



Network Scan Driver

User's Guide

Edition notice

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Contents

Edition notice.....	2
Introduction to the network scan driver.....	5
Installing the network scan driver.....	5
System requirements.....	5
Supported operating systems.....	5
Installing on Fedora, Linpus Linux, SUSE Linux, Linux openSUSE, Red Hat Enterprise Linux, or Red Flag Linux	5
Installing on Debian GNU/Linux or Ubuntu Linux.....	6
Checking if the network scan driver is installed.....	6
Scanning using a network printer.....	6
Removing the network scan driver.....	6
Scanning.....	8
Scanning using applications.....	8
Scanning using XSane.....	8
Scanning using OpenOffice.org.....	8
Scanning using GIMP	9
Scanning using a terminal window	9
Scanning multiple pages.....	9
Scanning both sides of a page.....	11
Canceling a scan.....	12
Adjusting scan settings.....	13
Adjusting scan settings using XSane or OpenOffice.org	13
Adjusting scan settings using scanimage	14
Setting default scan options	18
Troubleshooting.....	19
Printer scans the page, but image is not displayed on the computer.....	19
Printer stops scanning or prints a “Profile scan failed” page.....	19
Disable any firewall application	19
Open the required scanning ports (tcp: 9751-9760)	19
Accept the device certificate	19
Enter a valid scan job login	20
Only one page is displayed on the computer.....	20
If using an OpenOffice.org application	20
If using XSane.....	20
If using scanadf	20

If using scanimage.....	20
Printer not compatible.....	20
SANE does not recognize the network scan driver.....	21
XSane displays garbage characters.....	21
Index.....	22

Introduction to the network scan driver

The network scan driver provides a SANE (Scanner Access Now Easy) interface to allow scanning from a network-based printer.

Installing the network scan driver

System requirements

Before installing the network scan driver, make sure:

- You are logged in with root user authority.
- You have 62MB of free disk space for a complete installation.
- You have SANE and/or SANE back ends installed on your server.
- Your computer is properly configured to communicate with a supported network printer over TCP/IP.
- Your printer has an internal network card and can communicate through an IPv4 network. External network adapters are not supported.

Supported operating systems

Make sure you are running any of the following Linux distributions:

- Debian GNU/Linux
- Fedora
- Linpus Linux Desktop
- Linux Mint
- Linux openSUSE
- Linux SUSE Enterprise Desktop
- Red Flag Linux Desktop
- Red Hat Enterprise Linux WS
- Ubuntu Linux

Note: For specific supported operating system versions, see the the Web site for your operating system, or see the file `supported-platforms.txt` in the path `/usr/lexscan/docs/` after installation.

Installing on Fedora, Linpus Linux, SUSE Linux, Linux openSUSE, Red Hat Enterprise Linux, or Red Flag Linux

- 1 Download the driver:
 - a Go to www.lexmark.com.
 - b Select **Driver Finder** from the Drivers & Downloads list.
 - c Select the Linux distribution running on your computer.
 - d Select **network-scan-linux-glibc2-x86.rpm**, and then download it to your computer.

- 2 Do either of the following:
 - Double-click the package file.
 - On a terminal window, type the following, and then press **Enter**:
`rpm -ivh network-scan-linux-glibc2-x86.rpm`

Installing on Debian GNU/Linux or Ubuntu Linux

- 1 Download the driver:
 - a Go to **www.lexmark.com**.
 - b Select **Driver Finder** from the Drivers & Downloads drop-down list.
 - c Select the Linux distribution running on your computer.
 - d Select **network-scan-linux-glibc2-x86.deb**, and then download it to your computer.
- 2 Do either of the following:
 - Double-click the package file.
 - On a terminal window, type the following, and then press **Enter**:
`dpkg -i network-scan-linux-glibc2-x86.deb`

Checking if the network scan driver is installed

Make sure that the installed network scan driver is added to the dll.conf file, and that the device file is present.

To list the currently available devices, type `scanimage -L` on a terminal window, and then press **Enter**.

A message indicating that your device is found appears on your computer.

