

Faximum

Fax Messaging Server 2

Reviewers' Guide to FMS 2

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Introduction

The Faximum Fax Messaging Server (FMS) is a network fax software product that enables users to send and receive faxes using their existing email clients. Users can be on any operating system (Windows, MacOS, Linux, etc.). The Fax Messaging Server itself runs either on a dedicated server or on a Linux-based email server.

This document describes the design rationale behind FMS and provides detailed information of use to those evaluating or reviewing FMS. Although we have strived to make this document as comprehensive as possible with limited space, questions will certainly arise that are not fully addressed herein. We invite you to email these to info@faximum.com for prompt attention.

We suggest that you read the FMS Product Monograph first since that document provides an overview of the product and is not repeated here.

The FMS Product Monograph is available at
<http://www.faximum.com/fms/monograph>

The most recent version of this document is available at
<http://www.faximum.com/fms/revguide>

Why Fax?

In a world in which email seems ubiquitous the natural question arises, why fax? There are many answers:

- **fax truly is ubiquitous**
outside of the technology industry, fax numbers are mandatory on business cards and stationery — email is optional
- **fax is immediate**
many people only check their email once or twice a day, if that — few companies ignore incoming faxes for long — most look at faxes right away
- **fax is more secure**
email travels through many machines and on an open network from sender to receiver -- fax travels directly from sender to receiver over phone lines, the privacy of which is protected by law
- **fax is more reliable**
email confirmations are optional and email bounces are unreliable indicators of failure -- fax provides immediate and almost foolproof acknowledgement of receipt
- **fax is format-rich yet undemanding**
sending formatted documents and graphics by email requires the use of attachments and depends on the receiver having the same software as the sender -- fax communicates typographically and graphically rich information without making any demands of the recipient
- **fax is virus-free**
sending attachments by email to communicate formatted or graphical content may fail because of fears of embedded viruses -- faxes are always safe
- **fax is the perfect backup to email**
email to your correspondent is bouncing -- or their email is down -- what do you do? Fax is the perfect backup. It is even more ubiquitous than email and gets through even when the network is down. If you deal with time sensitive and critical documents, can you afford to be without the safety net of fax?

In short, fax has been with us since the 1800s and will be a useful complement to email well into the future. A messaging system that can only handle email is disconnected from the millions of fax devices in the world.

So the question isn't why fax, but how -- how to make fax communications more efficient, more secure, more flexible. And that is what FMS delivers

Why FMS?

In order to understand what FMS does right, let's look at what a fax machine does wrong.

BECAUSE YOU'VE GOT BETTER THINGS TO DO

Sending a fax means preparing a coversheet, printing off the document, walking to the printer, walking to fax machine, starting off the fax and either trusting it not to jam or hovering over the machine while it scans the paper, then waiting (or returning to the machine) for the indication of success or failure.

- **FMS prepares the coversheet automatically**
- **FMS converts your Microsoft Word documents (indeed anything you can print from your Windows machine) to fax format**
- **FMS schedules you fax to be sent on the next available fax line**
- **FMS automatically retries the fax**
- **FMS emails you when the fax has been successfully sent or when it has given up**

BECAUSE YOUR SECRETARY HAS BETTER THINGS TO DO

Receiving a fax means someone has to check the fax machine, collate the pages, log and copy (if required by corporate policy), and arrange for the physical delivery of the document

- **FMS eliminates the need to collate incoming pages**
- **FMS immediately notifies the appropriate people when a fax is received**
- **FMS delivers incoming faxes electronically direct to users' desktops**

BECAUSE YOUR FAXES OUGHT TO BE YOURS ALONE

Faxes in a fax machine are available for perusal by anyone who happens by, and copies can be made quickly without any record

- **FMS restricts others to viewing only the cover sheet of incoming faxes, and logs who has copied what**
- **FMS can support DID fax routing in which users can be given unique fax numbers and their faxes automatically and securely directed directly to them without any human intervention**

BECAUSE YOU WORK IN A TEAM

Sharing incoming faxes with others is important, yet circulating them means photocopying and manually distributing pieces of paper.

- **FMS enables you to distribute received faxes as easily as you forward email**
- **FMS enable you to manage, store, file, and organise your received faxes as easily (and in the same folders) as your email**

Why Faximum?

