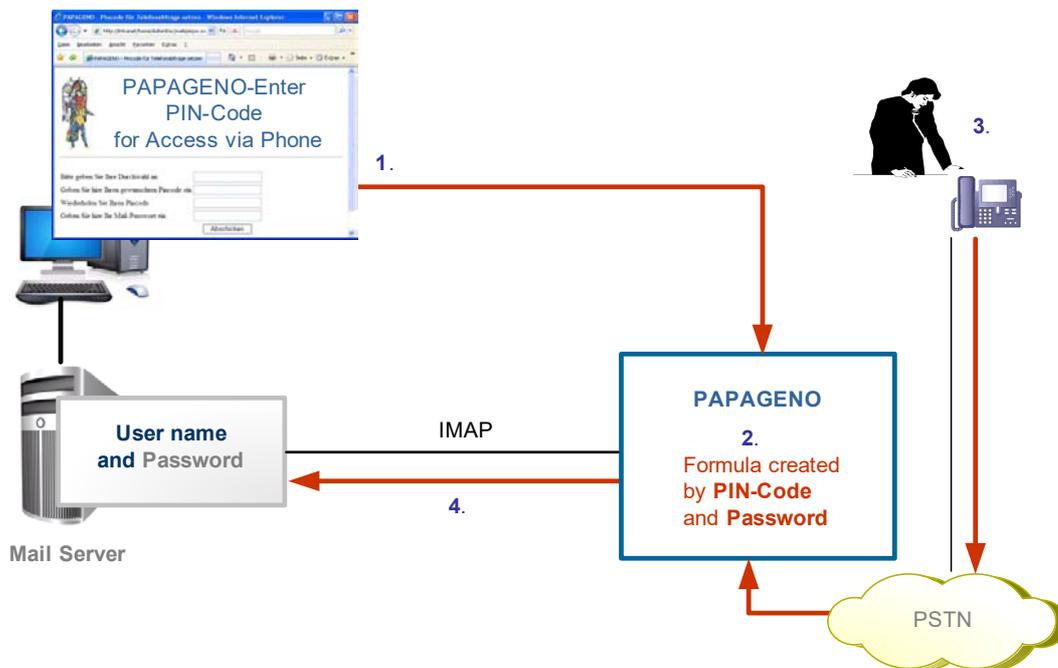
If all messages **are stored in PAPAGENO**, the pincode must correspond to the PAPAGENO-client password.

Ensure that the PAPAGENO password is numeric.

If all messages are **stored in the mail server**, the pincode must correspond to the mail-server resp. user computer password

If the Mail-Server password contents also characters, a small program in PAPAGENO encodes pincode and password and dissolves it when the user starts a telephone access.

PAPAGENO Mask to create the Pincode:



1. Users enter their PIN code, their password and their dial-up via a web form in PAPAGENO.
2. PAPAGENO creates a formula from pincode and password.
3. User dials his own extension number and authenticates himself via his pincode.
4. PAPAGENO solves the formula and determines the password.
This allows users to be identified and access their messages.

As an administrator, you must perform some work steps to allow users to access the input mask. (see below).

How to Establish Telephone Access - under Windows

Creating a Folder

- ▶ On your intranet server create a folder, e. g. named `pinpw`.

- ▶ Ensure that the folder is visible in the IIS-Server.

Copying Files

- ▶ Copy the PAPAGENO file `clients/webpinpw-W32.zip` in the new folder and unzip this file.

The folder contains the following files now:

`setpinpw.cfg` is the configuration file

`webpinpw.exe` creates the mask and

`setpinpw.exe` performs the encryption

`PAPAGENO.gif` and several `.dll` files belong to `webpinpw.exe`.

Opening IIS Manager

- ▶ Open the Internet Information Services (IIS) manager.

This is where you

- create a new virtual directory
- make sure that `webpinpw.exe` is allowed to run.
- enter `setpinpw.cfg` as start file.

Creating a Virtual Directory

- ▶ Click the right mouse button on `Default-Web Site`, select `Add virtual directory`.
The `Add virtual directory` Window opens.



- ▶ In the `Alias` text field, type the name of the newly created folder, such as `pinpw`.
- ▶ In the `Physical path` text field type the physical path to this folder (e. g. `C:\pinpw`)
or click the  button to locate the folder in the file system.
- ▶ Confirm with `OK`.