Scanning using a network printer

- 1 Open a SANE-compliant application, such as XSane or scanadf.
- 2 Select the network printer and the settings you want.
- 3 Load the document into the Automatic Document Feeder (ADF) or on the scanner glass.
- 4 From the printer control panel, select your profile.
For more information, see the printer *User's Guide*.

Removing the network scan driver

- 1 Do the following, depending on your operating system:

In Fedora, Linpus Linux, SUSE Linux, Linux openSUSE, Red Hat Enterprise Linux, or Red Flag Linux

On a terminal window, type the following, and then press **Enter**:

```
rpm -e lexmark-network-scan
```

In Debian GNU/Linux or Linspire Linux

On a terminal window, type the following, and then press **Enter**:

```
dpkg -r lexmark-network-scan
```

- 2 Remove the lexmark_nscan entry from the `/etc/sane.d/dll.conf` file.

Scanning

For more information on selecting a scan job from the printer control panel, see the printer *User's Guide*.

Scanning using applications

Scanning using XSane

- 1 On a terminal window, type **xsane**, and then press **Enter**.
- 2 From the “device detection” dialog, navigate to:
Available devices > select your printer > **OK**
- 3 From the main dialog, click **Window** > **Show standard options**.
- 4 If necessary, adjust other scan settings.
- 5 From the main dialog, click **Scan**.
- 6 Load the document into the Automatic Document Feeder (ADF) or on the scanner glass.
- 7 From the printer control panel, select your scan job.

Scanning using OpenOffice.org

Note: You may use Writer, Impress, or Draw only.

- 1 From an OpenOffice.org application toolbar, do either of the following:
 - Click **Insert** > **Picture** > **Scan** > **Select Source**.
 - Click **Insert** > **Graphics** > **Scan** > **Select Source**.
- 2 From the “Device Used” menu, select your printer, and then click **OK**.
- 3 Repeat step 1 to confirm if the correct printer is selected.
- 4 Select your options, and then click **OK**.
- 5 From the application toolbar, do either of the following:
 - Click **Insert** > **Picture** > **Scan** > **Request**.
 - Click **Insert** > **Graphics** > **Scan** > **Request**.
- 6 Load the document into the ADF or on the scanner glass.
- 7 From the printer control panel, select your scan job.

Scanning using GIMP

GNU Image Manipulation Program (GIMP) is the standard paint program for UNIX/Linux systems. It supports scanning by using existing scanning tools (xscanimage and XSane) used as plug-ins. The GIMP plug-in function allows xscanimage and XSane to provide the scanned image to GIMP.

Note: Make sure the GIMP plug-in that came with your operating system is installed.

- 1 Launch GIMP.
- 2 From the toolbar, do either of the following:
 - Click **File > Acquire > XSane: Device dialog**.
 - Click **File > Acquire > xscanimage: Device dialog**.
- 3 From the “device detection” dialog, navigate to:
Available devices > select your printer > OK
- 4 From the dialog, if necessary, adjust other scan settings, and then click **Scan**.
- 5 Load the document into the ADF or on the scanner glass.
- 6 From the printer control panel, select your scan job.

Scanning using a terminal window

- 1 On a terminal window, type the following, and then press **Enter**:

```
scanimage -d [device_name] > /tmp/scan.pnm
```
- 2 If necessary, adjust the scan settings.
- 3 Load the document into the ADF or on the scanner glass.
- 4 From the printer control panel, select your scan job.

Note: If an **Assertion 'c->xlib.lock' failed** error occurs when using openSUSE 10.3, refer to <http://en.opensuse.org/Xlib.lock> for troubleshooting information.

Scanning multiple pages

The default paper source for scanning is the Automatic Document Feeder (ADF). If there are no documents loaded in the ADF, then the printer scans from the scanner glass.

You can scan multiple pages in several ways depending on the application.

Using scanimage

- 1 On a terminal window, type the following, and then press **Enter**:

```
scanimage -b --source="Multiple Pages" -d [device_name]
```
- 2 Load the document into the ADF or on the scanner glass.
- 3 From the printer control panel, select your scan job.

Using scanadf

- 1 On a terminal window, type the following, and then press **Enter**:

```
scanadf --source="Multiple Pages" -d [device_name]
```
- 2 Load the document into the ADF or on the scanner glass.
- 3 From the printer control panel, select your scan job.

