

Connection of a Panasonic Scanner KV-N1058X to the OfficeMaster Suite

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Best Practice | Ferrari electronic AG

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1. General

As part of the cooperation between Panasonic and Ferrari electronic AG an integration of the fax function into the firmware of the Panasonic scanners was implemented.



Image: Fax-Application on the Scanner

Concept of the connection

When designing the integration, great attention was paid to simple user guidance, which should be combined with established standards.

For this purpose, an easy-to-use fax application was developed for the scanners, which forward messages to the e-mail server in the background using functions already available in the system. The entries for destination phone numbers and a possible subjectline for the user are automatically entered in the fields required for correct fax transmission.

The OfficeMaster Suite is connected to the e-mail server via connector (SMTP, Notes, Exchange or Office365 Connector). In doing so, one of the established connectors is also used. Parallel to this, individual fax numbers can be stored for the desired persons in the company through this connection.

The responses or transmission confirmations of the sent documents from the scanner can be sent directly to the mailboxes of the users through this type of connection.

2. OfficeMaster Suite

For OfficeMaster Suite, you must have a fully functional installation with a telephone connection (via SIP, see the section Connecting to SIP Telephony) and a connector (section Connecting to an e-mail system) to the e-mail system you are using. No additional scanner integration settings are required for simple fax integration. If OfficeMaster is configured as described here, a PDF transfer is theoretically also possible.

2.1. Connection to an E-mail system

You can connect the OfficeMaster Suite to several e-mail systems (or simultaneously if the license is sufficient). Normally you use only one e-mail system and set up a connector that connects the document exchange server and the e-mail server. In the following sections the four most common connections are described. Select the appropriate connection from these.

1. Microsoft Exchange

If you use a Microsoft Exchange Server, which is operated in your data center and you have full access, then we recommend this connection.

2. Office365 (with local AD, hybride mode)

The hybrid mode is the right choice for you if you have an O365 migration behind you and still have some installations and systems, for example the AD locally in your data center.

3. Office365 (without local AD, online-mode)

In online mode, connection to Microsoft Office365 does not require Active Directory. The user-specific settings are stored directly in the mailbox of the corresponding user

4. SMTP-Mailserver

If you do not use a Microsoft Exchange Server or do not have administrative access, e.g. to create connectors, a pure SMTP e-mail transmission between document exchange server and e-mail server via this connection may be the right way.

With this connection you can create and manage users either in an LDAP-enabled directory or locally in OfficeMaster Suite.

2.1.1. E-Mail system variant 1: Microsoft Exchange

To install the Exchange Connector, use an account with the following rights:

- Domain administrator or authenticated user with the rights in the domain
- Exchange Organization Administrator (complete)
- This account is only required temporarily for installation and configuration and is not the same as the service account.

Preparation

- The Connector component accesses the mailbox of the service account or the transfer mailbox. This leads to the processing of e-mails. To avoid the loss of important personal mailbox content, never use an existing personal user account as a service account.
- Via the user administration or the Microsoft Exchange system administration console, a user account is created which is a member of the domain users. This account needs its own mailbox.
- The mailbox must not be suppressed in the global address list.
- Membership in the Public Folder Management group gives the account full read permissions of the Exchange organization.
- The account is added to the local administrators group of the installation computer.

Installation

Install OfficeMaster Suite

Configuration

- Grant the service account full access to the `%ProgramData%\ffums` directory.
- Configure the SIP component to connect to a SIP trunk, IP-TK or SBC.
- Install the Microsoft Exchange Connector using the integrated installation wizard. During the installation you define the service account.