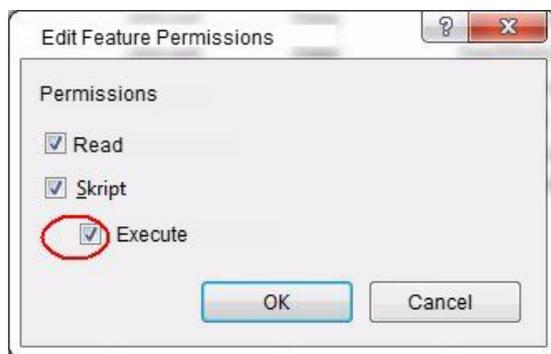
Allow Execution of `webpinpw.exe`

- ▶ In the IIS manager select the name of the computer on which the virtual directory is located.

- ▶ Open ISAPI/CGI Restrictions
- ▶ Under Actions select Add.
- ▶ In the ISAPI- or CGI Path field enter the path to `webpinpw.exe`.
- ▶ In the Description field enter a short description, for example. `pinpw`
- ▶ Activate Allow execution of the upgrade path and confirm with `Ok`.

Assign Rights

- ▶ In the IIS manager select the virtual directory (e. g. `pinpw`).
- ▶ Open Handler Mappings.
- ▶ Under Actions select Edit Feature Permissions.



- ▶ Activate `Execute`.
- ▶ Confirm with `OK`.

Edit `setpinpw.cfg`

- ▶ In an editor open the file `setpinpw.cfg`.
- ▶ Set the variable `OMEGAHOST` to the name of the PAPAGENO main installation computer.
- ▶ Save and close `setpinpw.cfg`.

Sett the Configuration Variable

The minimum length of the pincode can be set via the Omega configuration variable `PINLENMIN`.

To set a minimum length:

- ▶ On the PAPAGENO main installation computer in a command prompt enter `o_put_config PINLENMIN digit`

Example: `o_put_config PINLENMIN 4`

If a user enters less then 4 digits in the PAPAGENO mask, he receives an error message.

How to Establish Telephone Access - under Linux

Prerequisites:

- The Apache HTTP server is installed and configured

- The CGI scripts are activated

If the CGI scripts are not activated:

- ▶ In the `mime.conf`-file activate the line
`AddHandler cgi-script.cgi`

Extract files

- ▶ In the `usr/lib/cgi-bin`-directory extract the file `webpinpw_OS.tgz`

Copy Picture

- ▶ Copy the `PAPAGENO.gif` picture in the `DocumentRoot`.

Assign Rights

- ▶ Ensure that the files `webpinpw` and `setpinpw.exe` have executable rights.

Editing setpinpw

- ▶ Open the template `setpinpw.cfg.tpl`
- ▶ Activate the following lines by deleting the special character `#`
`path`
`imgpath`
`OMEGAHOST`
- ▶ Set the `OMEGAHOST` variable to the name of the PAPAGENO main installation computer
e. g. `OMEGAHOST:faxserver`
- ▶ Save the file as `setpinpw.cfg`

Set the Configuration Variable

You can define the minimum length of the pincode via the OMEGA Configuration variable `PINLENMIN`.

To set a minimum length:

- ▶ On the PAPAGENO main installation computer in a command prompt enter
`o_put_config PINLENMIN digit`

Example: `o_put_config PINLENMIN 4`

If a user enters less than 4 digits in the PAPAGENO mask, he receives an error message.

Inform the Pincode Users

Pincode users need:

- the path to the Intranet mask,
- the minimum length of the pincode

- and the information about what type of password (mail password or Windows password) they should use
- ▶ Ensure that the pincode users get these informations.

10. Configure the Conversion of Windows Documents

To convert documents from Windows applications to fax format, you have two options:
The documents are converted to the fax format **on the gateway machine** or **on the user computers** (see above, chapter 4. „Converting Windows Documents into Fax Format“, page 12).

Converting on the Windows Gateway Machine

If the Gateway is installed on a Windows system, you can use the PAPAGENO-MAPI-Connector.
However, there may be problems with external PDF readers when converting PDF documents. We therefore recommend that you convert PDF documents using the variable `SG_ATTn` and the program `gs_pdftif`.

For the conversion of html documents to tif use the PAPAGENO tool `html2tif` and the variable `SG_ATTn`.

If you want to convert documents from other Windows application programs to fax format:

- ▶ Install the PAPAGENO MAPI Connector on the gateway machine.
- ▶ Install all application programs from which users send documents on the gateway machine.

Note: The versions of the application programs must correspond to the versions on the user computers, otherwise there may be problems with the conversion.