Using OpenOffice.org

Note: You may use Writer, Impress, or Draw only.

- 1 From an OpenOffice.org application toolbar, do either of the following:
 - Click **Insert > Picture > Scan > Select Source**.
 - Click **Insert > Graphics > Scan > Select Source**.
- 2 From the "Device Used" menu, select your printer, and then click **OK**.
- 3 Repeat step 1 to confirm if the correct printer is selected.
- 4 From the "Options" area, click **Image Settings > source**.
- 5 From the "source" menu, select **Multiple Pages**.
- 6 Click **OK**.
- 7 From an OpenOffice.org application toolbar, do either of the following:
 - Click **Insert > Picture > Scan > Request**.
 - Click **Insert > Graphics > Scan > Request**.
- 8 From the printer control panel, select your scan job.
- 9 Repeat step 6 until all the pages of your document are displayed on your computer.

Using XSane

- 1 On a terminal window, then type **xsane**, and then press **Enter**.
- 2 From the "device detection" dialog, navigate to:
Available devices > select your printer > OK
- 3 From the  menu, select **Multiple Pages**.
- 4 Click **Scan**.
- 5 Load the document into the ADF or on the scanner glass.
- 6 From the printer control panel, select your scan job.

Using XSane version 0.99 or later

1 From the  menu, select **Multiple Pages**.

2 Click **Scan**.

If you specify a number that is smaller than the number of pages loaded in the ADF, then only the number of pages specified are scanned.

You have to click **Scan** again to scan the remaining pages.

3 Load the document into the ADF or on the scanner glass.

4 From the printer control panel, select your scan job.

Using XSane versions earlier than 0.99

1 From the toolbar, navigate to:

Preferences > Setup > select Enhancement tab > Scan Multiple Page

2 From the dialog, click **Scan**.

3 Load the document into the ADF or on the scanner glass.

4 From the printer control panel, select your scan job.

5 Repeat step 2 until all the pages of your document are displayed on your computer.

Scanning both sides of a page

Notes:

- Make sure that your printer has a duplex scanner and an Automatic Document Feeder (ADF).
- Make sure you load the document into the ADF.
- The duplex scanner and ADF are available only in select models.

You can scan both sides of the page in several ways depending on the application.

Using scanimage

1 On a terminal window, type the following, and then press **Enter**:

```
scanimage -b --scan-both-sides=yes -d [device_name]
```

2 Load the document into the ADF.

3 From the printer control panel, select your scan job.

Using scanadf

1 On a terminal window, type the following, and then press **Enter**:

```
scanadf --scan-both-sides=yes -d [device_name]
```

2 Load the document into the ADF.

3 From the printer control panel, select your scan job.

Using OpenOffice.org

Note: You may use Writer, Impress, or Draw only.

- 1 From an OpenOffice.org application toolbar, do either of the following:
 - Click **Insert > Picture > Scan > Select Source**.
 - Click **Insert > Graphics > Scan > Select Source**.
- 2 From the “Device Used” menu, select your printer, and then click **OK**.
- 3 Repeat step 1 to confirm if the correct printer is selected.
- 4 From the “Options” area, click **Image Settings > source**.
- 5 From the “source” menu, select **Multiple Pages**.
- 6 From the “Options” area, click **Image Settings > scan-both-sides**.
- 7 Select the **scan-both-sides** check box, and then click **OK**.
- 8 From the application toolbar, do either of the following:
 - Click **Insert > Picture > Scan > Request**.
 - Click **Insert > Graphics > Scan > Request**.
- 9 Load the document into the ADF.
- 10 From the printer control panel, select your scan job.
- 11 Repeat steps 8 through 10 until all the pages of your document are displayed on your computer.

Using XSane

- 1 On a terminal window, type **xsane**, and then press **Enter**.
- 2 From the “device detection” dialog, navigate to:
Available devices > select your printer > OK
- 3 From the  menu, select **Multiple Pages**.
- 4 From the toolbar, click **Window > Show standard options**.
- 5 Select the **Scan both sides** check box.
- 6 From the main dialog, click **Scan**.
- 7 Load the document into the ADF.
- 8 From the printer control panel, select your scan job.