Installation assistant of the Exchange Connectors

Receive connector

- The creation of a receive connector is recommended, the corresponding option is pre-selected.
- A receive connector with the following properties is created:
 - Name: Connector for UMS (ExchangeServer-MessagingServer)
 - Configuration for the reception only over the specified port
 - no anonymous authentication
 - NTLM-authentication is activated
 - Service account is activated especially for this connector
 - Communication to this connector is only allowed from the IP address of the messaging server
- The following transmission connector is also installed:
 - Name: Connector for UMS (Exchange Server - Messaging Server)
 - SMTP Port 25
 - No outbound authentication enabled
 - Transmission server (Local Bridgehead) ist he selected Exchange Server
 - Reception server (Smarthost) ist he selected Messaging Server, hosting the component of the connector

Licence Goup

In the user-limited variants of OfficeMaster Suite, a license group must be specified to manage the authorized users. By default, the license group is automatically created in the "Users" container in the Active Directory. Alternative groups can also be specified.

Service Account

Create the Basic Settings Data Object in local domain context

Installation Settings Verification

Please verify the selected items to be correct or specify new values.

Messaging Server: Exchange Server:
 Create Receive Connector Port:
 Template Directory: ...
 License Group: ...

Please specify the service account of the Exchange Connector component. It will be enabled to logon to MS Exchange Server. It is highly recommended that the account was created as documented.

Service Account: ... Password:
 Global Settings: Create the Basic Settings Data Object globally (recommended)
 Create the Basic Settings Data Object in local domain context

Image: Installation assistant for the Exchange Connector

Important decision on the installation type of the configuration object!

- Install base configuration object globally (recommended)
 - The global user settings are used as a template for all users that are not directly administered. These settings are stored in an object that is replicated centrally and made available throughout the organization. This setting is the default setting for organizations with a single administrative group or only one routing group.
- Installing a base configuration object domain-wide
 - In larger organizations, the corresponding service account or the highest allowed installation account of the site may not have the right to store the global settings organization-wide. In this case the settings can be written to the current domain object. All other sites should also perform the installation in this way. Different global settings then apply in each location (or domain).

Start off the component

Finally, start the MSX2KGATE component of the OfficeMaster Suite.

You use the OfficeMaster Exchange management console to define a fax-type address for the users to be activated. All other settings are optional.

2.1.2. E-Mail system variant 2: Office365 (with local AD, hybride mode)

This is the correct mode if you have the message stores in the cloud but still use a local Active Directory for user management.

The hybrid installation assumes that user-specific values can be stored in Microsoft Active Directory. The main purpose of this installation mode is to migrate an on-premises Exchange installation to the Office365 cloud. The on-premises Active Directory, which has the existing schema extension of the Exchange organization, remains in place. The required attribute fields (proxyAddresses, extensionAttribute15) are then available in the user objects. The connector requires an Internet connection to access the Office365 server. Outgoing fax messages must be routed directly to the transfer mailbox without further processing such as signing.

Administrative account for the set up

- Login to Office365 with an organization admin, two-factor authentication must be temporarily disabled if enabled
- local domain user

Office365-Service account

This service account can be used as

- "Shared Mailbox" (costs no money, but needs a password(!), our recommendation) or as
- normal user mailboxes.

Other features of this account:

- Member of the group of domain users
- local administrator of the installation computer
- it should be removed from the Office365 password rotation

Office365-Service-Transfer Account (the service account may also be used here)

Outgoing messages are temporarily buffered in this mailbox before the OfficeMaster Suite picks them up. The size restriction of this mailbox should be adjusted accordingly.

Installation

- OfficeMaster Suite install and create a new component for Exchange Hybrid Mode
- Now log on to the Office365 organization using the wizard and the administrative account described above
- Message transfer: We recom recommend the service transfer mode
-

specify transfer domains: e.g. "fax.company.net", "fax.local" (separated by comma or semicolon)

Transport Type Selection

Please select the preferred transport mode.

Messaging Server:

Organization:

Transfer Mode: Internet Transfer Mode
 Service Transfer Mode

...

Transfer Domains:

Address Spaces: FAX
 SMS

Image: Set transport type to service transfer mode

- Define service account

Service Account Settings

Please provide the service account for the connector.