BECAUSE YOU VALUE THE PROFESSIONAL APPEARANCE OF YOUR DOCUMENTS

As you well know, faxes look like, well, faxes. This is partly because of the lower resolution of faxes but primarily because of the scanning process. Sending faxes directly from your computer eliminates the artifacts introduced by the fax scanner and results in received faxes that look almost as good a laser prints. If you are faxing proposals or sales material you need to look your best — and FMS delivers.

Why Faximum?

Faximum has the proven ability to deliver robust technically-advanced fax server software.

- Faximum's first product was the Reviewer's Choice of *UNIX World* magazine.
- Faximum was chosen by Hewlett-Packard to co-develop *HP Fax* and later the fax component of HP's *MPower* product.
- Faximum was chosen by Sun Microsystems to develop a custom version of the Faximum Client/Server product that Sun marketed as *SunFax*.

The Architecture of FMS

The Faximum Fax Messaging Server takes a different approach to delivering fax functionality to the Windows desktop than traditional Client/Server fax products.

Client/Server fax requires the installation and use of a proprietary client on the desktop. This approach made sense in the early days of network computer fax since there was no infrastructure to build upon. If one wanted a client on the desktop one had to build from scratch.

Now with email clients and web browsers standard on every desktop there is no need to construct a new messaging infrastructure from scratch. One can take advantage of the tools the user already has at hand and build upon it to deliver integrated fax services.

Some of the advantages of the integrated fax messaging approach over the older Client/Server architecture include:

- lower training and maintenance costs
FMS eliminates the costs associated with proprietary fax client software by using the same email client the user is already familiar with.

- ability to work while disconnected
FMS uses email clients that can work remotely and while disconnected from the network unlike proprietary fax clients that only work when networked.
- ability combine fax and email addresses
FMS enables users to send messages using distribution lists that contain both email address and fax numbers, proprietary fax clients require sending fax messages separately from email messages.
- ability to forward faxes by email and email by fax
FMS enables users to mix messaging media easily and naturally. Proprietary fax clients make it a chore to distribute faxes by email or emails by fax.

Linux vs Windows for Server Hosting

The Faximum Fax Messaging Server, although supporting Windows desktops, is built to run on Linux. There are a number of advantages to using a Linux-based fax server, even in a Windows network:

- **increased reliability and robustness**
although the relative merits of Windows over Linux are a source of never-ending debate, there is considerable empirical evidence suggesting that Linux servers run longer between restarts (scheduled or unscheduled) than Windows counterparts. Many of the stats showing high Windows reliability are achieved by not including scheduled downtime — and then rebooting the server being measured daily or weekly in order to achieve the high uptime figures. We have fax servers that have not been booted for six months and more. Stories of UNIX servers running for years without needing to be rebooted are not unheard of.
- **decreased resource requirements**
Linux is extremely modest in its resource requirements in contrast to Windows. One of Faximum's outbound servers is running on a 486 processor with 32Mb of memory and has sufficient processing power to handle at least eight outbound lines. This is simply not possible using any current release of Windows.

Not only does this mean that purchasing a server to run a Linux-based fax server will be less expensive than a Windows-based equivalent, it means that systems no longer powerful enough to run current Windows can be recycled into Linux-based servers.

As an example, pre-loaded Linux servers with vastly more horsepower than is needed to handle a dozen phone lines can be purchased from walmart.com starting at \$299. Compare that with the street price for Windows 2000 Server (alone — no hardware) of \$999! And a quick search

on dell.com shows that the lowest end server they sell with Windows 2000 Server pre-loaded costs \$2,170 (and that before the \$799 charge for Win2K Server).

- **lower software licensing**

Windows 2000 Server operating systems cost upwards of \$999

Linux server operating systems cost upwards of \$0.

In summary, Linux is an ideal platform to host fax server software -- and Faximum Fax Messaging Server is the ideal fax server software for Linux (and, by extension, Windows networks).

Demonstration Guide

There are two ways to evaluate FMS 2: install it on your server or use our server.

EVALUATING FMS ON YOUR SERVER

Copies of FMS 2 can be downloaded from <http://www.faximum.com/fms>. The software is trivial to install and simple to configure as outlined below in the section "FMS Downloading and Installation".

EVALUATING FMS USING OUR SERVERS

Conversely you can try out the software on our servers:

demo.faximum.com. is available to all without registration - this server allows anyone to send and view faxes. In order to protect the server, many of the administrative functions have been disabled.

fms.faximum.com. is password protected but with the password (given upon request to reviewers and evaluators) all FMS functions can be explored, including sending faxes to the user's fax machine.

