



Network Scan Driver

User's Guide

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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 on 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
- Linux OpenSUSE
- Red Flag Linux Desktop
- Red Hat Enterprise Linux WS
- Linux SUSE Enterprise Desktop
- Linux SUSE Enterprise Server
- Ubuntu Linux
- Linpus Linux Desktop

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 Double-click the package file or open a terminal window, and then type `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 Double-click the package file or open a terminal window, and then type `dpkg -i network-scan-linux-glibc2-x86.deb`.

Checking if the network scan driver is installed

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

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

Once the device is found, a message indicating that your device is found is displayed on your computer.

Scanning using a network printer

- 1 To use the network scan driver, open a SANE-compliant application such as XSane or scanadf.
- 2 Select the network printer and settings for the scan.
- 3 Place your document in 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

Open a terminal window, and then type `rpm -e lexmark-network-scan`. Press **Enter**.

In Debian GNU/Linux or Linspire Linux

Open a terminal window, and then type `dpkg -r lexmark-network-scan`. Press **Enter**.

- 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 Open a terminal window, and then type **xsane**. Press **Enter**.
- 2 From the “device detection” dialog, navigate to:
Available devices > select your printer > **OK**
- 3 From the “Network:scanner” dialog, click **Window** > **Show standard options**.
- 4 If necessary, adjust other scan settings.
- 5 From the “Network:scanner” dialog, click **Scan**.
- 6 Place your document in 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, Calc, 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.
- 3 If necessary, select other options, and then click **OK**.
- 4 From the application toolbar, do either of the following:
 - Click **Insert** > **Picture** > **Scan** > **Request**.
 - Click **Insert** > **Graphics** > **Scan** > **Request**.
- 5 Place your document in the Automatic Document Feeder (ADF) or on the scanner glass.
- 6 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 Place your document in the Automatic Document Feeder (ADF) or on the scanner glass.
- 6 From the printer control panel, select your scan job.

Scanning using a terminal window

- 1 Open a terminal window, and then type `scanimage -d [device_name] > /tmp/scan.pnm`. Press **Enter**.
- 2 If necessary, adjust the scan settings.
- 3 Place your document in the Automatic Document Feeder (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, the printer scans from the scanner glass.

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

Using scanimage

- 1 Open a terminal window, and then type `scanimage -b --source="Multiple Pages" -d [device_name]`. Press **Enter**.
- 2 Place your document in the ADF or on the scanner glass.
- 3 From the printer control panel, select your scan job.

Using scanadf


- 1 Open a terminal window, and then type `scanadf --source="Multiple Pages" -d [device_name]`. Press **Enter**.
- 2 Place your document in 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, Calc, 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.
- 3 From the "Options" area, click **Image Settings > source**.
- 4 From the "source" menu, select **Multiple Pages**.
- 5 Click **OK**.
- 6 From an OpenOffice.org application toolbar, do either of the following:
 - Click **Insert > Picture > Scan > Select Source**.
 - Click **Insert > Graphics > Scan > Select Source**.
- 7 From the printer control panel, select your scan job.
- 8 Repeat step 6 until all the pages of your document are displayed on your computer.

Using XSane

- 1 Open a terminal window, and then type `xsane`. 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 Place your document in the ADF or on the scanner glass.
- 6 From the printer control panel, select your scan job.

Using XSane 0.99 and later

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

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

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

- 3 Place your document in the ADF or on the scanner glass.
- 4 From the printer control panel, select your scan job.

Using XSane versions earlier than .99

- 1 From the toolbar, navigate to:
Preferences > Setup > select Enhancement tab > Scan Multiple Page
- 2 From the dialog, click **Scan**.
- 3 Place your document in 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 place your document in 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 Open a terminal window, and then type
`scanimage -b --scan-both-sides=yes -d [device_name]`. Press **Enter**.
- 2 Place your document in the ADF.
- 3 From the printer control panel, select your scan job.

Using scanadf

- 1 Open a terminal window, and then type `scanadf --scan-both-sides=yes -d [device_name]`. Press **Enter**.
- 2 Place your document in the ADF.
- 3 From the printer control panel, select your scan job.


Using OpenOffice.org

Note: You may use Writer, Calc, 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.