- ▶ To convert pdf und html documents set the variable `SG_ATTn`. (See below page 55).

Note: The variable `SG_ATTn` takes precedence over the PAPAGENO-MAPI-Connector

Send Fax - Process Flow:

A user who has created a document in his application program and wants to send it as a fax selects `Send to...` or `Share - email`. An Outlook send window opens, the document is attached (e. g. docx, or .xlsx).He specifies a fax address and clicks `Send`.

The document is transferred to the mail gateway via the mail server. There it is converted to fax format and sent.

Converting on the Linux/Unix- Gateway Computer

To convert pdf and html documents use the PAPAGENO-Tools `gs_pdftif` und `html2tif` together with the variable `SG_ATTn`.

Using PAPAGENO Tools together with the Variable SG_ATTn

Variable SG_ATTn

Via SG_ATTn documents can be converted, for example pdf to tif or html to tif.

SG_ATTn needs GhostScript for some tools.

Syntax:

```
SG_ATTnumber nettype: format1 format2 tool %s %s
```

number: At multiple use of the variable the number is increased here (SG_ATT0, SG_ATT1, ...)

nettype: PAGER, TELEX VOICE or FAX.

FAX is preset, PAGER = short messages

format1: output format, e. g. pdf, txt or html

format2: target format, e. g. tif or txt

tool: program, that converts *format1* into *format2*,

e. g. PAPAGENO tool gs_pdftif

gs_pdftif

converts pdf documents to tif

Example:

```
SG_ATT0 FAX:pdf,tif gs_pdftif %s %s
```

If GhostScript is not installed:

- ▶ Download the freeware "GhostScript" (at least version 7) from the Internet and install it on the gateway machine.
- ▶ Copy gs_pdftif from the PAPAGENO folder tools to the directory FAXSERVER\bin resp. \$FAXROOT/bin.
- ▶ If necessary modify the path to GhostScript (gs).

html2tif

converts html documents to tif

Example:

```
SG_ATT1 PAGER:html,tif html2tif %s %s
```

The Script html2tif converts a html file in two steps:

- from html to pdf via the freeware wkhtmltopdf
- from pdf to tif via the Freeware Ghostscript
- ▶ Download the freeware wkhtmltopdf from the Internet and install it on the gateway machine.

If GhostScript is not installed:

- ▶ Download the freeware "GhostScript" (at least version 7) from the Internet and install it on the gateway machine.
- ▶ Copy `html2tif` from the PAPAGENO folder `tools` to the directory `FAXSERVER\bin` resp. `$FAXROOT/bin`.
- ▶ If necessary modify the path to GhostScript (`gs`) and `wkhtmltopdf`.

wrap

The program `wrap` converts text, eg from Outlook, to tif-format and supports UTF-8. The line width can be adjusted in the program.

Wrap does not need GhostScript.

Example:

```
SG_ATT2 FAX:txt,tif wrap %s %s
```

- ▶ Copy `wrap` from the PAPAGENO folder `tools` to the directory `FAXSERVER\bin` resp. `$FAXROOT/bin`.
- ▶ Set `SG_ATTn`.

Variables for conversion under Windows

Variable	Value	Description
<code>SG_CVTWIN</code>	1	0 disables the conversion of Windows documents.
<code>SG_CVTPDF</code>	1	0 disables the conversion of PDF documents.
<code>SG_CVTTXT</code>	1	0 disables the conversion of TXT documents..

Variables for conversion under Windows and Linux/Unix

Variable	Value	Description
<code>SG_KEEPTMP</code>	0	0 The temporary files that are created during the conversion are deleted. 1 the tmp files are not deleted.

Converting on the User's Computers

When converting documents to the fax format on the user computers you must do this:

- ▶ Install the **Fax MAPI Printer** on each user computer.

Send Fax - Process Flow:

A user who has created a document in his application program and wants to send it as a fax, selects `Print .. - FAX MAPI Printer` (or `Send to... -Fax recipient - ... Fax MAPI Printer`).

The `FAX MAPI Printer` converts the document to fax format.

The `*.tif` document is passed to the users mail client. The user specifies a fax address and clicks `Send`.

The document is sent via the gateway.

11. Start the Gateway

- ▶ Stop the fax server.
(on Windows via the `System control`)

- ▶ Restart the fax server.

With the start of the PAPAGENO fax server the gateway is started automatically.

NOTE: When configured with LDAP, the gateway starts only when all the servers and processes it needs are accessible: LDAP server (SG_LDH), mail server (SG_MAHOST), and daemon process (SG_DMH)

This facilitates the detection of configuration errors.