For detailed information on the configuration and operation of these two demonstration servers please browse <http://www.faximum.com/demo/>

Frequently Asked Questions

SYSTEM REQUIREMENTS

What do I need to use the Faximum Fax Messaging Server?

A local area network connecting your users' desktop machines.

A UNIX or Linux server (which need not be dedicated to FMS).

A supported fax modem (see <http://www.faximum.com/modems>).

**EMAIL SERVER
REQUIREMENTS**

Do I need to have an existing email server?

No. Although FMS is designed to work with an organisation's existing email infrastructure this is not required. FMS can be configured to provide email services (if for no other reason than to support FMS usage) or can be configured to work with an external (i.e. ISP's) email server.

FAX MODEMS

What type of modem do I need?

In order to evaluate FMS on your own server you can use pretty well any modem that supports the Fax Class 2 or 2.0 standard. For production use we recommend specific makes and models of fax modems, however, since many Class 2/2.0 fax modems do not perform well enough to be used in production. Detailed information is available at <http://www.faximum.com/modems/>

UNIX & LINUX

Why UNIX and Linux?

Simply because UNIX and Linux are the best platforms to host an image messaging server.

Fax is usually a critical part of an organisation's infrastructure. UNIX and Linux have earned the reputation of being the choice when reliability and robustness is a critical factor.

For dedicated image messaging servers Linux platforms are significantly less expensive and less resource hungry than Windows servers. Indeed, FMS on Linux can run on a 486 with 32Mb of memory. Machines that are otherwise obsolete or unable to host more demanding operating systems can be successfully recycled as image messaging servers.

MICROSOFT WORD

Can I fax Microsoft Word documents?

Certainly. FMS provides a "print to fax" driver for Windows 9x, NT, and 2K that enables users to print from any Windows application and have the print stream automatically converted to fax format.

Optionally, FMS provides support for setting up a *Windows File Conversion Server* that can be used to convert proprietary file attachments into fax format.

APPLE MAC

What about my Apple Mac desktops?

FMS is fully compatible with the applicable IETF Internet fax standards and therefore can interoperate with Internet fax software available for Apple Mac desktops from third-party suppliers.

100% WINDOWS NETWORKS

What if I'm running a 100% Windows Environment

You have our sympathies. Actually, seriously, FMS has been designed to integrate seamlessly with a network of Windows machines. We support the applicable Internet email standards and can work with Microsoft Exchange. The software includes print drivers for Windows 9x, NT, and Win2K. You will hardly notice that your fax server is running on Linux except for its reliability.

LINUXPHOBIA

What if I know nothing about Linux?

All of the important administrative functions can be performed through a web browser and there is no need to actually access the Linux system itself. Faximum has resellers throughout the world who would be pleased to install, configure, and deliver a turn-key FMS server eliminating the need for you to even know that your fax server is running on Linux. Please contact sales@faximum.com for more information on turn-key FMS servers.

PRICING

What does it cost?

Here is the total cost for a dedicated FMS server that supports ten users and a single fax phone line (your cost would be less if you have an existing platform):

Faximum Fax Messaging Server	\$495
Linux Operating System	\$0 and up
MultiTech Fax Modem	\$100
Low-end server platform sufficient to run Linux and FMS	\$50 and up
TOTAL	\$650 and up

All prices in US funds FOB Faximum.

Compare this to (for example):

RightFax NT Fax Server	\$1,995
Windows NT	\$800
Brooktrout two-line fax card	\$499
Low-end server platform sufficient to run Windows NT	\$200 and up
TOTAL	\$3,000 and up

Note that Microsoft NT will not longer be available after June 2002 and the above price will have to be adjusted to reflect the higher price for Windows 2000 and the costs of the additional processing power to support it.

LICENSING

How is FMS Licensed?

FMS is licensed both by the number of users on the network authorised to use the fax server and by the number of fax modems connected to the FMS system.

The base FMS licence includes one fax modem and ten fax users. Additional fax lines can be licensed for \$350 per line up to the eighth line after which the price per line drops (until it reaches \$50 per line for the 65th and subsequent line).

Additional users are 25 for \$350 which discounts for more than 400 users.

OPTIONS

What if I want to use Direct Inward Dialling to automate the routing of received faxes?