- 3 From the “Options” area, navigate to:
Image Settings > source
- 4 From the “source” menu, select **Multiple Pages**.
- 5 From the “Options” area, navigate to:
Image Settings > scan-both-sides
- 6 Select the **scan-both-sides** check box.
- 7 Click **OK**.
- 8 From the application toolbar, do either of the following:
 - Click **Insert > Picture > Scan > Request**.
 - Click **Insert > Graphics > Scan > Request**.
- 9 Place your document in the ADF.
- 10 From the printer control panel, select your scan job.
- 11 Repeat step 8. until all the pages of your document are displayed on your computer.

Using XSane

- 1 Open a terminal window, and then type **xsane**. 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** checkbox.
- 6 From the “Network:scanner” dialog, click **Scan**.
- 7 Place your document in 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 Open a terminal window, and then type `xsane`. Press **Enter**
 - 2 From the “device detection” dialog, navigate to:
Available devices > select your printer > **OK**
 - 3 From the “Network:scanner” 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, Calc, 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
Navigate to:
Device Used > select your printer.
- 3 From the “Options” area, select **Image Settings** or **Advanced Settings**.

To	Select
Select the document type.	Content Type or content-type
Select a scan resolution.	 or scan-resolution Resolutions for all the printers are displayed as options. Make sure the printer supports the the resolution you select. Note: The icon  is found on the XSane main dialog.
Select a color depth.	 or mode Note: The icon  is found on the XSane main dialog.
Select a document size.	Original Size or original-size Document sizes for all the printers are displayed as options. Make sure the printer supports the size you select.
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 place your document in the ADF.• The duplex scanner and the ADF are available only in select models.	Scan both sides or scan-both-sides

To	Select
Select a portrait or landscape orientation.	orientation or Orientation
Select a brightness setting.	 or brightness Note: The icon  is found on the XSane main dialog.
Select a contrast setting.	 or contrast Note: The icon  is found on the XSane main dialog.
Scan a single-sheet or a multiple-page document.	 or source Note: The icon  is found on the XSane main dialog.
Invert pixel values.	 Note: The icon  is found on the XSane main dialog. The icon  is found only in XSane.
Remove smudges and light background shading when scanning color documents.	Background Removal Note: Background Removal is found only in XSane.
Select a color to remove	Color Dropout Note: Color Dropout is found only in XSane.
Select a color dropout quality.	Color Dropout Threshold Note: Color Dropout Threshold is found only in XSane.
Produce a mirror image of the document.	Mirror Image Note: Mirror Image is found only in XSane.

Note: Your printer may not support all the options. To check, see the printer *User's Guide*.

Adjusting scan settings using scanimage

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	-d [device_name]	[device_name]
Select the document type	content-type	Text Text/Graphics Photo

To	Type	Values
Select a scan resolution Note: Resolutions for all the printers are displayed as options.	scan-resolution	75 150 200 300 400 600 1200 Note: Make sure the printer supports the resolution you select.
Select a color depth	mode	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>4x8 in</p> <p>5x7 in</p> <p>3.5x4 in</p> <p>8x10 in</p> <p>9x13 cm</p> <p>10x20 cm</p> <p>20x25 cm</p> <p>10x15 cm</p> <p>3x18 cm</p> <p>L</p> <p>L2</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 General Office Auto Other 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 place your document in 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

To	Type	Values
Specify a color to remove	<code>color-dropout</code>	None Red Green Blue
Select a color dropout quality	<code>color-dropout-threshold</code>	0-254
Produce a mirror image of the document	<code>mirror-image</code>	no yes

Notes:

- You can also type `scanimage --help` to get a list of supported options.
- Your printer may not support all these options. To check, 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 the application.
- 2 Open a terminal window, and then type `rm -f ${HOME}/.sane/xsane/*.drc`. Press **Enter**
- 3 Type `xsane`. 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 Open a terminal window, and then type `hostname`. Press **Enter**.
- 2 Type `ping [computer_hostname]`. Press **Enter**, and then take note of the IP address listed.
- 3 Type `/usr/lexscan/bin/lshnet`, and then press **Enter**. 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 18.

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)

Open a terminal window, and then type `# iptables -I INPUT -p tcp --dport 9751:9760 -j ACCEPT -i eth0`. Press **Enter**.

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 a **401 Unauthorized Error** is received 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, Calc, 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

Type `scanadf --source="Multiple Pages" -d [device_name]`. Press **Enter**.

If using scanimage

Type `scanimage -b --source="Multiple Pages" -d [device_name]`. Press **Enter**.

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 XSane and scanadf access the scanner 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:
 - 1 Open a terminal window, and then type `export LD_LIBRARY_PATH=/usr/lib`.
 - 2 Press **Enter**.

XSane displays garbage characters

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

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

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