Existing service account, which accesses the Office365 cloud and performs voice services and address book resolution services:

Cloud Service Account: ... Password:

Enable cloud service account for OfficeMaster Voice Access

Existing local service account for direct access to the local Microsoft Active Directory:

Domain\Username: ... Password:

Use cloud service account as Active Directory service account

OfficeMaster License Group which inherits all users, they are allowed to use the OfficeMaster Unified Messaging Services:

License Group: ...

Image: Specify service account in the installation wizard

- Select license group to manage the authorized users (only for versions with user limit)
- Specifying the location for user data (AD or user mailbox)
- You use the OfficeMaster Exchange management console to define a fax-type address for the users to be activated. All other settings are optional.**

2.1.3. E-Mail system variant 3: Office365 (without local AD, Online-Mode)

The connection to Microsoft Office365 does not require Active Directory. The user-specific settings are stored directly in the mailbox of the corresponding user. The connector requests these values when sending or receiving documents. With this connection all Unified Messaging services are supported, which are also available with a normal Exchange Connector.

The connector requires an Internet connection to access the Office365 server. Outgoing fax messages must be routed directly to the transfer mailbox without further processing such as signing.

Login to Office365 with an organization admin

An Office365 login is performed during the installation. This login refers to an administrative account that contains the necessary rights to create objects in the Office365 Exchange area (Organization Administrator). The two-factor authentication, if enabled, must be temporarily disabled.

Office365 service account for accessing address books

A separate service account or mailbox is required to operate the connector. This mailbox should be created manually beforehand as a normal user mailbox. The mailbox is used to access the public address book of the Office365 installation and is stored in the Connector.

This service account can be used as

- "Shared Mailbox" (costs no money, but needs a password(!), our recommendation) or as
- normal user mailbox.

Further features of this account:

it should be removed from the Office365 password rotation

Office365 service transfer account (the service account may also be used here)

The outgoing messages are temporarily buffered in this mailbox before the OfficeMaster Suite picks them up.

Installation

- Install OfficeMaster Suite
- Create a new component for online mode
- Now log on to the Office365 organization using the wizard and the administrative account described above
- Message transfer: we recommend the service transfer mode
- enter your transfer domains: e.g. "fax.company.net", "fax.local" (separation with comma or semicolon)
- Define service account
- Select license group to manage the authorized users (only for versions with user limit)
- Specifying the location for user data (AD or user mailbox)
- **You use the OfficeMaster Exchange management console to define a fax-type address for the users to be activated. All other settings are optional.**

2.1.4. E-Mail system variant 4: SMTP-Mailserver

Preparation

- Create administrative account for access to the external directory service
- Reading access

The OfficeMaster Suite requires three of your components for this scenario:
SMTPRX, SMTPTX, MAILGW

E-mail dispatch SMTPTX

To send e-mails, SMTPTX forwards all e-mails to the company's internal mail server (relaying server), which sends the mails to the Internet. This mail server can be any SMTP-based mail server, such as Notes/Domino, Microsoft Exchange, Sendmail etc.

Configuration

- Name of the mail servers; Port for receipt at the mail server
- Adapted Host
- When sending mail, SMTPTX communicates the name of the host on which SMTPTX is running to the configured mail server. Alternatively, the name configured as Custom Host can be communicated to the mail server. This is necessary if the mail server requires the fully qualified name to be specified for sending mail. For example, if the host of SMTPTX is named "faxserver" and this name is not accepted by the mail server, "faxserver.company.com" can be configured as a customized host.

The screenshot shows the 'SMTP-Sender' configuration window for 'E-Mail Sending (smtpbx0)'. The 'Allgemein' tab is active. The 'Name des Mailservers' field contains '10.1.1.5'. The 'Port' field is set to '25'. There are checkboxes for 'Angepasster Host', 'Domain Name System', 'Autorisierung', and 'Transport Layer Security (TLS)', all of which are currently unchecked. There are also text input fields for 'Benutzer' and 'Kennwort', and a small button with three dots next to the 'Benutzer' field.