FMS can be augmented with the Faximum PLUS package which supports the automatic routing of inbound faxes using DID telephone trunks. For more information on this option please visit <http://did.faximum.info/>

What if I also want to fax-enable applications running on my server?

FMS is designed to coexist with the Faximum PLUS package which provides a number of Application Program Interfaces (APIs) making it easy to fax-enable applications running either on the FMS system itself or any Windows or Linux system on the same network (PLUS supports network APIs accessible to applications running on Windows and other operating systems). Contact info@faximum.com for more information on fax-enabling your applications using Faximum PLUS.

What about fax broadcasting?

FMS can handle smaller broadcasts (up to 500 or so destinations) but FMS is designed to fax-enable people, not applications. Faximum PLUS has the management and reporting tools as well as the architecture to handle fax broadcasts to thousands of destinations. Both FMS and PLUS can be installed on the same server enabling the same fax modems and lines to be shared between your users and your fax-enabled applications and broadcasts.

Contact info@faximum.com for more information on fax broadcasts and fax-enabling your applications.

OTHER PLATFORMS

What if I want to run FMS on a non-Linux server?

Faximum is planning to port FMS to IBM's AIX, Sun's Solaris, and Hewlett-Packard's HP-UX operating systems. Ports to other platform may be planned in the future.

EVALUATING FMS

How can I try it out?

1. You can download a copy of the software (full product — not crippleware) from our web site and obtain a free thirty-day evaluation key (see <http://ww.faximum.com/fms>).
2. You can visit one of our demonstration servers on the internet and try the software there (see <http://ww.faximum.com/demo>)

BUYING FMS

How can I buy it?

Faximum can be purchased through authorized resellers around the world or direct from Faximum Software. If you are a reseller or distributor, please contact us for information on becoming part of the Faximum channel team.

Faximum Download and Installation

DOWNLOADING FMS

To download a copy of the Faximum Fax Messaging Server 2 for Linux, visit <http://www.faximum.com/fms/download/> and download the installation file into a temporary directory on your Linux system.

If pulling down the 10Mb installation file is a problem, then you can also install a copy from the Caldera Solutions Showcase CD which ships with every Caldera boxed product and can be obtained from any Caldera reseller.

INSTALLING FMS

To install the software, run the following two commands, as root, in the temporary directory containing the FMS 2 installation file:

```
tar xf faximum-4.0-25-linux.tar
sh fxm.install
```

For more detailed information (especially if you are installing on SuSE) see the FMS 2 README file (<http://www.faximum.com/support/readme/fms-2-linux.html>)

CONFIGURING FMS

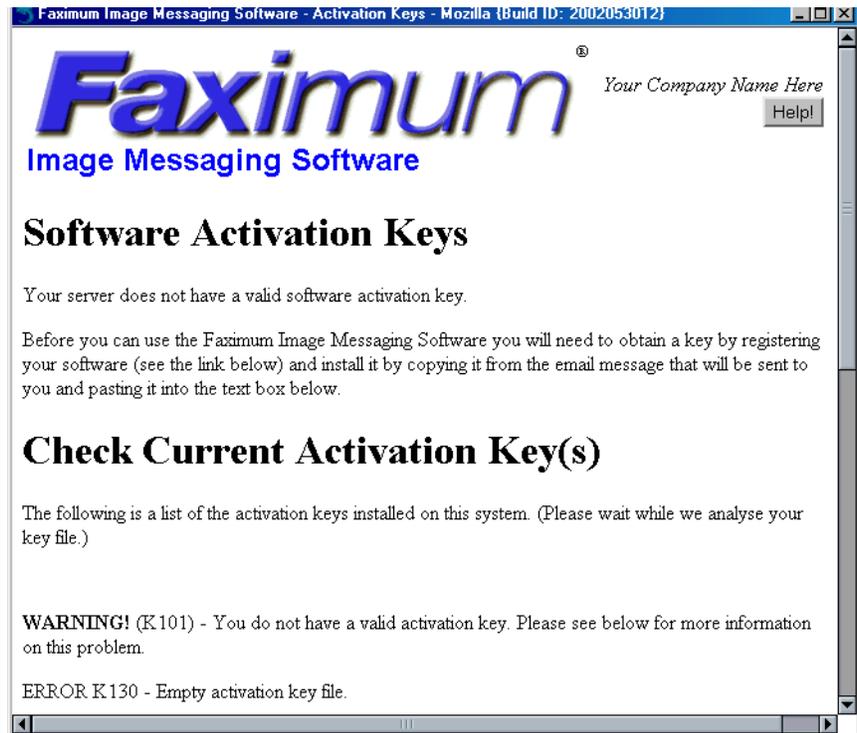
Once the software has been installed, point your browser at your server on port 7437. For example, if the domain name of your sever is (say) fms.faximum.com, then browse <http://fms.faximum.com:7437/>