12. To Handle Undeliverable Messages

„Undeliverable messages“ are incoming messages with an extension number that cannot be assigned to a user. They can:

- either be accepted and assigned to a default user
- or be rejected

To Reject Undeliverable Messages

Using Speech Dialog

The „speech dialog“ will be started, if a user wants to monitor his messages via telephone.

Undeliverable messages are rejected automatically if a PAPAGENO gateway with LDAP is installed and the option `Enable Voice` is activated in the administration data of the driver `gdcapi.drv`.

If the voicebox is activated, a script is started which regulates the speech dialog (see also above page 48). The same Script is responsible for initiating a query to the LDAP server for each incoming message whether the extension number can be assigned to a user. If the result is negative, the message is not accepted.

Do not Use the Speech Dialog (1)

If you do not want your employees to use either an answering machine function or telephone access to messages, but still want to reject undeliverable messages:

- ▶ Enter the script `dlg_no.vd1` in the variable `GD_SCRIPT`. (see also page 48).

This way the speech dialog is disabled.

So that the script can still make queries to the LDAP server:

- ▶ In the administration program in the device data select the option `Enable voice` on the `Voice` tab. (See manual „PAPAGENO Configuration Installation and Administration“, Part C, „How to Use Voicemail“, page 112).

Do not Use the Speech Dialog (2)

Alternatively, you can control the rejection of non-deliverable faxes via the PAPAGENO user database.

In this case:

- ▶ Delete rule `r1`, which forwards all incoming faxes to the gateway user. (See manual "PAPAGENO Configuration Installation and Administration", part C, chapter 13. „Entering Additional Distribution Rules", page 120).
- ▶ Instead, enter the gateway user as the user for each individual extension number.

To Accept Undeliverable Messages

Configuration with the PAPAGENO Gateway

If the option `Enable Voice` is activated, undeliverable messages are rejected by default.

Do not Use the Speech Dialog

If undeliverable messages shall be accepted without speech dialog being used:

- ▶ Make sure that the option `Enable voice` (file card `Voice`) is deactivated. (See manual "PAPAGENO Configuration Installation and Administration", part C, „How to Use Voicemail", page 112).

To Use the Speech Dialog

If undeliverable messages shall be accepted with speech dialog being used:

- ▶ Activate the option `Enable voice` (file card `Voice`). (See manual "PAPAGENO Configuration Installation and Administration", part C, „How to Use Voicemail", page 112).
- ▶ Set the variable `GD_ACPTALL` (see above „To Configure Telephone Access to Messages", page 45).

13. To Set Output and Live Reports

With the **live report**, a user has the possibility to display the current status of a message at any time.

In the Gateway variable for the **outbound report**, you can specify that a user receives an e-mail notification for each (or only faulty) message.

Both reports are set via gateway variables. The current setting applies to all PAPGENO users.

Set the Output Report

You set the output report via the variable `SG_GWFDR` by setting it to the value `2`. This means that users receive e-mail reports for **all** sent messages (error **and** success reports).

- ▶ Open the PAPAGENO Windows Administrator.
- ▶ For the user `smtpgw`, open the `User Data - Extras` tab.
- ▶ Set the variable `SG_GWFDR` to the value `2`.

If you want to set users to receive emails **only in the event of an error**:

- ▶ Set the variable `SG_GWFDR` to the value `1`.

If you want to prevent users from receiving messages:

- ▶ Set the variable `SG_GWFDR` to the value `0`.

Set the Live Report

Using two variables and a PAPAGENO program, you can set the user to ask the current status of a send message at any time.

As soon as an outgoing message reaches PAPAGENO via the gateway, an e-mail with a URL is sent to the user. Whenever the user clicks on this link, he receives the current status of the message on an HTML page. (Because the current status in PAPAGENO is requested via the URL and then an HTML page is created which the user sees). The user can thus always know whether, for example, his fax has already been transmitted or whether a fault has occurred.

- ▶ Copy the file `$FAXROOT/gateway/smtp/umgwrep` or `umgwrep.exe` to the default directory of your web server (Intranet or Internet).
- ▶ Open the PAPAGENO Windows Administrator and open the `User Data - Extras` tab page for the user `smtpgw`.
- ▶ Set the variable `SG_GWFLR` to the value `1` (this means: Live report activated).
- ▶ Enter the path to the file `umgwrep.exe` as the value for the variable `SG_GWHTR` (for example: `http://intranet/cgi/scripts/umgwrep.exe`).
- ▶ Save the changes.