Image: Settings in the component for receiving e-mails

Incoming e-mails are forwarded from the e-mail server to SMTPTX. This server is immediately ready for operation after installation and start of the component. If different settings are required for ports, IP addresses (if there are several addresses on the server), or message sizes, you can set this in the SMTPTX component.

Settings for the users MAILGW

- Define component MAILGW

LDAP/SMTP Connector
Mail Gateway (mailgw0)

General User Receive

E-mail Addresses

Mail Gateway

Default recipient

Address Encapsulation (FAX/SMS)

SMTP Domain Names

General

Fax

SMS

Notification Sender Address

Mode

Automatically generated by sender information

Fixed E-Mail Address

Fax Attachment

File format

OCR text

Fax Cover Page

Suppress

Placeholders

Image: Configuring a new component of type MAILGWKonfiguration

E-mail address area

- Mail-Gateway
- Status messages are sent by the Mail-Connector as e-mail to the users. For these SMTP mails, the value configured for Mail Gateway is used as sender address.
- Default recipient/administrator

All processes that were created by unauthorized users or that cannot be assigned to a user are forwarded to the e-mail address specified as administrator.

- Fax-Domain
- Messages to the OfficeMaster Suite with this target domain are interpreted as fax messages. Empfohlene Option: Address Encapsulation (FAX/SMS)

This function ensures that the syntax [Fax:0123456789] can also be used when sending from the e-mail client.

The user administration itself can be maintained in an LDAP-compatible directory service or in the user administration directly in the MAILGW component

User administration in MAILGW (local)

For a limited number of users (1 to 20), it may be useful to maintain users directly at the mail gateway. The intended users are entered and edited in MAILGW.

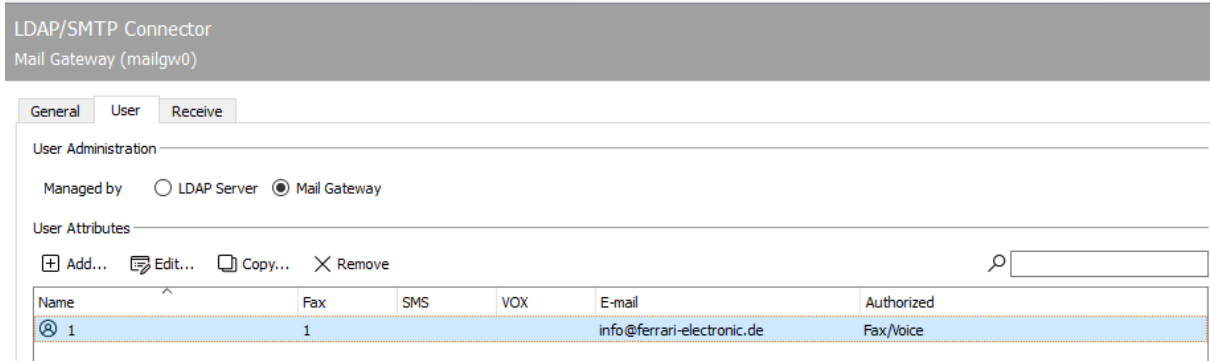


Image: Local stored users in MAILGW

The most important settings are described below, then the users configured in this way are ready for use.

E-Mail; Fax; SMS

- Based on the e-mail address, the mail gateway identifies the sender of fax or SMS transmission orders in order to insert user-specific parameters (cover page, header, etc.).
- The phone numbers of received fax and short messages are compared with the stored fax or SMS address. If there is a match, the receiving process is assigned to the user and delivered by e-mail to the stored e-mail address.

Authorization for Fax; SMS

- The services can be allowed individually per user. For this purpose, the corresponding check boxes at the bottom of the index card are deactivated / activated. Sending processes of users without authorization are answered with an error mail.