Canceling a scan

To cancel a scan, do one of the following:

- From the dialog displayed after you send a scan job to the network printer, click **Cancel Scan Profile > Yes**.
- Close the application.

- Cancel the scan job:
 - 1 From the printer control panel, cancel the scan job.
 - 2 Cancel the scan from the dialog displayed after you send a scan job to the network printer.
 For more information, see the printer *User's Guide*.

Adjusting scan settings

Adjusting scan settings using XSane or OpenOffice.org

Depending on the application, do either of the following to access the scan options:

- **Using XSane**
 - 1 On a terminal window, type `xsane`, and then press **Enter**.
 - 2 From the “device detection” dialog, navigate to:
Available devices > select your printer > **OK**
 - 3 From the main dialog, do either of the following:
 - Click **Window** > **Show standard options**.
 - Click **Window** > **Show advanced options**.
- **Using OpenOffice.org**

Note: You may use Writer, Impress, or Draw only.

 - 1 From an OpenOffice.org application toolbar, do either of the following:
 - Click **Insert** > **Picture** > **Scan** > **Select Source**.
 - Click **Insert** > **Graphics** > **Scan** > **Select Source**.
 - 2 From the “Device Used” menu, select your printer, and then click **OK**.
 - 3 Repeat step 1 to confirm if the correct printer is selected.
 - 4 From the “Options” area, select **Image Settings** or **Advanced Settings**.

Use	To
Content Type or content-type	Select the document type.
 or scan-resolution	Select a scan resolution. Resolutions for all the printers are displayed as options. Make sure the printer supports the resolution you select. Note: The  icon is found on the XSane main dialog.
 or mode	Select a color depth. Note: The  is found on the XSane main dialog.
Original Size or original-size	Select a document size. Document sizes for all the printers are displayed as options. Make sure the printer supports the size you select.

Use	To
Scan both sides or scan-both-sides	Perform a duplex scan. Notes: <ul style="list-style-type: none"> • Make sure that the printer has a duplex scanner and an Automatic Document Feeder (ADF). • Make sure to load the document into the ADF. • The duplex scanner and the ADF are available only in select models.
orientation or Orientation	Select a portrait or landscape orientation.
 or brightness	Select a brightness setting. Note: The  icon is found on the XSane main dialog.
 or contrast	Select a contrast setting. Note: The  icon is found on the XSane main dialog.
 or source	Scan a single-sheet or a multiple-page document. Note: The  icon is found on the XSane main dialog.
 or Invert pixel values	Invert pixel values. Note: The  icon is found on the XSane main dialog.
Background Removal	Remove smudges and light background shading when scanning color documents. Note: Background Removal is available only in XSane.
Color Dropout	Select a color to remove. Note: Color Dropout is available only in XSane.
Color Dropout Threshold	Select a color dropout quality. Note: Color Dropout Threshold is available only in XSane.
Mirror Image	Produce a mirror image of the document. Note: Mirror Image is available only in XSane.

Note: Your printer may not support all the options. For more information, see the printer *User's Guide*.

Adjusting scan settings using scanimage

Some of these values may not be available, depending on the printer you purchased.

Scanimage is a command-line-only application that uses the first scanner found and the default scan settings. A command initiates the scan and stores the image in TIFF or PXM format. You can provide command-line options to specify the scan settings.

For example, to initiate scanning of a legal-size document, type `scanimage original-size=Legal`
`> /tmp/image.pxm` in the command line, and then press **Enter**.

To	Type	Values
Specify the printer	<code>-d [device_name]</code>	[device_name]
Select the document type	<code>content-type</code>	Text Text/Graphics Photo
Select a scan resolution Note: Resolutions for all the printers are displayed as options.	<code>scan-resolution</code>	75 100 150 200 300 400 600 1200 Note: Make sure the printer supports the resolution you select.
Select a color depth	<code>mode</code>	1-bit Black & White 8-bit Grayscale 24-bit Color