Disable Live Report

If you want to disable the live report, for example, because you're sending bulk faxes:

- ▶ Set the variable `SG_GWFLR` to the value `0`

14. To Find Error Informations

You can use variables to control the output of error and history messages from the gateway processes into a file.

To enable the generation of error messages, set variables:

- **either** about the **administrator program** for the gateway user (`smtpgw`). (see above page 28).
 - **or** on the operating system level of the gateway computer via the command `a_put_usrconf`
- Variables are evaluated when the gateway processes are restarted.

Daemon Process

To enable the production of error messages for the daemon process into the file `$FAXROOT/gateway/smtp/dm/nohup.out`:

- ▶ Set the variable `SG_DMDL` to one of the values `0`, `1`, `2` `3` or `4`:
The higher the digit the higher the differentiation of the corresponding reports.

The variable `SG_DMLIO` provides the complete status reports about the conversation of the daemon process with SMTP and POP 3:

- ▶ Set the variable `SG_DMLIO` to the value: `1`

Gateway Process

To enable the generation of error messages for the gateway process into the file `$FAXROOT/gateway/smtp/dm/nohup.out` `rsp`:

- ▶ Set the variable `SG_GWDL` to one of the values `0`, `1`, `2` `3` or `4`:
The higher the digit the higher the differentiation of the corresponding reports.

LDAP

To enable the generation of status reports and error messages for the gateway and the LDAP client:

- ▶ Set the variable `SG_LDDL` to the value `1`.

Starting the Gateway Processes

To analyze the variables:

- ▶ Stop and restart the gateway processes `gateway` and `daemon`.

15. Behavior of the Gateway in the Event of an Error

The gateway acts differently depending on

- whether a sent fax can not be processed
- or whether it is not processed immediately because a temporary error exists.

AbsoluteError

Outgoing messages that can not be processed at all are moved to the the `OutgoingFailed` directory. The default user (see `SG_MADEFU`, page 46) receives a message.

Temporary Error

Incoming messages, send errors or send reports running on a temporary SMTP error are returned in processing.

After one hour a new delivery attempt occurs, after one day the default user gets a warning every hour, after 4 days the mail is sent to the default user.

The time settings (1 hour, 1 day, 4 days) can be changed via the variables `SG_GWRTRY`, `SG_GWWARN` und `SG_GWGIVUP` (see page 31).

When the default user is notified, a temporary SMTP error is indicated by the number range 4xx (e.g., 422 mailbox full), a permanent SMTP error by the number range 5xx.

16. Troubleshooting

The Gateway Does Not Start

Then one of the processes or servers that it needs is not reachable.

- ▶ Refer to the logbook to see which server/process is not available for the gateway: LDAP server (SG_LDH), mail server (SG_MAHOST), or daemon process (SG_DMH)
- ▶ Restart the server/process.

NOTE: If the Daemon process does not start, this can be due to the fact that no root authorization is assigned (see below).

The Daemon Process of the Gateway Does Not Start

Most Unix machines require a root permission to start the gateway on port 25.

- ▶ Open the file
`$FAXROOT/gateway/smtp/dm/nohup.out`

If the file permission is: `permission denied`,

- ▶ open the file `$FAXROOT/gateway/smtp/daemon` and change the registered owner to `root`
- ▶ Set the s-bit.

If there is `nohup.out: address in use` in the file, it is possible that another process just is using the port address.

- ▶ Try to resolve this conflict by terminating the other port or by assigning it a different port address.

The `netstart` command displays a list of the ports used.

- ▶ Restart the gateway machine.

Note that the ports of some operating systems are only released with a delay.

- ▶ Wait for the port to be free.



C. Sending Messages

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1. To Send a Fax

You send a fax from Outlook as an e-mail ("Mail to Fax").

In the Address field, enter the fax number in a specific syntax.

When sending a fax, you can specify send options and the speed at which the fax is sent.

To Enter a Fax Address

- ▶ In the send window enter the fax address in the format *faxnumber/fax@gatewaycomputername.domain*
Example: 123456/fax@UMS.bestcompany.de

You only need to specify the domain if you are sending the fax from a Microsoft environment. Otherwise the transmission format is: *fax number/fax@UMS*

Specify Send Options

You can specify options, which are then evaluated when sending, such as the date and time at which the fax is to be sent.