User administration in the directory service (LDAP)

Working in a directory service simplifies user data maintenance because all relevant settings can be made centrally in the directory

The screenshot shows the configuration interface for the Mail Gateway (mailgw0) in LDAP mode. The 'User' tab is selected. Under 'User Administration', 'Managed by' is set to 'LDAP Server'. The 'LDAP Connection' section includes fields for 'Server', 'Port' (set to 389), 'Protocol version' (set to 2), 'User', and 'Password'. The 'LDAP Queries' section includes fields for 'Base DN', 'User filter', and a 'Define...' button for 'User Attributes'.

Image: MAILGW on LDAP-mode without settings

The MAILGW accesses the fields searching and reading. Searching access is made to the fields (LPD) name, e-mail address, fax address and SMS address to find the appropriate user for the send and receive operations to be processed.

To simplify the startup, load one of the available templates for the values to be read out into the configuration.

Basic settings for LDAP access and queries

- Server; Port; Protocol-Version
- Administrativ user; password, read-only access (e.g.: *CN=administrator,CN=users,DC=company* or *administrator@domäne*)
- Basis-DN for user data

Setup Wizard General Tab

- UID & Name
 - The name or the UID is used for the user assignment of send jobs that have been transferred to OfficeMaster.
 - The user name is derived from the values stored in the directory service.
- Set up areas for addresses (E-Mail, Fax)
 - Based on the addresses entered here, the corresponding users are selected from the directory service.

Recommended option: configure values for identifier and header

2.2. Connection to SIP-Telephony

The SIP component is available for connecting to SIP trunks and IP telephone systems. To configure it, open the OfficeMaster Suite Configuration and select DirectSIP from the Quick Launch toolbar.

Define new components

On a "fresh" system, you will not yet find a created SIP component. To create a new component, select "Add component". An installation wizard will then open.

In the first step, select the type of connection to be connected. This preselection makes the following dialog with the currently predefined remote stations clearer.

The templates are constantly extended and an update will be made to update the OfficeMaster Suite accordingly. If the remote peer you are using is not listed, select "General profile" and continue to follow the wizard.

Enter the connection information such as IP address and port of the remote terminal (PBX or SIP trunk) here.

Depending on existing licenses and desired prioritization of incoming and outgoing messages, you can configure the available lines here.

Finally, when using the Fax function, you enter the basic information for fax communication.

After you have run through the wizard, you will see the newly created component in the overview of available SIP components.

You can access the complete setting options for the connection by left-clicking on the component in the quick launch bar or by right-clicking from the main field.

At this point you can make further settings, e.g. for NGDX or the routing, based on the dialed phone numbers.

If you have had to adapt an existing profile, or have implemented a connection that is not yet listed, we look forward to your feedback and will be happy to supplement this for future releases of the OfficeMaster Suite.

The most important settings for connecting to the SIP trunk are

- SIP-Trunk
If you were able to select the SIP trunk to be used as a template with the installation wizard, all necessary parameters are already stored here.
- Certificate (Friendly Name)
If you have selected TLS as transmission protocol, please select the corresponding computer certificate here.
Alternatively, enter the name of your certificate here and the OfficeMaster Suite will then search for the certificate in the certificate administration of the local computer using the display name.
- NGDX- and Fax-settings
On the Fax and NGDX tab, you can set the parameters for document exchange. Some settings have already been requested and stored by the installation wizard. You can adjust them at any time.
The validity of the settings can be seen from the respective label. Accordingly, there are settings for:
 - Fax and NGDX
 - Fax
 - NGDX

Fax and NGDX

Here you should set the global fax identifier and activate T.38 and T.38 Highspeed.

Fax

The classic fax has an additional header option, which you should set

NGDX

- **Activ**
Activate document exchange. Whenever a remote party can receive documents via NGDX, this transmission is used. If NGDX is not possible, the automatic fallback to fax will be performed.

- **Certificate, Private Key, Passwort, Root CA**

If the documents are to be encrypted and transmitted via NGDX with a trustworthy certificate, please enter the relevant information here.

