AXIS 7000 FAX Server Integration

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Introduction

The AXIS 7000 makes it possible to integrate a digital copier or scanner with a FAX-server thus removing the need of old fax machines. This document will describe the different key components involved in such a setup and also exemplify by showing how it can be done in practice with a few FAX-servers from different manufacturers. This document is intended for System Integrators, Developers, Administrators and anyone else with an interest in building efficient fax solutions.

FAX Servers

A FAX server makes it possible for users to send and receive faxes from different kinds of clients in a computer network.

AXIS 7000 Network Document Server

The AXIS 7000 offers the convenience of allowing end users to distribute and store documents digitally. The AXIS 7000 offers many options to do business in a more effective and cost-efficient way. With a wide variety of formats (TIFF, JPEG/JFIF, PDF, PCL) and transport methods (SMTP, FTP) to choose from, an AXIS 7000 provides increased value to digital copiers and scanners. Included in its architecture are the embedded Web pages. Administrators can use an existing Web browser for configuration and management purposes, thus eliminating the need to load extra software.

Benefits with this combination

By combining the AXIS 7000 with a FAX server you get a very powerful tool for distributing documents. The destination for the documents can either be a fax machine or an email address. The AXIS 7000 can handle both cases and the user will have one single point for all kinds of document distribution.

Overview

Figure 1 below shows the different components involved in an AXIS 7000 and FAX server integration. A scanner or digital copier is connected to the network using an AXIS 7000. The AXIS 7000 can be configured to prompt the user for a FAX number at the moment of scanning a document. The document will be scanned and sent to an FTP server on the network as a TIFF-image file. An Information File in text format will be sent along with the image. This Information File will include the fax number and other information the user might have entered. The FAX server polls the directory of the FTP server for new documents to send. After a successful scanning job the FAX server will find a TIFF image file and an accompanying Information File including the fax number of the intended destination.
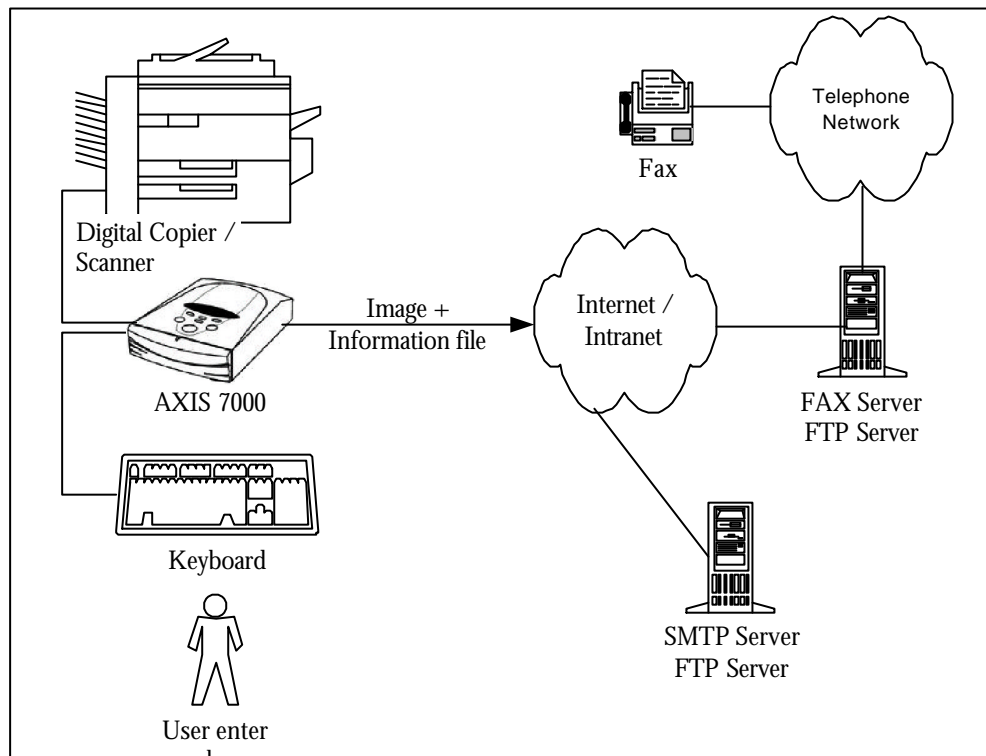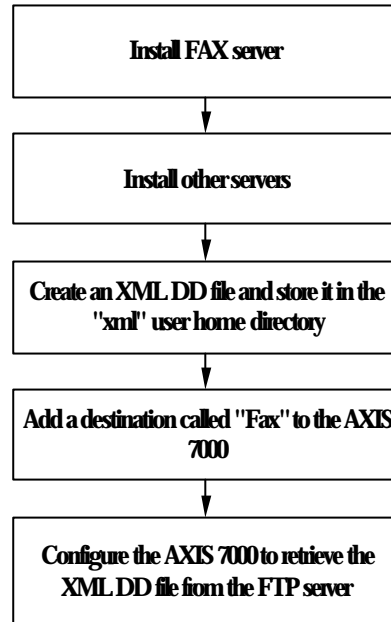