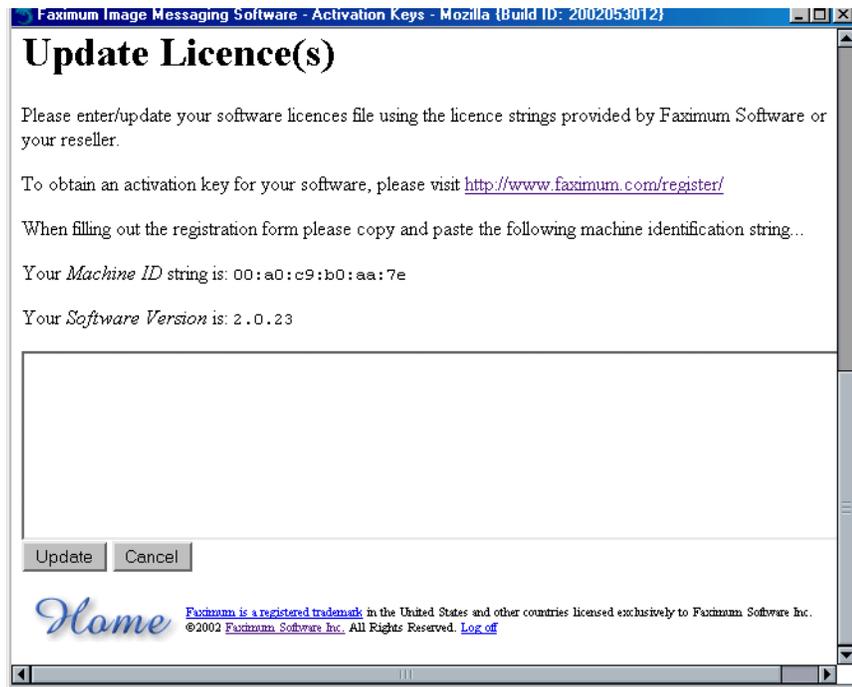
This will display the following initial login screen:



As explained on this screen, you proceed by clicking on the Faximum logo and login as “admin” with no password.

Once you have logged in, you will be presented with the Software Activation Key page shown below (in two parts):





As explained above, you will need to visit <http://www.faximum.com/register/> in order to obtain your temporary software activation key. You will need to copy and paste the Machine ID string (00:a0:c9:b0:aa:7e in our example above) into the registration form.

Once you have your key (usually emailed within an hour during normal business hours), copy and paste it into the text window shown above and click on *Update*. A typical software activation key will look something like:

```
9+fms;linux;v2.0;banner;L=1;i=102183;n=name/company;t=2002.05.16;u=5;6ad8 9bde ce2d 7559 ef4d
```