In order to indicate send options during fax dispatch, use the following format:

faxnumber options/fax@gatewaycomputername

Options are: *addresstype/night/date=date/time=time/resolution*

Option	Description
<i>retries= number</i>	<i>number</i> : Maximum number of redials
<i>night</i>	Sending at the lowest price night tariff
<i>date=date</i>	<i>date</i> is the date in the format: <i>month.day year</i> Example: <i>date=3/9, 2017</i> Example: <i>date=3/9/17</i>

<i>time=time specification</i>	<i>time specification</i> is the sending time specification in the format: <i>hour.minute</i> Example: <i>time=17.30</i>
<i>resolution</i>	<i>resolution</i> means the resolution in which the fax shall be sent: <i>normal</i> or <i>fine</i>

<code>costunit=<i>costunit</i></code> or: <code>costunit_<i>costunit</i></code>	A cost unit being charged with the costs for sending messages unit (e.g: "sales" or "development") can be declared.
---	---

Example:

123456/fax/night/date=3/9, 2017 /time=20.02/normal/costunit=sales@UMS

That means:

Send the fax to the number 123456 at the lowest rate from 24.02.2017, 20.02 clock in normal resolution. The cost center is `sales`.

2. To Send an SMS or a Voice-Mail

To Enter an SMS Address:

- ▶ Enter the SMS number in the format:
smsnumber/sms@gatewaycomputername.domain.
Example: 123456/sms@UMS.bestcompany.de

To Enter a Voice Mail Address:

- ▶ Enter the voice mail number in the format:
voicenumber/voice@gatewaycomputername.domain.
Example: 123456/voice@UMS.bestcompany.de

NOTE: You can also specify send options for voice mail and SMS (see above).



D. Configure Mailserver

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1. To Configure an Exchange Server

For Exchange servers starting in 2007, a send and receive connector and a remote domain must be created via an executable file.

- ▶ Run the command `EX2007Config` and the file `smtpgw.ps1`

EX2007Config command

The `Ex2007Config` command creates a file that must then be run on the Exchange server.

- ▶ Log in as administrator or as user `comfax` on the gateway computer or on the computer on which the OMEGA server is running.
- ▶ Go to the directory `tools/papageno/Exchange` and unzip the command that fits your operating system.

The following command has the command `Ex2007Config`:

```
[-o OMEGAHOST] [-s SMTPGW instance] [-f filename] [-d domain]
```

- *OMEGAHOST* is the name of the computer on which the OMEGA server is running.

- *SMTPGW instance* must be set if several SMTP gateways are used in parallel.

(Value: for example, SMTP0, SMTP1 ...)

- The default filename is `smtpgw.ps1`. It can be changed using this parameter.

- ▶ - *domain* is the DNS domain. Example: `fax.vipcomag.de`
- ▶ Execute the command `Ex2007Config`.
If you receive an error message, the OMEGA host or domain may not be found.
- ▶ Execute the command again with the `-o OMEGAHOST` or `-d domain parameter`.

File `smtpgw.ps1`

The file `smtpgw.ps1` is created. (It can also be called differently if you renamed it using the `-f` option.)

- ▶ Copy the file `smtpgw.ps1` to the Exchange computer, for example, to the directory `C:\WINDOWS\Temp`
- ▶ Open the Exchange Management Shell from `Start Programs`.

Even if you are in the directory `C:\WINDOWS\temp\`:

- ▶ Call the `smtpgw.ps1` file with the absolute path.

For example: `C:\WINDOWS\temp\smtpgw.ps1`

A protocol appears to indicate what is being created:

1. A send connector named `PAPAGENO Gateway`
2. A receive connector named `PAPAGENO Relay`
3. A remote domain named `PAPAGENO domain` containing the domain `SG_MYDOM`

The new connectors and domain are then visible in the Exchange Management console.

In case of errors or faulty configuration:

- ▶ Change the `SG_Variables`.
- ▶ Re-create `smtpgw.ps1` and run the file.

Run the Configurations in the Active Directory

For gateway users to send or receive messages, you must **enter the direct dialing numbers** in the "Active Directory for Users and Computers" (see below).

Here, you also enter a user who receives incoming faxes that can not be mapped ("**Default receiver**"), (see below).

You can also assign **user-specific send parameters** to fax users, which are then taken into account when sending a fax, (see below).