Figure 1: Components in an AXIS 7000 and FAX server integration

System Requirements

- AXIS 7000 with a keyboard connected. Firmware 2.20 (for VSI-FAX & Zetafax) or 2.24 (for RightFax) or later is required.
- A scanner or digital copier supported by the AXIS 7000. A list of supported devices is available at http://www.se.axis.com/techsup/scan_servers/axis_7000/index.html.
- A FAX server with the following properties:
  - A documented format of the Information File that includes destination fax number etc.
  - TIFF, PDF, JPG or PCL as supported image format.
- FTP server.
- SMTP server (RightFax only)

How to do the integration

This is a generic workflow for integrating the AXIS 7000 with a FAX-server.

```
┌─────────────────────────────┐
│      Install FAX server      │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│     Install other servers    │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│ Create an XML DD file and store it in the │
│    "xml" user home directory │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│ Add a destination called "Fax" to the AXIS │
│             7000             │
└─────────────────────────────┘
              │
              ▼
┌─────────────────────────────┐
│ Configure the AXIS 7000 to retrieve the │
│  XML DD file from the FTP server │
└─────────────────────────────┘
```

1 Installing the FAX server

For the installation of the FAX server please refer to its manual.

2 Installing the other servers

In all the examples of integration given below, the AXIS 7000 needs an FTP server to store and retrieve the XML DD file that will be used for configuration (cf Meta Data configuration). A user "xml" will be created. It can have any directory as its home directory but it must be appropriate for storing XML DD file in it. It is recommended that you create a new directory to be used as the "xml" user home directory. Then a file called "fax.xml" will be created and stored in this specific directory. The Administrator has to make sure that the file is "read" accessible to the AXIS 7000. The file "fax.xml" contains the configuration information that will tell the AXIS 7000 which prompts should be presented to the User.

Once this primary installation is completed the Administrator needs to install and configure the server that will be used jointly by the AXIS 7000 and the fax server in order to communicate the scanned documents to fax. In the case of the VSI-Fax and the Zetafax Fax servers, the AXIS 7000 needs to store the scanned documents and the associated Information File in a specific directory on an FTP server. This directory will be periodically scanned by the fax server and any scan document will then be polled. In order to do that the Administrator needs to create a "scan" user. This user can have any home directory. The only requirement is that this directory must be write accessible for both the AXIS 7000 and the fax server. The created user will then be used in a File destination in the AXIS 7000 (cf Destination Configuration). The same FTP server can be used for both the "xml" and the "scan" users.

In the case of the RightFax server, the Administrator needs to install and configure an SMTP (cf RightFax section). Then the Administrator needs to create a POP3 account on this SMTP server to which the AXIS

7000 will send scanned documents and the associated Information File. This POP3 information will then be used to create an e-mail destination in the AXIS 7000, and to set up the RightFax server.

3 Creating an XML DD file

The XML DD file specifies what the AXIS 7000 prompts the user for and the format of the output text file. It can be created and edited in any text editor. The syntax of the XML DD in general is described in the AXIS 7000 Users Manual.

Dependent on which FAX server that is used, the XML DD files will be different. In the section *Integration examples with FAX Servers* two examples of XML DD files are shown. Please refer to the FAX server manual for information regarding the format of the Information File for submitting fax jobs. The XML DD file will be stored in the home directory of the 'xml' ftp-user. This will make it possible for the AXIS 7000 to retrieve the file from that location.