Ferrari electronic delivers a root certificate which should be registered under Root CA. You can operate a certification authority (Root CA) yourself and exchange the root certificate. However, you should only do this if you want to communicate in a closed user group.

If you click the "plus" in the interface behind the input field, you can create a Self-Signed NGDX certificate. This creates a private key, a Certificate Signing Request/CSR and a Self-Signed certificate. These can be used for encryption from now on - but do not have a signature of the CA.

The phone number to be stored here can contain a wildcard as shown in the figure. By placing an asterisk (*) at the end of the phone number, the certificate is valid for a block of phone numbers with "any" end.

As soon as you confirm the entry, the private key and the certificate are automatically stored by the configuration.

The certificates are then also visible as NGDX certificates in the certificate administration.

You can send us the generated CSR file, we will sign it and create a certificate that matches the root certificate (Root CA). To do this, send us a signing request to "pmc@ferrari-electronic.de".

You must then store the received certificate in the folder C:\ProgramData\FFUMS\fmsrv\data\pki\ngdx. You replace the self-signed certificate. Now the trust chain is intact and you can use the encrypted and authenticated document transmission (Secure NGDX).

The password field is required if the private key is secured with a password. The certificates and keys generated by OfficeMaster Suite do not currently use a password.

3. Set up Panasonic Scanner

The settings for SMTP and the fax application must be made on the scanner. If not already set up to send email, go to the scanner's website and select the SMTP configuration area.