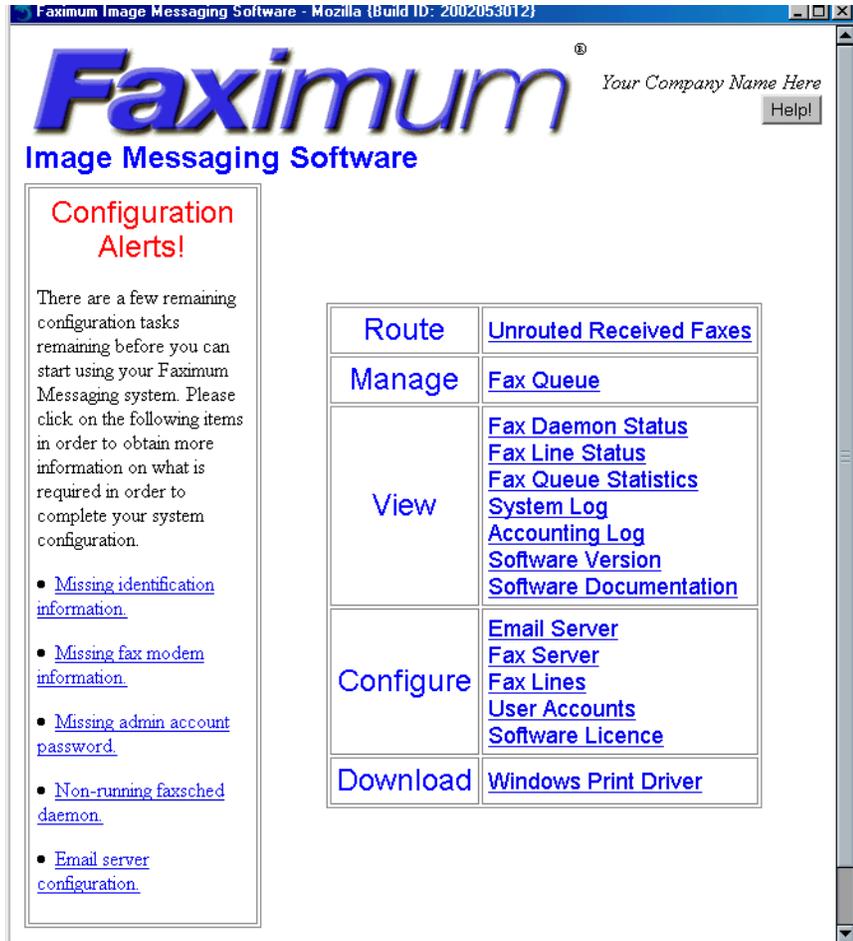
Faximum Download and Installation

Once you have entered the key and clicked on Update the key will be verified and confirmed::



If this screen does not show that your activation key is valid, then please contact support@faximum.com, providing the error information that will be displayed.

If your key is valid then click on *Home* and you will be presented with the FMS Web Admin Home Page



As can be seen from this home page, the five main configuration steps are outlined on the left of the page. Clicking on each link will take you to the appropriate page to complete that step of the configuration. To summarise each step:

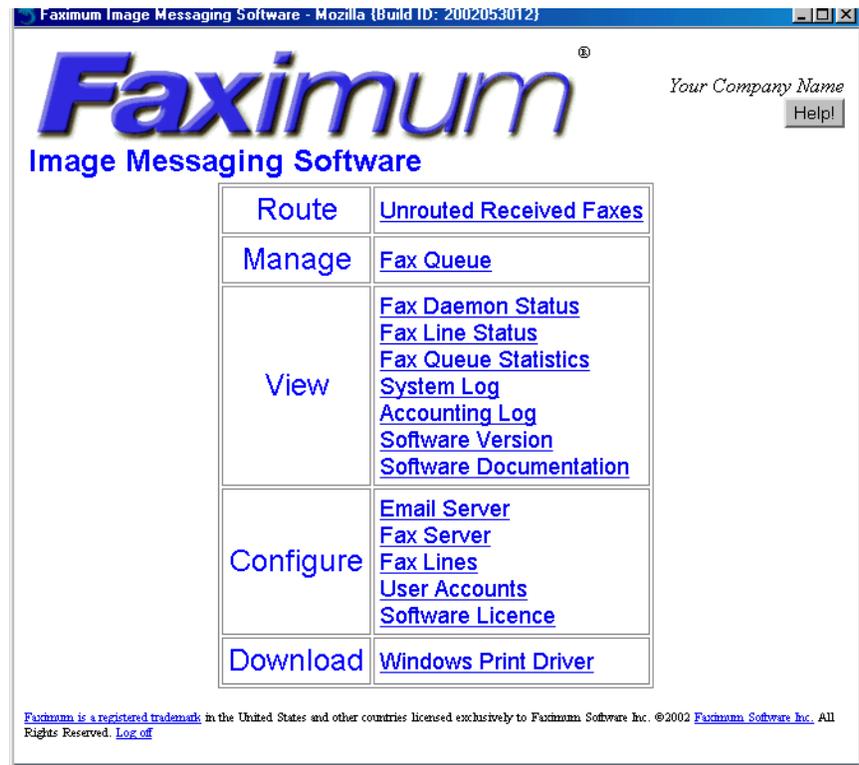
- Missing identification information
This enables you to enter your company name and related information that will appear on the cover sheets.
- Missing fax modem information.
This enables you to enter the port (i.e. /dev/ttyS0) to which your fax modem is connected and to specify whether you want your fax modem only to send faxes, only to receive faxes, or both.
- Missing admin account password.
This enables you to protect your admin account from unauthorised access.