4 AXIS 7000 Configuration

The configuration of the AXIS 7000 is in this example done through its internal Web-interface. General knowledge of the product is expected. This configuration consists of two steps:
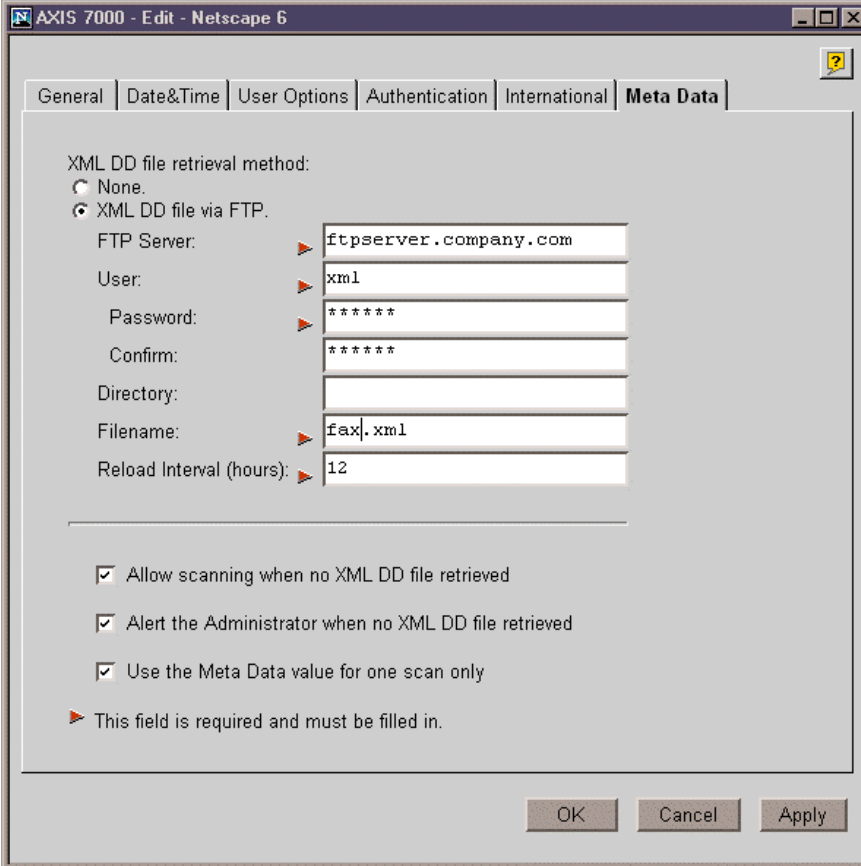
- Configuring the destination: creating a destination to which the User will send faxes.
- The Meta Data configuration: setting the different parameters the AXIS 7000 needs in order to present the User the correct prompts.

4.1 Destination Configuration

In this white paper, examples with several Fax servers are shown. Some, (VSI-Fax & Zetafax), poll the images to fax from a directory. These Fax servers require a File destination in the AXIS 7000. The other Fax server shown here (RightFax) offers the SMTP method. This Fax server requires an e-mail destination. For more information on how to configure the destination see the AXIS 7000 User's Manual, chapter "Specifying Destinations" . In the rest of this document we will assume that a Destination called "Fax" was created.

4.2 Meta Data configuration

The AXIS 7000 has to be configured to retrieve the XML DD file from an FTP server on the network. This is done on the "Meta Data" tab in the "Edit" window accessible from the "This Axis 7000" administration page of the WEB-interface. The screenshot shows an example of how it can be configured. The IP-address / name of the FTP server will of course differ.

For an explanation of the different configuration parameters, please see the AXIS 7000 User's Manual chapter "Meta Information".

Integration examples with FAX servers

In this section we show how the AXIS 7000 can be integrated with a fax server. In particular, we show the details of the XML DD file, that the AXIS 7000 will use in each case, in order to be able to communicate properly with the Fax servers. Three different FAX servers (VSI-FAX, Zetafax and RightFax) are used in the examples. Most other FAX servers can be integrated in similar ways.

1 VSI-FAX

VSI-FAX is a fax server software from VSI (http://www.vsi.com/). This Fax server uses a directory from which it polls the Image and the Information File sent by the AXIS 7000 and needing to be faxed. In the table below the specifics of the configuration for this server software are described. For further information regarding the VSI-FAX server software please refer to the VSI-FAX manual.

Configuration Issue	Value	Description
Polling Directory	VSI\FaxServer\AutoSend	This is the path to the directory there the TIFF-image files and its accompanying Information File with FAX number will be submitted for sending.
Information File extension	Tag	This is the file name extension of the Information File. This is configured in the AXIS 7000.

This is an example of an XML DD file that can be used with the VSI-FAX server:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE MetaDataFile SYSTEM "metadata.dtd">
<MetaDataFile>
 <Ask>
  <When><Destination Description="FAX" /></When>
  <MetaData Required = "yes"
            Id      = "TFN"
            Prompt  = "FAX Number:"
            Pattern = "[0-9,*# +-]{1,64}" />
  <MetaData Required = "no"
            Id      = "TNM"
            Prompt  = "Recipient Name:" />
  <MetaData Required = "no"
            Id      = "TCO"
            Prompt  = "Recipient Company:" />
  <Output>
   <Format>
sub=$INT_SUBJECT$
fll=$INT_FILE_NAME$

fnm=$INT_USER_NAME$ ($INT_USER_EMAIL$)
fco=ACME Corporation
ffn=555-123456

tfn=$TFN$
tnm=$TNM$
tco=$TCO$
   </Format>
```

```
   </Output>
  </Ask>
</MetaDataFile>
```

The AXIS 7000 will prompt the user for the FAX Number, Recipient Name and Recipient Company. Only the FAX number is required. The result in this case would have been an ″image.tag″ Information File stored in the specified destination directory with the following format:

```
sub=The contract
fll=image000.tif

fnm=John Smith (john.smith@company.com)
fco=ACME Corporation
ffn=555-123456

tfn=555-223322
tnm=Bill Smith
tco=Bill's Company
```

Along side the Information File, we would find an image called "image000.tif" to be faxed. For further information regarding writing an XML DD file and the format of the Information File please refer to the VSI-FAX server documentation and the AXIS 7000 User's Manual.

2 Zetafax

Zetafax is fax server software from Equisys (http://www.equisys.com/). In the table below the specifics of the configuration for this server software are described. The 'ZSUBMIT' Zetafax program is required for this integration to be possible. It is a part of the Zetafax API, please make sure it is available on your Zetafax server before continuing. For further information regarding the Zetafax server software please refer to the Zetafax server manual.

Configuration Issue	Value	Description
Polling Directory	`Zfax\Server\Z-temp`	This is the path to the directory there the TIFF-image files and its accompanying Information File with FAX number will be submitted for sending.
Information File extension	`SUB`	This is the file name extension of the Information File. This is configured in the AXIS 7000.
Profile	Text low	The "Text low" profile is recommended for the Zetafax server.

This is an example of an XML DD file that can be used with the Zetafax server:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE MetaDataFile SYSTEM "metadata.dtd">
<MetaDataFile>
 <Ask>
  <When><Destination Description="FAX" /></When>
  <MetaData Required = "yes"
            Id       = "TFN"
            Prompt   = "FAX Number:"
            Pattern  = "[0-9,*# +-]{1,64}" />
  <MetaData Required = "no"
            Id       = "TNM"
            Prompt   = "To Name:" />
  <Output>
   <Format>
%%[MESSAGE]
From: ACME Corporation
To: $TNM$
Fax: $TFN$

%%[FILE]
$INT_FILE_NAME$
   </Format>
  </Output>
 </Ask>
</MetaDataFile>
```

The AXIS 7000 will prompt the user for the FAX Number, Recipient Name and Recipient Company. Only the FAX number is required. The result in this case would have been an "image.sub" file stored in the specified destination directory with the following format:

```
%%[MESSAGE]
From: ACME Corporation
To: John Smith
Fax: 555-223322

%%[FILE]
image000.tif
```

For further information regarding writing an XML DD file and the format of the Information File please refer to the Zetafax server documentation and the AXIS 7000 User's Manual.

3 RightFax

RightFax is fax server software from Captaris (http://www.rightfax.com/). RightFax accepts faxes using SMTP (e-mail).

With the **SMTP** method, the RightFax server will fetch incoming mails from a specific mail box and try to find the required information into the "Subject" field of the mail.

Configuration Issue	Value	Description
RightFax configuration	N/A	See below for more information.
Profile	Text low	The "Text low" profile is recommended for the RightFax server.

RightFax SMTP configuration:
- Make sure the E-mail gateway is installed on the RightFax Server.
- Start the RightFax Enterprise Fax Manager
- Right-click the E-mail gateway and select the **Configure Service** item.
- Enter the POP3 account information.
- Select the **Use IETF fax addressing** checkbox
- Set the mail fetching frequency (expressed in seconds).

This is an example of an XML DD file that can be used with the RightFax server: when using the **SMTP** method:

```
<?xml version="1.0" encoding="UTF-8"?>
<!DOCTYPE MetaDataFile SYSTEM "metadata.dtd">
<MetaDataFile>
 <Ask>
  <When><Destination Description="FAX" /></When>
  <MetaData Required = "yes"
            Id       = "FAX_NUM_IETF"
            Prompt   = "FAX Number:"
            Pattern  = "[0-9]+" />
  <Output Description= "fax=$FAX_NUM_IETF$@fax.company.com" />
 </Ask>
</MetaDataFile>
```

The AXIS 7000 will prompt the user for the FAX Number, and send an e-mail containing the following "Subject" field:

```
fax=012345@fax.company.com
```

Axis Communications

Axis is a world leader in the rapidly growing network-attached peripherals industry. Headquartered in Sweden, Axis designs and manufactures network-attached print servers, network document servers, CD/DVD servers, camera servers and storage devices based on its ThinServer™ Technology.

All Axis products leverage Axis' own ThinServer Technology, which allows any peripheral device to be directly attached to the network without a file server or PC. These devices are displayed on any desktop without changing client software and can be accessed and used by multiple clients using virtually any desktop and network operating system. At the core of the ThinServer Technology is embedded software consisting of self-contained, "thin" versions of popular operating systems, a Web server for consistent, network-wide management, and an optimized 32-bit RISC chip complete with device I/O and network controllers for high-speed data transport.