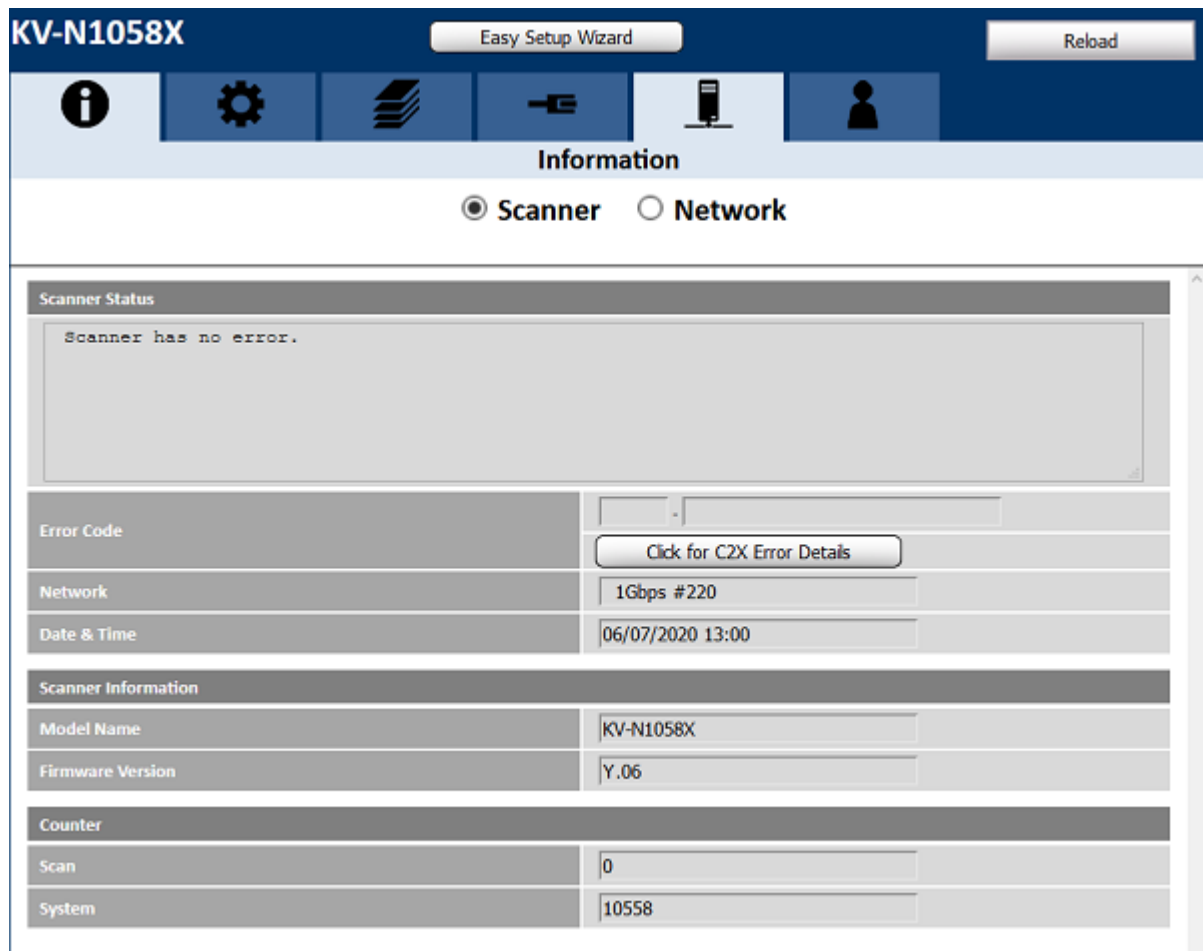


Image: Information page of the scanner

The configuration settings require user name and password. Either use your existing customized login information or use the default settings as shown in the scanner documentation.

After logging in, you will now be offered the (server) settings.