To Enter the Direct Dialing numbers

In order for incoming faxes, voice mails and SMS to be assigned to the respective users, you must assign an address as an additional mail address to each mail user who is to receive faxes, voice mails or SMS messages. The format is:

FAX: *direct dialing number*

or: VOICE: *direct dialing number*

or: SMS: *direct dialing number*

NOTE: In the normal case, the direct dialing number for faxes and voice mails and the direct dialing number for SMS is the same. In the Active Directory for users and computers, nevertheless three entries must be made for each user.

Direct dialing number:

- If your PBX only **passes through the direct dialing number**, enter this (e.g. 99).
- If you have entered a "**Number Prefix**" during the gateway installation or in the administration program for the receiving device, you must specify this prefix together with the direct dialing number (e.g. 89-547509-99).
- If your PBX **passes through the entire number**, and you have set that leading digits are skipped, enter the remaining number (e.g. 547509-99).

(See "PAPAGENO Configuration Installation and Administration", Part C, chapter 7. „Registering ISDN Cards” „How to Enter Parameters for the Inbound Routing”, page 111.

NOTE: In any case, make sure to enter the master number in the same syntax (spaces, dashes, etc.) that you entered for the "FAX Number Prefix" entry when you installed the gateway or for an ISDN device in the PAPAGENO administration program.

If, for example, you specify other separators here, the numbers are not found.

Enter the Fax Numbers

The Active Directory Users and Computers is available on any computer that has an Exchange System Manager installed.

- ▶ Open the Active Directory.
- ▶ Assign a custom fax address to each user (via `Properties - Custom Address`)
- ▶ Use the `New` button to open the `New e-mail address` window.
- ▶ In the `Additional Address Properties` window, enter the fax number (see above) in the `e-mail address` field, and in the `e-mail type` field: `FAX`.

After you have confirmed, the new fax address is used as an e-mail address in the card type `Addresses`

Enter the Voice Addresses

- ▶ In the `Additional Address Properties` window, enter the voice number (see above) in the `E-mail address` field, and in the `e-mail type` field: `VOICE`.

Enter the SMS Addresses

- ▶ In the `Additional Address Properties` window, enter the mobile number (see above) in the `E-mail address` field, and in the `e-mail type` field: `SMS`.

If users want to access their messages by phone:

- ▶ In the user's properties, select the card `Numbers`.
- ▶ In the `Fax` field, enter the direct dialing number number (see above, page 76).

The user name must match the alias name.

- ▶ Make sure that the user logon name is the same on the `Account` card and the alias name ("mail nickname") on the `Exchange Advanced` card.

PAPAGENO Gateway User Database

Any user who sends a fax via the gateway is automatically entered in the PAPAGENO gateway user database. The data (mail address and direct dialing number) are retrieved by the gateway from the "Active Directory Users and Computers".

This database is mainly used for license management (see above part B, „License Administration“, page 23).

Set a Default Recipient in Exchange

During the installation of the gateway, a distribution rule has been set up, which will forward any incoming fax (or voice mail), that can not be assigned, to a particular user (`FAX:DEFAULT,VOICE:DEFAULT`). The mail address of this default user must be entered in the "Active Directory Users and Computers".

After activation of the gateway the default user has to be set via a variable.

- ▶ Open the "Active Directory Users and Computers".
- ▶ Create a new user in Active Directory
or
open the "Properties" of the default user.
- ▶ In the `Additional Address Properties` window, type `e-mail type: FAX` and `e-mail address: DEFAULT` or any other e-mail address.

To Enter User-specific Send Properties

User-specific send properties may be entered for PAPAGENO users. The gateway can interpret these parameters if they are also stored in the Exchange user database.

The following user-specific send properties exist:

Send Property	Description
<code>COVERID=number</code>	The number of the desk document used as the cover sheet.
<code>CPI=cpi</code>	The sender identification CPI (calling party identification). This number is entered when sending an SMS. The recipient receives the number on his mobile phone display and can write a reply (if the number is also entered as a landline SMS number).
<code>HEADLINE=headline</code>	The headline that the user sends along on all fax pages
<code>PINCODE=pincode</code>	The Pincode of the user.
<code>TSI=tsi</code>	The primary and direct dialing number of the user specified as TSI when sending documents.

Send Property	Description
MYDOM= <i>rechner-name.organization.TopLevelDomain</i> e. g.: UMS1.vipcomag.de	Sender address of the gateway computer, which is recorded on incoming faxes of the user - specifically for the user, if he is to send via a specific gateway. See also above, part B, „SG_MYDOM”, page 27.
ADMUSER=umgw	umgw = <u>unified messaging gateway</u> . Here, another delivery name can be entered for delivery, non delivery reports, and incoming documents - specific to the user, for example, when using another language or fax server. See also above, Part B, „SG_ADMUSER”, page 29
ADMTEXT=*1	*1 "Unified messaging gateway @" is the delivery text for the ADMUSER. This default value is supplemented by the gateway computer name. Example: "unified messaging gateway @faxgw" A different text can be entered as a value in " ". Then no computer name is added.