To	Type	Values
<p>Specify the document size</p> <p>Note: Document sizes for all the printers are displayed as options.</p>	<p>original-size</p>	<p>Letter</p> <p>Executive</p> <p>Legal</p> <p>A3</p> <p>A4</p> <p>A5</p> <p>A6</p> <p>B4</p> <p>B5</p> <p>Tabloid</p> <p>Oficio (Mexico)</p> <p>Folio</p> <p>Statement</p> <p>Universal</p> <p>Custom Scan Size</p> <p>ID Card</p> <p>3x5 Photo</p> <p>4x6 Photo</p> <p>Business Card</p> <p>Book Original</p> <p>Auto Size</p> <p>Mixed Size</p> <p>3x5 in</p> <p>3.5x5 in</p> <p>4x6 in</p> <p>4x8 in</p> <p>5x7 in</p> <p>8x10 in</p> <p>9x13 cm</p> <p>10x15 cm</p> <p>10x20 cm</p> <p>13x18 cm</p> <p>20x25 cm</p> <p>L</p> <p>2L</p> <p>Hagaki</p> <p>Note: Make sure the printer supports the size you select.</p>

To	Type	Values
Specify the document being scanned	document-source	Black and White Laser Color Laser Inkjet Plain Inkjet Glossy Retail Photo Photo Magazine Newspaper Press Notes: <ul style="list-style-type: none"> • Make sure the printer supports the size you select. • The printer uses the default values if the option is not supported.
Perform a duplex scan	scan-both-sides	no yes Notes: <ul style="list-style-type: none"> • Make sure your printer has a duplex scanner and an Automatic Document Feeder (ADF). • Make sure to load the document into the ADF. • The duplex scanner and ADF are available only in select models.
Select a portrait or landscape orientation	orientation	portrait landscape
Select a brightness setting	brightness	1-9
Select a contrast setting	contrast	0-5
Scan a single-sheet or multiple-page document	source	Single Page Multiple Pages
Invert pixel values	negative-image	no yes
Remove smudges and light background shading when scanning color documents	background-removal	-4-+4
Specify a color to remove	color-dropout	None Red Green Blue
Select a color dropout quality	color-dropout-threshold	0-254

To	Type	Values
Produce a mirror image of the document	mirror-image	no yes

Notes:

- To get a list of supported options, you can also type **scanimage --help**.
- Your printer may not support all these options. For more information, see the printer *User's Guide*.

Setting default scan options

All default scan options are stored in the scan driver configuration file, `/etc/sane.d/lexmark_nscan.conf`. Changing the values in the scan driver configuration file changes the default settings. The settings are reflected in the application.

XSane stores the most recently used scan settings in the `/${HOME}/.sane/xsane` directory. In order for XSane to reflect the changes you made in the scan driver configuration file, do the following:

- 1 Close XSane in the application.
- 2 On a terminal window, type the following, and then press **Enter**:

```
rm -f ${HOME}/.sane/xsane/*.drc
```
- 3 Type **xsane**, and then press **Enter**

Troubleshooting

Printer scans the page, but image is not displayed on the computer

Make sure that the IP address of your computer matches the IP address assigned to your network interface card.

1 On a terminal window, type `hostname`, and then press **Enter**.

2 Type the following, and then press **Enter**:

```
ping [computer_hostname]
```

Take note of the IP address listed.

3 Type the following, and then press **Enter**:

```
/usr/lexscan/bin/lshost
```

Compare the IP address listed with the IP address obtained in step 2.

If the IP addresses do not match, then do one the following:

- Correct your `/etc/hosts` or DNS entries.
- Update the SANE driver configuration file and specify the appropriate network interface to use.

For more information on how to correct `/etc/hosts` or DNS entries, see the documentation that came with your operating system.

If the problem is not resolved, then see “Printer stops scanning or prints a 'Profile scan failed' page” on page 19.

Printer stops scanning or prints a “Profile scan failed” page

DISABLE ANY FIREWALL APPLICATION

To disable your firewall application, see the documentation that came with your operating system.

OPEN THE REQUIRED SCANNING PORTS (TCP: 9751-9760)

On a terminal window, type the following, and then press **Enter**:

```
# iptables -I INPUT -p tcp --dport 9751:9760 -j ACCEPT -i eth0
```

For most Linux distributions, you can open specific ports with the `iptables` command.

ACCEPT THE DEVICE CERTIFICATE

If there is an error verifying a security certificate before completing a scan, then accept the certificate to proceed.