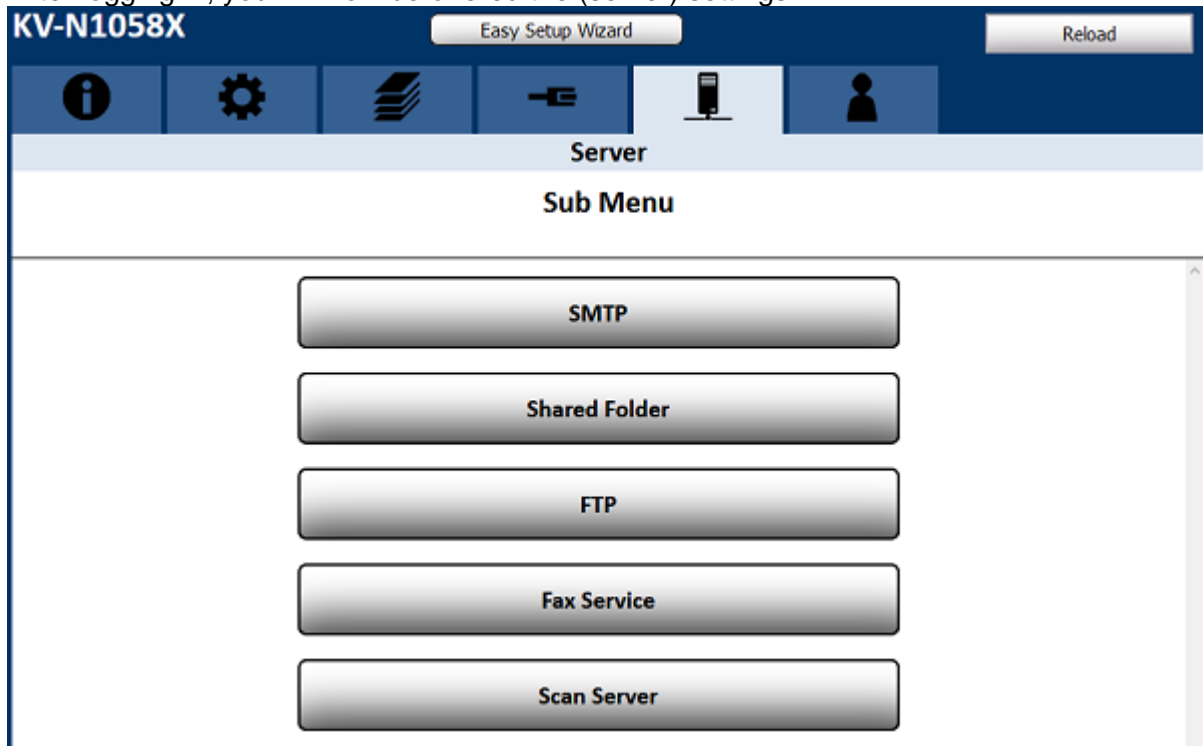


Image: Server submenu on the scanner's website

First select SMTP to set up the connection to the e-mail system used

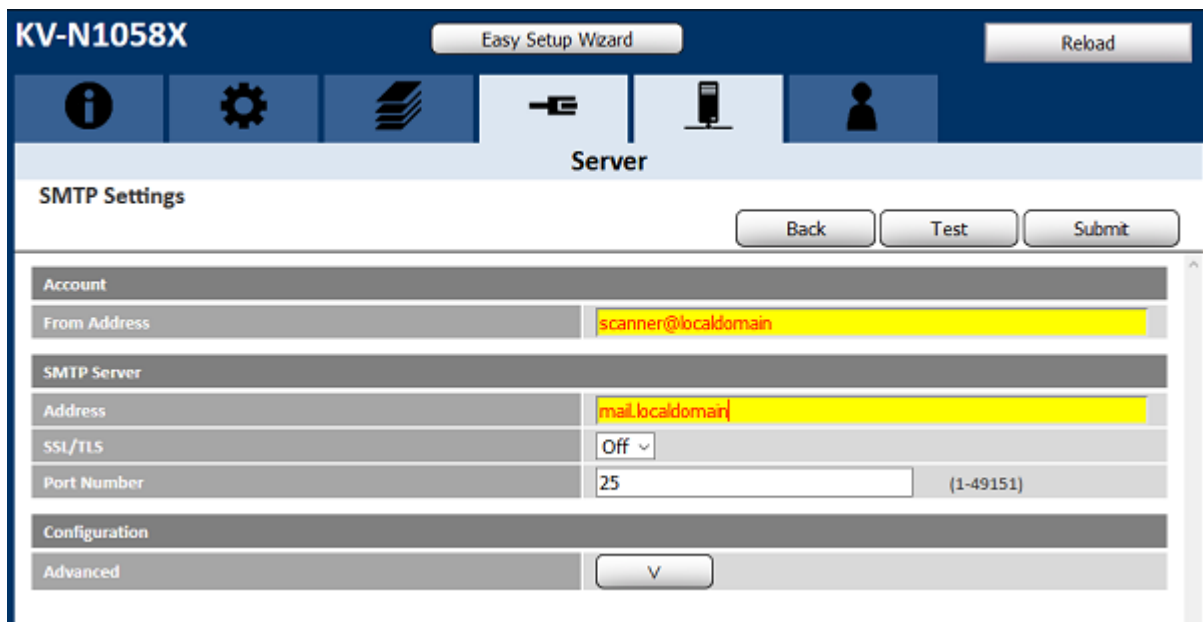


Image: SMTP-Server settings

Please be sure to use the test function to ensure that the SMTP transport works. If this is successful, you can use the to call up or configure the "Fax Service" as seen in the submenu for server settings.

Click on Fax Service and then the subpage for the necessary configuration opens.

Image: Setting options under Fax Service

The on field is most important for correct function. The number is taken over by %n% and then you must specify the domain under which the fax server for the e-mail system has its connector. For this purpose a send connector is usually configured on the e-mail system that registers for the SMTP domain. During normal installation, the fax server is also set up with exactly the domain that is registered there. For the connection of the scanner no further settings are necessary.

You can configure the subject according to your requirements. Please note, however, that there is no subject when sending a fax. This subject is only interesting for the feedback to the user mailbox. Unless you design cover pages for sending faxes on which this information is to be embedded. The field for the main text is placed in front of the fax as the first page or within a cover page. Note, however, that these two settings are global and apply to all faxes sent through this scanner