For send properties, see the "PAPAGENO Configuration Installation and Administration" manual, Part C, under „How to Enter User's Fax Send Properties”, page 100.

You must enter the COVERID, HEADLINE, and PINCODE and CPI for the user (recipient) in Exchange. The main and direct dialing number of the receiver is passed as TSI.

Enter Send Properties

- ▶ Open the "Active Directory Users and Computers".
- ▶ For a user, open his user-specific send properties (probably via `Properties - Advanced Features - Custom Attributes`)
- ▶ Select the line `extensionAttributes10` and click the `Change` button.

Note that text containing spaces must be set to comma, e.g.: HEADLINE = 'This is the headline'.

- ▶ Enter the parameters in the following syntax and, separated by a space:
`COVERID=number HEADLINE=headline PINCODE=pincode CPI=cpi`



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1. List of the User Specific Attributes

Below all attributes are listed, that can be specified in a comment field of the LDAP server.

Most of the attributes correspond to the SG_ variables
(e. g. variable SG_ADMTEXT = attribute ADMTEXT).

Example:

SG_GWEXPF sets the export format. If in the Extension Attribut of user X GWEXPF is set to 3, user X always gets PDF files - variable value-independent.

SG_GWEXPF sets the export format. If the extension attribute of a user is GWEXPF = 3, he always receives all faxes as PDFs, regardless of the value of the variable.

Attributes for the Dispatch

Attribute	Value	Description
COVERID	0 or 1	Cover 1: on 0: off
CPI	number	Send user specific CPI
CVTWIN	0 or 1	Conversion of Windows documents 0 off 1 on
CVTPDF	0 oder 1	Conversion of PDF documents 0 off 1 on.
CVTTXT	0 oder 1	Conversion of TXT documents 0 off 1 on
DEFNET	fax, sms, voice, telex oder video	Set the default type This type (fax, sms, voice, telex or video) is used if no type is specified for an output document.
DMMAXS	digits	Max bytes of messages , e. g. 1024

Attribute	Value	Description
DRASMSG		Transmission confirmation in Outlook (to this see page 83)
GWFDNR	2	Error and result messages in Outlook 2: Error and result messages (default value) 0: no messages 1: only error messages (to this see page 83)
GWFLR	0	Current message status anytime 1: access (enter path in GWHTR) 0: no access
GWHTR		Path to the HTML pages of the live report <i>Intranet/umgwrep</i> bzw.: <i>umgwrep.exe</i> (<i>\$FAXROOT/gateway/sntp/umgwrep</i> exists in the intranet).
GWIATT		Exclude file formats (to this see page 30)
GWMAXP	100	Max number of pages an outgoing message may have.
HEADLINE	headline	Headline
KEEPTMP	0	Delete temporary files 1: No deleting of temporary files.
MYDOMMYDOM		Example: <i>mycomputer.vipcomag.de</i>
OUTPREF	prefix number	Add prefix to the dialed number.
PINCODE	number	Pincode for the assignement of the charges
PIPE	command	Command to filter outgoing mails.
RRTO	1	Special application
SNDAL	1	Special application
TSI		Fax number (TSI) to send with outgoing faxes.

TXTFAX		Body text to send with outgoing faxes Enter name of the text file that contents the body text.
TXTVID		Body text to send with outgoing videos (not realized)
TXTVOC		Body text to send with outgoing voice mails Enter name of the text file that contents the body text.
WAVGSM		Compression of speech messages.

Attributes for the Fax Receipt

Attribute	Value	Description
ADMTEXT	unified messaging gateway@	ADMUSERS text. The default text will be completed by the gateway computer name. Example: „unified messaging gateway@faxgw“ (see variable „SG_ADMTEXT“, page 29)
ADMUSER	umgw	Admin user umgw = unified messaging gateway. You can enter another transport name for incoming documents, delivery- and non delivery reports. (see page 29)
GWEXPF	0	Enter format of incoming faxes 0: Multi page tiff, 1: Single page tiff, 2: Single page gif (see page 30)
INLOG	1	Disable logbook (incoming faxes) 0 disables the logbook (umslog.txt)

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