You may accept the certificate for a single scan job or for all future scan jobs.

ENTER A VALID SCAN JOB LOGIN

If **401 Unauthorized Error** appears when sending a scan job to the printer, then you need to provide a valid user name and password.

The user name and password combination is valid for a single scan job and all future scan jobs.

Only one page is displayed on the computer

Make sure the source is set to **Multiple Pages**.

IF USING AN OPENOFFICE.ORG APPLICATION

You may use Writer, Impress, or Draw only.

- 1 From an OpenOffice.org application toolbar, do either of the following:
 - Click **Insert > Picture > Scan > Select Source**.
 - Click **Insert > Graphics > Scan > Select Source**.
- 2 From the “Options” area, click **Image Settings > source**.
- 3 From the “source” menu, select **Multiple Pages**.
- 4 Click **OK**.

IF USING XSANE

- 1 From the  menu, select **Multiple Pages**.
- 2 Click **Scan**.

IF USING SCANADF

On a terminal window, type the following, and then press **Enter**:

```
scanadf --source="Multiple Pages" -d [device_name]
```

IF USING SCANIMAGE

On a terminal window, type the following, and then press **Enter**:

```
scanimage -b --source="Multiple Pages" -d [device_name]
```

Printer not compatible

Make sure:

- Your printer is a multifunction printer.
- The network scan driver supports your printer.

For more information on your printer's compatibility, see the printer *User's Guide*.

SANE does not recognize the network scan driver

SANE-compliant applications such as XSane and scanadf access the printer through SANE.

Make sure:

- The scan driver is installed in the `/usr/lib/sane` directory.
- The scan driver device file exists.
- The scan driver is listed in the `/etc/sane.d/dll.conf` file.
- “lexmark_nscan” is listed in the `/etc/sane.d/dll.conf` file and *no* “#” is typed before it.
- The SANE installation is using the directory structure `/usr/lib/sane` and `/etc/sane.d/`.
- For some SANE installations, you may need to set the `LD_LIBRARY_PATH`:

On a terminal window, type the following, and then press **Enter**:

```
export LD_LIBRARY_PATH=/usr/lib
```

XSane displays garbage characters

Run XSane version 0.90 or later, which supports more languages than earlier versions.

Note: If you are running Linpus Linux, then upgrade XSane to version 0.90 or later so it will work correctly with non-English languages.

Index

A

- adjusting scan settings
 - using OpenOffice.org 13
 - using scanimage 14
 - using the command line 14
 - using XSane 13

C

- canceling a scan 12
- checking if scan driver is installed 6

I

- installing on Debian GNU/Linux 6
- installing on Fedora 5
- installing on Linpus Linux 5
- installing on Linux openSUSE 5
- installing on Red Flag Linux 5
- installing on Red Hat Enterprise Linux 5
- installing on SUSE Linux 5
- installing on Ubuntu Linux 6

N

- network scan driver
 - installation requirements 5
 - installing on Debian GNU/Linux 6
 - installing on Fedora 5
 - installing on Linpus Linux 5
 - installing on Linux openSUSE 5
 - installing on Red Flag Linux 5
 - installing on Red Hat Enterprise Linux 5
 - installing on SUSE Linux 5
 - installing on Ubuntu Linux 6
 - not recognized by application 21
 - uninstalling 6
- notices 2

O

- only one page is displayed on the computer 20

P

- printer is not compatible 20
- printer scans but image not displayed 19

- printer stops scanning 19

S

- scan settings
 - OpenOffice.org Writer 13
 - XSane 13
- scanning
 - both sides of a page 11
 - canceling a scan 12
 - multiple pages 9
 - using GIMP 9
 - using network printer 6
 - using OpenOffice.org 8
 - using the command line 9
 - using XSane 8
- scanning both sides of a page
 - using OpenOffice.org 11
 - using scanadf 11
 - using scanimage 11
 - using XSane 11
- scanning multiple pages
 - using OpenOffice.org 9
 - using scanadf 9
 - using scanimage 9
 - using XSane 9
- setting default values 18
- supported operating systems 5
- system requirements 5

U

- uninstalling network scan driver 6

X

- XSane displays garbage characters 21