Faximum Download and Installation

- Non-running faxesched daemon.
This enables you to start the background process that is responsible for scheduling outbound faxes.
- Email server configuration.
This enables you to configure the sendmail or Postfix mail server running on your Linux server to pass email messages addressed to fax numbers to FMS for delivery.

MAIN FMS WEB ADMIN PAGE

Once the system has been configured the box on the left will disappear and you will be presented with the normal FMS Web Admin home page:



Regardless of whether you are evaluating FMS 2 on your server or on one of ours, you will see an FMS Web Admin Home Page similar to the above. From here you can click on any of the fifteen options presented (and which are described below).

The following describes each of the above options

- Route Unrouted Received Faxes
This enables you to scan the list of faxes that have been received, view the first page (only), and select the intended recipient(s) from a pull-down list.

- **Manage Fax Queue**
This enables you scan the list of recently queued faxes, view detailed status information on each, and suspend, delete, or reactivate suspended faxes.
- **View Fax Daemon Status**
This enables you to monitor, start, and stop the background processes needed to send faxes.
- **View Fax Line Status**
This enables you to monitor to status of all fax modems.
- **View Fax Queue Statistics**
This provides a summary of the fax queue activity.
- **View System Log**
This enables you to scan the detailed log of events for the FMS system.
- **View Accounting Log**
This enables you to scan the accounting log which details every call attempted, made, or received.
- **View Software Version**
This provides details on the version of the software installed and provides a mechanism to check to see if there are any fixes or updates for this version.
- **View Software Documentation**
This displays the Table of Contents for the FMS manual. In addition most pages have a HELP button which will display the relevant section of the FMS manual.
- **Configure Email Server**
This enables the system administrator to configure the email server running on the FMS platform to work with FMS.
- **Configure Fax Server**
This enables the system administrator to change the main FMS configuration parameters.
- **Configure Fax Lines**
This enables the system administrator to add and configure the fax modems connected to FMS.
- **Configure User Accounts**
This enables the system administrator to add and update users authorised to use the FMS system.
- **Configure Software Licence**
This enables the system administrator to install the FMS software activation key.
- **Download Windows Print Driver**
This provides Windows users easy access to the print drivers which enable them to “print to fax” from Microsoft Word or other application.

Sending a Fax Using FMS

USING YOUR FMS SERVER

Before you can send a fax using FMS you will have to add yourself as a user in your FMS system so that your message will not be rejected as unauthorised. This is done by selecting the *Configure User Accounts* link from the main FMS Web Admin Interface (shown earlier).

Then, if all you want to send is a simple text message by fax, merely address it to:

`Pers_Name/Comp_Name/FAX=1234567@fax.yourserver.com`

where everything before FAX= is optional, 1234567 is replaced by the fax number you wish to dial, and `fax.yourserver.com` is replaced by the name of your FMS server.

If you wish to fax a Microsoft Word or other documents from your Windows desktop, then you will need to:

1. download and install the FMS Windows Print Driver (see this option in the FMS Web Admin Interface shown earlier)
2. open the document on your desktop machine
3. print the document to the “Faximum” printer
4. enter the desired information in the dialogue box that appears
5. enter a subject line and coversheet message using your email compose window (which will appear) and click on the send button.

USING OUR FMS SERVER

Try sending a simple text message to

`Your_Name/Your_Name/FAX=1234567@demo.faximum.com`

and then follow the instructions outlined at

<http://www.faximum.com/demo#demo> to see how to view your sent fax.

If you would like to use our FMS fax server to send an actual fax to your fax machine, then please follow the instructions outlined at

<http://www.faximum.com/demo#fms>

Receiving a Fax Using FMS

USING YOUR FMS SERVER

1. Send a fax to the fax number associated with your fax modem.

Summary

2. Browse the FMS Web Admin Interface and select the Route Unrouted Received Faxes to see your fax.

USING OUR FMS SERVER

1. Register to use `fms.faximum.com` (see `http://www.faximum.com/demo#fms`).
2. Send a fax to +1 (604) 925 8013 (check `www.faximum.com/demo#fms` to see if this number has changed)
3. Visit `http://fms.faximum.com:7437/` to see your fax or have it emailed to yourself.

Summary

Thank you for considering the Faximum Fax Messaging Server as an addition to your network. We hope that this document has been a helpful guide to our software product but if any questions should remain, please do not hesitate to email them to `info@faximum.com` so we may have the opportunity to address them.

- *The FMS Team*

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